



Colony Commerce Center East Specific Plan

TRAFFIC IMPACT ANALYSIS

CITY OF ONTARIO

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CCI	Construction Cost Index
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
E+P	Existing Plus Project
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
PA	Planning Area
PeMS	Performance Measurement System
NP	No Project (or Without Project)
PCE	Passenger Car Equivalents
PHF	Peak Hour Factor
Project	Colony Commerce Center East Specific Plan
RivTAM	Riverside Transportation Analysis Model
RTA	Riverside Transport Authority
RTP	Regional Transportation Plan
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Analysis Model
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
sf	Square Feet
SHS	State Highway System
SR	State Route
TIA	Traffic Impact Analysis
WP	With Project

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1 INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for the proposed Colony Commerce Center East Specific Plan (“Project”), which is located on the southwest corner of Archibald Avenue and Merrill Avenue in the City of Ontario, as shown on Exhibit 1-1.

The purpose of this TIA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and to recommend improvements to achieve acceptable circulation system operational conditions. As directed by City of Ontario staff, this traffic study has been prepared in accordance with the San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) *Guidelines for CMP Traffic Impact Analysis Reports* (Appendix B, 2016 Update), the California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* (December 2002), and consultation with City staff during the scoping process. (1) (2) The approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TIA.

1.1 PROJECT OVERVIEW

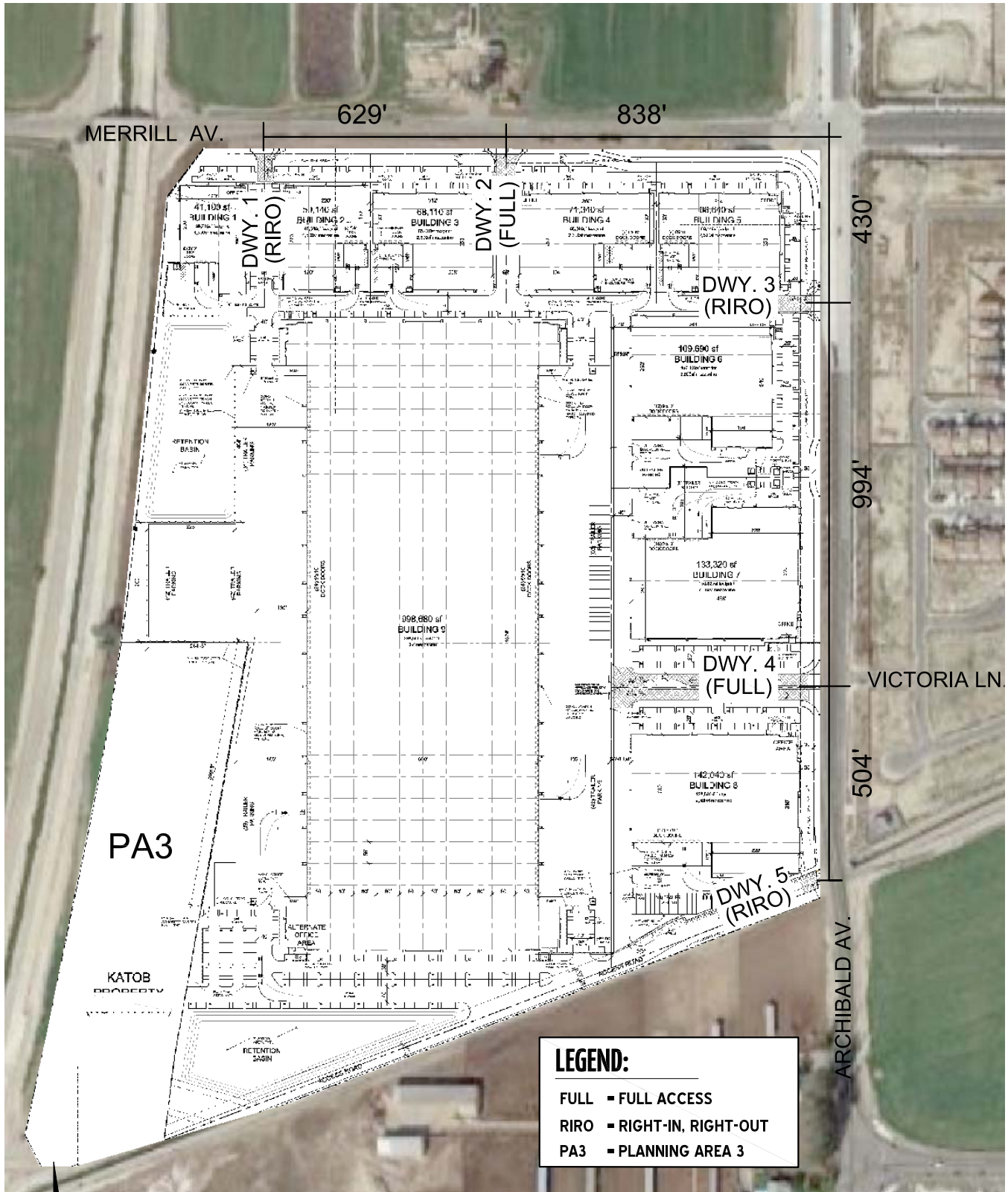
Exhibit 1-1 illustrates the preliminary Project site plan. The proposed Project would develop and operate the Colony Commerce Center East Specific Plan. The Specific Plan contains three Planning Areas. Planning Area (PA) 1 and PA2 of the Specific Plan is anticipated to be operational by 2019. The remaining PA3 is proposed to be developed with up to 231,195 square feet (sf) of industrial use; however, the timeline for development is unknown, and dependent upon economic conditions and full occupancy of PA1 and PA2. However, this analysis assumes that PA-3 would be developed and operational by 2040.

As indicated on Exhibit 1-1, the total development of PA1 and PA2 is proposed to consist of up to 175,330-sf of manufacturing use (25 percent of the square footage for Buildings 1 through 8), 525,991-sf of warehousing use (75 percent of the square footage for Buildings 1 through 8), and 998,680-sf high-cube warehouse/distribution center use (Building 9). Similarly, PA3 would develop consist of up to 57,799-sf of manufacturing use (25 percent of the square footage), 173,396-sf of warehousing use (75 percent of the square footage).

Regional access to the Project is provided by the State Route 71 (SR-71), State Route 60 (SR-60) and Interstate 15 (I-15) freeways. Vehicular and truck traffic access will be provided via the following driveways:

- Driveway 1 / Merrill Avenue – Right-in/right-out driveway providing access to both passenger cars and trucks for Buildings 1, 2, and 9
- Driveway 2 / Merrill Avenue – Full access driveway providing access to both passenger cars and trucks for Buildings 3, 4, 5, 6, and 9
- Archibald Avenue / Driveway 3 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 5, 6, and 9

EXHIBIT 1-1: PRELIMINARY SITE PLAN



LEGEND:

- FULL ■ FULL ACCESS
- RIRO ■ RIGHT-IN, RIGHT-OUT
- PA3 ■ PLANNING AREA 3

- Archibald Avenue / Driveway 4 – Full access driveway providing access to both passenger cars and trucks for Buildings 6, 7, 8, and 9
- Archibald Avenue / Driveway 5 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 8 and 9

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, 2017. (3) The proposed Project is anticipated to generate a net total of 4,109 passenger car equivalent (PCE) trip-ends per day, 371 PCE AM peak hour trips and 424 PCE PM peak hour trips for Opening Year Cumulative traffic conditions. The proposed Project is anticipated to generate a net total of 4,782 PCE trip-ends per day, 454 PCE AM peak hour trips and 514 PCE PM peak hour trips with the addition of PA3 for Horizon Year (2040) traffic conditions. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.2 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential impacts to traffic and circulation have been assessed for each of the following conditions:

- Existing (2017)
- Existing plus Project (E+P)
- Opening Year Cumulative (2019) Without Project
- Opening Year Cumulative (2019) With Project
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

1.2.1 EXISTING (2017) CONDITIONS

Information for Existing (2017) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.2.2 EXISTING PLUS PROJECT CONDITIONS

The Existing Plus Project (E+P) analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions. The E+P analysis is intended to identify the project-specific traffic impacts associated solely with the development of the proposed Project based on a comparison of the E+P traffic conditions to Existing (2017) conditions.

1.2.3 OPENING YEAR CUMULATIVE CONDITIONS

The Opening Year Cumulative traffic conditions analyses determine the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient

growth factor from Existing conditions of 2.0% (for 2019 conditions) are included for Opening Year Cumulative traffic conditions. This comprehensive list was compiled from information provided by the City of Ontario and other near-by agencies.

1.2.4 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) with Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) modified to represent buildout of the City of Ontario. Forecasts for the proposed Project include the development of PA1, PA2, and PA3 under Horizon Year (2040) With Project traffic conditions. The Horizon Year (2040) conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the City's Development Impact Fee (DIF) program, or other approved funding mechanisms can accommodate the long-range cumulative traffic at the target level of service (LOS) identified by the City of Ontario (lead agency). It should be noted that the City of Ontario has updated their DIF program to also include appropriate contributions towards regionally significant improvements that have been identified via the San Bernardino County CMP regional fee program study. If the planned and funded improvements can provide the target LOS, then the Project's payment into established fee programs will be considered as cumulative mitigation. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-DIF facilities) are identified as such.

1.3 STUDY AREA

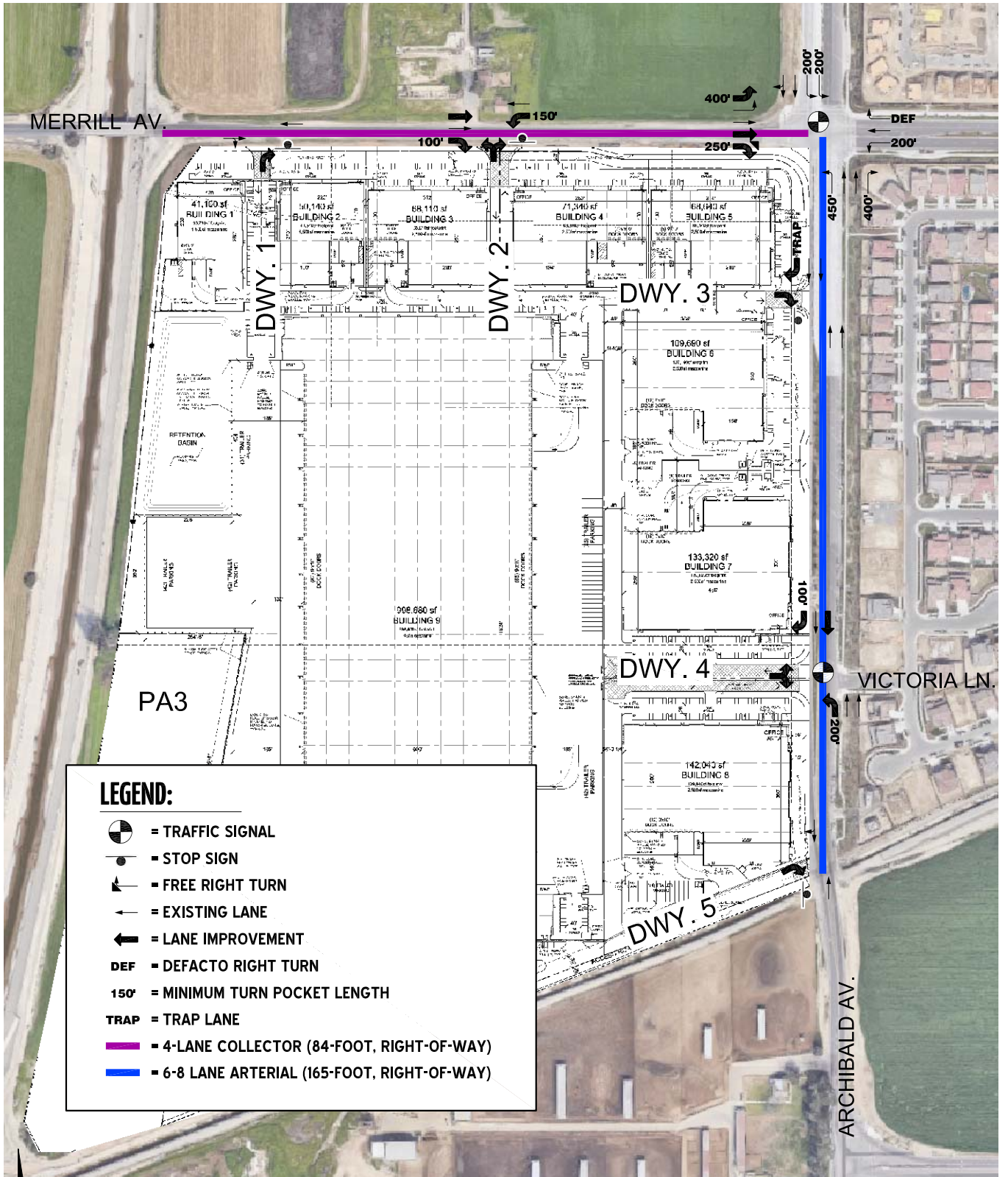
To ensure that this TIA satisfies the City of Ontario's traffic study requirements, Urban Crossroads, Inc. prepared a project traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The Agreement approved by the City is included in Appendix 1.1.

1.3.1 INTERSECTIONS

The following 37 study area intersections shown on Exhibit 1-2 and listed in Table 1-1 were selected for this TIA based on consultation with City of Ontario staff. The "50 peak hour trip" criterion utilized by the City of Ontario is consistent with the methodology employed by the County of San Bernardino, and generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area). The "50 peak hour trip" criterion is also utilized by the County of Riverside, including the City of Eastvale. Other analysis intersections, within the adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

The Project is anticipated to contribute less than 50 peak hour trips to several study area intersections, however, all study area intersections identified in the approved scoping agreement with City of Ontario staff has been evaluated for the purposes of this study.

EXHIBIT 1-3: SITE ACCESS AND SITE ADJACENT ROADWAY RECOMMENDATIONS



LEGEND:

- = TRAFFIC SIGNAL
- = STOP SIGN
- = FREE RIGHT TURN
- = EXISTING LANE
- = LANE IMPROVEMENT
- DEF** = DEFACTO RIGHT TURN
- 150'** = MINIMUM TURN POCKET LENGTH
- TRAP** = TRAP LANE
- = 4-LANE COLLECTOR (84-FOOT, RIGHT-OF-WAY)
- = 6-8 LANE ARTERIAL (165-FOOT, RIGHT-OF-WAY)

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Euclid Av. (SR-83) / Merrill Av.	Caltrans/Chino/Ontario	No
2	Euclid Av. (SR-83) / Kimball Av.	Caltrans/Chino	No
3	Euclid Av. (SR-83) / Bickmore Av.	Caltrans/Chino	No
4	Euclid Av. (SR-83) / Pine Av.	Caltrans/Chino	No
5	SR-71 NB Ramps / Euclid Av. (SR-83)	Caltrans/Chino	No
6	SR-71 SB Ramps / Euclid Av. (SR-83)	Caltrans/Chino Hills	No
7	Grove Av. / Merrill Av.	Chino/Ontario	No
8	Flight Av. / Merrill Av.	Chino/Ontario	No
9	Hellman Av. / Merrill Av.	Chino/Ontario	No
10	Hellman Av. / Kimball Av.	Chino/Eastvale	No
11	Hellman Av. / Pine Av.	Chino/Eastvale	No
12	Driveway 1 / Merrill Av. – Future Intersection	Ontario	No
13	Driveway 2 / Merrill Av. – Future Intersection	Ontario	No
14	Archibald Av. / SR-60 WB Ramps	Caltrans/Ontario	Yes
15	Archibald Av. / SR-60 EB Ramps	Caltrans/Ontario	Yes
16	Archibald Av. / Walnut Av.	Ontario	No
17	Archibald Av. / Riverside Dr.	Ontario	Yes
18	Archibald Av. / Chino Av.	Ontario	No
19	Archibald Av. / Schaefer Av.	Ontario	No
20	Archibald Av. / Ontario Ranch Rd.	Ontario	No
21	Archibald Av. / Eucalyptus Av.	Ontario	No
22	Archibald Av. / Merrill Av.	Ontario	No
23	Archibald Av. / Driveway 3 – Future Intersection	Ontario	No
24	Archibald Av. / Driveway 4 – Future Intersection	Ontario	No
25	Archibald Av. / Driveway 5 – Future Intersection	Ontario	No
26	Archibald Av. / Limonite Av.	Eastvale	Yes
27	Archibald Av. / Schleisman Rd.	Eastvale	No
28	Harrison Av. / Limonite Av.	Eastvale	Yes
29	Sumner Av. / Limonite Av.	Eastvale	Yes
30	Scholar Way / Limonite Av.	Eastvale	Yes
31	Hamner Av. / Ontario Ranch Rd.	Ontario/Eastvale	No
32	Hamner Av. / Bellegrave Av.	Ontario/Eastvale	No
33	Hamner Av. / Limonite Av.	Eastvale	Yes
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	Caltrans/Eastvale	No
35	I-15 SB Ramps / Limonite Av.	Caltrans/Eastvale	Yes
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	Caltrans/Jurupa Valley	No
37	I-15 NB Ramps / Limonite Av.	Caltrans/Jurupa Valley	Yes

1.3.2 FREEWAY MAINLINE SEGMENTS

Study area freeway mainline analysis locations were selected based on Caltrans traffic study guidelines, which may require the analysis of State highway facilities. (2) Consistent with recent Caltrans guidance, and because impacts to freeway segments tend to dissipate with distance from the point of State Highway System (SHS) entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry typically is not required. As such, this study evaluates the following freeway segments adjacent to the point of entry to the SHS, where the Project is anticipated to contribute 25 or more one-way peak hour trips (see Table 1-2):

TABLE 1-2: FREEWAY MAINLINE SEGMENT ANALYSIS LOCATIONS

ID	Freeway Mainline Segments
1	SR-71 Freeway – Southbound, South of Euclid Av. (SR-83)
2	SR-71 Freeway – Northbound, South of Euclid Av. (SR-83)
3	SR-60 Freeway – Westbound, West of Archibald Av.
4	SR-60 Freeway – Westbound, East of Archibald Av.
5	SR-60 Freeway – Eastbound, West of Archibald Av.
6	SR-60 Freeway – Eastbound, East of Archibald Av.
7	I-15 Freeway – Southbound, North of Cantu Galleano Ranch Rd.
8	I-15 Freeway – Southbound, Cantu Galleano Ranch Rd. to Limonite Av.
9	I-15 Freeway – Southbound, South of Limonite Av.
10	I-15 Freeway – Northbound, North of Cantu Galleano Ranch Rd.
11	I-15 Freeway – Northbound, Cantu Galleano Ranch Rd. to Limonite Av.
12	I-15 Freeway – Northbound, South of Limonite Av.

1.3.3 FREEWAY MERGE/DIVERGE RAMP JUNCTIONS

The study area freeway merge/diverge ramp junction analysis locations include the following freeway ramp junctions for each direction of flow as shown on Table 1-3, where the Project is anticipated to contribute 25 or more one-way peak hour trips:

TABLE 1-3: FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS LOCATIONS

ID	Freeway Merge/Diverge Ramp Junctions
1	SR-71 Freeway – Southbound, Loop On-Ramp at Euclid Av. (SR-83) (Upstream) (Merge)
2	SR-71 Freeway – Southbound, Loop On-Ramp at Euclid Av. (SR-83) (Downstream) (Merge)
3	SR-71 Freeway – Northbound, Off-Ramp at Euclid Av. (SR-83) (Diverge)
4	SR-60 Freeway – Westbound, On-Ramp at Archibald Av. (Merge)
5	SR-60 Freeway – Westbound, Off-Ramp at Archibald Av. (Diverge)
6	SR-60 Freeway – Eastbound, Off-Ramp at Archibald Av. (Diverge)
7	SR-60 Freeway – Eastbound, On-Ramp at Archibald Av. (Merge)
8	I-15 Freeway – Southbound, Off-Ramp at Cantu Galleano Ranch Rd. (Diverge)
9	I-15 Freeway – Southbound, On-Ramp at Limonite Av. (Merge)
10	I-15 Freeway – Northbound, On-Ramp at Cantu Galleano Ranch Rd. (Merge)
11	I-15 Freeway – Northbound, Off-Ramp at Limonite Av. (Diverge)

1.4 PROJECT IMPACTS AND MITIGATION MEASURES

This section provides a summary of recommended mitigation measures necessary to address Project impacts for E+P traffic conditions. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *E+P Traffic Analysis* includes the detailed analysis. The recommended mitigation measures necessary to reduce Project impacts to less than significant are discussed in Section 1.4.2. The construction of facilities by the Project applicant would be eligible for DIF credit and reimbursement if the construction exceeds the Project’s fair share. The City shall review the proposed mitigation measures to determine if the Project shall construct certain improvements, including traffic signals or contribute fair share.

1.4.1 PROJECT IMPACTS

Hellman Avenue / Kimball Avenue (#10) – Although this intersection was found to operate at an unacceptable LOS (LOS F) during the peak hours under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during the peak hours with the addition of Project traffic. However, the Project is anticipated to contribute less than 50 peak hour trips (City of Chino’s significance criteria) and the delay is anticipated to increase by less than 5.0 seconds (City of Eastvale’s significance criteria). As such, the impact is considered less than significant.

Impact 1.1 – Archibald Avenue / Limonite Avenue (#26) – Although this intersection was found to operate at an unacceptable LOS (LOS E) during the PM peak hour under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during the peak hours with the addition of Project traffic. As such, the impact is considered cumulatively significant (Cumulative Impact 1.1).

Impact 2.1 – Hamner Avenue / Ontario Ranch Road (#31) – Although this intersection was found to operate at an unacceptable LOS (LOS F) during the AM and PM peak hours under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during

both peak hours with the addition of Project traffic. As such, the impact is considered cumulatively significant (Cumulative Impact 2.1).

1.4.2 MITIGATION MEASURES

Mitigation Measure 1.1 – Archibald Avenue / Limonite Avenue (#26) – The following improvement is necessary to reduce the Project’s proportionate increase in delay to pre-project levels or better, thus reducing the Project’s cumulative impact to less than significant:

- Construct a 2nd southbound left turn lane. The Project should contribute their fair share towards the implementation of this improvement to reduce the Project’s cumulative impact to less than significant.

Mitigation Measure 2.1 – Hamner Avenue / Ontario Ranch Road (#31) – It should be noted that the intersection of Hamner Avenue and Ontario Ranch Road is currently under construction to widen Hamner Avenue between Ontario Ranch Road/Cantu Galleano Ranch Road and Bellegrave Avenue. It is anticipated that once these improvements are completed (mid to late 2017), the intersection would operate at acceptable LOS during the peak hours and the Project’s cumulative impact at the intersection would be less than significant.

1.5 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Ontario are funded through a combination of direct project mitigation, development impact fee programs or fair share contributions, such as the City of Ontario Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

Table 1-4 lists the incremental intersection improvements that are required for each analysis scenario from Existing and Horizon Year (2040) traffic conditions to alleviate circulation system deficiencies. Similarly, Table 1-5 lists the incremental roadway segment improvements. The regional and local transportation impact fee programs have each been reviewed and compared to the recommended improvements for each impacted facility. Recommended improvements already identified and included in the City of Ontario DIF are clearly denoted. If an impacted facility was found to require improvements beyond those already identified within the fee program, the Project would be required to contribute the associated intersection or roadway fair-share percentage toward the costs of the recommended improvements. The fair-share calculations, presented on Table 1-4, indicate that the Project contributes 0.9% to 18.9% of new vehicle trips to these intersections. The construction of facilities by the Project Applicant would be eligible for DIF credit and reimbursement if the construction exceeds the Project’s fair share, as identified in Table 1-4.

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Table 1-4

Summary of Improvements and Rough Order of Magnitude Costs for Intersections

#	Intersection Location	Jurisdiction	Existing (2017)	E+P (Project Buildout)	2019 Without/With Project	2040 Without/With Project	Improvements in City DIF? ¹	DIF Project #	Total Cost ^{2,3,4}	Fair Share % ¹	Fair Share Cost ⁵	Significant Impact? ¹³	
1	Euclid Av. (SR-83) / Merrill Av.	Caltrans, Chino, Ontario	None	None	3rd NB through lane	Same	Yes	ST-30	\$267,120	2.437%	\$6,509	Yes	
						2nd SB left turn lane	Same	No			\$74,200		\$1,808
						3rd SB through lane	Same	No			\$267,120		\$6,509
						2nd WB left turn lane	Same	Yes			\$74,200		\$1,808
						WB right turn lane	Same	No			\$267,120		\$6,509
						Modify traffic signal to implement overlap phasing on the WB right turn lane	Same	No			\$111,300		\$2,712
						Total					\$1,061,060		
2	Euclid Av. (SR-83) / Kimball Av.	Caltrans, Chino	None	None	None	3rd NB through lane	Yes	ST-30	\$267,120	2.747%	\$7,337	Yes	
						2nd SB left turn lane ⁷	No		\$74,200		\$2,038		
						3rd SB through lane	Yes	ST-30	\$267,120		\$7,337		
						SB right turn lane ⁷	No		\$74,200		\$2,038		
						2nd EB left turn lane ⁷	No		\$74,200		\$2,038		
						WB right turn lane	No		\$74,200		\$2,038		
						Modify traffic signal to implement overlap phasing on the SB and WB right turn lanes ⁷	No		\$111,300		\$3,057		
						2nd WB left turn lane	No		\$74,200		\$2,038		
Total				\$1,016,540		\$27,921							
4	Euclid Av. (SR-83) / Pine Av.	Caltrans, Chino	None	None	None	3rd NB through lane	Yes	ST-30	\$267,120	2.341%	\$6,253	Yes	
						3rd SB through lane	Yes	ST-30	\$267,120		\$6,253		
						NB free-right turn lane	No		\$111,300		\$2,605		
						2nd SB left turn lane	No		\$74,200		\$1,737		
						SB right turn lane	No		\$74,200		\$1,737		
						2nd EB through lane	No		\$267,120		\$6,253		
						2nd WB through lane	No		\$267,120		\$6,253		
						WB channelized right turn lane	No		\$96,460		\$2,258		
						Total					\$1,424,640		
7	Grove Av. / Merrill Av.	Chino, Ontario	None	None	EB left turn lane	Same	Yes		\$74,200	6.346%	\$4,709	Yes	
					2nd EB through lane	Same	Yes		\$267,120		\$16,952		
					2nd WB through lane	Same	Yes		\$267,120		\$16,952		
					Install a traffic signal	Same	Yes		\$250,000		\$15,865		
Total				\$858,440		\$54,478							

Table 1-4

Summary of Improvements and Rough Order of Magnitude Costs for Intersections

#	Intersection Location	Jurisdiction	Existing (2017)	E+P (Project Buildout)	2019 Without/With Project	2040 Without/With Project	Improvements in City DIF? ¹	DIF Project #	Total Cost ^{2,3,4}	Fair Share % ¹	Fair Share Cost ⁵	Significant Impact? ¹³
8	Flight Av. / Merrill Av.	Chino, Ontario	None	None	Install a traffic signal Restripe to provide a NB left turn lane within the painted median 2nd EB through lane 2nd WB through lane	Same	Yes		\$250,000	6.337%	\$15,842	Yes
						Same	No		\$74,200	\$4,702		
						Same	No		\$267,120	\$16,927		
						Same	Yes		\$267,120	\$16,927		
						SB left turn lane	Yes		\$74,200	\$4,702		
						SB shared through-right turn lane	Yes		\$267,120	\$16,927		
						EB left turn lane	Yes		\$74,200	\$4,702		
						Modify traffic signal to implement overlap phasing on the EB right turn lane	No		\$111,300	\$7,053		
Total			\$1,385,260	\$87,781								
9	Vineyard Av./Hellman Av. / Merrill Av.	Chino, Ontario	None	None	Install a traffic signal NB left turn lane NB right turn lane 2nd EB through lane EB right turn lane WB left turn lane 2nd WB through lane	Same	Yes		\$250,000	6.003%	\$15,007	Yes
						Same	No		\$74,200	\$4,454		
						Same	No		\$267,120	\$16,034		
						Same	No		\$267,120	\$16,034		
						Same	No		\$74,200	\$4,454		
						Same	Yes		\$74,200	\$4,454		
						Same	Yes		\$267,120	\$16,034		
						2nd NB left turn lane	No		\$74,200	\$4,454		
						NB through lane	No		\$267,120	\$16,034		
						SB left turn lane	Yes		\$74,200	\$4,454		
						SB shared through-right turn lane	Yes		\$267,120	\$16,034		
						EB left turn lane	No		\$74,200	\$4,454		
						WB right turn lane	No		\$74,200	\$4,454		
						Modify traffic signal to implement overlap phasing on the NB right turn lane	No		\$111,300	\$6,681		
Total			\$2,216,300	\$133,036								
14	Archibald Av. / SR-60 WB Ramps	Caltrans, Ontario	None	None	2nd NB left turn lane WB left turn lane	Same	Yes	ST-106	\$74,200	4.462%	\$3,311	No
						Same	Yes	ST-106	\$519,400	\$23,176		
						Total			\$593,600	\$26,487		
15	Archibald Av. / SR-60 EB Ramps	Caltrans, Ontario	None	None	None	Restripe to provide 3 NB through lanes and a NB right turn lane	Yes	ST-106	\$37,100	8.286%	\$3,074	No
						2nd SB left turn lane	Yes	ST-106	\$74,200	\$6,148		
						Total			\$111,300	\$9,222		
17	Archibald Av. / Riverside Dr.	Ontario	None	None	2nd NB left turn lane 2nd SB left turn lane EB right turn lane Modify traffic signal to implement overlap phasing on the WB right turn lane	Same	Yes		\$74,200	8.430%	\$6,255	Yes
						Same	Yes		\$74,200	\$6,255		
						Same	No		\$74,200	\$6,255		
						Same	No		\$111,300	\$9,383		
						Total			\$333,900	\$28,148		

Table 1-4

Summary of Improvements and Rough Order of Magnitude Costs for Intersections

#	Intersection Location	Jurisdiction	Existing (2017)	E+P (Project Buildout)	2019 Without/With Project	2040 Without/With Project	Improvements in City DIF? ¹	DIF Project #	Total Cost ^{2,3,4}	Fair Share % ¹	Fair Share Cost ⁵	Significant Impact? ¹³
18	Archibald Av. / Chino Av.	Ontario	None	None	None	3rd SB through lane	Yes		\$267,120	11.599%	\$30,983	Yes
								Total	\$267,120		\$30,983	
19	Archibald Av. / Schaefer Av.	Ontario	None	None	Install a traffic signal NB left turn lane	Same	Yes		\$250,000	6.674%	\$16,686	Yes
					Shared EB left-through-right turn lane	Same	Yes	\$74,200		\$4,952		
					Shared WB left-through-right turn lane	Same	Yes	\$267,120		\$17,829		
							Yes	\$267,120		\$17,829		
								Total	\$858,440		\$57,296	
20	Archibald Av. / Ontario Ranch Rd.	Ontario	None	None	2nd NB left turn lane Modify traffic signal to implement overlap phasing on the NB right turn lane	Same Same	Yes No		\$74,200	8.479%	\$6,291	Yes
					3rd NB through lane	Same	Yes	\$111,300		\$9,437		
					3rd SB through lane	Same	Yes	\$267,120		\$22,649		
					3rd EB through lane	Same	Yes	\$267,120		\$22,649		
					2nd and 3rd WB through lane	Same	Yes	\$534,240		\$45,298		
								Total	\$1,521,100		\$128,973	
21	Archibald Av. / Eucalyptus Av.	Ontario	None	None	None	NB left turn lane 3rd NB through lane 3rd SB through lane EB left turn lane EB shared through-right turn lane WB left turn lane	Yes Yes Yes Yes Yes Yes		\$74,200 \$267,120 \$267,120 \$74,200 \$267,120 \$74,200	13.50%	\$10,016 \$36,059 \$36,059 \$10,016 \$36,059 \$10,016	Yes
								Total	\$1,023,960		\$138,226	
22	Archibald Av. / Merrill Av.	Ontario	None	None	2nd EB left turn lane ¹⁴ 2nd EB through lane ¹⁴ EB free-right turn lane ¹⁴ 2nd NB left turn lane 3rd NB through lane 3rd SB through lane SB right turn lane 2nd WB through lane Modify traffic signal to implement overlap phasing on the SB right turn lane	Same Same Same Same Same Same Same Same Same	Yes Yes No Yes Yes Yes No Yes No		-- -- -- \$74,200 \$267,120 \$267,120 \$74,200 \$267,120 \$111,300	11.859%	-- -- -- \$8,799 \$31,678 \$31,678 \$8,799 \$31,678 \$13,199	Yes
					2nd WB left turn lane	Same	Yes	\$74,200		\$8,799		
								Total	\$1,135,260		\$134,632	

Table 1-4

Summary of Improvements and Rough Order of Magnitude Costs for Intersections

#	Intersection Location	Jurisdiction	Existing (2017)	E+P (Project Buildout)	2019 Without/With Project	2040 Without/With Project	Improvements in City DIF? ¹	DIF Project #	Total Cost ^{2,3,4}	Fair Share % ¹	Fair Share Cost ⁵	Significant Impact? ¹³
26	Archibald Av. / Limonite Av.	Eastvale	2nd SB left turn lane	Same	Same 2nd NB through lane 2nd SB through lane 2nd WB left turn lane 2nd WB right turn lane	Same Same Same Same Same NB left turn lane 3rd NB through lane 3rd SB through lane SB right turn lane 2 EB left turn lanes 2 EB through lanes 2 WB through lanes	No No No No No No No No No No No No		\$74,200 \$267,120 \$267,120 \$74,200 \$74,200 \$74,200 \$267,120 \$267,120 \$74,200 \$148,400 \$534,240 \$534,240	4.986%	\$3,700 \$13,320 \$13,320 \$3,700 \$3,700 \$3,700 \$13,320 \$13,320 \$3,700 \$7,400 \$26,639 \$26,639	Yes
								Total	\$2,656,360		\$132,455	
28	Harrison Av. / Limonite Av.	Eastvale	None	None	3rd WB through lane	Same	No		\$267,120	5.527%	\$14,764	Yes
								Total	\$267,120		\$14,764	
29	Sumner Av. / Limonite Av.	Eastvale	None	None	None	2nd NB left turn lane	No		\$74,200	3.295%	\$2,445	Yes
								Total	\$74,200		\$2,445	
35	I-15 SB Ramps / Limonite Av.	Caltrans, Eastvale	None	None	3rd EB and WB through lanes	Interchange Redesign ⁸	No		\$1,038,800	2.900%	\$30,127	No
								Total	\$1,038,800		\$30,127	
36	I-15 NB Ramps / Cantu Galleano Rd.	Caltrans, Eastvale	None	None	None	Modify the traffic signal to implement a 120-second cycle length	No		\$111,300	4.283%	\$4,767	Yes
								Total	\$111,300		\$4,767	
Total Costs for Horizon Year (2040) Improvements									\$17,954,700		\$1,100,946	
Total Project Fair Share Contribution to the City of Ontario (non-DIF/other)⁹									\$60,749			
Total Project Fair Share Contribution to the City of Chino¹⁰									\$193,408			
Total Project Fair Share Contribution to the City of Eastvale¹¹									\$164,728			
Total Project Fair Share Contribution to Caltrans¹²									\$35,922			

¹ Improvements included in City of Ontario DIF program for local, regional and specific plan components.

² Costs have been estimated using the data provided in Appendix "G" of the CMP (2003 Update) for preliminary construction costs.

³ Appendix "G" costs escalated by a factor of 1.484 except Traffic Signals to reflect current costs.

⁴ Program improvements constructed by project may be eligible for fee credit, at discretion of City. See Table 1-5 for Fair Share Calculations.

⁵ Rough order of magnitude cost estimate.

⁶ Improvements are to be constructed by other projects since these improvements are needed for site access.

⁷ Improvements are currently under construction.

⁸ Interchange redesign includes widening the bridge over the I-15 Freeway to three lanes in each direction with loop on-ramps, eliminating the left turns onto the on-ramps.

⁹ The project fair share contribution for those improvements already included in a pre-existing fee program has been provided for comparison purposes. Project would not pay this fair share amount, but would instead contribute their fair share towards these improvements through their payment of fees.

¹⁰ Total project fair share contribution consists of the improvements which are not already included in the City-wide DIF for those intersections wholly or partially within the City of Ontario.

¹¹ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Chino.

¹² Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Chino Hills.

¹³ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Eastvale.

¹⁴ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within Caltrans' jurisdiction.

¹⁵ If improvements are not fully covered by an applicable pre-existing fee program, then the intersection has been identified to have a significant impact even after mitigation measures are implemented. However, if the improvements in a pre-existing fee program are fully funded by the pre-existing fee program, then the intersection is found to have no significant impact after the implementation of the mitigation measures.

¹⁶ Fair share not applicable as these improvements would be constructed by the Project as part of the site adjacent improvements.

Table 1-5

Summary of Improvements and Rough Order of Magnitude Costs for Roadway Segments

#	Roadway Segment	Jurisdiction	Existing (2017)	E+P (Project Buildout)	2019 Without/With Project	2040 Without/With Project	Improvements in City DIF? ¹	DIF Project #	Total Cost ^{2,3,4}	Fair Share % ¹	Fair Share Cost ⁵	Significant Impact? ¹¹
1	Merrill Av., East of Euclid Av. (SR-83)	Ontario, Chino	None	None	Construct 2nd EB through lane Construct 2nd WB through lane	Same Same	Yes Yes		\$347,256	5.239%	\$18,191	Yes
									\$347,256		\$18,191	
									Total		\$694,512	
2	Merrill Av., Grove Av. to Vineyard Av.	Ontario, Chino	None	None	Construct 2nd EB through lane Construct 2nd WB through lane	Same Same	Yes Yes		\$235,066	5.418%	\$12,736	Yes
									\$235,066		\$12,736	
									Total		\$470,131	
3	Merrill Av., West of Driveway 2	Ontario, Chino	None	None	Construct 2nd EB through lane Construct 2nd WB through lane	Same Same	Yes Yes		\$267,120	5.888%	\$15,729	Yes
									\$267,120		\$15,729	
									Total		\$534,240	
4	Archibald Av., North of Ontario Ranch Rd.	Ontario	None	None	Construct 3rd NB through lane Construct 3rd SB through lane	Same Same	Yes Yes		\$267,120	5.885%	\$15,720	Yes
									\$267,120		\$15,720	
									Total		\$534,240	
5	Archibald Av., Eucalyptus Av. to Merrill Av.	Ontario	None	None	Construct 3rd NB through lane Construct 3rd SB through lane	Same Same	Yes Yes		\$133,560	7.683%	\$10,261	Yes
									\$133,560		\$10,261	
									Total		\$267,120	
6	Archibald Av., North of County Line	Ontario	None	Construct 2nd NB through lane Construct 2nd SB through lane	Construct 3rd NB through lane Construct 3rd SB through lane	Same Same	Yes Yes		\$66,600	6.997%	\$4,660	Yes
									\$98,834		\$6,915	
									Total		\$165,434	
Total Costs for Horizon Year (2040) Improvements									\$2,665,678		\$156,851	
Total Project Fair Share Contribution to the City of Ontario (non-DIF/other)⁹											\$110,194	
Total Project Fair Share Contribution to the City of Chino¹⁰											\$46,657	

¹ Improvements included in City of Ontario DIF program for local, regional and specific plan components.

² Costs have been estimated using the data provided in Appendix "G" of the CMP (2003 Update) for preliminary construction costs.

³ Appendix "G" costs escalated by a factor of 1.484 except Traffic Signals to reflect current costs.

⁴ Program improvements constructed by project may be eligible for fee credit, at discretion of City. See Table 1-5 for Fair Share Calculations.

⁵ Rough order of magnitude cost estimate.

⁶ Improvements are to be constructed by other projects since these improvements are needed for site access.

⁷ Improvements are currently under construction.

⁸ Interchange redesign includes widening the bridge over the I-15 Freeway to three lanes in each direction with loop on-ramps, eliminating the left turns onto the on-ramps.

⁹ The project fair share contribution for those improvements already included in a pre-existing fee program has been provided for comparison purposes. Project would not pay this fair share amount, but would instead contribute their fair share towards these improvements through their payment of fees.

⁹ Total project fair share contribution consists of the improvements which are not already included in the City-wide DIF for those intersections wholly or partially within the City of Ontario.

¹⁰ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Chino.

¹¹ If improvements are not fully covered by an applicable pre-existing fee program, then the intersection has been identified to have a significant impact even after mitigation measures are implemented. However, if the improvements in a pre-existing fee program are fully funded by the pre-existing fee program, then the intersection is found to have no significant impact after the implementation of the mitigation measures.

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The improvements listed in Table 1-4 comprise lane additions/modifications, installation of signals and signal modifications. As noted, the identified improvements are covered either by the City of Ontario DIF Program or as a fair-share contribution, if not covered by a fee program. Depending on the width of the existing pavement and right-of-way, these improvements may involve only striping modifications or they may involve construction of additional pavement width. Additional discussion of the relevant pre-existing transportation impact fee programs is provided below.

1.5.1 CITY OF ONTARIO DEVELOPMENT IMPACT FEE PROGRAM

The City of Ontario has created its own local DIF program to impose and collect fees from new residential, commercial and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF includes regional improvements to comply with Measure "I." The fee schedule was last updated in April 6, 2015 and is reviewed/adjusted annually based upon changes in the construction cost index (CCI). Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds.

The Project applicant will be subject to the City's DIF fee program, and will pay the requisite City DIF fees at the rates then in effect pursuant to the City's ordinance. The Project Applicant's payment of the requisite DIF at the rates then in effect, pursuant to the City DIF Program, would satisfy the Project's proportional mitigation requirements at potentially affected DIF-funded facilities.

1.5.2 MEASURE "I" FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I," a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in November 2011. Revenues collected through these programs are used in tandem

with Measure “I” funds to deliver projects identified in the Nexus Study. While Measure “I” is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure “I” have funded in the past and will continue to fund new transportation facilities in San Bernardino County.

1.5.3 FAIR SHARE CONTRIBUTION

Project mitigation may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City’s discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, have been provided on Table 1-6 for the deficient intersections shown previously on Table 1-4 and on Table 1-7 for the deficient roadway segments previously shown on Table 1-5.

Improvements included in a defined program and constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate. A rough order of magnitude cost has been prepared to determine the appropriate contribution value based upon the project’s fair share of traffic as part of the project approval process. Table 1-4 and Table 1-5 also summarize the applicable cost associated with each of the recommended improvements based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a cost escalation factor of 1.484 to reflect current (2017) costs. The total cost of needed study area intersection improvements is \$17,954,700 and \$2,665,678 for study area roadway segments. Based on the Project fair share percentages shown on Table 1-6 and Table 1-7, the Project’s fair share cost is estimated at \$1,100,946 for the study area intersections and \$156,851 for the study area roadway segments. These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or mitigation.

Table 1-6
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Project Fair Share Calculations for Intersections

#	Intersection	Existing	Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
1	Euclid Av. (SR-83) / Merrill Av.	AM: 2,684	56	4,982	2,298	2.437%
		PM: 2,542	64	5,690	3,148	2.033%
2	Euclid Av. (SR-83) / Kimball Av.	AM: 3,126	49	4,910	1,784	2.747%
		PM: 3,305	55	6,248	2,943	1.869%
4	Euclid Av. (SR-83) / Pine Av.	AM: 3,115	50	5,251	2,136	2.341%
		PM: 3,232	57	6,624	3,392	1.680%
7	Grove Av. / Merrill Av.	AM: 923	66	1,963	1,040	6.346%
		PM: 867	75	2,029	1,162	6.454%
8	Flight Av. / Merrill Av.	AM: 1,062	73	2,214	1,152	6.337%
		PM: 957	82	2,389	1,432	5.726%
9	Vineyard Av./Hellman Av. / Merrill Av.	AM: 855	91	2,371	1,516	6.003%
		PM: 833	103	3,227	2,394	4.302%
14	Archibald Av. / SR-60 WB Ramps	AM: 3,220	56	4,475	1,255	4.462%
		PM: 2,835	69	4,765	1,930	3.575%
15	Archibald Av. / SR-60 EB Ramps	AM: 3,283	102	4,514	1,231	8.286%
		PM: 3,135	116	4,738	1,603	7.236%
17	Archibald Av. / Riverside Dr.	AM: 3,297	109	4,590	1,293	8.430%
		PM: 3,714	122	5,169	1,455	8.385%
18	Archibald Av. / Chino Av.	AM: 2,042	111	2,999	957	11.599%
		PM: 2,042	125	4,240	2,198	5.687%
19	Archibald Av. / Schaefer Av.	AM: 1,548	114	3,256	1,708	6.674%
		PM: 1,677	129	4,676	2,999	4.301%
20	Archibald Av. / Ontario Ranch Rd.	AM: 2,589	199	4,936	2,347	8.479%
		PM: 2,439	225	6,778	4,339	5.186%
21	Archibald Av. / Eucalyptus Av.	AM: 2,077	202	3,928	1,851	10.913%
		PM: 2,062	228	3,751	1,689	13.499%
22	Archibald Av. / Merrill Av.	AM: 2,644	266	4,887	2,243	11.859%
		PM: 2,570	299	5,858	3,288	9.094%

Table 1-6
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Project Fair Share Calculations for Intersections

#	Intersection	Existing	Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
26	Archibald Av. / Limonite Av.	AM: 2,686	146	5,614	2,928	4.986%
		PM: 2,851	166	6,638	3,787	4.383%
28	Harrison Av. / Limonite Av.	AM: 2,045	86	3,601	1,556	5.527%
		PM: 1,965	97	4,608	2,643	3.670%
29	Sumner Av. / Limonite Av.	AM: 2,263	84	4,812	2,549	3.295%
		PM: 2,293	94	5,904	3,611	2.603%
35	I-15 SB Ramps / Limonite Av.	AM: 3,380	67	6,005	2,625	2.552%
		PM: 3,873	77	6,528	2,655	2.900%
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	AM: 1,918	26	2,886	968	2.686%
		PM: 1,769	72	3,450	1,681	4.283%

BOLD = Denotes highest fair share percentage.

Table 1-7

Project Fair Share Calculations for Roadway Segments

#	Intersection	Existing	Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
1	Merrill Av., East of Euclid Av. (SR-83) ADT:	8,407	610	20,051	11,644	5.239%
2	Merrill Av., Grove Av. to Vineyard Av. ADT:	7,466	770	21,677	14,211	5.418%
3	Merrill Av., West of Driveway 2 ADT:	10,754	1,060	28,755	18,001	5.888%
4	Archibald Av., North of Ontario Ranch Rd. ADT:	21,177	1,222	41,942	20,765	5.885%
5	Archibald Av., Eucalyptus Av. to Merrill Av. ADT:	20,073	2,152	48,084	28,011	7.683%
6	Archibald Av., North of County Line ADT:	27,064	1,515	48,716	21,652	6.997%

1.6 CUMULATIVE IMPACTS

A summary of the cumulatively impacted study area intersections and recommended mitigation measures to address cumulatively significant impacts are described in detail within Section 6 *Opening Year Cumulative (2019) Traffic Conditions* and Section 7 *Horizon Year (2040) Traffic Conditions*. Cumulative impacts are deficiencies that would not be directly caused by the Project. The Project would, however, contribute traffic to these deficient facilities along with other cumulative development projects, resulting in a cumulatively considerable impact.

The following mitigation measures are based on the improvements needed under Horizon Year (2040) traffic conditions. The improvements needed to address Opening Year Cumulative deficiencies would be a sub-set of those improvements recommended under Horizon Year (2040) traffic conditions.

1.6.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

A summary of off-site improvements needed to address cumulative traffic impacts for Horizon Year (2040) traffic conditions was included in Table 1-4. Improvements found to be included in City of Ontario (lead agency) DIF program have been identified as such. For improvements that do not appear to be in the City's DIF program, a fair share financial contribution based on the Project's fair share impact shall be imposed (for City of Ontario facilities) and may be imposed by other jurisdictions in order to mitigate the Project's share of impacts in lieu of construction. These fees (both to the City of Ontario, and as determined, to surrounding agencies as fair-share contributions) are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases.

A rough order of magnitude cost has been prepared to determine the appropriate contribution value based upon the Project's fair share of traffic as part of the project approval process. Based on the Project fair share percentages, the Project's fair share cost is estimated at \$1,836,745. Table 1-4 shows the Project's fair share cost for Horizon Year (2040) traffic conditions. These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or mitigation.

1.6.2 CUMULATIVE MITIGATION MEASURES

Mitigation Measure 3.1 – Prior to the issuance of building permits, the Project applicant shall participate in the City's DIF program by paying the requisite DIF fee at the time of building permit; and in addition, shall pay the Project's fair share amount of \$60,749 for the improvements identified in Table 1-4 that are consistent with the improvements shown on Table 7-6, or as agreed to by the City and Project Applicant.

Mitigation Measure 4.1 – Table 1-4 of the TIA includes intersections that either share a mutual border with the City of Chino or are wholly located within the City of Chino that have recommended improvements which are not covered by DIF. Because the City of Ontario does not have plenary control over intersections that share a border with the City of Chino, the City cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation measure is required: The City of Ontario shall participate in a multi-jurisdictional effort

with the City of Chino to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified in Table 1-4 of the TIA, that are located in the City of Chino. The study shall include fair-share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts attributable to City of Chino facilities that are not attributable to development located within the City of Ontario are not paying in excess of such developments' fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other agreed-upon relevant criteria for implementation of the recommendations contained within the study to the extent the other agencies agree to participate in the fee study program. Because the City of Ontario and the City of Chino are responsible to implement this mitigation measure, Developer shall have no compliance obligations with respect to this Mitigation Measure.

Mitigation Measure 4.2 – The Developer's fair-share amount for the intersections that either share a mutual border with the City of Chino or are wholly located within the City of Chino that have recommended improvements for Project Buildout which are not covered by DIF equals \$193,408. Developer shall be required to pay this \$193,408 amount to the City of Ontario prior to the issuance of the Project's final certificate of occupancy. The City of Ontario shall hold Developer's Fair Share contribution in trust and shall apply Developer's Fair Share Contribution to any fee program adopted or agreed upon by the City of Ontario and City of Chino as a result of implementation of Mitigation Measure 4.1. If, within five years of the date of collection of Developer's Fair Share Contribution, the City of Ontario and City of Chino do not comply with Mitigation Measure 4.1, then Developer's Fair Share Contribution shall be returned to the Developer.

Mitigation Measure 5.1 – Table 1-4 of the TIA includes intersections that either shares a mutual border with the City of Eastvale or are wholly located within the City of Eastvale that have a recommended improvement which is not covered by DIF. Because the City of Ontario does not have plenary control over intersections that share a border with the City of Eastvale, the City cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation measure is required: The City of Ontario shall participate in a multi-jurisdictional effort with the City of Eastvale to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified in Table 1-4 of the TIA, that are located in the City of Eastvale. The study shall include fair-share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts attributable to City of Eastvale facilities that are not attributable to development located within the City of Ontario are not paying in excess of such developments' fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other agreed-upon relevant criteria for implementation of the

recommendations contained within the study to the extent the other agencies agree to participate in the fee study program. Because the City of Ontario and the City of Eastvale are responsible to implement this mitigation measure, Developer shall have no compliance obligations with respect to this Mitigation Measure.

Mitigation Measure 5.2 – The Developer’s fair-share amount for the intersections that either shares a mutual border with the City of Eastvale or are wholly located within the City of Eastvale that have recommended improvements for Project Buildout which is not covered by DIF equals \$164,728. Developer shall be required to pay this \$164,728 amount to the City of Ontario prior to the issuance of the Project's final certificate of occupancy. The City of Ontario shall hold Developer’s Fair Share contribution in trust and shall apply Developer’s Fair Share Contribution to any fee program adopted or agreed upon by the City of Ontario and City of Eastvale as a result of implementation of Mitigation Measure 5.1. If, within five years of the date of collection of Developer’s Fair Share Contribution, the City of Ontario and City of Eastvale do not comply with Mitigation Measure 5.1, then Developer’s Fair Share Contribution shall be returned to the Developer.

Mitigation Measure 6.1 – Table 1-4 of the TIA includes intersections that either share a mutual border with Caltrans’ jurisdiction or are wholly located within Caltrans’ jurisdiction and have recommended improvements which are not covered by payment of fees. Because the City of Ontario does not have plenary control over the freeway on and off ramps that lie within Caltrans’ jurisdiction, the City cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation measure is required: The City of Ontario shall participate in a multi-jurisdictional effort with Caltrans to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified in Table 1-4 of the TIA, that are located in Caltrans’ jurisdiction. The study shall include fair-share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts attributable to Caltrans facilities that are not attributable to development located within the City of Ontario are not paying in excess of such developments’ fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other agreed-upon relevant criteria for implementation of the recommendations contained within the study to the extent the other agencies agree to participate in the fee study program. Because the City of Ontario and Caltrans are responsible to implement this mitigation measure, Developer shall have no compliance obligations with respect to this Mitigation Measure.

Mitigation Measure 6.2 – The Developer’s fair-share amount for the intersections that either share a mutual border with Caltrans or are wholly located within Caltrans’ jurisdiction that have recommended improvements for Project Buildout which are not covered by payment of fees equals \$35,922. Developer shall be required to pay this \$35,922 amount to the City of Ontario prior to the issuance of the Project's final certificate of occupancy. The City of Ontario shall hold Developer’s Fair Share contribution in trust and shall apply Developer’s Fair Share Contribution

to any fee program adopted or agreed upon by the City of Ontario and Caltrans as a result of implementation of Mitigation Measure 6.1. If, within five years of the date of collection of Developer's Fair Share Contribution, the City of Ontario and Caltrans do not comply with Mitigation Measure 6.1, then Developer's Fair Share Contribution shall be returned to the Developer.

1.7 ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

This section summarizes Project site access and on-site circulation recommendations. The Project is proposed to have access on Merrill Avenue and Archibald Avenue via the following driveways:

- Driveway 1 / Merrill Avenue – Right-in/right-out driveway providing access to both passenger cars and trucks.
- Driveway 2 / Merrill Avenue – Full access driveway providing access to both passenger cars and trucks. This driveway is proposed to be signalized and would provide access to the future development on the northwest corner of Archibald Avenue and Merrill Avenue.
- Archibald Avenue / Driveway 3 – Right-in/right-out driveway providing access to both passenger cars and trucks.
- Archibald Avenue / Driveway 4 – Full access driveway providing access to both passenger cars and trucks. This driveway is proposed to be signalized and would provide access to the existing residential development on the southeast corner of Archibald Avenue and Merrill Avenue.
- Archibald Avenue / Driveway 5 – Right-in/right-out driveway providing access to both passenger cars and trucks.

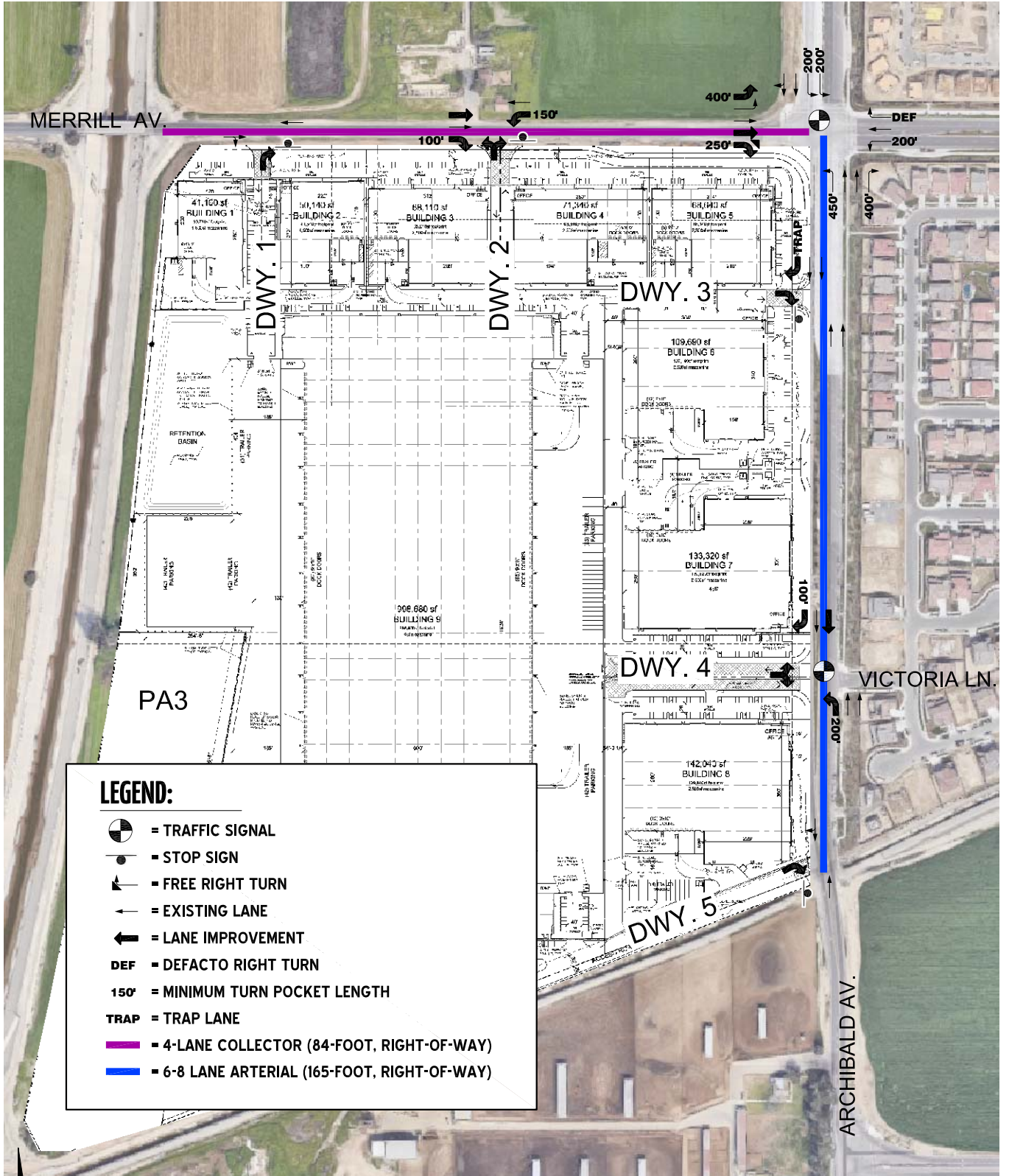
Regional access to the Project site is provided via the SR-60 Freeway at Archibald Avenue, the SR-71 Freeway at Euclid Avenue (SR-83), and the I-15 Freeway at Cantu Galleano Ranch Road and Limonite Avenue interchanges. Roadway improvements necessary to provide site access and on-site circulation are assumed to be constructed in conjunction with site development and are described below. These improvements are required to be in place prior to occupancy.

1.7.1 SITE ADJACENT ROADWAY AND SITE ACCESS IMPROVEMENTS

The recommended site-adjacent roadway improvements for the Project are described below. These improvements need to be incorporated into the Project description prior to Project approval or imposed as conditions of approval as part of the Project approval. Exhibit 1-3 illustrates the site-adjacent roadway improvement recommendations.

Exhibit 1-3 also illustrates the on-site and site adjacent recommended roadway lane improvements for the Project under near term traffic conditions. Construction of on-site and site adjacent improvements are recommended to occur in conjunction with adjacent Project development activity or as needed for Project access purposes. Ultimate improvements along Merrill Avenue and Archibald Avenue are consistent with the City of Ontario General Plan.

EXHIBIT 1-3: SITE ACCESS AND SITE ADJACENT ROADWAY RECOMMENDATIONS



LEGEND:

- = TRAFFIC SIGNAL
- = STOP SIGN
- = FREE RIGHT TURN
- = EXISTING LANE
- = LANE IMPROVEMENT
- DEF** = DEFACTO RIGHT TURN
- 150'** = MINIMUM TURN POCKET LENGTH
- TRAP** = TRAP LANE
- = 4-LANE COLLECTOR (84-FOOT, RIGHT-OF-WAY)
- = 6-8 LANE ARTERIAL (165-FOOT, RIGHT-OF-WAY)

Merrill Avenue – Merrill Avenue is an east-west oriented roadway located along the Project’s northern boundary. Construct Merrill Avenue from the western Project boundary to Archibald Avenue at its ultimate half-section width as a 4-lane Collector (ultimate 84-foot right-of-way), consistent with the City of Ontario’s General Plan. The roadway is proposed to have two travel lane in each direction, with an ultimate curb-to-curb width of 64 feet.

Archibald Avenue – Archibald Avenue is a north-south oriented roadway located along the eastern boundary of the Project. Construct Archibald Avenue from Merrill Avenue to the Project’s southern boundary at its ultimate half-section width as a 6-lane Principal Arterial (ultimate 165-foot or more right-of-way) in compliance with the circulation recommendations found in the City of Ontario’s General Plan. The cross-section includes an ultimate curb-to-curb width of 94-feet with three travel lanes in each direction.

Wherever necessary, roadways adjacent to the Project, site access points and site-adjacent intersections will be constructed to be consistent with the identified roadway classifications and respective cross-sections in the City of Ontario General Plan Circulation Element.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

1.7.2 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS

A queuing analysis was conducted along the site adjacent roadways of Merrill Avenue and Archibald Avenue for Horizon Year (2040) traffic conditions to determine the turn pocket lengths necessary to accommodate near term 95th percentile queues. The analysis was conducted for both the weekday AM and weekday PM peak hours.

The traffic modeling and signal timing optimization software package Synchro (Version 9) has been utilized to assess queues at the Project access points. Synchro is a macroscopic traffic software program that is based on the signalized and unsignalized intersection capacity analyses as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length in Synchro. The LOS and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). However, the average queue is the average of all the two-minute maximum queues observed by SimTraffic. The maximum back of queue observed for every two-minute period is recorded by SimTraffic.

SimTraffic has been utilized to assess peak hour queuing at the site access driveways for Horizon Year (2040) With Project traffic conditions. The random simulations generated by SimTraffic have been utilized to determine the 50th and 95th percentile queue lengths observed for each turn lane. A SimTraffic simulation has been recorded five (5) times, during the weekday AM and weekday PM peak hours, and has been seeded for 60-minute periods with 60-minute recording intervals.

A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. Although only the 95th percentile queue has been utilized for purposes of determining the necessary turn pocket storage lengths, the 50th percentile queues are also reported. The 50th percentile queue is the maximum back of queue on a typical cycle during the peak hour, while the 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes during the peak hour. In other words, if traffic were observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time).

The storage length recommendations for the turning movements at the Project were shown previously on Exhibit 1-3. A summary of the queuing results are also shown on Table 1-8. The Horizon Year (2040) queuing results are provided in Appendix 1.2 of this report.

1.8 PEDESTRIAN AND BICYCLE ACCOMMODATIONS

1.8.1 PEDESTRIAN ACCOMMODATIONS

The Project will construct its ultimate half-section of Merrill Avenue and Archibald Avenue including curb and gutter and sidewalk improvements.

1.8.2 BICYCLE ACCOMMODATIONS

Consistent with the City of Ontario General Plan, Merrill Avenue is proposed to have a Class II bikeway and multipurpose trail in the vicinity of the Project. The Cucamonga Creek Multipurpose Trail runs along the Project's western boundary.

1.9 TRUCK ACCESS AND CIRCULATION

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at each applicable Project driveway and site adjacent intersection anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-4). As shown, the Project driveways and site adjacent intersections are anticipated to accommodate the wide turning radius of the heavy trucks, with the exception of Driveways 1, 3, and 5. As shown on Exhibit 1-4, Driveway 1 should be modified to provide a 70-foot radius on the southwest curb, Driveway 3 should be modified to provide a 35-foot radius on the northwest curb, and Driveway 5 should be modified to provide a 50-foot radius on the northwest curb and a 25-foot radius on the southwest curb in order to accommodate the wide turning radius of a heavy truck. A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis.

Table 1-8

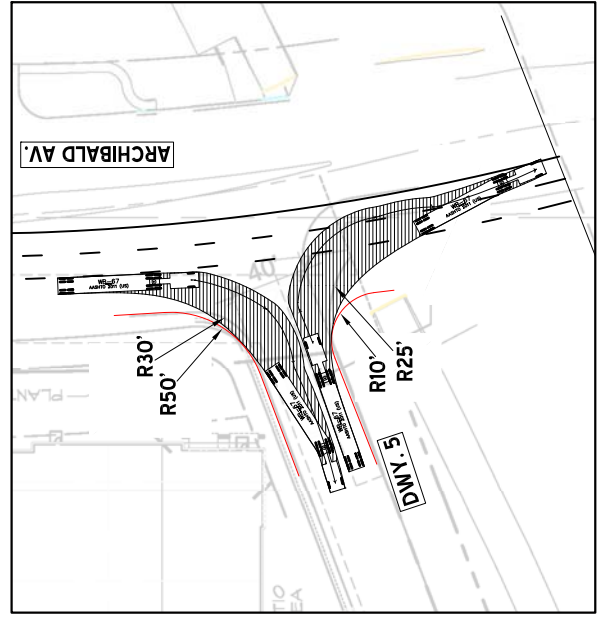
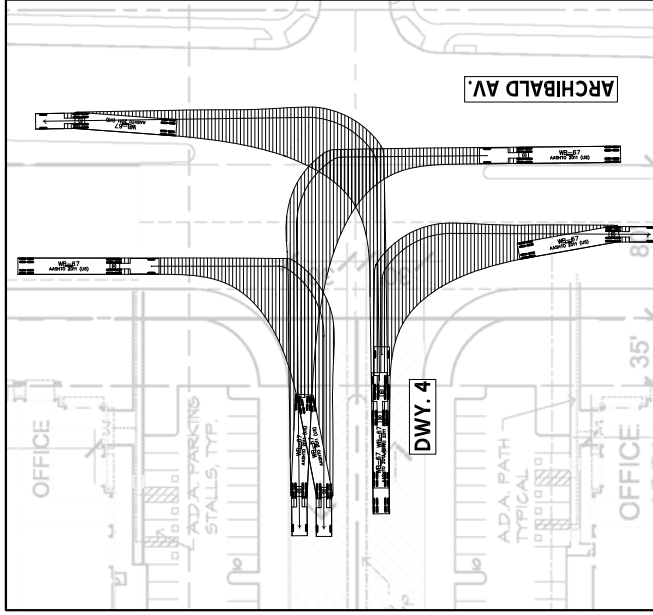
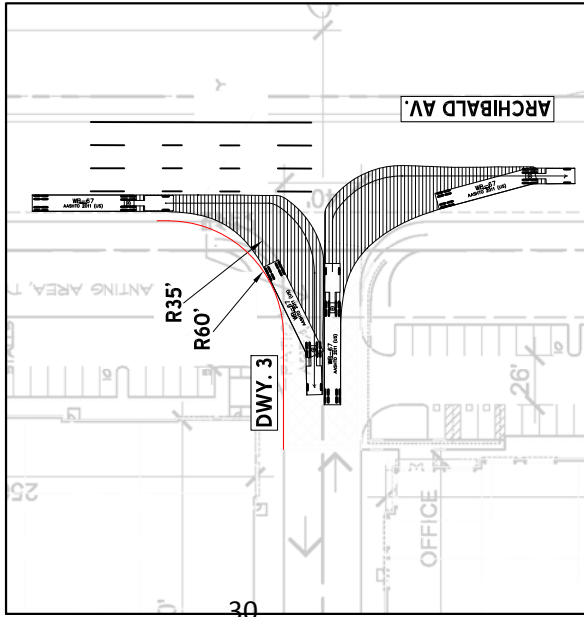
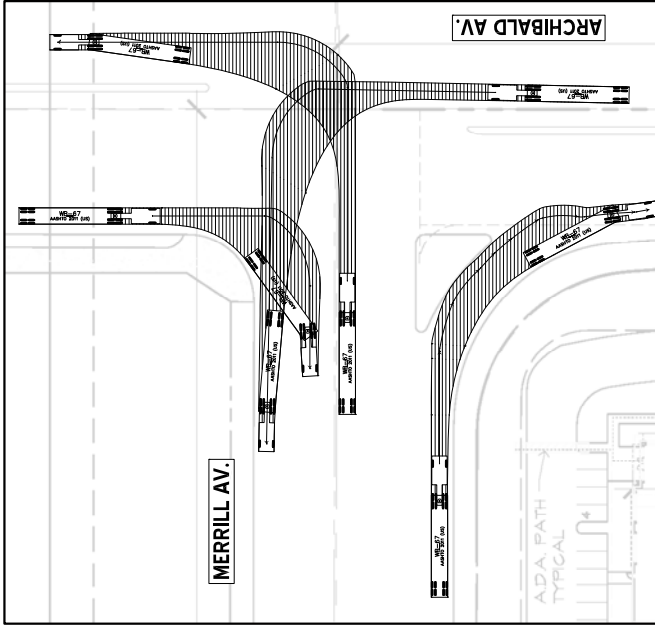
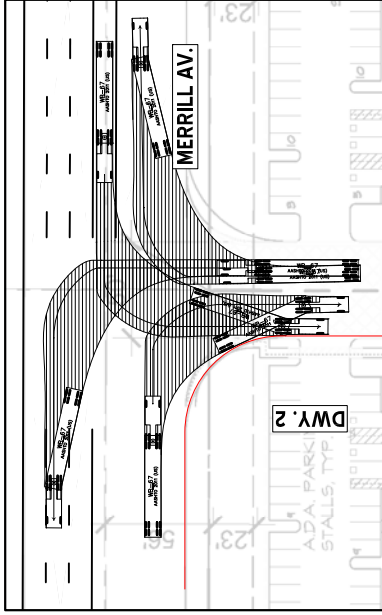
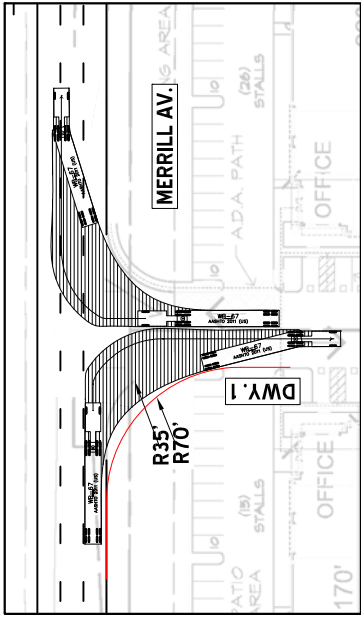
Peak Hour Queuing Summary for Site Adjacent Intersections - Horizon Year (2040) With Project Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
Driveway 1 / Merrill Avenue	NBR	380	36	56	Yes	Yes
	EBT	1,170	0	20	Yes	Yes
	EBT/R	1,170	0	0	Yes	Yes
	WBT	550	0	0	Yes	Yes
Driveway 2 / Merrill Avenue	NBL/T/R	340	48	101	Yes	Yes
	SBL/T/R	380	129	90	Yes	Yes
	EBL	300	52	157	Yes	Yes
	EBT	550	146	340	Yes	Yes
	EBR	100	23	14	Yes	Yes
	WBL	150	102	76	Yes	Yes
	WBT	790	170	158	Yes	Yes
	WBT/R	790	185	175	Yes	Yes
Archibald Avenue / Merrill Avenue	NBL	450	180	213	Yes	Yes
	NBT	1,250	224	327	Yes	Yes
	NBR	400	118	182	Yes	Yes
	SBL	450	71	443	Yes	Yes
	SBT	2,605	236	852	Yes	Yes
	SBR	500	208	487	Yes	Yes
	EBL	400	154	397	Yes	Yes
	EBT	790	45	752	Yes	Yes
	EBR	250	83	265	Yes	Yes
	WBL	200	140	118	Yes	Yes
	WBT	730	92	67	Yes	Yes
	WBR	300	51	34	Yes	Yes
Archibald Avenue / Driveway 3	NBT	900	0	6	Yes	Yes
	SBT	350	47	55	Yes	Yes
	SBR	350	54	53	Yes	Yes
	EBR	300	31	57	Yes	Yes
Archibald Avenue / Driveway 4	NBL	200	121	76	Yes	Yes
	NBT	400	254	241	Yes	Yes
	NBTR	400	243	193	Yes	Yes
	SBL	200	67	78	Yes	Yes
	SBT	900	291	341	Yes	Yes
	SBR	100	102	86	No	Yes
	EBL	300	66	143	Yes	Yes
	EBT/R	300	33	49	Yes	Yes
	WBL	175	74	80	Yes	Yes
WBT/R	175	94	51	Yes	Yes	
Archibald Avenue / Driveway 5	NBT	900	0	0	Yes	Yes
	SBT	400	0	0	Yes	Yes
	EBR	300	39	72	Yes	Yes

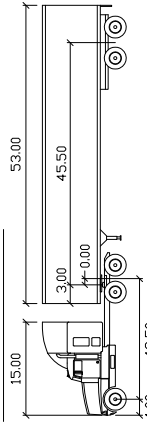
¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

EXHIBIT 1-4: TRUCK ACCESS



LEGEND:



Feet	
Tractor Width	: 6.0
Tractor Wheelbase	: 8.5
Tractor Track	: 8.0
Tractor Track	: 8.5
Trailer Track	: 7.5
NOT TO SCALE	



2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are generally consistent with City of Ontario traffic study guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The *Highway Capacity Manual* (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

City of Ontario, City of Chino, City of Eastvale, City of Jurupa Valley

The City of Ontario, City of Chino, City of Eastvale, and City of Jurupa Valley require signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM 2010

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per hour (vphgph), will be utilized in the traffic analysis for signalized intersections:

Existing and Opening Year Cumulative Traffic Conditions:

- Exclusive through: 1800 vphgph
- Exclusive left: 1700 vphgph
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgph
- Exclusive triple left: 1500 vphgph

Horizon Year (2040) Traffic Conditions:

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual right: 1800 vphgpl
- Exclusive triple left: 1600 vphgpl or less

The traffic modeling and signal timing optimization software package Synchro (Version 9) has been utilized to analyze signalized intersections within the City of Ontario, City of Chino, City of Eastvale, and City of Jurupa Valley. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15 minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. $PHF = [Hourly\ Volume] / [4 \times Peak\ 15\text{-minute}\ Flow\ Rate]$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (4)

California Department of Transportation (Caltrans)

Per the Caltrans *Guide for the Preparation of Traffic Impact Studies*, the traffic modeling and signal timing optimization software package Synchro (Version 9) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e. SR-71 Freeway ramp at Euclid Avenue (SR-83), SR-60 Freeway ramps at Archibald Avenue, and I-15 Freeway ramps at Cantu Galleano Ranch Road and Limonite Avenue). (2) Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis.

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Ontario, City of Chino, City of Eastvale, and City of Jurupa Valley require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM 2010

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

2.3 ROADWAY SEGMENT CAPACITY ANALYSIS

Roadway segment operations have been evaluated using the City of Ontario Roadway Capacity Values provided in the *City of Ontario General Plan (1992) Infrastructure Element, Figure INF-2 and Table INF-1*. (5) Per the City of Ontario's TIA guidelines, roadway segments within the study area should maintain LOS D capacities on City roadways. The daily roadway segment capacities for each type of roadway are summarized in Table 2-3. As noted in the City of Ontario's General Plan, these roadway capacities are "rule of thumb" estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian bicycle traffic. In other words, while using average daily traffic (ADT) for planning purposes is suitable with regards to evaluating potential volume to capacity with future forecasts, it is not suitable for operational analysis because it does not account for the factors listed previously. As such, where the ADT based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. Therefore, roadway segment widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes.

TABLE 2-3: ROADWAY SEGMENT CAPACITY LOS THRESHOLDS¹

Street Classification	Lanes	Right of Way Width ²	Curb-to-Curb Width ²	Median ³	LOS E Capacity
Divided Arterial	8	146	120	Yes	65,000
Divided Arterial	6	120 or more	94	Yes	49,000
Standard Arterial	4	100	76	TWLTL ⁴	33,000
Collector Street	4	88	64	No	22,000
Local Street	2	66 / 60	40	No	12,500
Local Industrial Street	2	66	48	No	12,500

¹ Source: Derived from the City of Ontario General Plan (1992), Infrastructure Element, Figure INF-2 and Table INF-1.

² Some arterial streets may be narrower than the right-of-way or curb-to-curb standard indicated above.

³ Median not necessarily raised and/or landscaped.

⁴ Two-way left-turn lane.

2.4 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TIA uses the signal warrant criteria presented in the latest edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)*, as amended by the *MUTCD 2014 California Supplement*, for all study area intersections. (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. Both the FHWA's *MUTCD* and the *MUTCD 2014 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TIA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 criteria are basically identical for both the FHWA's *MUTCD* and the *MUTCD 2014 California Supplement*. Warrant 3 is appropriate to use for this TIA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Future unsignalized intersections, that currently do not exist, have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. As shown on Table 2-4, traffic signal warrant analyses were performed for the following unsignalized study area intersections during the peak weekday conditions wherein the Project is anticipated to contribute the highest trips:

TABLE 2-4: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
7	Grove Av. / Merrill Av.	Ontario/Chino
8	Flight Av. / Merrill Av.	Ontario/Chino
9	Hellman Av. / Merrill Av.	Ontario/Chino
10	Hellman Av. / Kimball Av.	Chino/Eastvale
13	Driveway 2 / Merrill Av.	Ontario
19	Archibald Av. / Schaefer Av.	Ontario
24	Archibald Av. / Driveway 4	Ontario

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Analysis*, Section 6 *Opening Year Cumulative (2019) Traffic Analysis*, and Section 7 *Horizon Year (2040) Traffic Analysis* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.5 FREEWAY OFF-RAMP QUEUING ANALYSIS

The study area for this TIA includes the freeway-to-arterial interchanges of the SR-71 Freeway at Euclid Avenue (SR-83) off-ramps, SR-60 Freeway at Archibald Avenue off-ramps, I-15 Freeway at Cantu Galleano Ranch Road off-ramps, and I-15 Freeway at Limonite Avenue off-ramps. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing impacts at the freeway ramp intersections on Euclid Avenue (SR-83), Archibald Avenue, Cantu Galleano Ranch Road, and Limonite Avenue. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” onto the SR-71 Freeway, SR-60 Freeway, and I-15 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential impacts/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. There are two footnotes which appear on the Synchro outputs. One footnote indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The other footnote indicates whether or not the volume for the 95th percentile queue is metered by an upstream signal. In many cases, the 95th percentile queue will not be experienced and may potentially be less than the 50th percentile

queue due to upstream metering. If the upstream intersection is at or near capacity, the 50th percentile queue represents the maximum queue experienced.

A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. Although only the 95th percentile queue has been reported in the tables, the 50th percentile queue can be found in the appendix alongside the 95th percentile queue for each ramp location. The 50th percentile maximum queue is the maximum back of queue on a typical cycle during the peak hour, while the 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes during the peak hour. In other words, if traffic were observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time). The queue length reported is for the lane with the highest queue in the lane group. The 50th percentile or average queue represents the typical queue length for peak hour traffic conditions, while the 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations.

2.6 FREEWAY MAINLINE SEGMENT ANALYSIS METHODOLOGY

Consistent with recent Caltrans guidance and because impacts to freeway segments dissipate with distance from the point of SHS entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry is not required. As such, the traffic study has evaluated the freeway segments along the SR-71 Freeway, SR-60 Freeway, and I-15 Freeway where the Project is anticipated to contribute 25 or more one-way peak hour trips. Because impacts to freeway segments dissipate with distance from the point of SHS entry, quantitative evaluation of freeway segments with less than 25 peak hour trips is not necessary.

The freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments have been evaluated in this TIA based upon peak hour directional volumes. The freeway segment analysis is based on the methodology described in the HCM and performed using HCS2010 software. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 2-5 illustrates the freeway segment LOS descriptions for each density range utilized for this analysis. The number of lanes for existing baseline conditions has been obtained from field observations conducted by Urban Crossroads in April and December of 2016. These existing freeway geometrics have been utilized for Existing, E+P, Opening Year Cumulative (2019) Without and With Project, and Horizon Year (2040) Without and With Project conditions.

The SR-71 Freeway, SR-60 Freeway, and I-15 Freeway mainline volume data were obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the SR-71 Freeway north of Euclid Avenue (SR-83), SR-60 Freeway west of Archibald Avenue, I-15 Freeway north of Cantu Galleano Ranch Road, and I-15 Freeway north of Limonite Avenue. The data was obtained from May 2016. In an effort to conduct a conservative analysis, the maximum value observed within the three-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic, has been utilized for the purposes of this analysis in an effort to not overstate traffic volumes and

peak hour deficiencies. As such, actual vehicles (as opposed to passenger-car-equivalent volumes) have been utilized for the purposes of the basic freeway segment analysis. (7)

TABLE 2-5: DESCRIPTION OF FREEWAY MAINLINE LOS

Level of Service	Description	Density Range (pc/mi/ln) ¹
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow.	>45.0

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM 2010

2.7 FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS

The freeway system in the study area has been broken into segments defined by freeway-to-arterial interchange locations resulting in two existing on and off ramp locations. Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study has been performed at all ramp locations with respect to the nearest on or off ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects Urban Crossroads has worked on in the region.

The merge/diverge analysis is based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS2010 software. The measure of effectiveness (reported in passenger car/mile/lane) are calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 2-6 presents the merge/diverge area level of service descriptions for each density range utilized for this analysis.

TABLE 2-6: DESCRIPTION OF FREEWAY MERGE AND DIVERGE LOS

Level of Service	Density Range (pc/mi/ln) ¹
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM 2010

Similar to the basic freeway segment analysis, the SR-71, SR-60, and I-15 Freeway mainline volume data were obtained from the Caltrans PeMS website for the segments of the SR-71 Freeway north of Euclid Avenue (SR-83), SR-60 Freeway west of Archibald Avenue, I-15 Freeway north of Cantu Galleano Ranch Road, and I-15 Freeway north of Limonite Avenue. The ramp data (per the count data presented in Appendix 3.1, and if applicable, were increased to reflect 2017 conditions) were then utilized to flow conserve the mainline volumes to determine the remaining SR-71, SR-60, and I-15 Freeway mainline segment volumes. Flow conservation checks ensure that traffic flows from east to west and north to south (and vice versa) of the interchange area with no unexplained loss of vehicles. The data was obtained from May 2016. In an effort to conduct a conservative analysis, the maximum value observed within the three-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic, has been utilized for the purposes of this analysis in an effort to not overstate traffic volumes and peak hour deficiencies. (7) As such, actual vehicles (as opposed to passenger-car-equivalent volumes) have been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis.

2.8 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS) AND INTERSECTION DEFICIENCY CRITERIA

Minimum Acceptable Levels of Service (LOS) and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

2.8.1 CITY OF ONTARIO

According to the City of Ontario’s General Plan, LOS E is the minimum acceptable condition that should be maintained during the peak commute hours, where feasible. Therefore, any intersection operating at LOS F is considered deficient. LOS will also be reported by movement for the City’s review. A higher LOS standard of LOS D has been applied to the Project driveways. LOS D has been utilized as the minimum LOS for all roadway segments.

2.8.2 CITY OF CHINO HILLS

The City of Chino Hills utilizes a minimum acceptable LOS of LOS D, where feasible.

2.8.3 CITY OF CHINO

The City of Chino utilizes a minimum acceptable LOS of LOS D, where feasible.

2.8.4 CITY OF EASTVALE

The City of Eastvale General Plan Policy C-10 sets a standard of LOS C with LOS D as acceptable in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramps. Based on this criterion, where feasible, LOS D is the minimum acceptable LOS at each of the study intersections within the City of Eastvale.

2.8.5 CITY OF JURUPA VALLEY

The City of Jurupa Valley utilizes a minimum acceptable LOS of LOS D, where feasible.

2.8.6 CMP

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, where feasible, except where an existing LOS F condition is identified in the CMP document. However, in an effort to overstate as opposed to understate potential impacts, LOS D has been utilized for the CMP intersections for the purposes of this analysis.

2.8.7 CALTRANS

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on SHS facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing LOS should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is LOS D. In excess of the City of Ontario LOS threshold of LOS E and consistent with the City of Chino stated LOS threshold of LOS D, LOS D will be used as the target LOS for freeway ramps, freeway segments, and freeway merge/diverge ramp junctions.

2.9 THRESHOLDS OF SIGNIFICANCE

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies.

2.9.1 INTERSECTIONS

To determine whether the addition of project traffic (as defined through the comparison of Existing traffic conditions to E+P traffic conditions) at a study intersection would result in a direct project-specific traffic impact, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (or LOS E for CMP intersections and intersections located in the City of Ontario) (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

However, when the pre-Project condition is already below LOS D/LOS E (i.e., unacceptable LOS), the Project will be responsible for mitigating its impact to a level of service equal to or better than it was without the Project for intersections that receive 50 or more peak hour project-

related trips. This is a standard protocol in many urban jurisdictions because to require a Project to mitigate to LOS D/LOS E or better would in effect force the Project to mitigate beyond its Project impacts, which is prohibited under California law. Thus, for intersections currently operating at unacceptable LOS during either the AM and/or PM peak hour under Existing traffic conditions, improvements have been identified to mitigate the impacts of the Project to an intersection LOS that is equal to or better than pre-Project conditions.

For the study area intersections that lie within the City of Eastvale, project-related significant impacts will be identified by comparing the “Without Project” condition to the “With Project” condition based on the following criteria:

- If the LOS deteriorates from acceptable LOS (LOS D or better) to unacceptable LOS (LOS E or F); or
- If the intersection is already operating at an unacceptable LOS (LOS E or F) in “Without Project” conditions and the addition of Project traffic increases the delay by more than 5.0 seconds.

Cumulative traffic impacts are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the Project. A Project’s contribution to a significant cumulative impact can be reduced to less than significant if the Project is required to implement or fund its fair share of improvements designed to alleviate its cumulatively considerable contribution to the impact. Cumulatively considerable is defined as the addition of 50 or more peak hour trips.

In the event that an intersection is operating at or is forecast to operate at a deficient LOS, the CMP guidelines have defined a series of steps to be completed to determine the Project’s contribution to the deficiency of intersections, which has been applied to both CMP and non-CMP study area intersections. The steps are as follows:

- Determine the mitigation measures necessary to achieve an acceptable service level,
- Calculate the Project’s share in the future traffic volume projections for the peak hours,
- Estimate the cost to implement recommended mitigation measures, and
- Calculate the Project’s fair-share contribution to mitigate the Project’s traffic impacts

2.9.2 ROADWAY SEGMENTS

To determine whether the addition of project traffic on study area roadway segments would result in a significant traffic impact, the following will be utilized:

- When the pre-Project condition is at or better than LOS D (or LOS E for CMP roadways located in the City of Ontario) (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

However, when the pre-Project condition is already below LOS D/LOS E (i.e., unacceptable LOS), the Project will be responsible for mitigating its impact to a level of service equal to or better than it was without the Project for roadway segments that receive 50 or more peak hour project-related trips. This is a standard protocol in many urban jurisdictions because to require a Project

to mitigate to LOS D/LOS E or better would in effect force the Project to mitigate beyond its Project impacts, which is prohibited under California law.

Cumulative traffic impacts are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the Project. A Project’s contribution to a significant cumulative impact can be reduced to less than significant if the Project is required to implement or fund its fair share of improvements designed to alleviate its cumulatively considerable contribution to the impact. Cumulatively considerable impacts are defined as the addition of 50 or more peak hour trips.

2.9.3 CALTRANS FACILITIES

To determine whether the addition of project traffic to the SHS freeway segments would result in a deficiency, the following will be utilized:

- The traffic study finds that the LOS of a segment will degrade from D or better to E or F.
- The traffic study finds that the project will exacerbate an already deficient condition by contributing 25 or more one-way peak hour trips. A segment that is operating at or near capacity is deemed to be deficient.

2.10 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TIA identifies that the Project would contribute additional traffic volumes to cumulative traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project’s fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (Horizon Year) traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \text{Project Traffic} / (\text{2040 With Project Total Traffic} - \text{Existing Traffic})$$

The Project fair share contribution calculations are presented in Section 1.5 *Local and Regional Funding Mechanisms* of this TIA. The cost of implementing the improvements shown on Table 1-4 have been estimated based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a total cost escalation factor of 1.484 to more closely approximate current (2017) costs. These cost estimates have been utilized in conjunction with the Project fair share percentages to determine the Project’s fair share cost of the recommended cumulative improvements (see Table 1-5). These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or mitigation.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Ontario General Plan Circulation Network, and a review of existing peak hour intersection operations, freeway mainline operations, and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Ontario staff (Appendix 1.1), the study area includes a total of 37 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF ONTARIO GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Ontario. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Ontario General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Ontario General Plan Circulation Element, and Exhibit 3-3 illustrates the City of Ontario General Plan roadway cross-sections.

The study area roadways that are classified as 8-lane Principal Arterials are identified as having four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as 8-lane Principal Arterials:

- Euclid Avenue (SR-83) north of Merrill Avenue
- Edison Avenue/Ontario Ranch Road from Euclid Avenue (SR-83) to Hamner Avenue
- Hamner Avenue between the SR-60 Freeway and Bellegrave Avenue

The study area roadway that is classified as a 6-lane Principal Arterial is identified as having three lanes of travel in each direction and a 14-foot curbed or painted median. The following study area roadways within the City of Ontario are classified as a 6-lane Principal Arterial:

- Hellman Avenue (Vineyard Avenue) north of Merrill Avenue
- Archibald Avenue north of Bellegrave Avenue

The study area roadway that is classified as a 4-lane Principal Arterial is identified as having two lanes of travel in each direction. The following study area roadway within the City of Ontario is classified as a 4-lane Principal Arterial:

- Grove Avenue north of Merrill Avenue

EXHIBIT 3-1 (10F2): EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

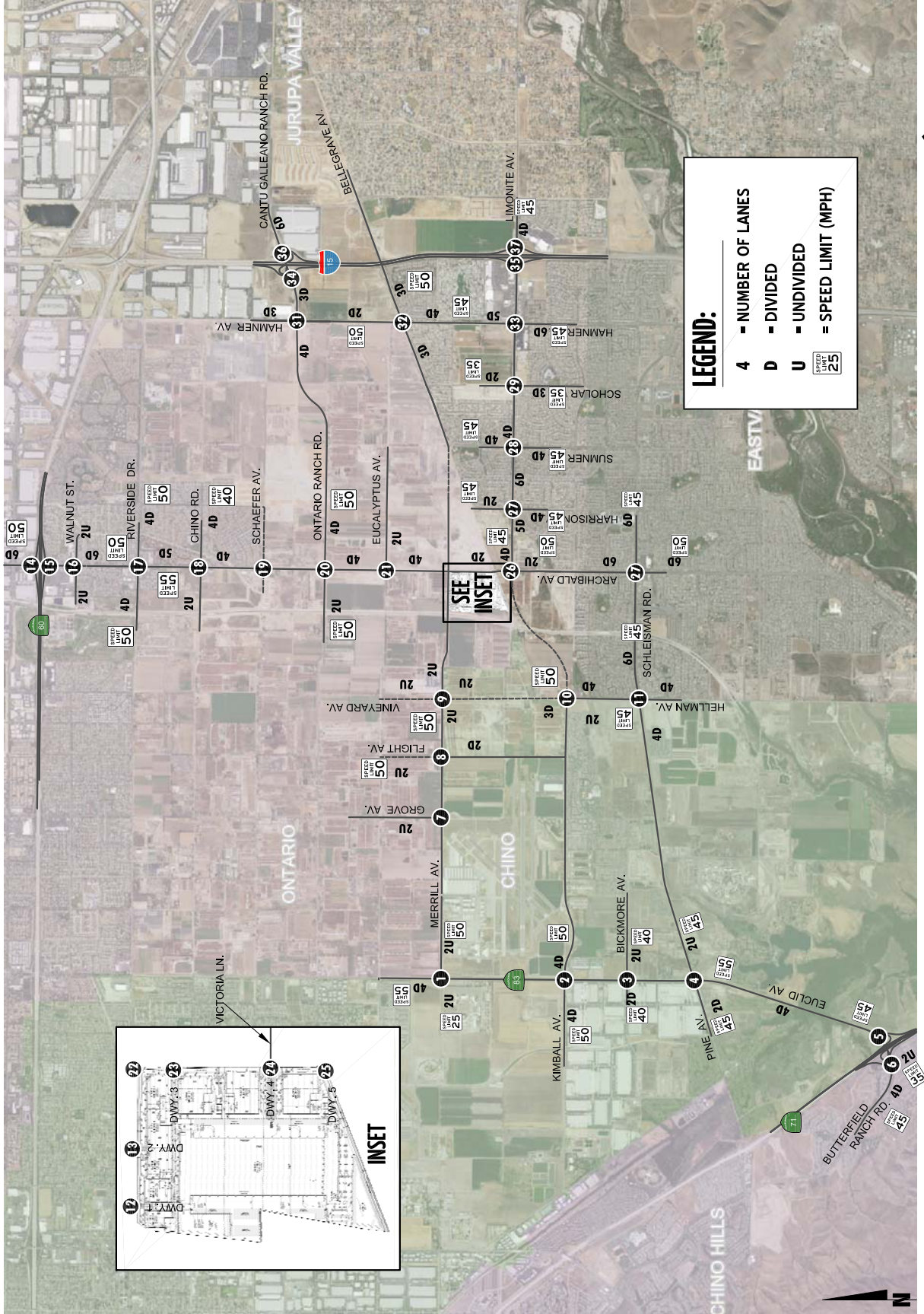
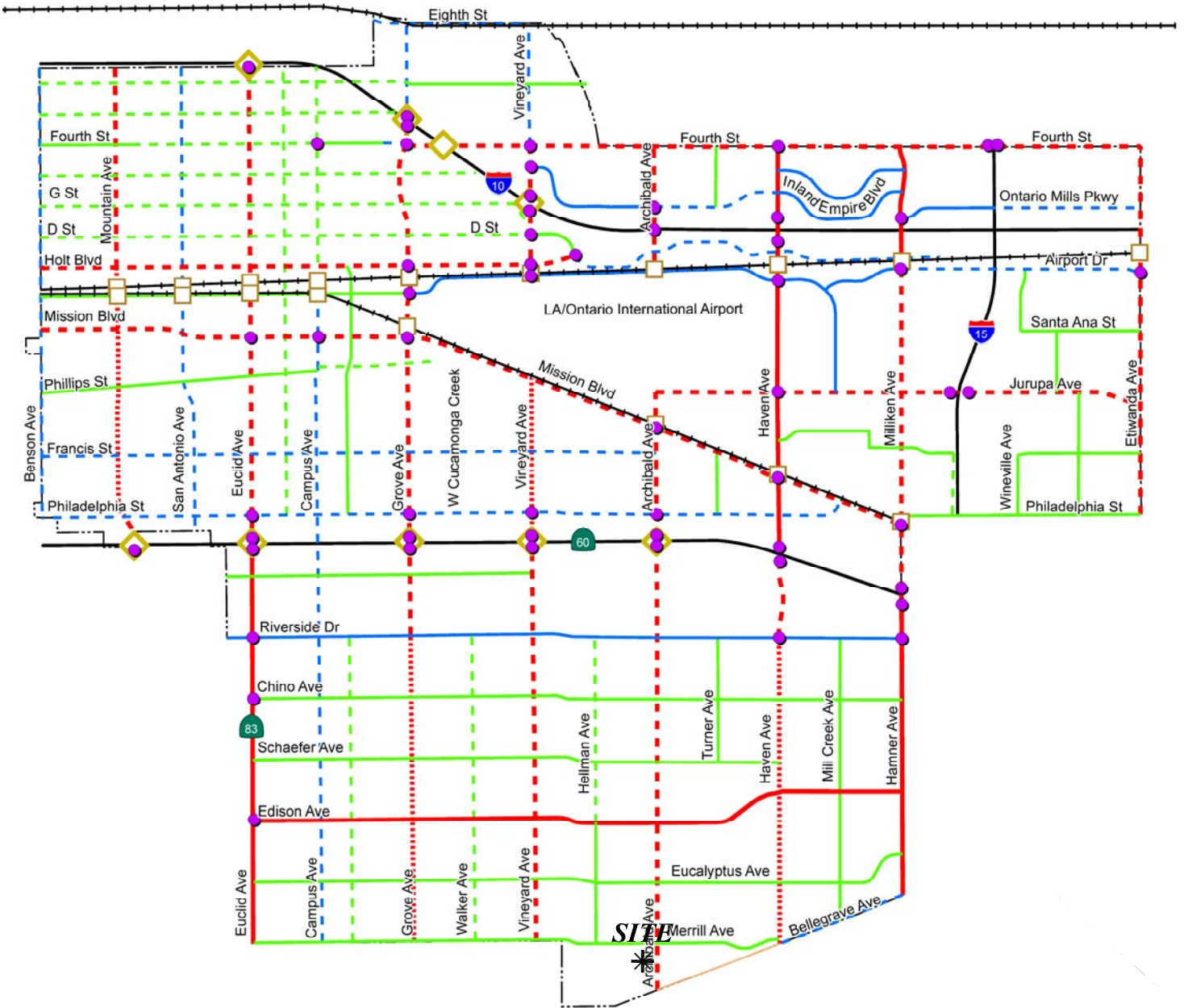


EXHIBIT 3-1 (2OF2): EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

<p>1 Euclid Av. (SR-83) & E. Facility Dr./ Merrill Av.</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./ Euclid Av. (SR-83)</p>	<p>6 SR-71 SB Ramps/ Shady View Dr. & Butterfield Ranch Rd.</p>	<p>7 Grove Av. & Merrill Av.</p>
<p>8 Flight Av. & Merrill Av.</p>	<p>9 Hellman Av./ Vineyard Av. & Merrill Av.</p> <p>Future Intersection</p>	<p>10 Hellman Av. & Kimball Av.</p>	<p>11 Hellman Av. & Pine Av.</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>Future Intersection</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>Future Intersection</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p>	<p>16 Archibald Av. & Walnut Av.</p>	<p>17 Archibald Av. & Riverside Dr.</p>	<p>18 Archibald Av. & Chino Av.</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p>	<p>21 Archibald Av. & Eucalytus Av.</p>
<p>22 Archibald Av. & Merrill Av.</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>Future Intersection</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>Future Intersection</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>Future Intersection</p>	<p>26 Archibald Av. & Limonite Av.</p>	<p>27 Archibald Av. & Schleisman Rd.</p>	<p>28 Harrison Av. & Limonite Av.</p>
<p>29 Sumner Av. & Limonite Av.</p>	<p>30 Scholar Wy. & Limonite Av.</p>	<p>31 Hamner Av. & Ontario Ranch Rd./ Cantu Galleano Ranch Rd.</p>	<p>32 Hamner Av. & Bellegrave Av.</p>	<p>33 Hamner Av. & Limonite Av.</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p>	<p>35 I-15 SB Ramps & Limonite Av.</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p>	<p>37 I-15 NB Ramps & Limonite Av.</p>	<p>LEGEND:</p> <ul style="list-style-type: none"> = TRAFFIC SIGNAL = ALL WAY STOP = STOP SIGN = FREE RIGHT TURN = CHANNELIZED YIELD = RIGHT TURN OVERLAP = DEFACTO RIGHT TURN 				

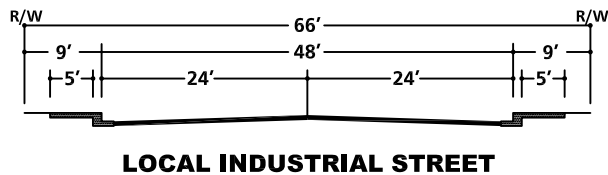
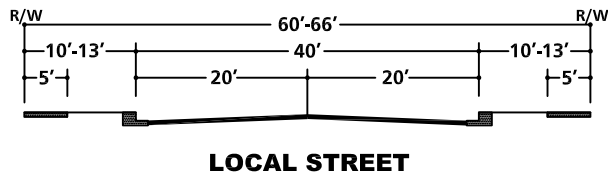
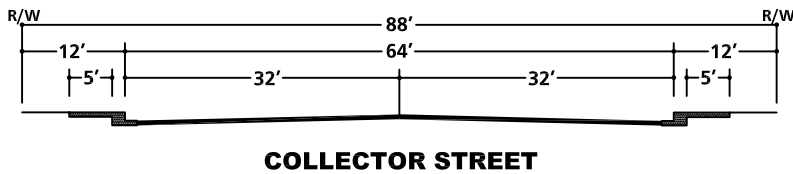
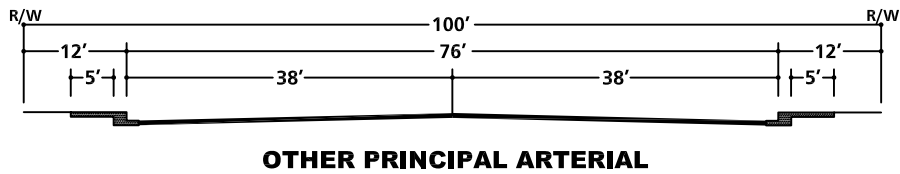
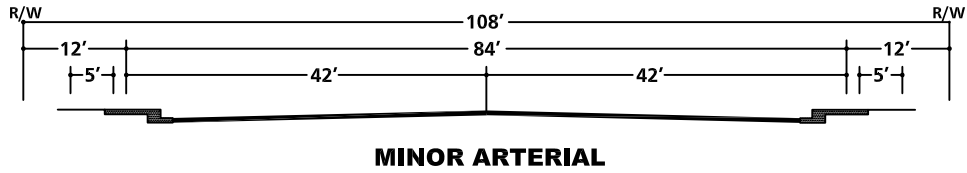
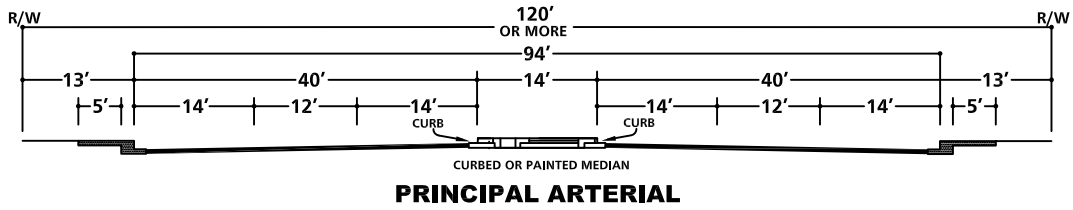
EXHIBIT 3-2: CITY OF ONTARIO GENERAL PLAN CIRCULATION ELEMENT



- | | |
|--------------------------|----------------------------------|
| Other Principal Arterial | — Freeways |
| — 8 Lanes | — Railroads |
| - - - 6 Lanes | ◆ Freeway Interchange |
| ⋯ 4 Lanes | □ Grade-Separated Rail Crossings |
| Minor Arterial | ● Enhanced Intersections |
| — 6 Lanes | |
| - - - 4 Lanes | |
| Collector Street | |
| — 4 Lanes | |
| - - - 2 Lanes | |



EXHIBIT 3-3: CITY OF ONTARIO GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: CITY OF ONTARIO

The study area roadway that is classified as a 6-lane Minor Arterial is identified as having three lanes of travel in each direction. The following study area roadway within the City of Ontario is classified as a 6-lane Minor Arterial:

- Riverside Drive

The study area roadway that is classified as a 4-lane Minor Arterial is identified as having two lanes of travel in each direction and a 14-foot median. The following study area roadway within the City of Ontario is classified as a 4-lane Minor Arterial:

- Bellegrave Avenue from Haven Avenue to Hamner Avenue

The study area roadways that are classified as Collector Streets are identified as having two to four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as Collector Streets:

- Chino Avenue
- Schaefer Avenue from Euclid Avenue (SR-83) to Haven Avenue
- Eucalyptus Avenue
- Merrill Avenue
- Bon View Avenue
- Flight Avenue (Walker Avenue)

3.3 CITY OF CHINO, CITY OF CHINO HILLS, AND CITY OF EASTVALE GENERAL PLAN CIRCULATION ELEMENT

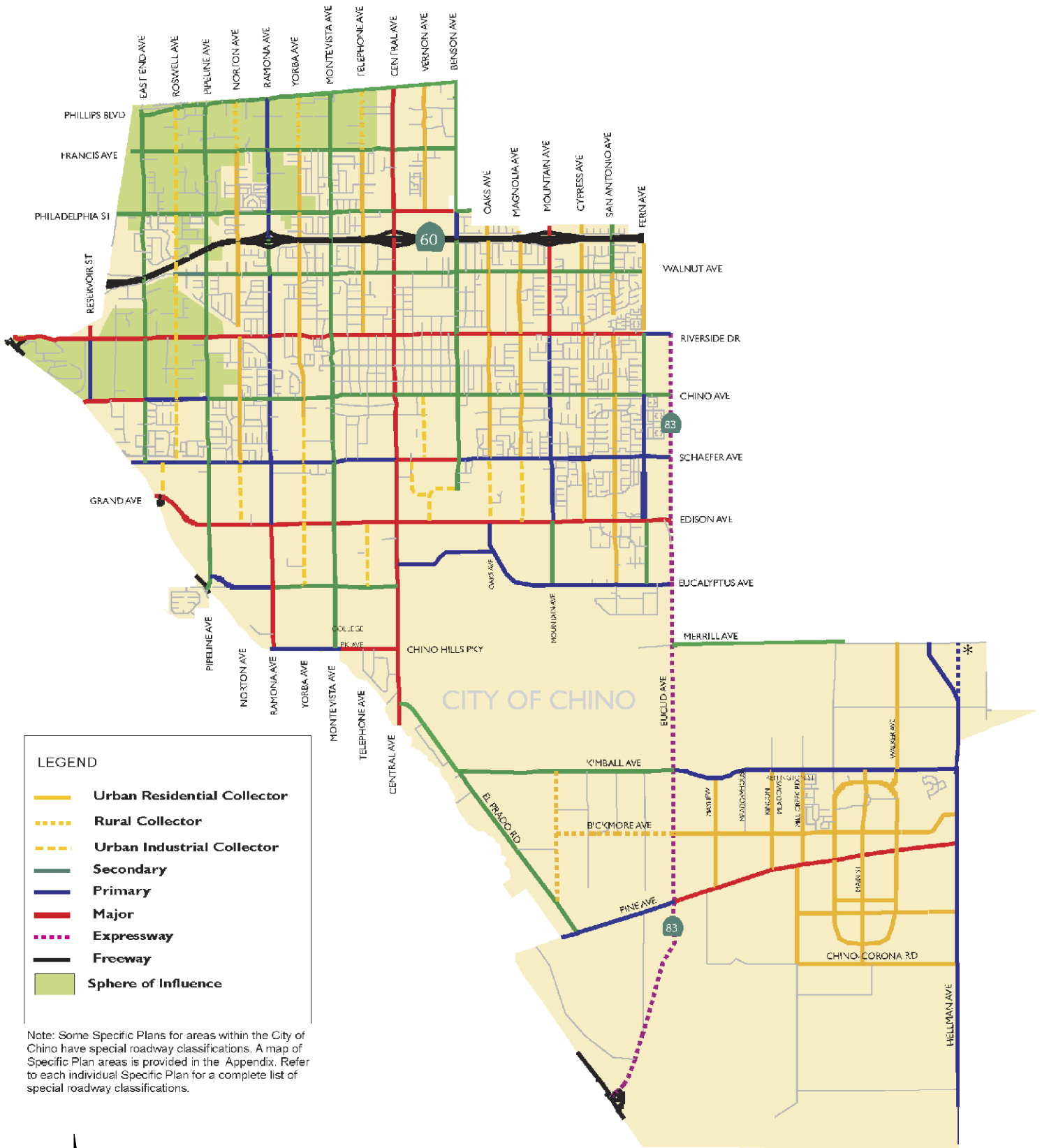
Exhibits 3-4 and 3-5 show the City of Chino General Plan Circulation Element and roadway cross-sections, respectively. Exhibits 3-6 and 3-7 show the City of Chino Hills General Plan Circulation Element and roadway cross-sections, respectively. Exhibits 3-8 and 3-9 show the City of Eastvale General Plan Circulation Element and roadway cross-sections, respectively.

3.4 TRUCK ROUTES

The City of Ontario designated truck route map is shown on Exhibit 3-10. Euclid Avenue (SR-83), Edison Avenue/Ontario Ranch Road, Merrill Avenue, Archibald Avenue, and Hamner Avenue/Milliken Avenue are designated as a Truck Route in the City of Ontario. The designated truck route map has been utilized to route truck traffic from both the proposed Project and future cumulative development projects throughout the study area.

The City of Chino designated truck route map is shown on Exhibit 3-11. Merrill Avenue, Kimball Avenue, Pine Avenue, Flight Avenue, and Hellman Avenue are some of the designated City of Chino truck routes near the Project while Euclid Avenue (SR-83) is designated as a State Truck Route. Other truck routes in the study area include, Riverside Drive and Edison Drive. The designated truck route map has been utilized to route truck traffic from both the proposed Project and future cumulative development projects throughout the study area.

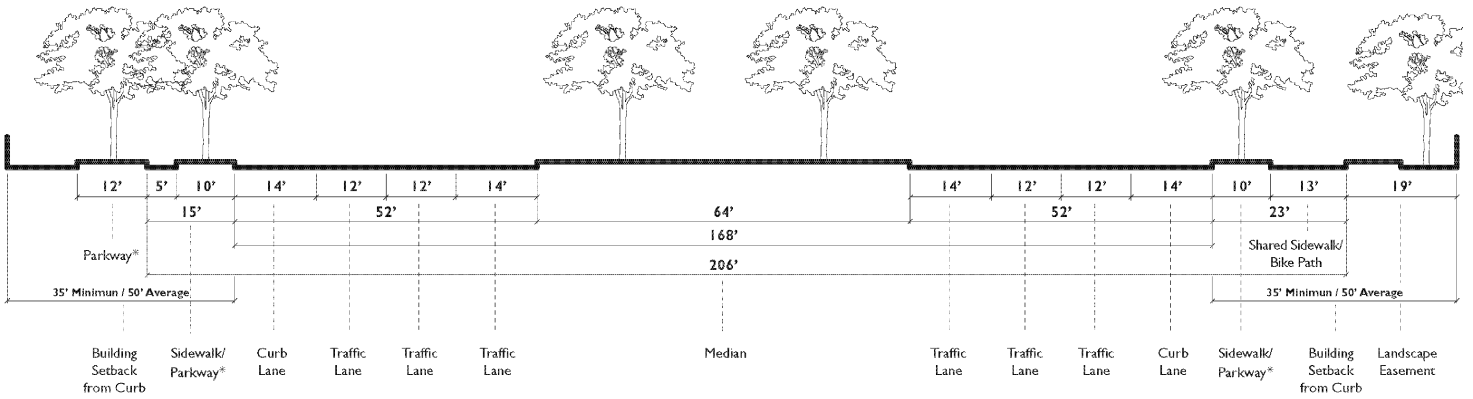
EXHIBIT 3-4: CITY OF CHINO GENERAL PLAN CIRCULATION ELEMENT



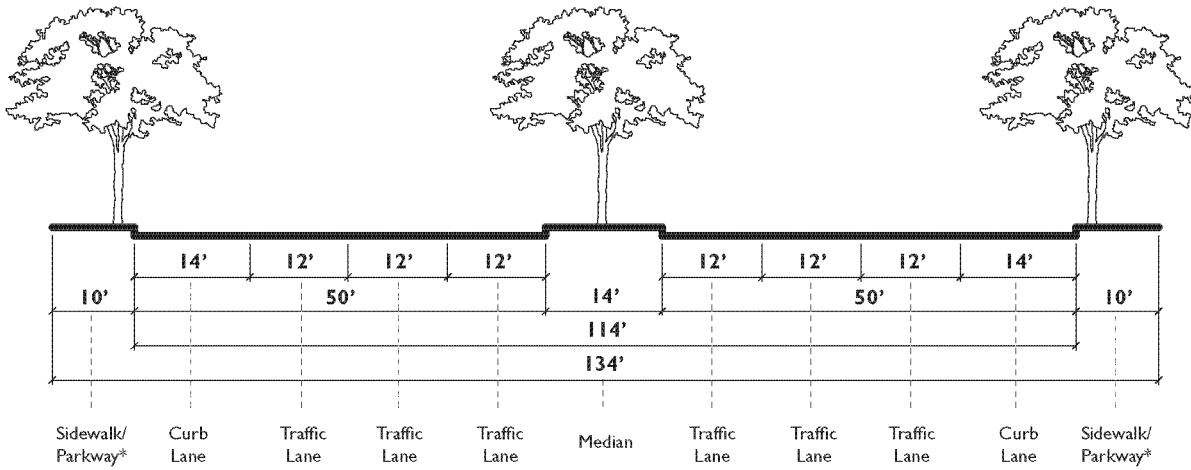
* Potential Alternative Hellman Avenue Alignment

EXHIBIT 3-5 (1 of 2): CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS

Major Arterial (Expressway): Typical 8 Lane
 Provides 8 traffic lanes and a wide median without parking



Major Arterial: Minimum 8 Lane
 Provides 8 traffic lanes and 2 bicycle lanes separated by a median without parking



Major Arterial: Minimum 6 Lane
 Provides 6 traffic lanes and 2 bicycle lanes separated by a median without parking

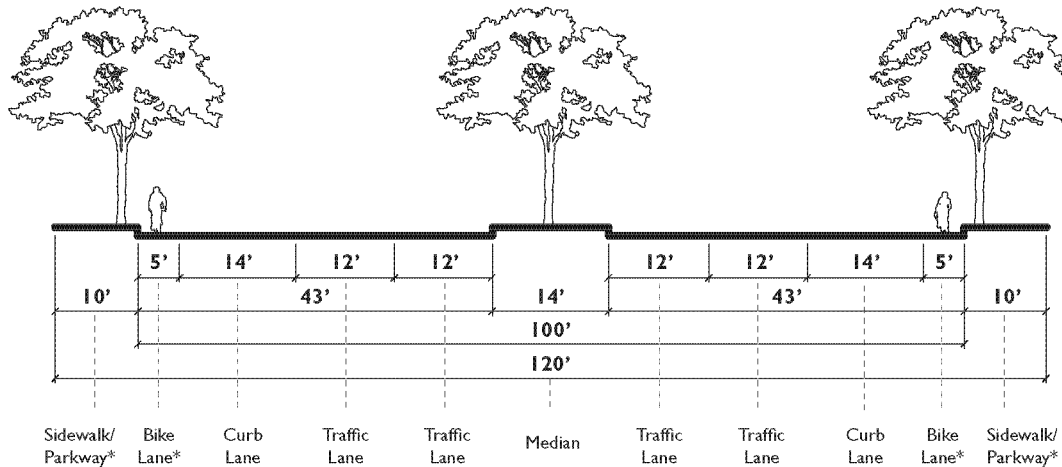
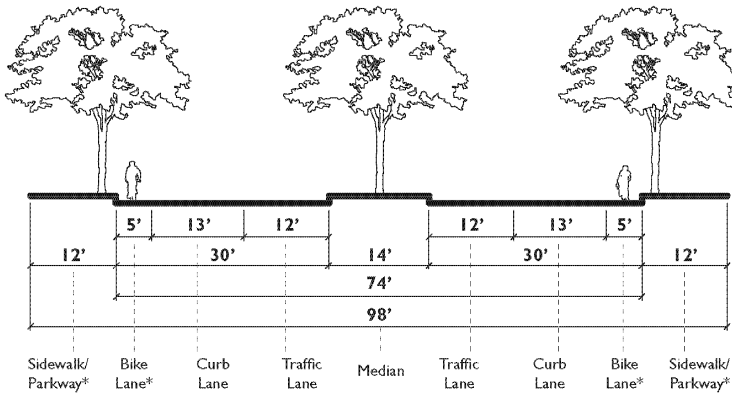


EXHIBIT 3-5 (2 of 2): CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS

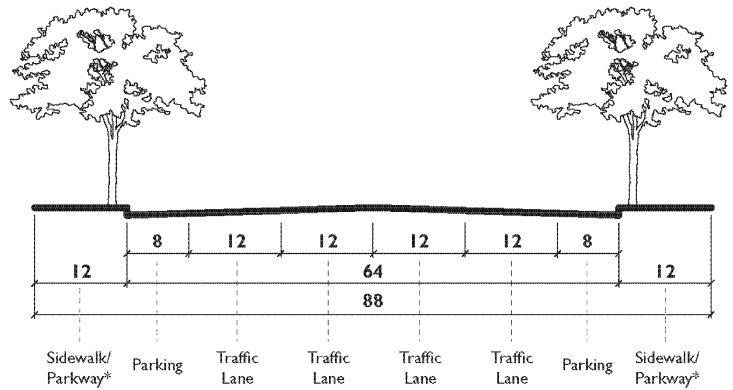
Primary Arterial: Typical 4 Lane

Provides 4 traffic lanes and 2 bicycle lanes separated by a median without parking



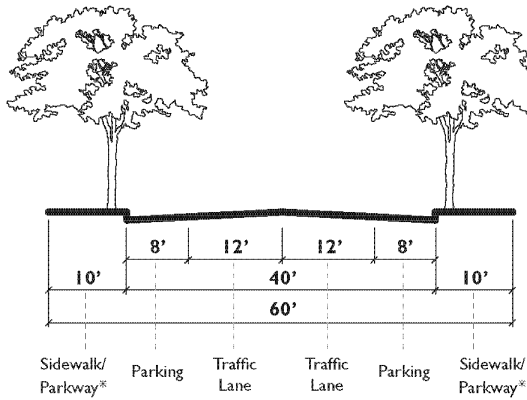
Secondary Arterial

Provides 4 traffic lanes with parking



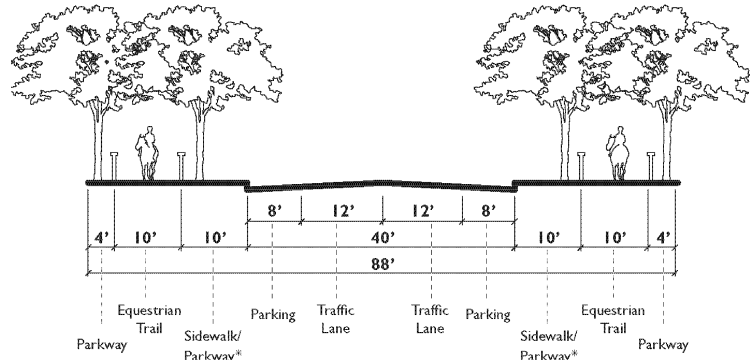
Urban Residential/Rural Collector

Provides 2 traffic lanes with parking and shared bicycle access



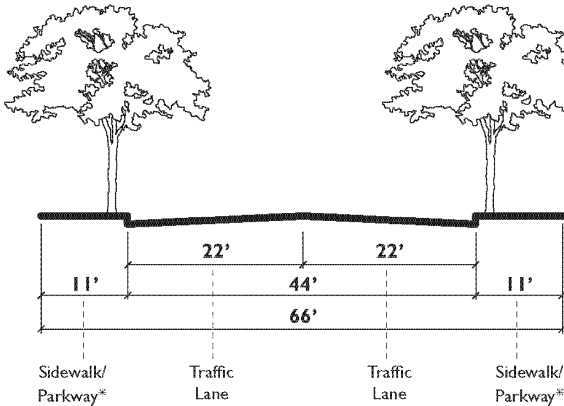
Urban Residential/Rural Collector with Equestrian Trails

Provides 2 traffic lanes and 2 equestrian trails with parking and shared bicycle access



Urban Industrial Collector

Provides 2 traffic lanes



Local Street

Provides 2 traffic lanes

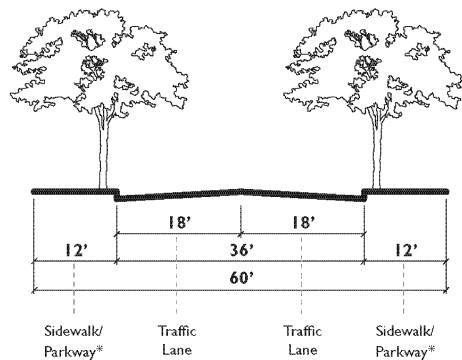
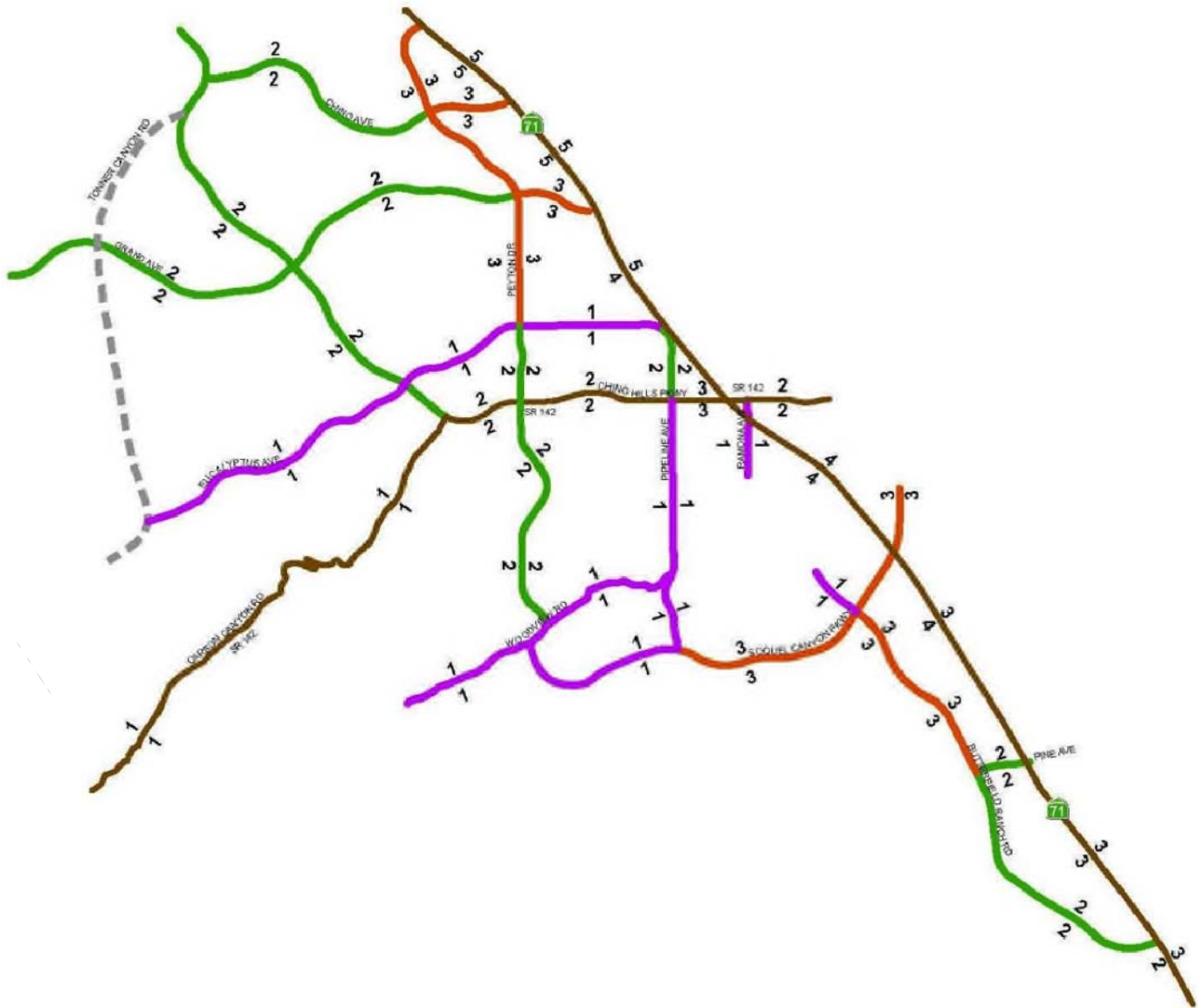


EXHIBIT 3-6: CITY OF CHINO HILLS GENERAL PLAN ROADWAY SEGMENTS



Legend

- CORRIDOR (EXACT ALIGNMENT AND SIZE TO BE DETERMINED)
- STATE ROUTE
- PRINCIPAL ARTERIAL
- MINOR ARTERIAL
- COLLECTOR
- $\frac{3}{3}$ NUMBER OF LANES



EXHIBIT 3-7 (1 of 2): CITY OF CHINO HILLS GENERAL PLAN ROADWAY CROSS-SECTIONS

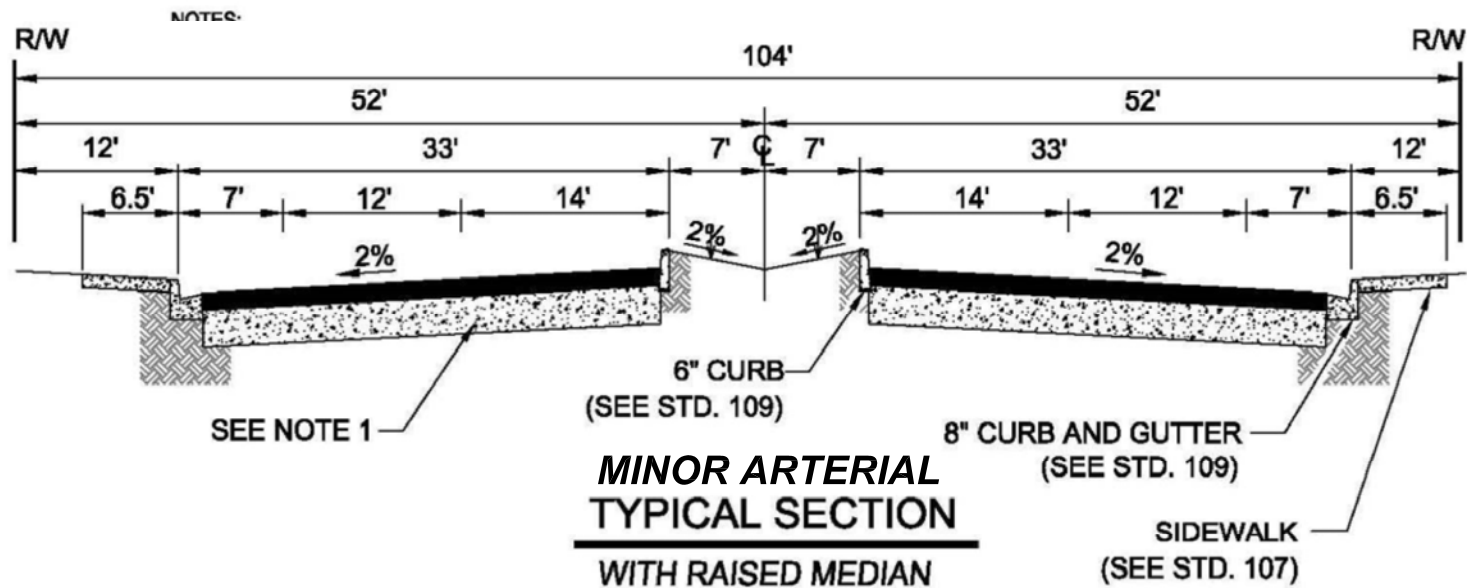
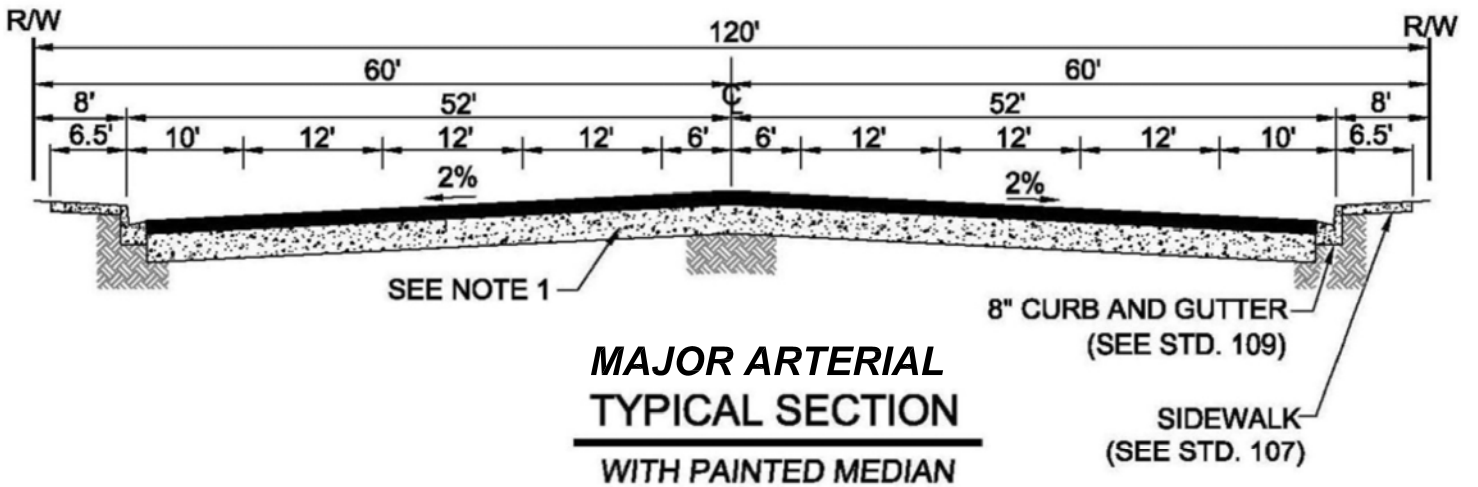
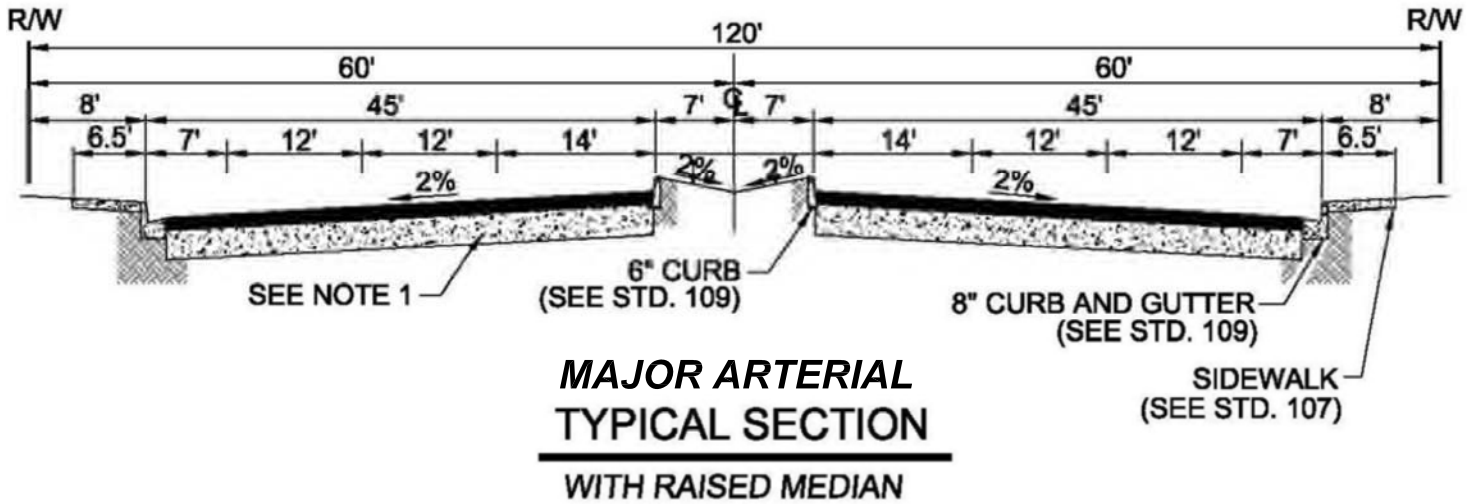


EXHIBIT 3-7 (2 of 2): CITY OF CHINO HILLS GENERAL PLAN ROADWAY CROSS-SECTIONS

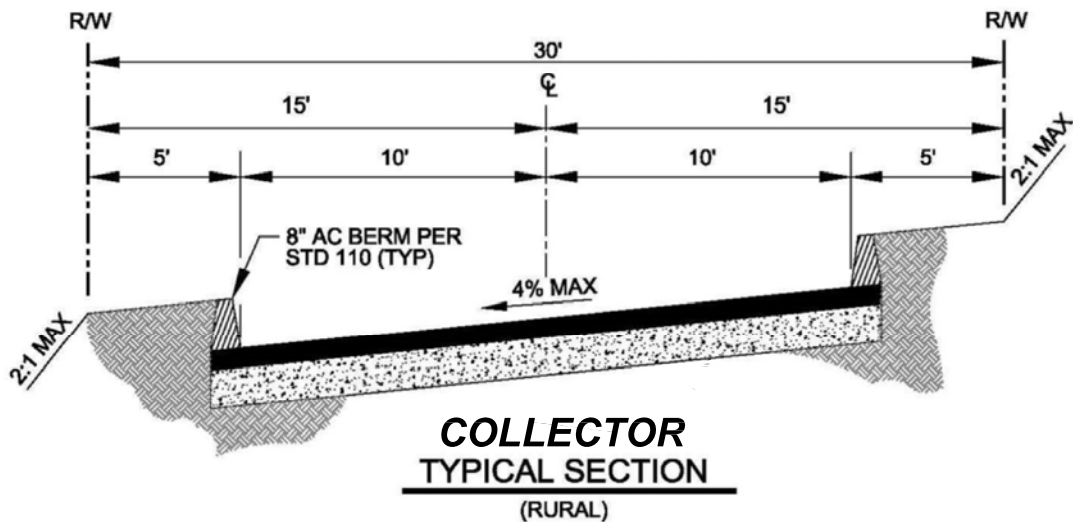
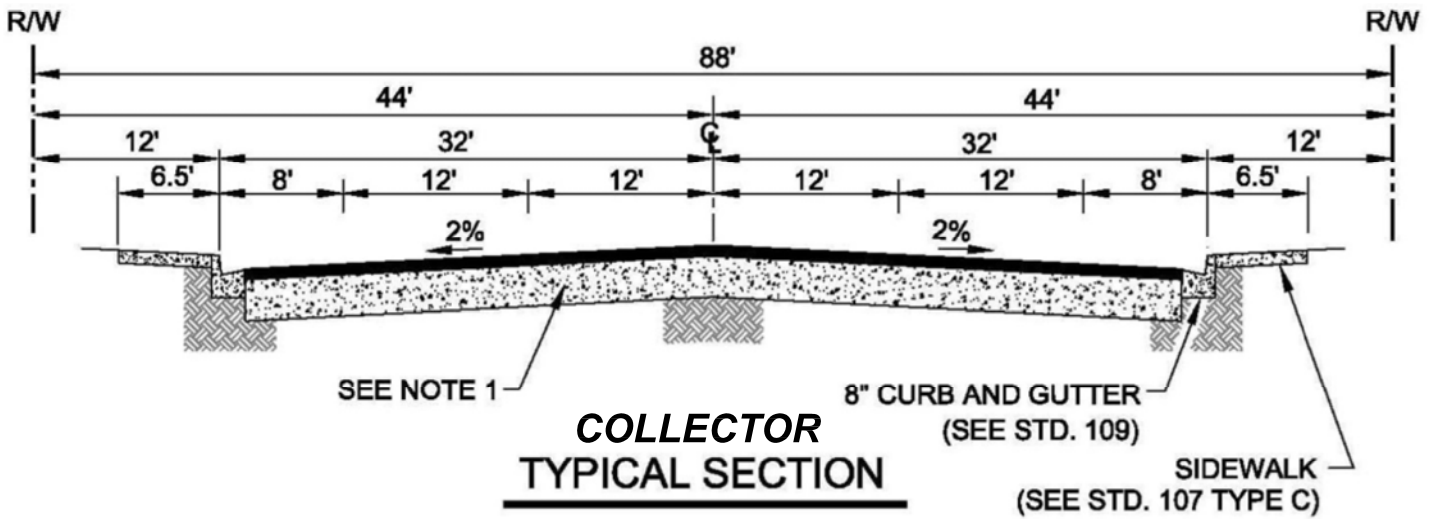
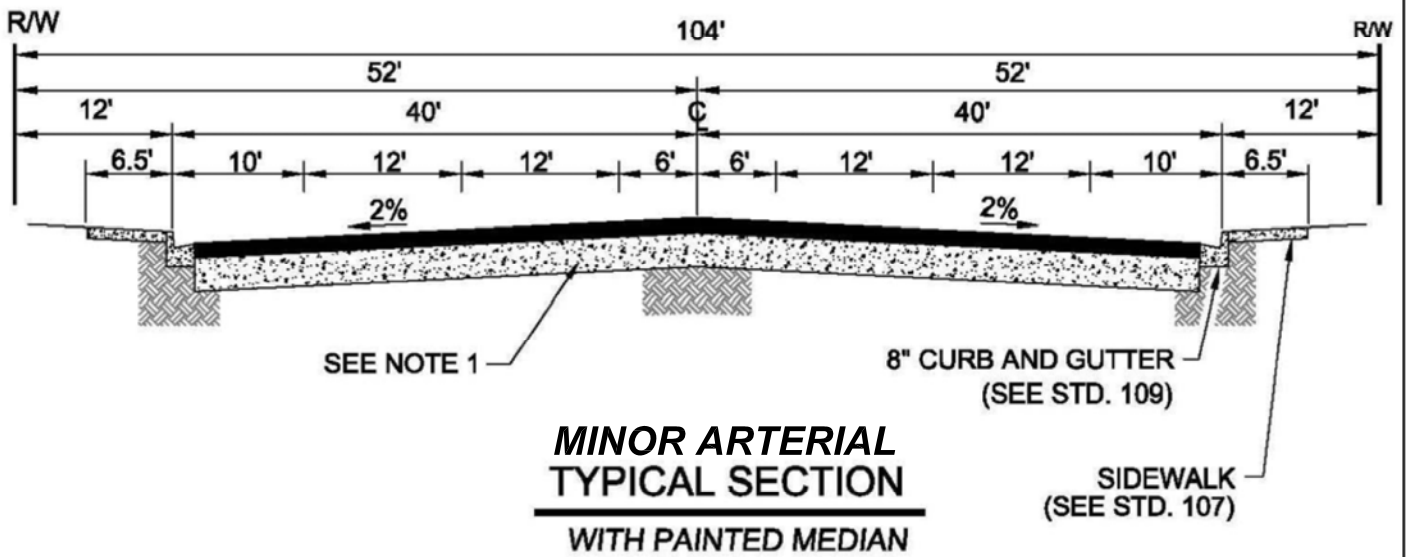
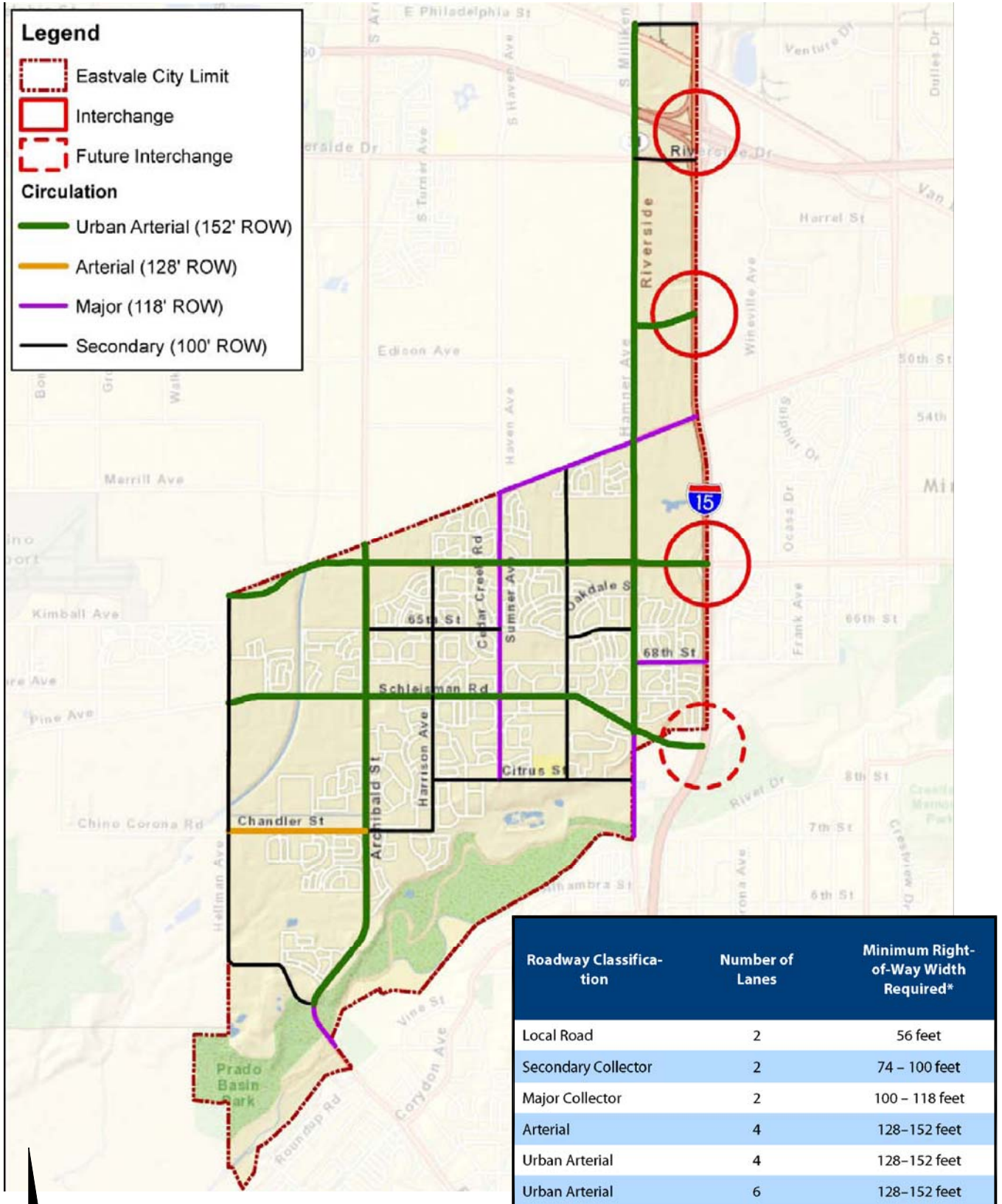


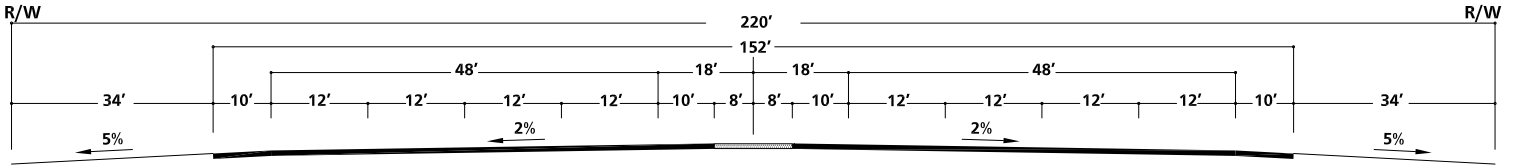
EXHIBIT 3-8: CITY OF EASTVALE GENERAL PLAN CIRCULATION ELEMENT



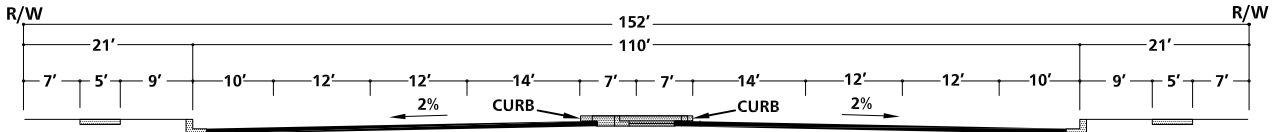
SOURCE: CITY OF EASTVALE GENERAL PLAN ADOPTED: JUNE 13, 2012



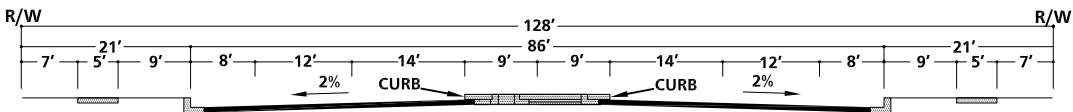
EXHIBIT 3-9: CITY OF EASTVALE GENERAL PLAN ROADWAY CROSS-SECTIONS



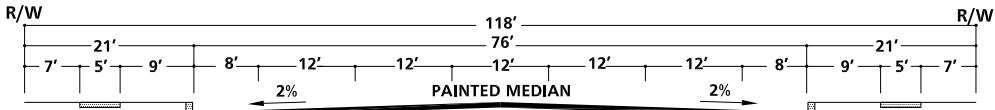
EXPRESSWAY - 8 LANES



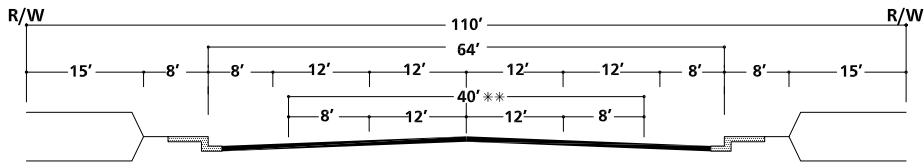
**CURBED MEDIAN
URBAN ARTERIAL HIGHWAY ***



**CURBED MEDIAN
ARTERIAL HIGHWAY ***

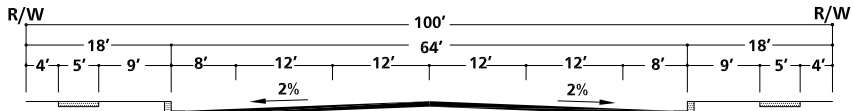


**PAINTED MEDIAN
MAJOR HIGHWAY - 4 LANES**

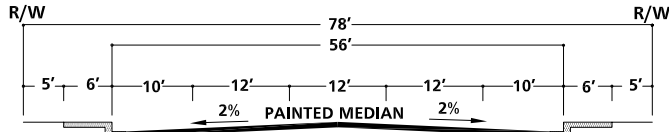


MOUNTAIN ARTERIAL - 2 TO 4 LANES

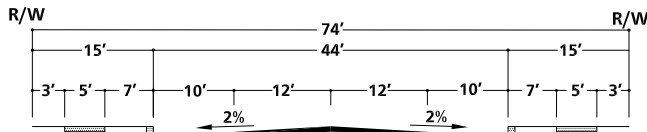
** 2 LANE SECTION



SECONDARY HIGHWAY



**PAINTED MEDIAN
INDUSTRIAL COLLECTOR**



COLLECTOR

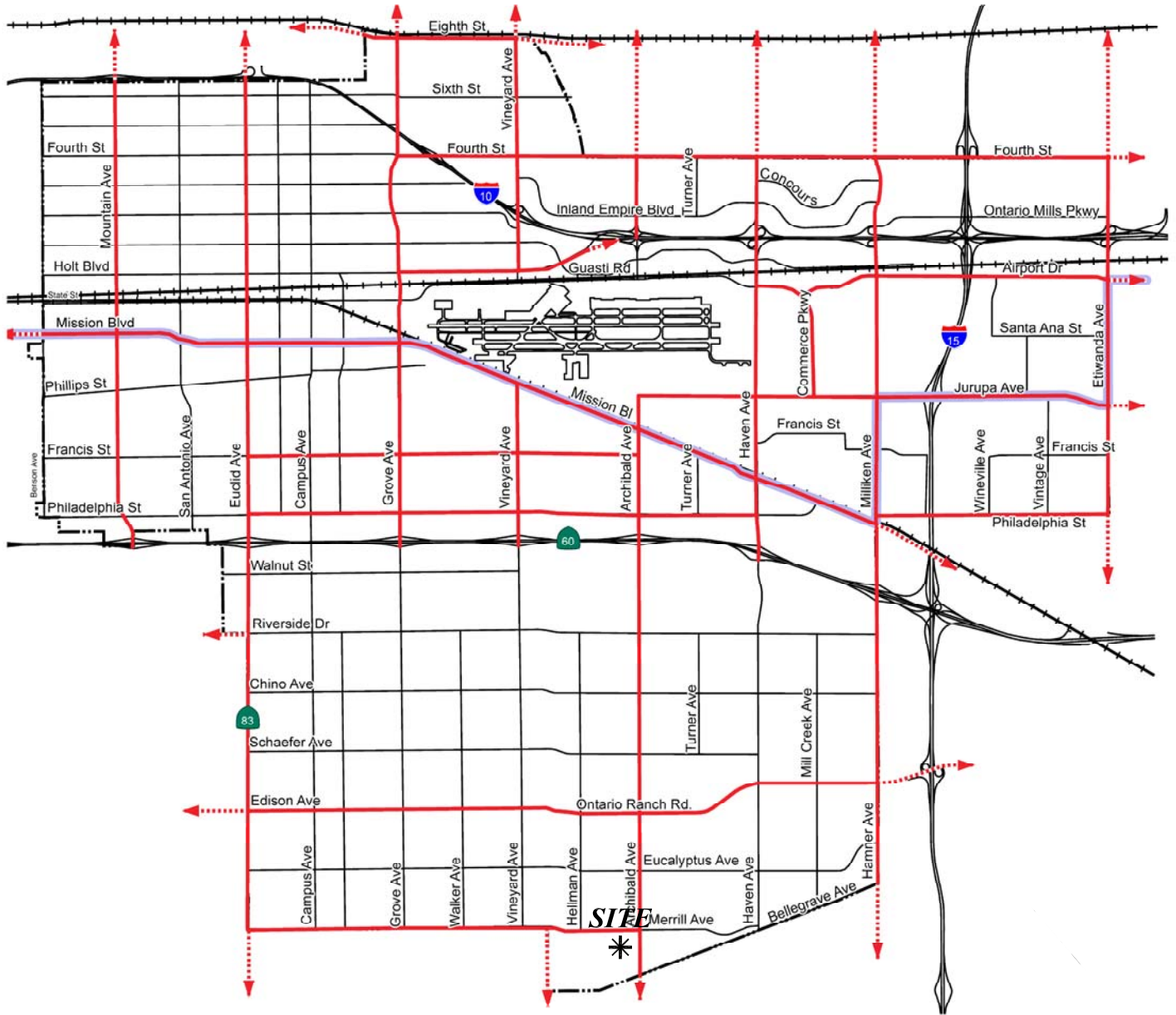
* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS. SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

NOT TO SCALE

10522 - gprcs.dwg



EXHIBIT 3-10: CITY OF ONTARIO TRUCK ROUTES

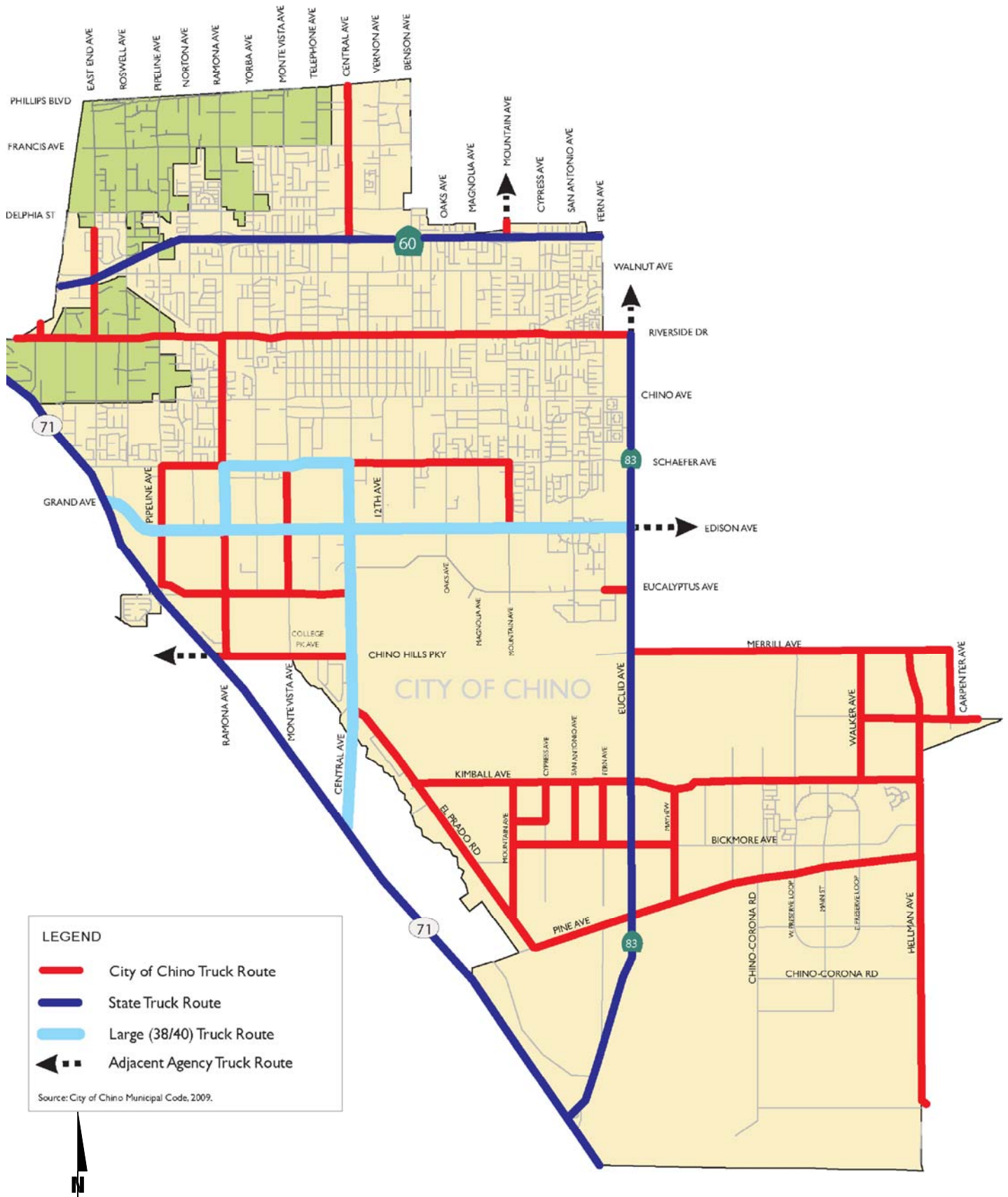


LEGEND:

- Truck Routes
- State of California DOT Extralegal Load Network
- +—+— Railroad
- - - - -> Adjacent Agency Truck Route



EXHIBIT 3-11: CITY OF CHINO TRUCK ROUTES



3.5 BICYCLE, EQUESTRIAN, & PEDESTRIAN FACILITIES

Field observations conducted in April and December of 2016 indicate nominal pedestrian and bicycle activity within the study area. Exhibit 3-12 illustrates the City of Ontario future planned bicycle facilities, which proposes Class II and Multipurpose Trails along Merrill Avenue adjacent to the Project and the Cucamonga Creek Multipurpose Trail located immediately to the west of the Project. Exhibit 3-13 illustrates City of Chino future bicycle facilities, which proposes Class I bicycle facilities along Pine Avenue, Hellman Avenue, and Kimball Avenue near the vicinity of the site. Exhibit 3-14 illustrates the City of Eastvale trails and bikeway systems. Existing pedestrian facilities within the study area are shown on Exhibit 3-15.

3.6 TRANSIT SERVICE

The study area within the City of Chino is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. Based on a review of the existing transit routes within the vicinity of the proposed Project, Omnitrans Route 81 operates on Riverside Drive north of the site. However, there are no existing bus routes near the vicinity of the Project. The Riverside Transit Authority (RTA) serves the City of Eastvale. Transit service is reviewed and updated by Omnitrans periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the applicant work in conjunction with Omnitrans and RTA to potentially provide additional bus service to the site. Existing transit routes in the vicinity of the study area are illustrated on Exhibit 3-16.

3.7 EXISTING (2017) TRAFFIC COUNTS

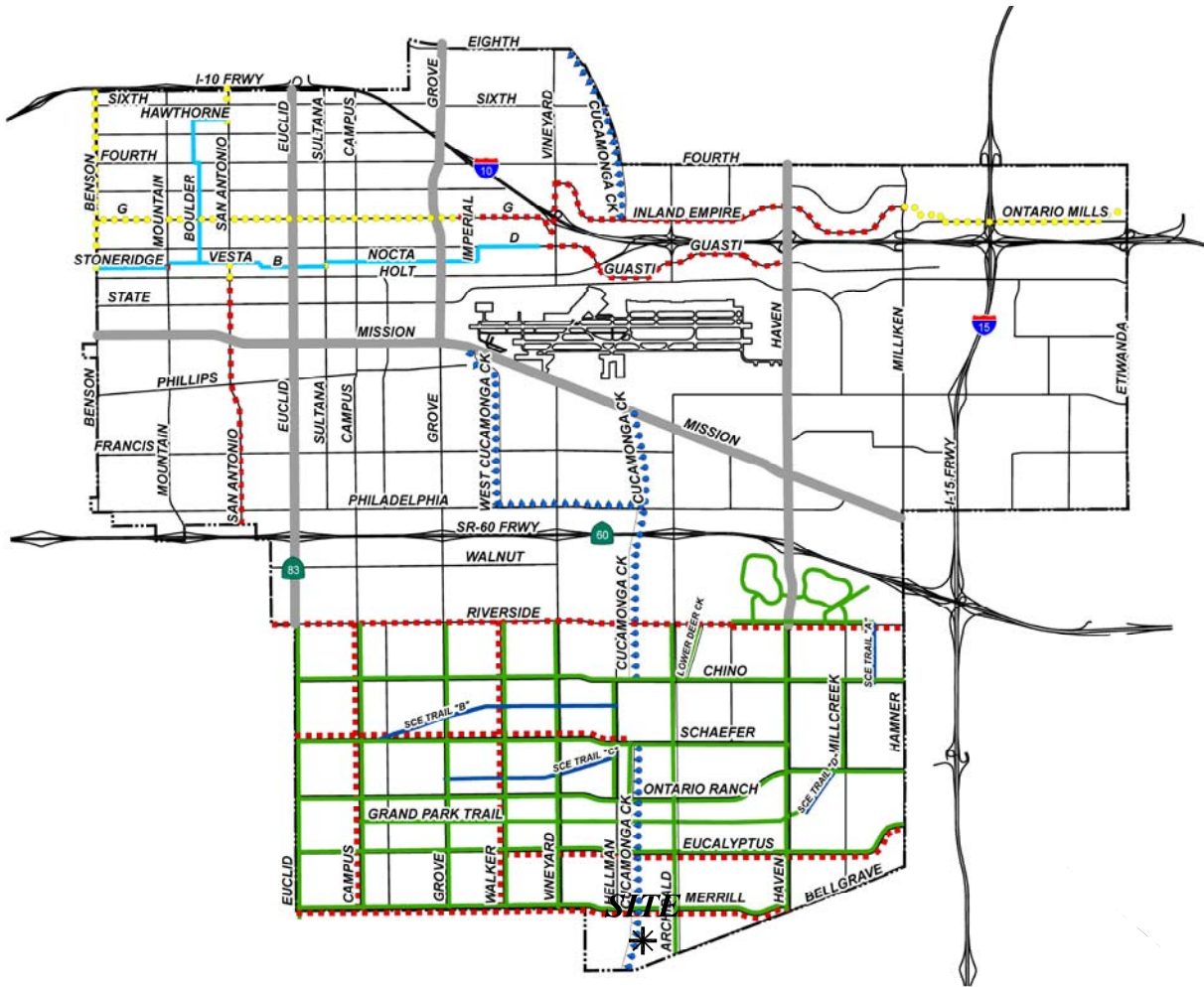
The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April and December of 2016. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The traffic counts collected in April and December of 2016 include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 2-Axle Trucks, and 4 or More Axle Trucks.

EXHIBIT 3-12: CITY OF ONTARIO GENERAL PLAN TRAILS AND BIKEWAY SYSTEMS



LEGEND:

- Freeway
- Streets
- Multipurpose Trail
- Class I
- Class II
- Class III
- Sharrow/Bike Boulevard
- SCE Trail
- Bicycle Corridor



EXHIBIT 3-13: CITY OF CHINO FUTURE BICYCLE FACILITIES

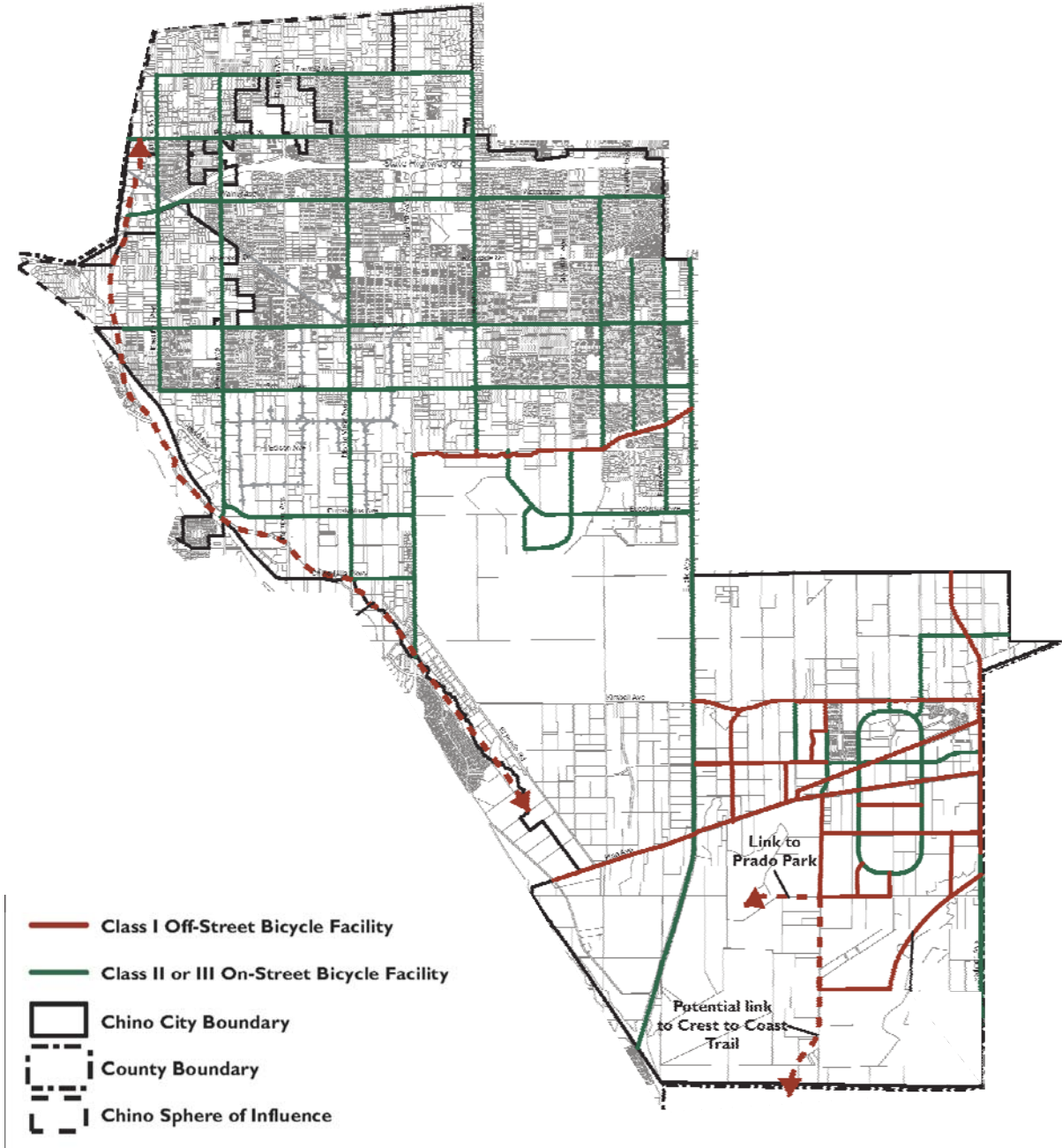
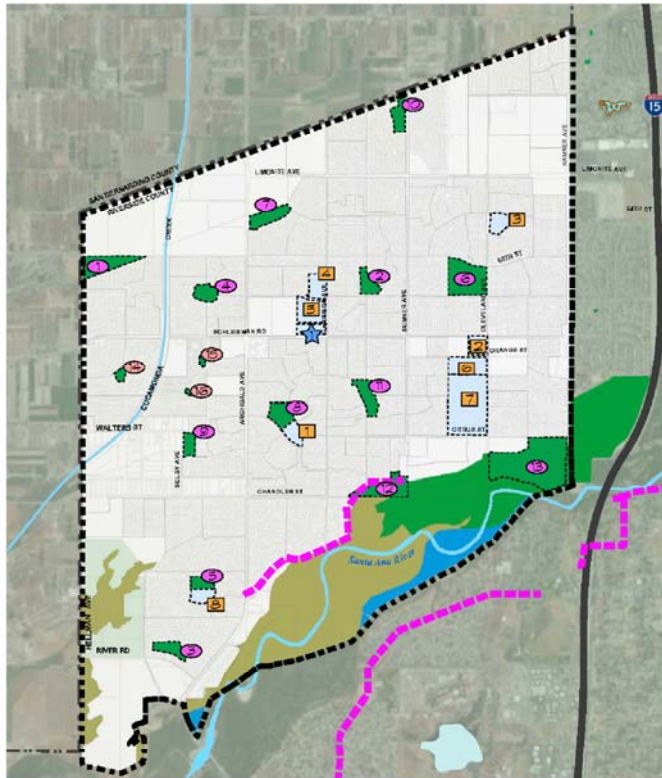


EXHIBIT 3-14: EASTVALE AREA TRAILS AND BIKEWAYS SYSTEM



Existing JCSD Parks

- 1 American Heroes Park
- 2 Cedar Creek Park
- 3 Darland Park
- 4 Deer Creek Park
- 5 Half Moon Park
- 6 Harada Heritage Park
- 7 James C. Huber Park
- 8 McGuire Family Park
- 9 Mountain View Park
- 10 Orchard Park
- 11 Providence Ranch Park
- 12 Riverwalk Park

Planned JCSD Parks

- 13 Esavale Community Park

Private Parks

- 14 Apollo Park
- 15 Private Park 2
- 16 Private Park 3

Community Center

- 17 Esavale Community Center

Existing Trails and Bikeways

Santa Ana River Trail Master Plan (2012)

- 18 Existing (Off-street Class I)

Schools

Existing Elementary

- 1 Clara Barton Elementary
- 2 Esavale Elementary
- 3 Harada Elementary
- 4 Rosa Parks Elementary

Intermediate

- 5 Augustine Ramirez Intermediate
- 6 River Heights Intermediate

High School

- 7 Eleanor Roosevelt High School

Planned Elementary

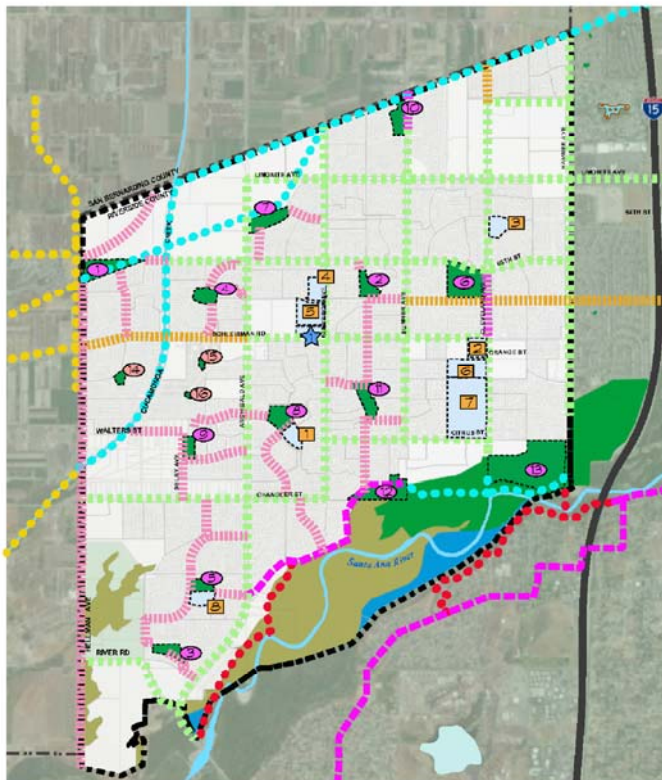
- 8 Yorba Elementary

Land Use

- 19 Agriculture
- 20 Conservation
- 21 Open Space - Recreation
- 22 Open Space - Water
- 23 Schools (Public Facility Land Use)

Land Use Data:
County of Riverside, Transportation and Land Management Agency,
County Wide GIS Data - 12/2011
(Revised to reflect recent changes in land use data)

Exhibit 2.8-1 Existing Trails



Existing JCSD Parks

- 1 American Heroes Park
- 2 Cedar Creek Park
- 3 Canyon Park
- 4 Deer Creek Park
- 5 Half Moon Park
- 6 Harada Heritage Park
- 7 James C. Huber Park
- 8 McGuire Family Park
- 9 Mountain View Park
- 10 Orchard Park
- 11 Providence Ranch Park
- 12 Riverwalk Park

Planned JCSD Parks

- 13 Esavale Community Park

Private Parks

- 14 Apollo Park
- 15 Private Park 2
- 16 Private Park 3

Community Center

- 17 Esavale Community Center

Trails and Bikeways

Santa Ana River Trail Master Plan (2012)

- 18 Existing (Off-street Class I)
- 19 Planned (Off-street Class I)

JCSD Planned Multi-Use Trail

- 20 Planned (Off-street Class I)

City of China General Plan (2012)

- 21 Planned (Off-street Class I)

JCSD Planned Trails & Bikeways

- 22 Off-street Class I
- 23 Off-street Class II

Riverside County General Plan (Draft 2010)

- 24 Planned (On-street Class I)

Schools

Existing Elementary

- 1 Clara Barton Elementary
- 2 Esavale Elementary
- 3 Harada Elementary
- 4 Rosa Parks Elementary

Intermediate

- 5 Augustine Ramirez Intermediate
- 6 River Heights Intermediate

High School

- 7 Eleanor Roosevelt High School

Planned Elementary

- 8 Yorba Elementary

Land Use

- 19 Agriculture
- 20 Conservation
- 21 Open Space - Recreation
- 22 Open Space - Water
- 23 Schools (Public Facility Land Use)

Land Use Data:
County of Riverside, Transportation and Land Management Agency,
County Wide GIS Data - 12/2011
(Revised to reflect recent changes in land use data)

Exhibit 2.8-2 Planned Trails

EXHIBIT 3-15: EXISTING PEDESTRIAN FACILITIES

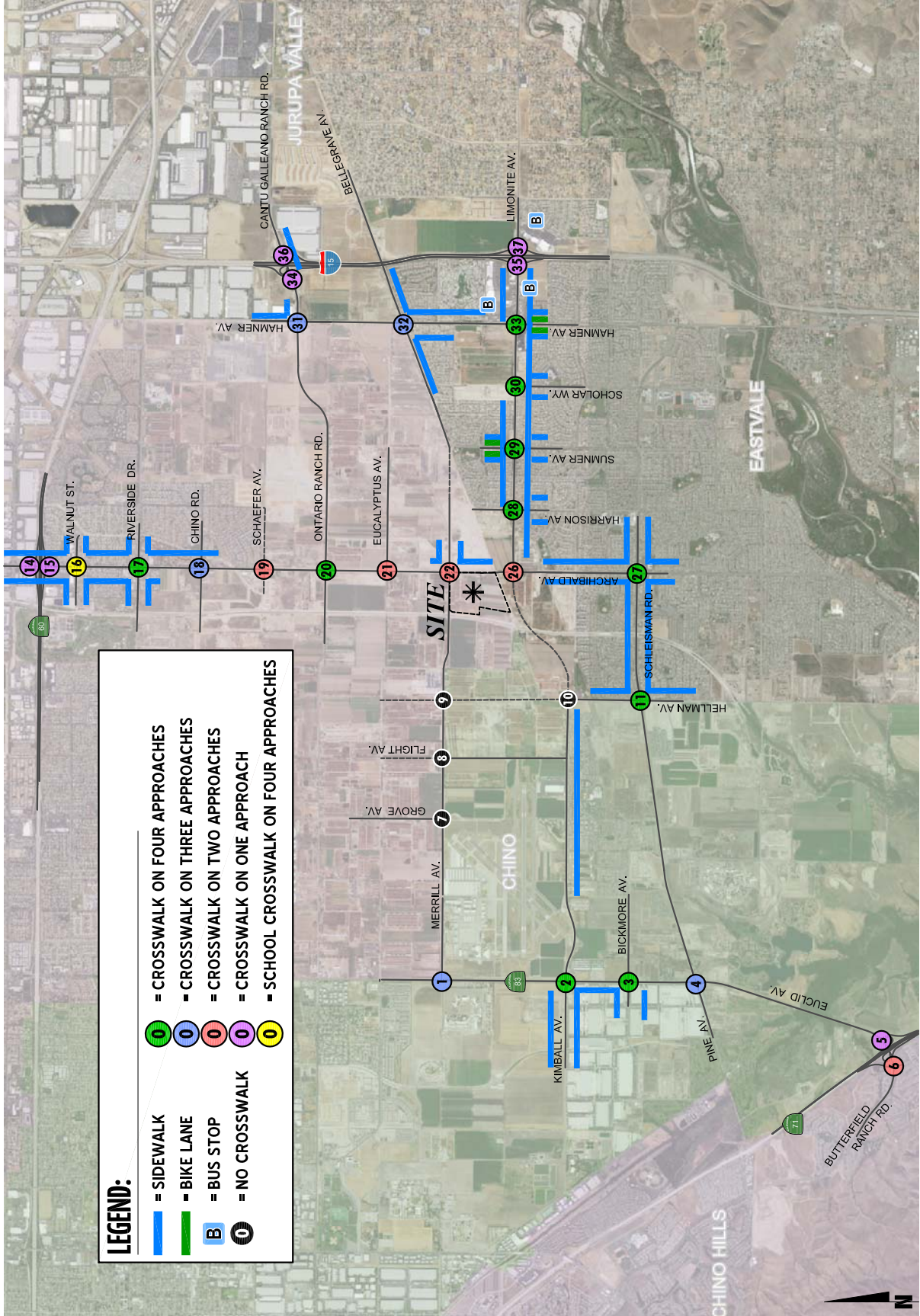
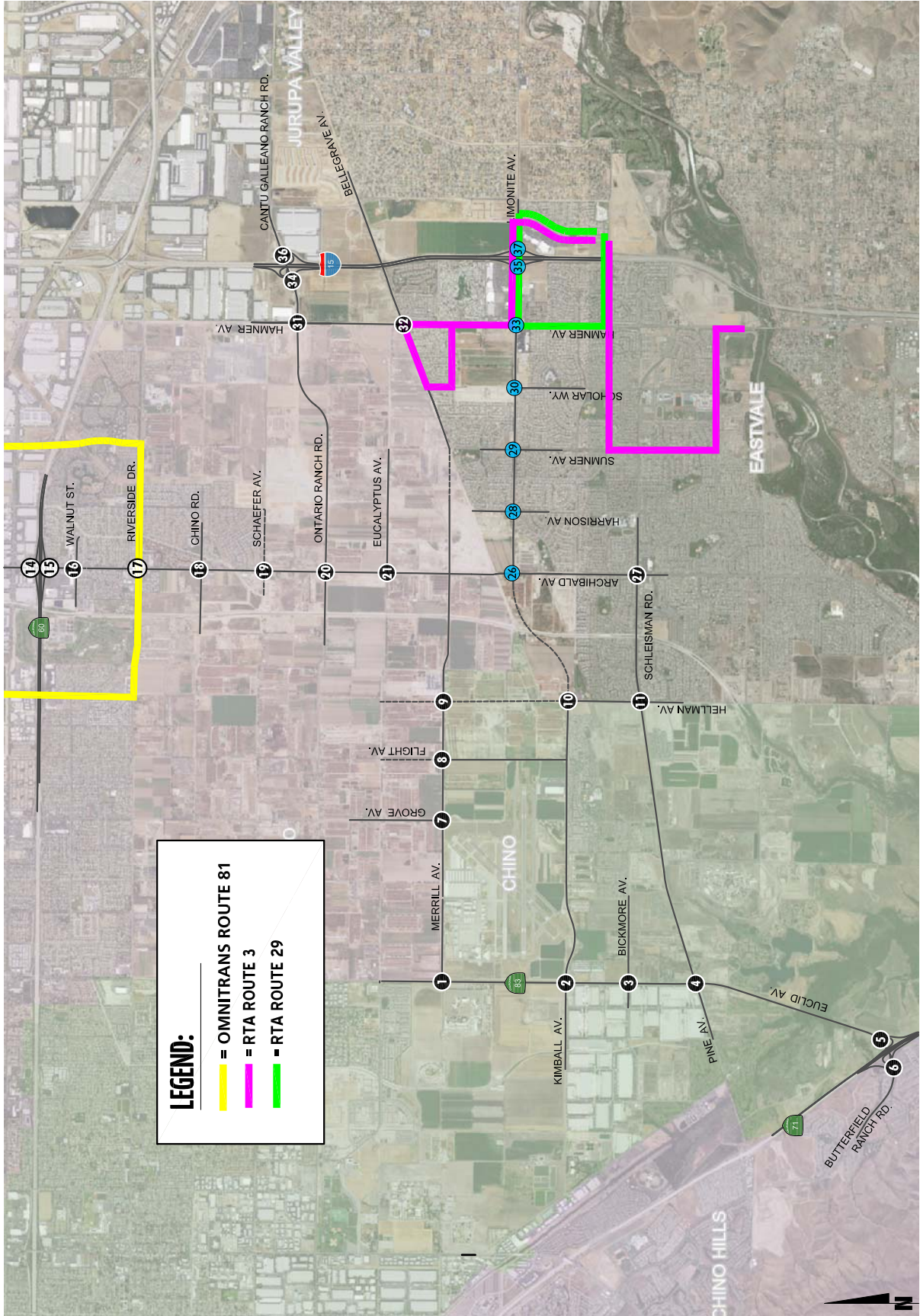


EXHIBIT 3-16: EXISTING TRANSIT ROUTES



To represent the impact large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into PCE. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is much longer than for passenger cars, and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the CMP.

Existing weekday ADT volumes are shown on Exhibit 3-17. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.7572 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.84 percent. As such, the above equation utilizing a factor of 12.7572 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.84 percent (i.e., $1/0.0784 = 12.7572$) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in PCE) are shown on Exhibit 3-18.

3.8 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours with exception to the following:

- Hellman Av. / Kimball Av. (#10) – LOS F AM and PM peak hours
- Archibald Av. / Limonite Av. (#26) – LOS E PM peak hour only
- Hamner Av. / Ontario Ranch Rd. (#31) – LOS E AM and PM peak hours

Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions are shown on Exhibit 3-19. The intersection operations analysis worksheets are included in Appendix 3.2 of this TIA.

EXHIBIT 3-18: EXISTING (2017) TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p> <p>42(1) ← 963(894) ← 166(257) ←</p> <p>193(102) → 46(0) → 164(98) →</p> <p>8(5) → 6(20) → 4(11) →</p> <p>19(2) → 968(971) → 106(182) →</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>313(83) ← 595(679) ← 146(271) ←</p> <p>253(121) → 635(226) → 28(21) →</p> <p>136(310) → 216(773) → 25(48) →</p> <p>98(67) → 656(684) → 24(24) →</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>75(55) ← 505(532) ← 38(125) ←</p> <p>170(61) → 368(25) → 178(32) →</p> <p>66(67) → 18(87) → 24(45) →</p> <p>29(15) → 515(651) → 12(100) →</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>14(14) ← 630(504) ← 56(56) ←</p> <p>57(29) → 160(72) → 849(449) →</p> <p>5(14) → 210(326) → 32(28) →</p> <p>56(33) → 572(675) → 474(1032) →</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p> <p>944(738) ← 558(291) ←</p> <p>487(748) → 291(172) →</p> <p>70(148) → 648(1079) →</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p> <p>35(152) ← 20(139) ← 259(703) ←</p> <p>0(0) → 207(196) → 385(98) →</p> <p>749(271) → 16(42) →</p> <p>60(29) → 291(15) →</p>	<p>7 Grove Av. & Merrill Av.</p> <p>100(41) ← 80(115) ←</p> <p>198(95) → 347(120) →</p> <p>55(114) → 142(381) →</p>
<p>8 Flight Av. & Merrill Av.</p> <p>543(153) ← 55(40) ←</p> <p>187(564) → 74(68) →</p> <p>133(57) → 70(76) →</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p> <p>Future Intersection</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>314(844) →</p> <p>820(279) →</p>	<p>11 Hellman Av. & Pine Av.</p> <p>14(15) ← 119(228) ← 129(532) ←</p> <p>388(138) → 967(493) → 64(20) →</p> <p>9(9) → 475(1186) → 290(387) →</p> <p>429(135) → 312(101) → 42(31) →</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>Future Intersection</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>Future Intersection</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>189(376) ← 412(1068) ←</p> <p>488(185) → 4(6) → 316(339) →</p> <p>555(377) → 1258(485) →</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>604(1134) ← 124(273) ←</p> <p>396(109) → 3(5) → 351(405) →</p> <p>1418(753) → 389(457) →</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>17(18) ← 530(1190) ← 115(110) ←</p> <p>234(64) → 28(13) → 125(26) →</p> <p>37(17) → 10(7) → 22(30) →</p> <p>65(63) → 1408(854) → 52(28) →</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>193(188) ← 352(687) ← 173(264) ←</p> <p>229(118) → 445(390) → 115(181) →</p> <p>185(162) → 296(624) → 100(228) →</p> <p>216(217) → 871(524) → 122(131) →</p>	<p>18 Archibald Av. & Chino Av.</p> <p>36(21) ← 468(837) ← 85(86) ←</p> <p>170(79) → 76(15) → 23(15) →</p> <p>33(95) → 46(96) → 14(42) →</p> <p>58(30) → 996(700) → 39(28) →</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>48(40) ← 425(806) ← 36(37) ←</p> <p>59(37) → 249(153) → 177(222) →</p> <p>31(109) → 147(50) → 57(105) →</p> <p>171(63) → 936(632) → 256(187) →</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>650(1093) ← 14(47) ←</p> <p>50(22) → 10(2) →</p> <p>1326(868) → 27(30) →</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>181(104) ← 406(936) ← 67(44) ←</p> <p>65(47) → 24(8) → 99(100) →</p> <p>163(264) → 9(25) → 83(356) →</p> <p>387(87) → 1112(579) → 50(21) →</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>Future Intersection</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>Future Intersection</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>Future Intersection</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>414(743) ← 173(574) ←</p> <p>700(217) → 371(347) →</p> <p>748(587) → 280(382) →</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>479(357) ← 394(616) ← 102(168) ←</p> <p>93(35) → 687(319) → 177(103) →</p> <p>322(230) → 513(1075) → 123(464) →</p> <p>344(221) → 697(452) → 161(103) →</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>54(27) ← 75(25) ← 22(12) ←</p> <p>5(9) → 889(500) → 135(201) →</p> <p>19(76) → 421(837) → 14(42) →</p> <p>129(38) → 59(46) → 225(151) →</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>72(67) ← 104(125) ← 94(70) ←</p> <p>16(50) → 703(566) → 92(192) →</p> <p>74(86) → 583(804) → 26(58) →</p> <p>142(48) → 158(71) → 199(156) →</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>43(15) ← 144(72) ← 29(26) ←</p> <p>16(35) → 642(799) → 67(162) →</p> <p>25(40) → 838(954) → 66(46) →</p> <p>93(33) → 109(26) → 162(140) →</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p> <p>34(32) ← 147(403) ← 130(250) ←</p> <p>160(128) → 461(265) → 161(305) →</p> <p>19(30) → 286(384) → 68(226) →</p> <p>101(106) → 420(220) → 385(156) →</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>90(214) ← 243(625) ← 42(95) ←</p> <p>91(57) → 129(120) → 113(225) →</p> <p>344(88) → 151(82) → 16(22) →</p> <p>12(6) → 471(336) → 169(203) →</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>118(161) ← 253(430) ← 253(224) ←</p> <p>107(191) → 462(696) → 220(428) →</p> <p>153(214) → 793(804) → 29(61) →</p> <p>121(140) → 455(329) → 414(253) →</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>455(487) ← 366(482) ←</p> <p>64(181) → 403(243) →</p> <p>546(454) → 160(156) →</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>429(620) ← 2(0) ← 158(200) ←</p> <p>565(980) → 668(429) →</p> <p>1115(1232) → 445(413) →</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>280(259) ← 380(291) ←</p> <p>402(477) → 510(459) →</p> <p>188(164) → 160(120) →</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>354(168) ← 1037(1016) ←</p> <p>743(528) → 529(904) →</p> <p>195(393) → 2(1) → 325(652) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 3-19: SUMMARY OF LOS FOR EXISTING (2017) CONDITIONS

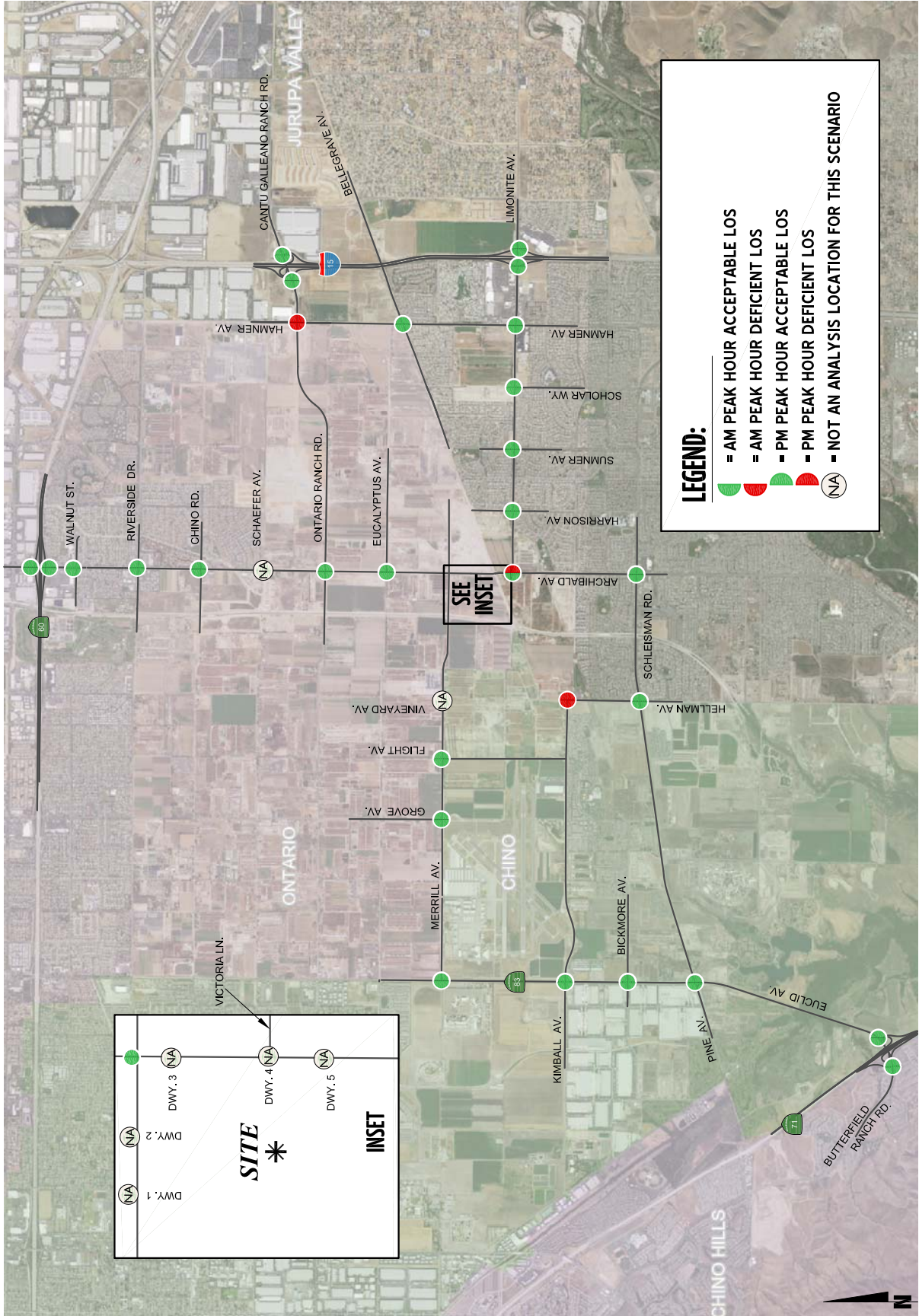


Table 3-1

Intersection Analysis for Existing (2017) Conditions

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		Acceptable LOS
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
1	Euclid Av. (SR-83) / Merrill Av.	TS	1	2	1	1	2	d	0	1	d	0	1	0	26.4	40.5	C	C	D
2	Euclid Av. (SR-83) / Kimball Av.	TS	1	2	1	1	2	0	1	2	0	1	2	0	50.0	45.7	D	D	D
3	Euclid Av. (SR-83) / Bickmore Av.	TS	1	2	d	1	2	1	1	1	1	1	1	0	46.1	25.8	D	C	D
4	Euclid Av. (SR-83) / Pine Av.	TS	1	2	1>	1	2	0	1	1	1>>	2	1	0	40.1	34.2	D	C	D
5	SR-71 NB Ramps / Euclid Av. (SR-83)	TS	2	0	1>>	0	0	0	0	2	1>>	1	2	0	15.4	32.4	B	C	D
6	SR-71 SB Ramps / Euclid Av. (SR-83)	TS	1	0	1	1	1	1	0	2	d	1	2	1>>	53.5	34.2	D	C	D
7	Grove Av. / Merrill Av.	AWS	0	0	0	0	1	0	0	1	0	0	1	0	19.5	14.7	C	B	D
8	Flight Av. / Merrill Av.	CSS	0	1	0	0	0	0	0	1	1	1	1	0	27.9	19.0	D	C	D
9	Vineyard Av./Hellman Av. / Merrill Av.		Intersection Does Not Exist																D
10	Hellman Av. / Kimball Av.	AWS	1	0	0	0	0	0	0	0	1	0	0	0	98.6	56.2	F	F	D
11	Hellman Av. / Pine Av.	TS	2	2	1	2	2	1	2	2	1>	2	2	1>	23.3	31.9	C	C	D
12	Driveway 1 / Merrill Av.		Intersection Does Not Exist																D
13	Driveway 2 / Merrill Av.		Intersection Does Not Exist																D
14	Archibald Av. / SR-60 WB Ramps	TS	1	3	0	0	4	0	0	0	0	0	1	1	24.3	32.6	C	C	D
15	Archibald Av. / SR-60 EB Ramps	TS	0	4	0	1	3	0	0	1	1	0	0	0	25.0	28.5	C	C	D
16	Archibald Av. / Walnut Av.	TS	1	3	0	1	3	0	1	1	0	1	1	0	17.4	11.4	B	B	E
17	Archibald Av. / Riverside Dr.	TS	1	3	0	1	3	0	1	2	d	1	2	d	40.5	44.9	D	D	E
18	Archibald Av. / Chino Av.	TS	1	3	0	1	2	0	1	1	0	1	1	1	14.4	15.4	B	B	E
19	Archibald Av. / Schaefer Av.		Future Intersection																E
20	Archibald Av. / Ontario Ranch Rd.	TS	1	2	0	1	1	1	1	1	d	1	1	d	23.3	21.1	C	C	E
21	Archibald Av. / Eucalyptus Av.	TS	0	2	0	1	2	0	0	0	0	0	1	0	7.1	5.9	A	A	E
22	Archibald Av. / Merrill Av.	TS	1	2	1	2	2	d	1	1	1	1	1	d	32.9	38.6	C	D	E
23	Archibald Av. / Driveway 3		Future Intersection																D
24	Archibald Av. / Driveway 4/Victoria Ln.		Future Intersection																D
25	Archibald Av. / Driveway 5		Future Intersection																D
26	Archibald Av. / Limonite Av.	TS	0	1	1>	1	1	0	0	0	0	1	0	1>	40.1	65.5	D	E	D
27	Archibald Av. / Schleisman Rd.	TS	2	3	1	2	3	1	2	3	1	2	3	1	38.1	29.8	D	C	D
28	Harrison Av. / Limonite Av.	TS	1	1	1	1	1	0	1	3	d	1	2	1	20.3	18.7	C	B	D
29	Sumner Av. / Limonite Av.	TS	1	2	d	1	2	d	2	3	d	2	3	1	17.5	16.3	B	B	D
30	Scholar Way / Limonite Av.	TS	1	1	1	1	2	1	1	2	1	1	2	1	16.6	15.3	B	B	D
31	Hamner Av. / Ontario Ranch Rd.	TS	1	1	0	1	1	0	1	1	1	1	1	1	76.4	59.4	E	E	D
32	Hamner Av. / Bellegrave Av.	TS	1	1	1	1	1	0	1	2	1	1	1	1	29.5	44.5	C	D	D
33	Hamner Av. / Limonite Av.	TS	2	3	1	2	2	1	2	3	1	2	2	1	32.9	33.8	C	C	D
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	TS	0	0	0	2	0	1	0	3	1	0	2	1	12.9	8.6	B	A	D
35	I-15 SB Ramps / Limonite Av.	TS	0	0	0	1	1	1	0	2	1	2	2	0	29.3	30.0	C	C	D
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	TS	1	1	1	0	0	0	0	3	1>	2	3	0	15.4	15.2	B	B	D
37	I-15 NB Ramps / Limonite Av.	TS	1	1	1	0	0	0	2	2	0	0	2	1	24.8	25.1	C	C	D

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

² Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

3.9 EXISTING CONDITIONS ROADWAY SEGMENT CAPACITY ANALYSIS

The City of Ontario General Plan provides roadway volume capacity values presented previously on Table 2-3. The roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 3-2 provides a summary of the Existing (2017) conditions roadway segment capacity analysis based on the City of Ontario General Plan Roadway Segment Capacity Thresholds identified previously on Table 2-3. As shown on Table 3-2, all but 1 of the study area roadway segments currently operate at an acceptable LOS based on the City's planning level daily roadway capacity thresholds (Archibald Avenue north of the County Line is the only deficient roadway segment).

3.10 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following study area intersections currently warrant a traffic signal for Existing traffic conditions: Grove Avenue / Merrill Avenue, Flight Avenue / Merrill Avenue, and Hellman Avenue / Kimball Avenue. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.11 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the SR-71 Freeway and Euclid Avenue (SR-83), SR-60 Freeway and Archibald Avenue, I-15 Freeway and Cantu Galleano Ranch Road, and I-15 Freeway and Limonite Avenue interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-71, SR-60, and I-15 Freeway mainlines. Queuing analysis findings are presented in Table 3-3. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 3-3, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

3.12 BASIC FREEWAY SEGMENT ANALYSIS

Existing (2017) mainline directional volumes for the AM and PM peak hours are provided on Exhibit 3-20. As shown on Table 3-4, the SR-71, SR-60, and I-15 Freeway segments analyzed for this study were found to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours for Existing (2017) traffic conditions, with exception of the following:

- SR-71 Freeway Southbound, South of Euclid Av. (SR-83) (#1) – LOS E AM peak hour only
- I-15 Freeway Southbound, South of Limonite Av. (#9) – LOS E AM peak hour only

Existing (2017) basic freeway segment analysis worksheets are provided in Appendix 3.5.

Table 3-2

Roadway Segment Capacity Analysis for Existing (2017) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	2U	14,000	8,407	0.60	B	D
2		Between Grove Av. and Vineyard Av.	2U	14,000	7,466	0.53	A	D
3		West of Driveway 2	2U	14,000	10,754	0.77	C	D
4	Archibald Avenue	North of Ontario Ranch Rd.	4D	35,900	21,177	0.59	A	D
5		Between Eucalyptus Av. and Merrill Av.	4D	35,900	20,073	0.56	A	D
6		North of the County Line	2D	17,950	27,064	1.51	F	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Table 3-3

Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2017) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
SR-71 NB Ramps / Euclid Avenue (SR-83)	NBL	1,745	38	48	Yes	Yes
	NBR	420	150 ²	992 ²	Yes	Yes ³
SR-71 SB Ramps / Euclid Avenue (SR-83)	SBL	1,100	129	468 ²	Yes	Yes
	SBL/T	1,560	128	458 ²	Yes	Yes
	SBR	255	0	43	Yes	Yes
Archibald Avenue/ SR-60 WB Ramps	WBL/T	1,389	331 ²	357 ²	Yes	Yes
	WBR	250	522 ²	52	Yes ³	Yes
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	322	89	Yes	Yes
	EBR	350	157	298 ²	Yes	Yes
I-15 SB Ramps / Cantu Galleano Ranch Rd.	SBL	1,440	61	62	Yes	Yes
	SBR	460	154	109	Yes	Yes
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	80 ²	59	Yes	Yes
	NBL/R	580	0	0	Yes	Yes
	NBR	440	45	39	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	182	191	Yes	Yes
	SBL/T/R	400	95	256	Yes	Yes
	SBR	1,200	74	232	Yes	Yes
I-15 NB Ramps / Limonite Avenue	NBL	450	225 ²	350	Yes	Yes
	NBL/T/R	1,235	90	252	Yes	Yes
	NBR	400	65	237	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

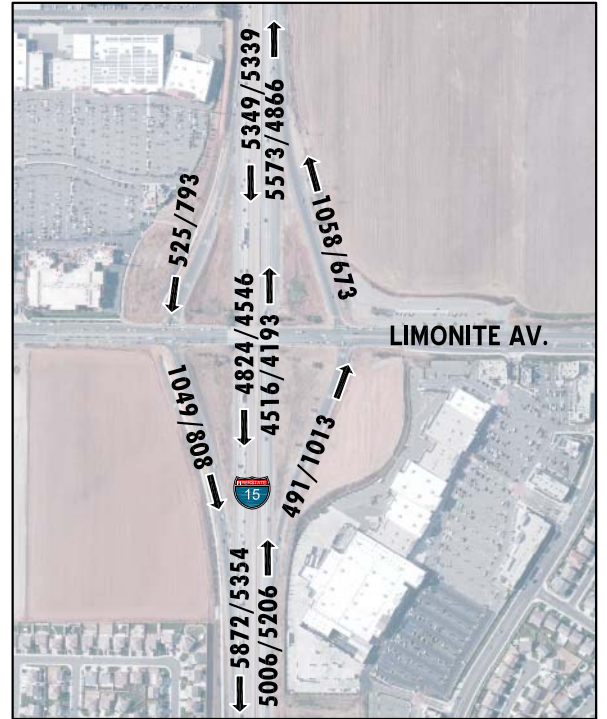
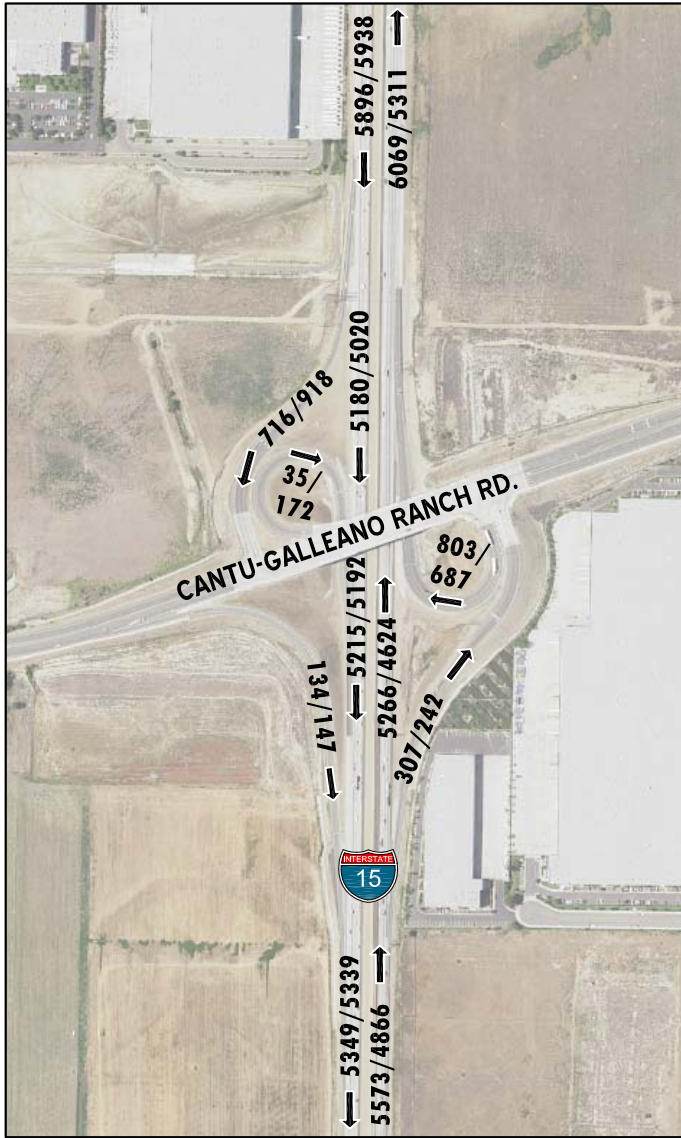
Table 3-4

Basic Freeway Segment Analysis for Existing (2017) Conditions

Freeway	Direction ¹	Mainline Segment	Lanes ²	Volume		Truck %		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-71	SB	South of Euclid Av. (SR-83)	2	4,082	3,279	3%	2%	39.4	27.3	E	D
	NB	South of Euclid Av. (SR-83)	3	4,219	4,362	15%	12%	24.3	24.9	C	C
SR-60	WB	West of Archibald Av.	4	5,550	5,422	4%	3%	22.4	21.7	C	C
		East of Archibald Av.	5	5,672	5,174	4%	3%	18.0	16.3	B	B
	EB	West of Archibald Av.	4	6,732	6,281	7%	5%	29.4	26.3	D	D
		East of Archibald Av.	4	6,498	6,498	8%	5%	28.1	27.6	D	D
I-15	SB	North of Cantu Galleano Ranch Rd.	4	5,896	5,938	7%	6%	24.5	24.6	C	C
		Cantu Galleano Ranch Rd. to Limonite Av.	3	5,349	5,339	7%	7%	32.1	32.0	D	D
		South of Limonite Av.	3	5,872	5,354	6%	7%	37.4	32.2	E	D
	NB	North of Cantu Galleano Ranch Rd.	5	6,069	5,311	2%	2%	19.1	16.7	C	B
		Cantu Galleano Ranch Rd. to Limonite Av.	3	5,573	4,866	1%	2%	32.7	27.0	D	D
		South of Limonite Av.	3	5,006	5,206	1%	2%	27.8	29.7	D	D

* **BOLD** = Unacceptable Level of Service
¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound
² Number of lanes are in the specified direction and is based on existing conditions.
³ Density is measured by passenger cars per mile per lane (pc/mi/ln).
⁴ LOS = Level of Service

EXHIBIT 3-20: EXISTING (2017) FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



3.13 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for Existing (2017) conditions and the results of this analysis are presented in Table 3-5. As shown in Table 3-5, the following merge and diverge areas currently do not operate at LOS D or better during the peak hours under Existing (2017) traffic conditions:

- SR-60 Freeway, Eastbound Off-Ramp at Archibald Av. (#6) – LOS E AM peak hour only
- I-15 Freeway, Southbound On-Ramp at Limonite Av. (#9) – LOS E AM peak hour only
- I-15 Freeway, Northbound On-Ramp at Cantu Galleano Ranch Rd. (#10) – LOS E AM peak hour only

Existing (2017) freeway ramp junction operations analysis worksheets are provided in Appendix 3.6.

3.14 RECOMMENDED IMPROVEMENTS

Improvement strategies have been recommended at intersections, roadway segments, and freeway segments that have been identified as impacted under Existing (2017) traffic conditions in an effort to achieve an acceptable LOS (i.e., LOS D or better).

3.13.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 3-6 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under Existing (2017) traffic conditions. The following improvements are recommended to improve Existing (2017) deficiencies.

Recommended Improvement – Hellman Av. / Kimball Av. (#10) – The following improvement is necessary to improve the existing deficiency to acceptable levels:

- Install a traffic signal.

Recommended Improvement – Archibald Av. / Limonite Av. (#26) – The following improvement is necessary to improve the existing deficiency to acceptable levels:

- Construct a 2nd southbound left turn lane.

Recommended Improvement – Hamner Av. / Ontario Ranch Rd. (#31) – The intersection of Hamner Avenue and Ontario Ranch Road is currently under construction to widen Hamner Avenue between Ontario Ranch Road/Cantu Galleano Ranch Road and Bellegrave Avenue. It is anticipated that once these improvements are completed (mid to late 2017), the intersection would operate at acceptable LOS during the peak hours and the Project’s cumulative impact at the intersection would be less than significant.

The intersection operations analysis worksheets, with improvements, are included in Appendix 3.7 of this TIA.

Table 3-5

Freeway Ramp Junction Merge/Diverge Analysis for Existing (2017) Conditions

Freeway	Direction ¹	Ramp or Segment	Lanes on Freeway ²	AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ²	LOS ⁴
SR-71	SB	Loop On-Ramp at Euclid Av. (SR-83) (Upstream)	2	33.0	D	29.7	D
		Loop On-Ramp at Euclid Av. (SR-83) (Downstream)	2	33.0	D	29.7	D
	NB	Off-Ramp at Euclid Av. (SR-83)	3	32.3	D	33.9	D
SR-60	WB	On-Ramp at Archibald Av.	4	23.2	C	22.7	C
		Off-Ramp at Archibald Av.	5	28.7	D	25.0	C
	EB	Off-Ramp at Archibald Av.	4	35.1	E	31.3	D
		On-Ramp at Archibald Av.	4	25.8	C	26.2	C
I-15	SB	Off-Ramp at Cantu Galleano Ranch Rd.	4	31.8	D	32.8	D
		On-Ramp at Limonite Av.	3	35.1	E	31.7	D
	NB	On-Ramp at Cantu Galleano Ranch Rd.	3	37.8	E	33.7	D
		Off-Ramp at Limonite Av.	3	32.5	D	34.5	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

Table 3-6

Intersection Analysis for Existing (2017) Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
10	Hellman Av. / Kimball Av.																	
	- Without Improvements	AWS	1	0	0	0	0	0	0	0	1	0	0	0	98.6	56.2	F	F
	- With Improvements	<u>TS</u>	1	0	0	0	0	0	0	0	1	0	0	0	3.4	1.9	A	A
26	Archibald Av. / Limonite Av.																	
	- Without Improvements	TS	0	1	1>	1	1	0	0	0	0	1	0	1>	40.1	65.5	D	E
	- With Improvements	TS	0	1	1>	<u>2</u>	1	0	0	0	0	1	0	1>	41.7	30.1	D	C
31	Hamner Av. / Ontario Ranch Rd.																	
	- Without Improvements	TS	1	1	0	1	1	0	1	1	1	1	1	1	76.4	59.4	E	E
	- With Improvements ⁴	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>2</u>	1	21.2	19.7	C	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d= Defacto Right Turn Lane; 1 = Improvement

² Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

⁴ Improvements shown are currently under construction and are anticipated to be completed by mid to late 2017.

3.13.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

As shown on Table 3-7, the segment of Archibald Avenue north of the County Line would accommodate the anticipated daily traffic flows once the section is widened to a four-lane section. This segment would be widened as part of the frontage improvements in conjunction with the development of the proposed Project.

3.13.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously on Table 3-3, there are no peak hour queuing issues at the SR-71 Freeway and Euclid Avenue (SR-83), SR-60 Freeway at Archibald Avenue, I-15 Freeway and Cantu Galleano Ranch Road, or I-15 Freeway and Limonite Avenue interchanges. As such, no improvements have been recommended.

3.13.4 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Ontario (or other neighboring jurisdictions) on SHS roadway segments. As such, no improvements have been recommended to address the Existing (2017) deficiencies on the SHS, because there is no feasible mitigation available.

Table 3-7

Roadway Segment Capacity Analysis for Existing (2017) Conditions With Improvements

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	Acceptable LOS
6	Archibald Avenue	North of the County Line	4D	35,900	27,064	0.75	C	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by operation of PA1 and PA2, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to consist of up to 175,330-sf of manufacturing use (25 percent of Buildings 1 through 8), 525,991-sf of warehousing use (75 percent of Buildings 1 through 8), and 998,680-sf high-cube warehouse/distribution center use (Building 9). Similarly, PA3 would develop consist of up to 57,799-sf of manufacturing use (25 percent of the square footage), 173,396-sf of warehousing use (75 percent of the square footage). Regional access to the project site is provided via the SR-60 Freeway, the SR-71 Freeway, and the I-15 Freeway.

The Project is located on the southwest corner of Archibald Avenue and Merrill Avenue in the City of Ontario. Vehicular and truck traffic access will be provided via the following driveways:

- Driveway 1 / Merrill Avenue – Right-in/right-out driveway providing access to both passenger cars and trucks for Buildings 1, 2, and 9
- Driveway 2 / Merrill Avenue – Full access driveway providing access to both passenger cars and trucks for Buildings 3, 4, 5, 6, and 9
- Archibald Avenue / Driveway 3 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 5, 6, and 9
- Archibald Avenue / Driveway 4 – Full access driveway providing access to both passenger cars and trucks for Buildings 6, 7, 8, and 9
- Archibald Avenue / Driveway 5 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 8 and 9

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates used to estimate Project traffic are shown in Table 4-1. A summary of the Project's trip generation based on PCE is shown in Table 4-2 while the trip generation based on actual vehicles is shown on Table 4-3 for informational purposes. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual, 10th Edition, 2017. (3)

Table 4-1

Project Trip Generation Rates

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Rates (PCE)									
Manufacturing ³	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
	Passenger Cars		0.375	0.112	0.487	0.163	0.363	0.527	3.089
	2-Axle Trucks (PCE = 1.5)		0.057	0.017	0.074	0.025	0.055	0.080	0.472
	3-Axle Trucks (PCE = 2.0)		0.037	0.011	0.048	0.016	0.036	0.052	0.307
	4-Axle+ Trucks (PCE = 3.0)		0.136	0.041	0.177	0.059	0.132	0.191	1.120
Warehouse ⁴	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
	Passenger Cars		0.105	0.031	0.137	0.041	0.111	0.153	1.397
	2-Axle Trucks (PCE = 1.5)		0.010	0.003	0.013	0.004	0.011	0.015	0.136
	3-Axle Trucks (PCE = 2.0)		0.012	0.004	0.015	0.005	0.012	0.017	0.157
	4-Axle+ Trucks (PCE = 3.0)		0.039	0.012	0.051	0.015	0.042	0.057	0.522
High-Cube Transload and Short-term Storage Warehouse ⁵	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
	Passenger Cars		0.042	0.013	0.055	0.019	0.050	0.069	0.963
	2-Axle Trucks (PCE = 1.5)		0.005	0.001	0.006	0.002	0.006	0.008	0.109
	3-Axle Trucks (PCE = 2.0)		0.008	0.002	0.010	0.004	0.009	0.013	0.181
	4-Axle+ Trucks (PCE = 3.0)		0.036	0.011	0.047	0.016	0.042	0.059	0.820

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Rates (Actual Vehicles)									
Manufacturing ³	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
	Passenger Cars		0.375	0.112	0.487	0.163	0.363	0.527	3.089
	2-Axle Trucks		0.038	0.011	0.050	0.017	0.037	0.054	0.314
	3-Axle Trucks		0.019	0.006	0.024	0.008	0.018	0.026	0.153
	4-Axle+ Trucks		0.045	0.014	0.059	0.020	0.044	0.064	0.373
Warehouse ⁴	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
	Passenger Cars		0.105	0.031	0.137	0.041	0.111	0.153	1.397
	2-Axle Trucks		0.007	0.002	0.009	0.003	0.007	0.010	0.090
	3-Axle Trucks		0.006	0.002	0.008	0.002	0.006	0.009	0.078
	4-Axle+ Trucks		0.013	0.004	0.017	0.005	0.014	0.019	0.174
High-Cube Transload and Short-term Storage Warehouse ⁵	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
	Passenger Cars		0.042	0.013	0.055	0.019	0.050	0.069	0.963
	2-Axle Trucks		0.003	0.001	0.004	0.001	0.004	0.005	0.073
	3-Axle Trucks		0.004	0.001	0.005	0.002	0.005	0.006	0.090
	4-Axle+ Trucks		0.012	0.004	0.016	0.005	0.014	0.020	0.273

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

² TSF = thousand square feet

³ Manufacturing Vehicle Mix Source: City of Fontana Truck Trip Generation Study for Land Use 110 (Light Industrial), August 2003. PCE rates per SBCTA.

⁴ Warehouse Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 150, August 2003. PCE rates are per SBCTA.

⁵ Vehicle Mix Source: High Cube Warehouse Vehicle Trip Generation Analysis, October 2016, ITE.

Truck mix (by axle type) source from SCAQMD. PCE rates are per SBCTA.

Table 4-2

Project Trip Generation Summary (in PCE)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Manufacturing (25% of Buildings 1-8)	175.330	TSF							
Passenger Cars:			66	20	86	29	64	93	542
Truck Trips:									
2-axle:			10	3	13	4	10	14	83
3-axle:			7	2	9	3	6	9	54
4+-axle:			24	7	31	10	23	33	196
- Net Truck Trips (PCE)			41	12	53	17	39	56	333
TOTAL NET TRIPS (PCE)²			107	32	139	46	103	149	875
Warehousing (75% of Buildings 1-8)	525.991	TSF							
Passenger Cars:			55	17	72	22	59	81	735
Truck Trips:									
2-axle:			5	2	7	2	6	8	71
3-axle:			6	2	8	2	7	9	82
4+-axle:			21	6	27	8	22	30	275
- Net Truck Trips (PCE)			32	10	42	12	35	47	428
TOTAL NET TRIPS (PCE)²			87	27	114	34	94	128	1,163
High-Cube Warehouse (Building 9)	998.680	TSF							
Passenger Cars:			42	13	55	19	49	68	962
Truck Trips:									
2-axle:			5	1	6	2	6	8	109
3-axle:			8	2	10	4	9	13	181
4+-axle:			36	11	47	16	42	58	819
- Net Truck Trips (PCE)			49	14	63	22	57	79	1,109
TOTAL NET TRIPS (PCE)²			91	27	118	41	106	147	2,071
Total (PCE) for Opening Year Cumulative (2019)			285	86	371	121	303	424	4,109
Horizon Year (2040) Only									
Manufacturing (25% of PA3)	57.799	TSF							
Passenger Cars:			22	6	28	9	21	30	179
Truck Trips:									
2-axle:			3	1	4	1	3	4	27
3-axle:			2	1	3	1	2	3	18
4+-axle:			8	2	10	3	8	11	65
- Net Truck Trips (PCE)			13	4	17	5	13	18	110
TOTAL NET TRIPS (PCE)²			35	10	45	14	34	48	289
Warehousing (75% of PA3)	173.396	TSF							
Passenger Cars:			18	5	23	7	19	26	242
Truck Trips:									
2-axle:			2	1	3	1	2	3	24
3-axle:			2	1	3	1	2	3	27
4+-axle:			7	2	9	3	7	10	91
- Net Truck Trips (PCE)			11	4	15	5	11	16	142
TOTAL NET TRIPS (PCE)²			29	9	38	12	30	42	384
Total (PCE) for Horizon Year (2040)			349	105	454	147	367	514	4,782

¹ TSF = thousand square feet² TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Table 4-3

Project Trip Generation Summary (in Actual Vehicles)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Manufacturing (25% of Buildings 1-8)	175.330	TSF							
Passenger Cars:			66	20	86	29	64	93	542
Truck Trips:									
2-axle:			7	2	9	3	6	9	55
3-axle:			3	1	4	1	3	4	27
4+-axle:			8	2	10	3	8	11	65
- Net Truck Trips			18	5	23	7	17	24	147
TOTAL NET TRIPS²			84	25	109	36	81	117	689
Warehousing (75% of Buildings 1-8)	525.991	TSF							
Passenger Cars:			55	17	72	22	59	81	735
Truck Trips:									
2-axle:			4	1	5	1	4	5	48
3-axle:			3	1	4	1	3	4	41
4+-axle:			7	2	9	3	7	10	92
- Net Truck Trips			14	4	18	5	14	19	181
TOTAL NET TRIPS²			69	21	90	27	73	100	916
High-Cube Warehouse	998.680	TSF							
Passenger Cars:			42	13	55	19	49	68	962
Truck Trips:									
2-axle:			3	1	4	1	4	5	73
3-axle:			4	1	5	2	5	7	90
4+-axle:			12	4	16	5	14	19	273
- Net Truck Trips			19	6	25	8	23	31	436
TOTAL NET TRIPS²			61	19	80	27	72	99	1,398
Total for Opening Year Cumulative (2019)			214	65	279	90	226	316	3,003
Horizon Year (2040) Only									
Manufacturing (25% of PA3)	57.799	TSF							
Passenger Cars:			22	6	28	9	21	30	179
Truck Trips:									
2-axle:			2	1	3	1	2	3	18
3-axle:			1	0	1	0	1	1	9
4+-axle:			3	1	4	1	3	4	22
- Net Truck Trips			6	2	8	2	6	8	49
TOTAL NET TRIPS²			28	8	36	11	27	38	228
Warehousing (75% of PA3)	173.396	TSF							
Passenger Cars:			18	5	23	7	19	26	242
Truck Trips:									
2-axle:			1	0	1	0	1	1	16
3-axle:			1	0	1	0	1	1	14
4+-axle:			2	1	3	1	2	3	30
- Net Truck Trips			4	1	5	1	4	5	60
TOTAL NET TRIPS²			22	6	28	8	23	31	302
Total for Horizon Year (2040)			264	79	343	109	276	385	3,533

¹ TSF = thousand square feet² TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

For purposes of this analysis, the following ITE land use codes and vehicle mixes have been utilized:

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for up to 25 percent of the total square footage for Buildings 1 through 8. The ITE Trip Generation Manual includes very limited data regarding the types of vehicles that are generated for manufacturing uses (passenger cars and various sizes of trucks). As such, data regarding the vehicle mix has been obtained from a separate report; the City of Fontana Truck Trip Generation Study (August 2003) for the manufacturing uses proposed as part of the Project. Buildings 1 through 8 have been identified as a mix of manufacturing and warehousing uses. The “Light Industrial” vehicle mix data has been utilized as a vehicle mix for manufacturing is not readily available.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 75 percent of the total square footage for Buildings 1 through 8. The ITE Trip Generation Manual includes very limited data regarding the types of vehicles that are generated for warehousing uses (passenger cars and various sizes of trucks). Data regarding the vehicle mix has therefore been obtained from a separate report; the City of Fontana Truck Trip Generation Study (August 2003) for the warehousing use proposed as part of the Project. Buildings 1 through 8 have been identified as a mix of manufacturing and warehousing uses. The “Heavy Warehouse” vehicle mix data has been utilized for the warehouse use.
- ITE land use code 154 (High-Cube Transload and Short-Term Storage Warehouse) has been used to derive site specific trip generation estimates for Building 9. Total vehicle mix percentages were also obtained from the ITE High Cube Warehouse Vehicle Trip Generation Analysis in conjunction with the South Coast Air Quality Management District’s (SCAQMD) recommended truck mix, by axle type. (8) The SCAQMD is currently recommending their truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects, as truck emission represent more than 90 percent of air quality impacts from these projects. This recommended procedure has been utilized for the purposes of this analysis in effort to be consistent with other technical studies being prepared for the Project. The ITE High Cube Warehouse Vehicle Trip Generation Analysis shows that the total trucks for high-cube transload warehouses is 31.2%. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the SCAQMD interim recommended truck mix. The SCAQMD has recently performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the site (for without cold storage): 16.7% of the total trucks as 2-axle trucks, 20.7% of the total trucks as 3-axle trucks, and 62.6% of the total trucks as 4+-axle trucks.

Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the ITE High Cube Warehouse Vehicle Trip Generation Analysis or the City of Fontana’s Truck Trip Generation Study. (8) (9) Lastly, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical “real-world” mix of vehicle types

to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County CMP 2016 Update. Trip generation rates for actual vehicles and with PCE factors are shown on Table 4-1.

As shown on Table 4-2, the proposed Project (Project buildout) is anticipated to generate a net total of 4,109 PCE trip-ends per day, 371 PCE AM peak hour trips and 424 PCE PM peak hour trips for Opening Year Cumulative traffic conditions. The proposed Project is anticipated to generate a net total of 4,782 PCE trip-ends per day, 454 PCE AM peak hour trips and 514 PCE PM peak hour trips with the addition of PA3 for Horizon Year (2040) traffic conditions. In comparison, the proposed Project is anticipated to generate a net total of 3,003 actual vehicle trip-ends per day with 279 AM peak hour trips and 316 PM peak hour trips for Opening Year Cumulative traffic conditions and 3,533 trip-ends per day with 343 AM peak hour trips and 385 PM peak hour trips with the addition of PA3 under Horizon Year (2040) traffic conditions (see Table 4-3).

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the City of Ontario, City of Chino, City of Chino Hills, City of Eastvale, and the California Department of Transportation (Caltrans). Given these differences, separate trip distributions were generated for both passenger cars and truck trips.

The Opening Year Cumulative distribution patterns utilize the existing roadway system in relation to the Horizon Year trip distribution patterns, which assumes future roadway connections. The Project trip distribution patterns are also affected by near-term development patterns in the vicinity of the Project site. The extension of Flight Avenue north of Merrill Avenue, Hellman Avenue north of Merrill Avenue, Carpenter Avenue north of Merrill Avenue, Schaefer Avenue at Archibald Avenue, Limonite Avenue/Kimball Avenue extension between Hellman Avenue and Archibald Avenue, and the Merrill Avenue extension to Bellegrave Avenue will also be assumed for Horizon Year conditions only.

Exhibit 4-1 illustrates the truck trip distribution patterns for Opening Year Cumulative and Horizon Year conditions. As shown on Exhibit 4-1, trucks are anticipated to utilize designated truck routes such as Merrill Avenue, Euclid Avenue (SR-83), Archibald Avenue, Edison Avenue/Ontario Ranch Road, and Limonite Avenue to reach regional freeways such as the SR-71, SR-60, and I-15 Freeways. These travel patterns are not anticipated to change with the addition of new future facilities for Horizon Year traffic conditions.

EXHIBIT 4-1 (10F2): PROJECT (OPENING YEAR CUMULATIVE AND HORIZON YEAR TRUCK) TRIP DISTRIBUTION

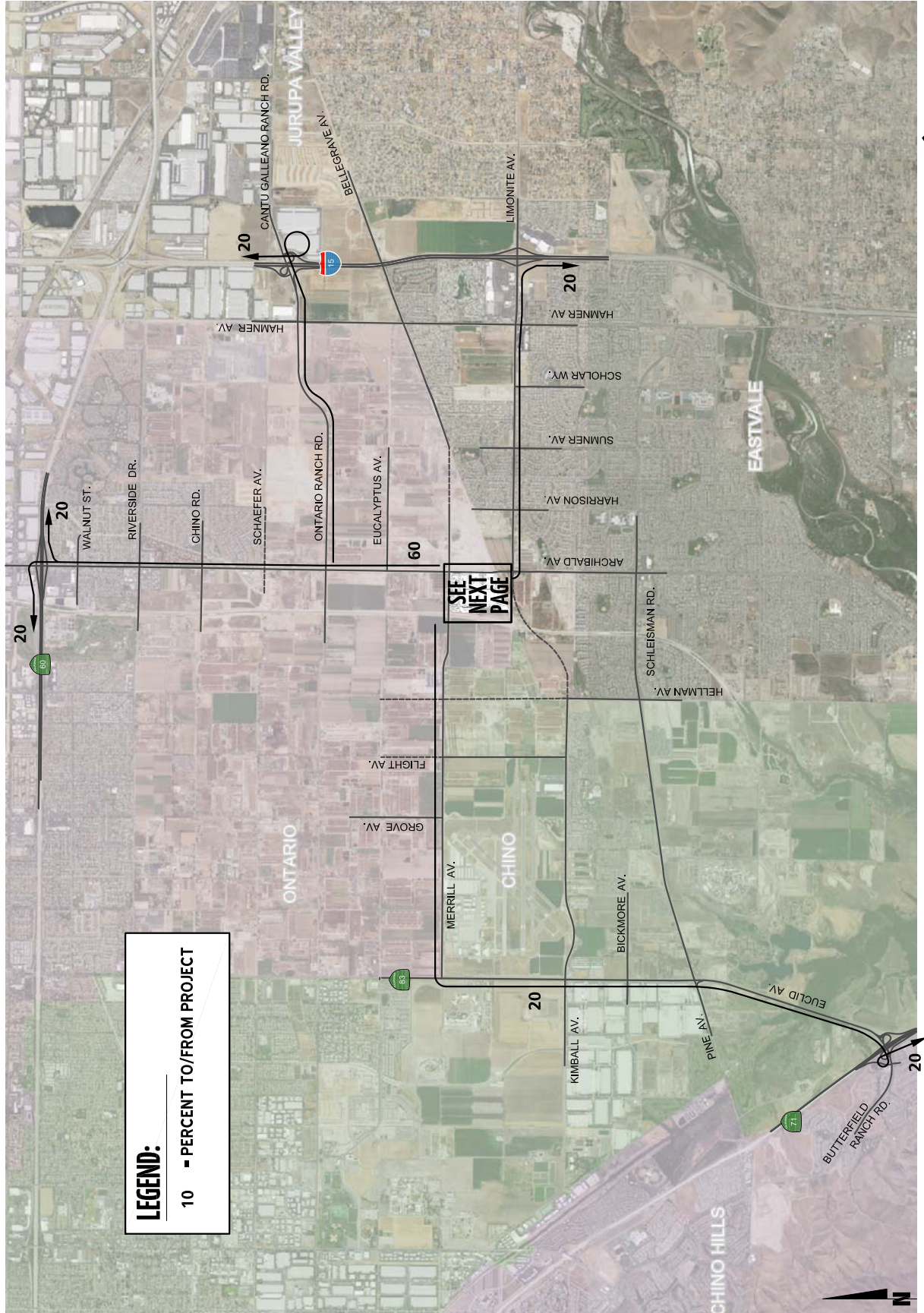


EXHIBIT 4-1 (2OF2): PROJECT (OPENING YEAR CUMULATIVE AND HORIZON YEAR TRUCK) TRIP DISTRIBUTION

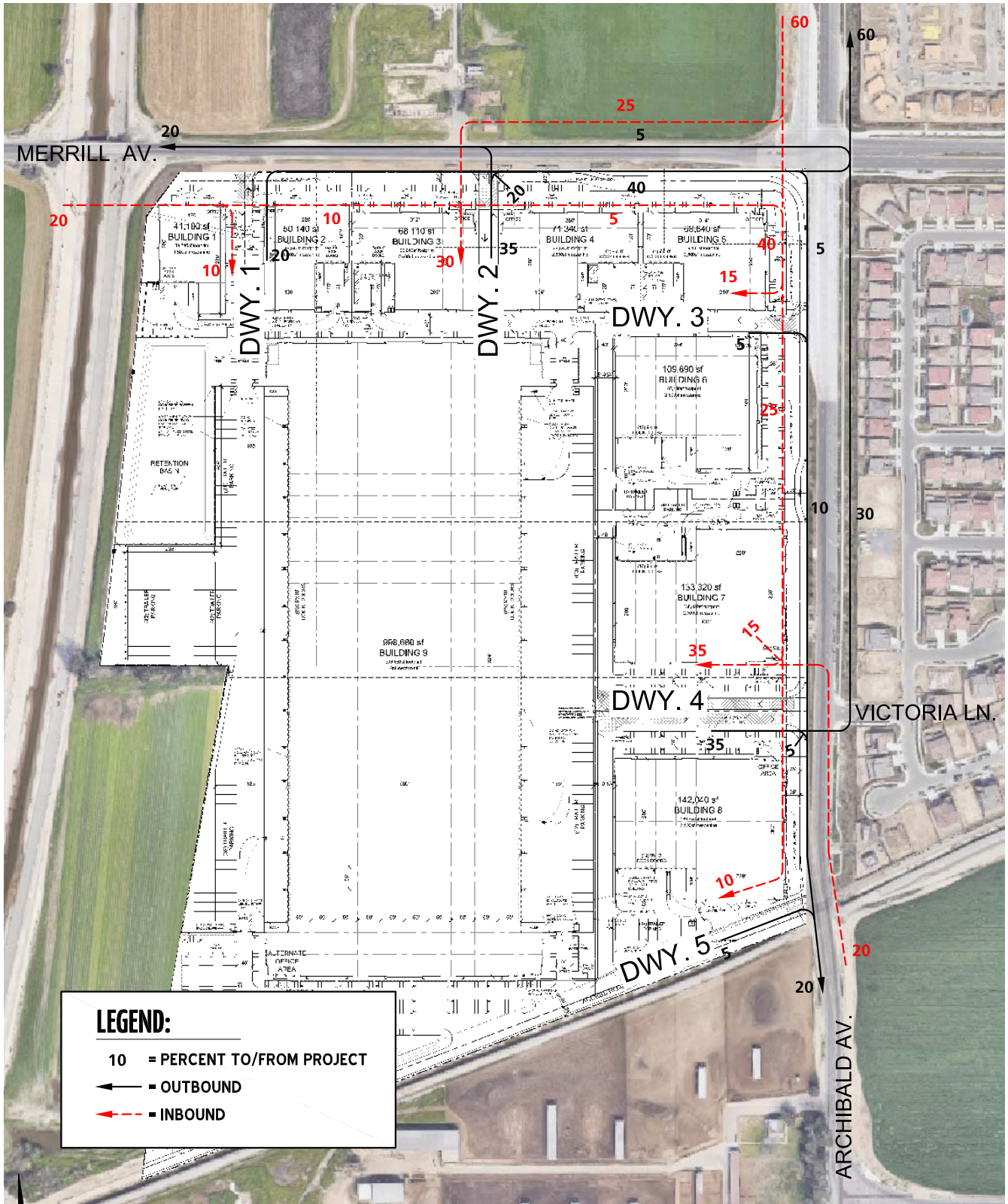


Exhibit 4-2 illustrates the Opening Year Cumulative passenger car trip distribution patterns. The Opening Year Cumulative passenger car trip distribution patterns are based on a SBTAM select zone run for the zone containing the Project, with modifications to utilize the existing roadway system. Exhibit 4-3 illustrates the passenger car trip distribution patterns for Horizon Year traffic conditions. The passenger car trip distribution patterns are based on a SBTAM select zone run for the zone containing the Project.

4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes (non-truck trips only).

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibits 4-4 and 4-5 for near-term traffic conditions, and Project ADT and peak hour intersection turning movement volumes are shown on Exhibits 4-6 and 4-7 for Horizon Year (2040) traffic conditions.

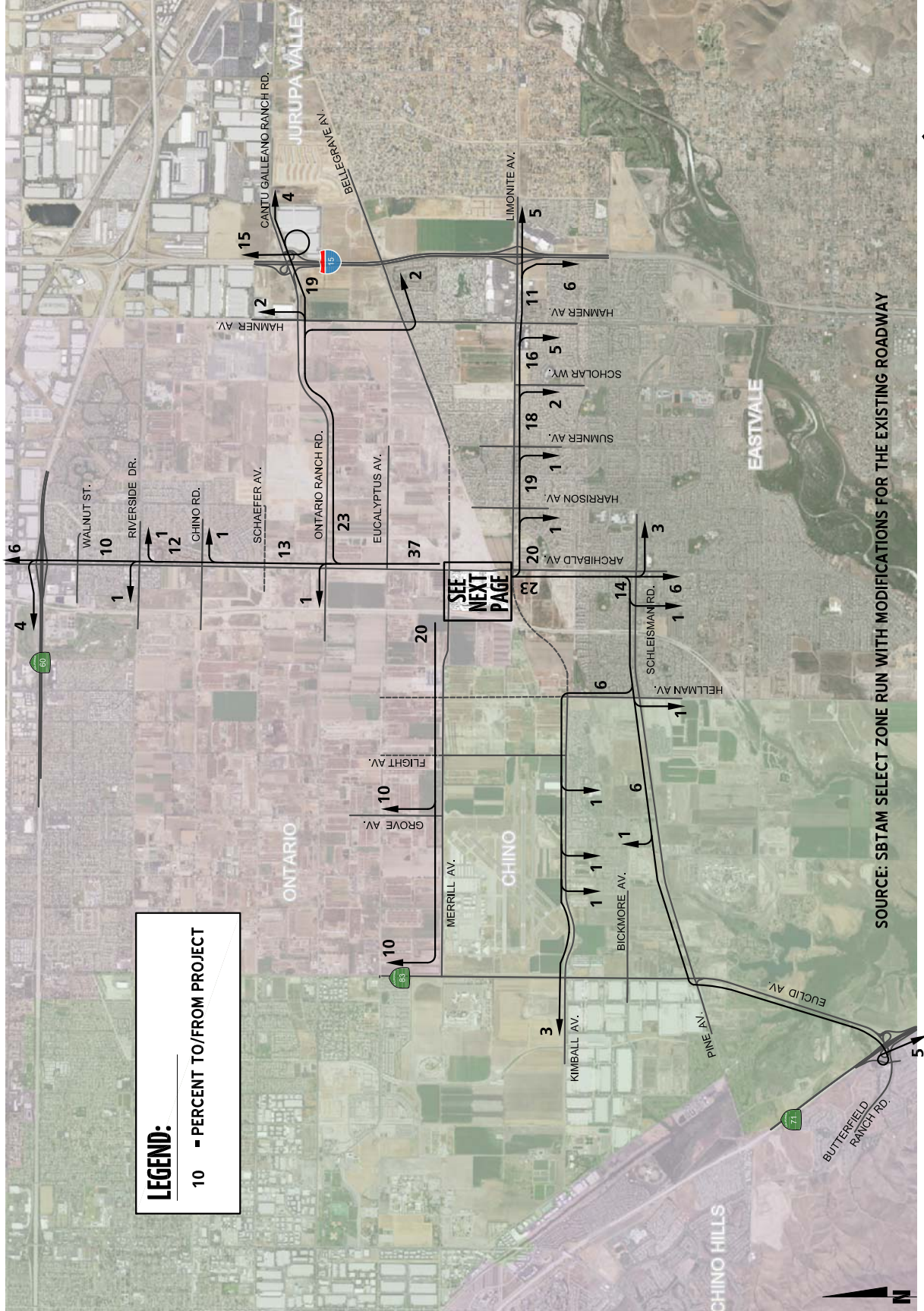
4.5 BACKGROUND TRAFFIC

4.5.1 OPENING YEAR CUMULATIVE CONDITIONS

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2019 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. The total ambient growth is 2.0% for 2019 traffic conditions (growth of 2.0 percent per year over 1 year). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

Opening Year Cumulative (2019) traffic volumes are provided in Section 6 *Opening Year Cumulative (2019)* of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine Opening Year Cumulative "With Project" forecasts for 2019.

EXHIBIT 4-2 (10F2): PROJECT (OPENING YEAR CUMULATIVE PASSENGER CAR) TRIP DISTRIBUTION



SOURCE: SBTAM SELECT ZONE RUN WITH MODIFICATIONS FOR THE EXISTING ROADWAY

LEGEND:
 10 - PERCENT TO/FROM PROJECT



EXHIBIT 4-2 (2OF2): PROJECT (OPENING YEAR CUMULATIVE PASSENGER CAR) TRIP DISTRIBUTION

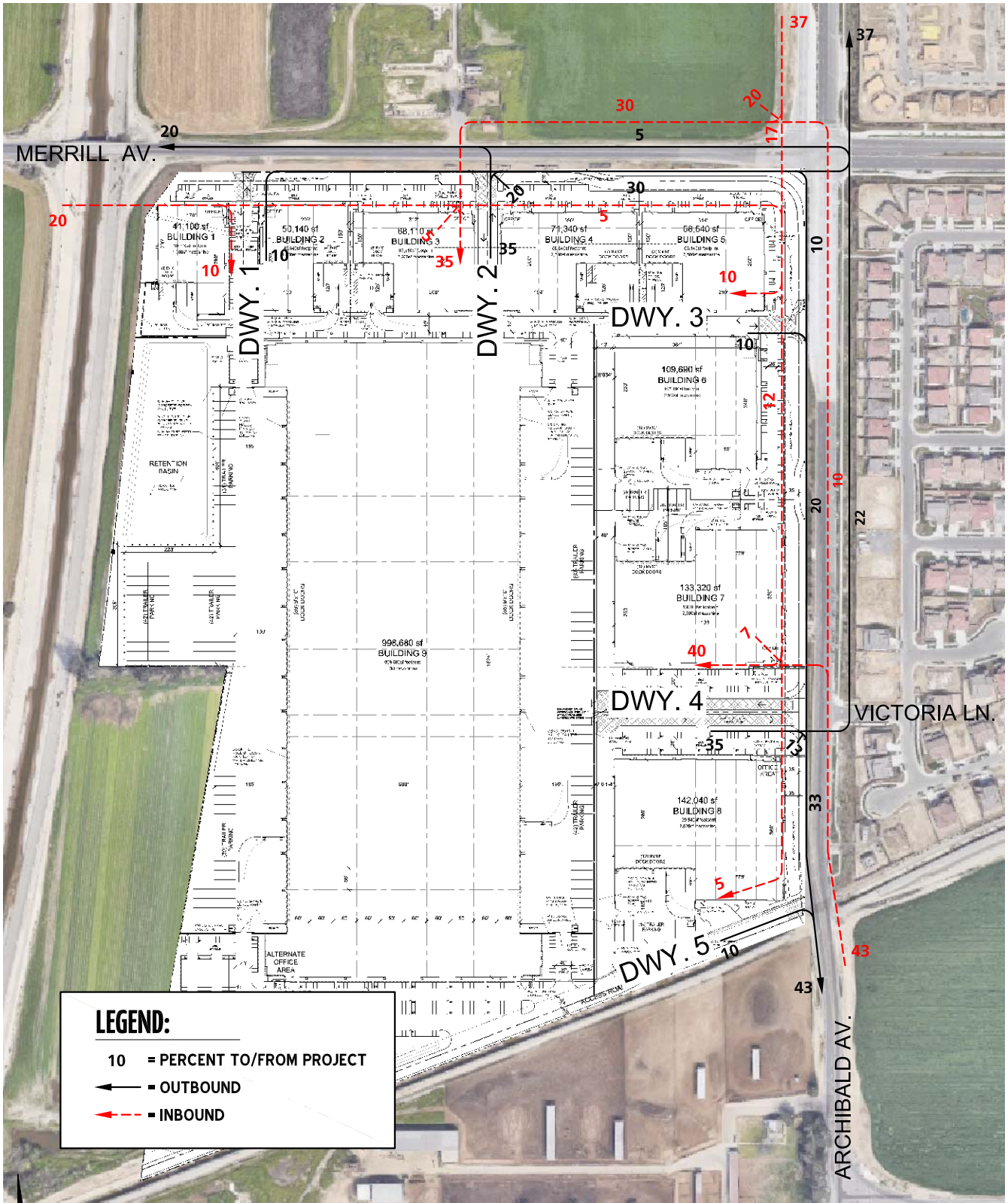


EXHIBIT 4-3 (1OF2): PROJECT (HORIZON YEAR PASSENGER CAR) TRIP DISTRIBUTION

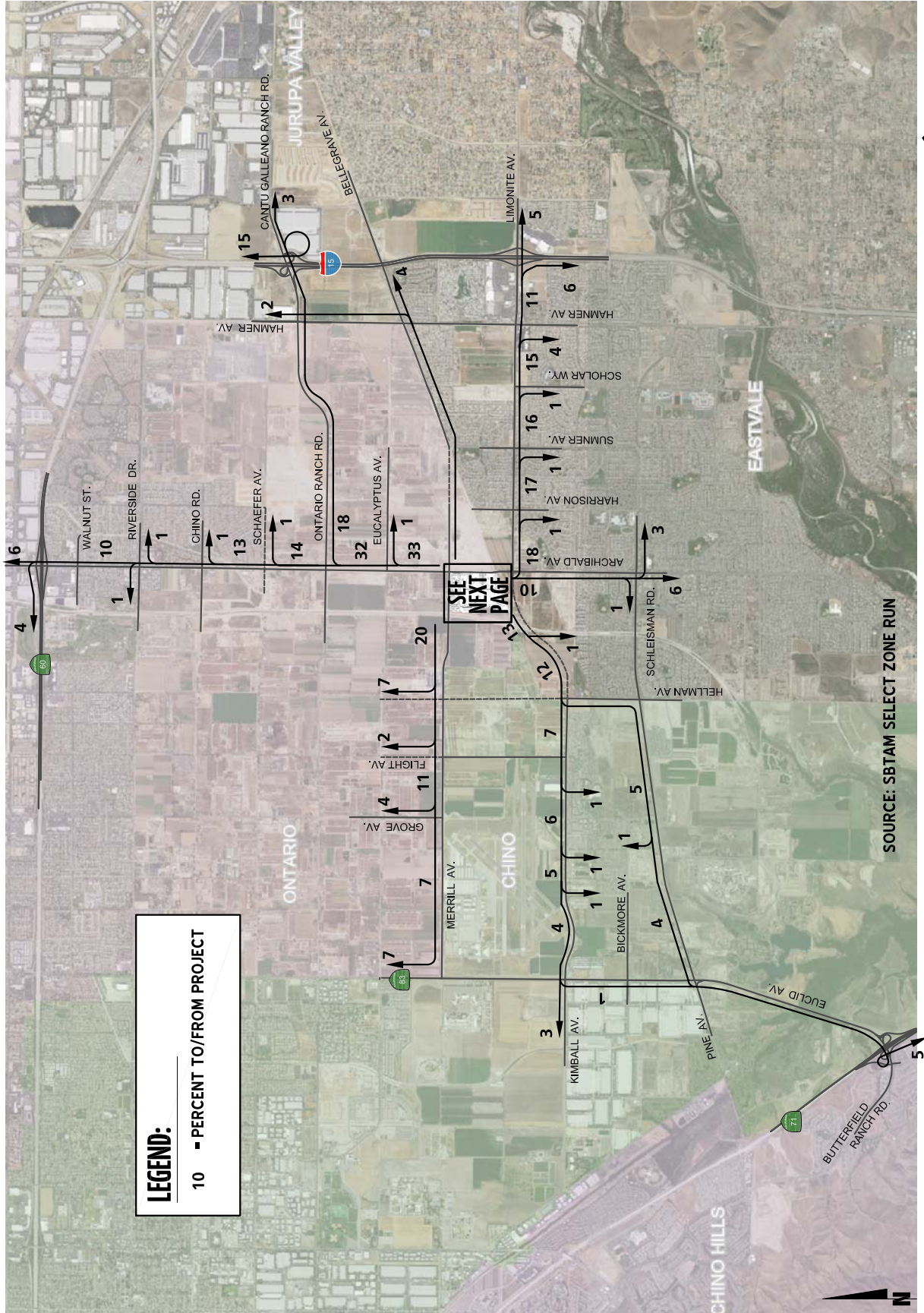


EXHIBIT 4-3 (2OF2): PROJECT (HORIZON YEAR PASSENGER CAR) TRIP DISTRIBUTION

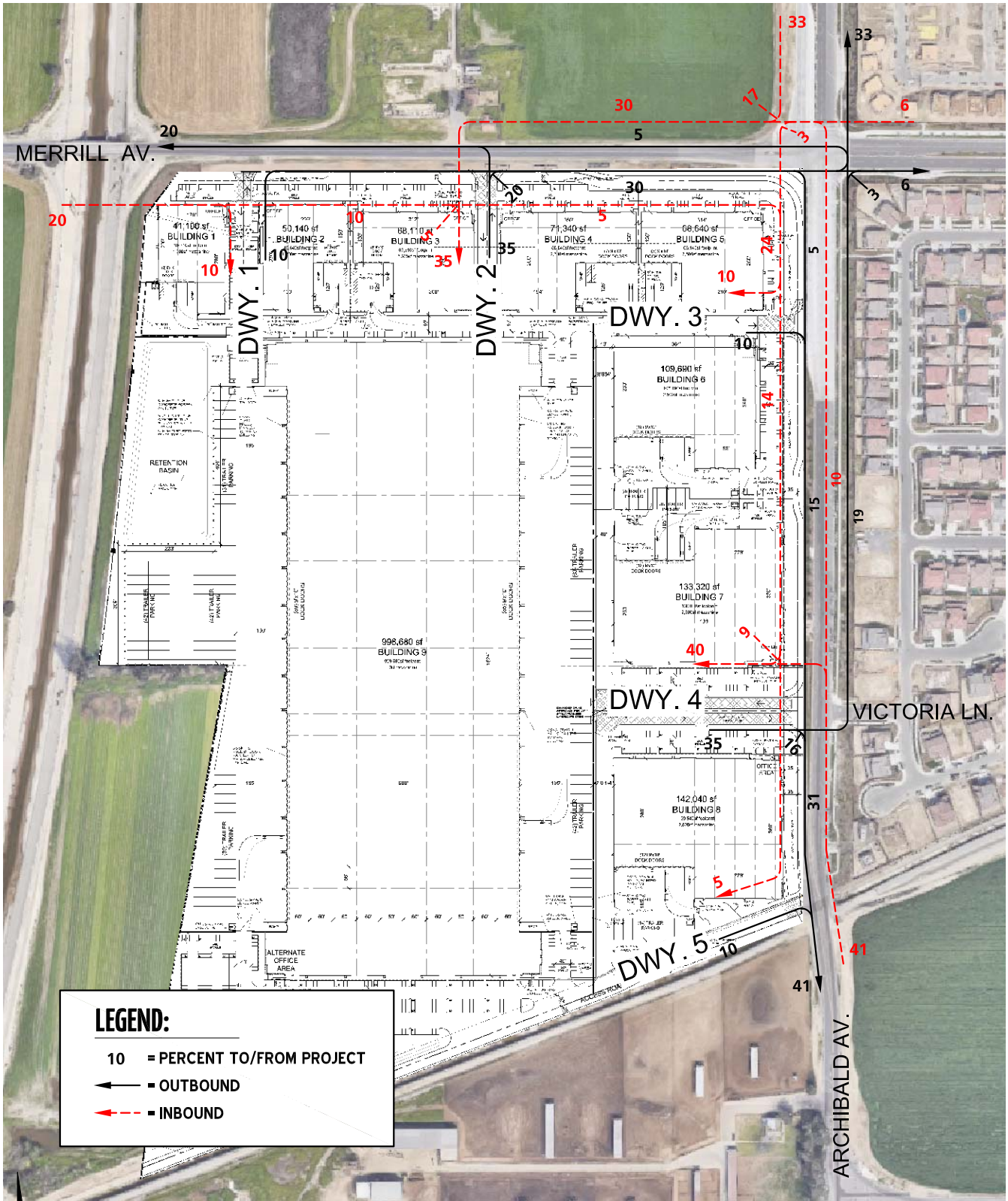


EXHIBIT 4-5: PROJECT ONLY (PROJECT BUILDOUT) TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p>	<p>7 Grove Av. & Merrill Av.</p>	
<p>8 Flight Av. & Merrill Av.</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p>	<p>10 Hellman Av. & Kimball Av.</p>	<p>11 Hellman Av. & Pine Av.</p>	<p>12 Dwy. 1 & Merrill Av.</p>	<p>13 Dwy. 2 & Merrill Av.</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p>	
<p>15 Archibald Av. & SR-60 EB Ramps</p>	<p>16 Archibald Av. & Walnut Av.</p>	<p>17 Archibald Av. & Riverside Dr.</p>	<p>18 Archibald Av. & Chino Av.</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p>	<p>21 Archibald Av. & Eucalytus Av.</p>	
<p>22 Archibald Av. & Merrill Av.</p>	<p>23 Archibald Av. & Dwy. 3</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p>	<p>25 Archibald Av. & Dwy. 5</p>	<p>26 Archibald Av. & Limonite Av.</p>	<p>27 Archibald Av. & Schleisman Rd.</p>	<p>28 Harrison Av. & Limonite Av.</p>	
<p>29 Sumner Av. & Limonite Av.</p>	<p>30 Scholar Wy. & Limonite Av.</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p>	<p>32 Hamner Av. & Bellegrave Av.</p>	<p>33 Hamner Av. & Limonite Av.</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p>	<p>35 I-15 SB Ramps & Limonite Av.</p>	
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p>	<p>37 I-15 NB Ramps & Limonite Av.</p>	<p>LEGEND: 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES</p>					

EXHIBIT 4-7: PROJECT ONLY (2040) TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p>	<p>7 Grove Av. & Merrill Av.</p>	
<p>8 Flight Av. & Merrill Av.</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p>	<p>10 Hellman Av. & Kimball Av.</p>	<p>11 Hellman Av. & Pine Av.</p>	<p>12 Dwy. 1 & Merrill Av.</p>	<p>13 Dwy. 2 & Merrill Av.</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p>	
<p>15 Archibald Av. & SR-60 EB Ramps</p>	<p>16 Archibald Av. & Walnut Av.</p>	<p>17 Archibald Av. & Riverside Dr.</p>	<p>18 Archibald Av. & Chino Av.</p>	<p>19 Archibald Av. & Schaefer Av.</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p>	<p>21 Archibald Av. & Eucalytus Av.</p>	
<p>22 Archibald Av. & Merrill Av.</p>	<p>23 Archibald Av. & Dwy. 3</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p>	<p>25 Archibald Av. & Dwy. 5</p>	<p>26 Archibald Av. & Limonite Av.</p>	<p>27 Archibald Av. & Schleisman Rd.</p>	<p>28 Harrison Av. & Limonite Av.</p>	
<p>29 Sumner Av. & Limonite Av.</p>	<p>30 Scholar Wy. & Limonite Av.</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p>	<p>32 Hamner Av. & Bellegrave Av.</p>	<p>33 Hamner Av. & Limonite Av.</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p>	<p>35 I-15 SB Ramps & Limonite Av.</p>	
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p>	<p>37 I-15 NB Ramps & Limonite Av.</p>	<p>LEGEND:</p> <p>10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES</p>					

4.5.2 HORIZON YEAR (2040) CONDITIONS

The adopted *Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* (April 2016) growth forecasts for the City of Ontario identifies projected growth in population of 166,300 in 2012 to 258,600 in 2040, or a 55.50% increase over the 28-year period. (10) The change in population equates to roughly a 1.59% growth rate, compounded annually. Similarly, growth over the same 28-year period in households is projected to increase by 66.96%, or a 1.85% annual growth rate. Finally, growth in employment over the same 28-year period is projected to increase by 69.80%, or a 1.91% annual growth rate.

Based on a comparison of Existing (2017) traffic volumes to the Horizon Year (2040) forecasts, the average growth rate is estimated at approximately 2.75%, compounded annually between Existing (2017) and 2040 traffic conditions. The annual growth rate at each individual intersection is not lower than 0.60% compounded annually to as high as 5.89% compounded annually over the same time period.

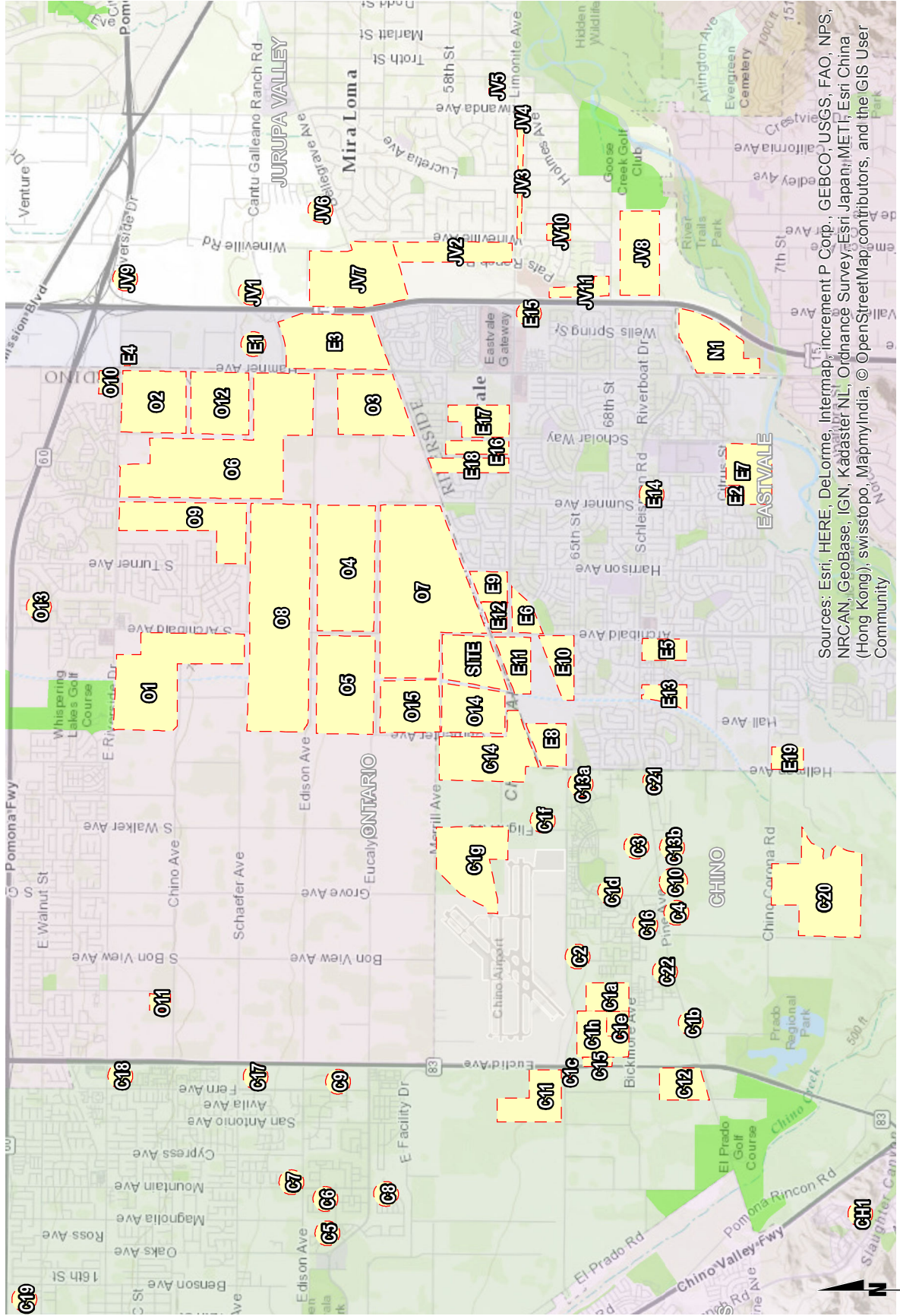
Therefore, the annual growth rate utilized for the purposes of this analysis would appear to conservatively approximate the anticipated regional growth in traffic volumes in the City of Ontario for Opening Year Cumulative and Horizon Year (2040) traffic conditions, especially when considered along with the addition of project-related traffic. As such, the growth in traffic volumes assumed in this traffic impact analysis would tend to overstate as opposed to understate the potential impacts to traffic and circulation. Horizon Year (2040) With Project traffic forecasts reflects buildout of the Project (i.e., traffic associated with PA1, PA2, and PA3).

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Ontario. The neighboring jurisdictions of Chino, Eastvale, and Jurupa Valley have also been contacted to include key projects in their respective cities.

Exhibit 4-8 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-4. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-4 are reflected as part of the background traffic. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibits 4-9 and 4-10 for near-term traffic conditions.

EXHIBIT 4-8: CUMULATIVE DEVELOPMENT LOCATION MAP



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



EXHIBIT 4-10: CUMULATIVE DEVELOPMENT PROJECTS TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./ Merrill Av.</p> <p>0(0) ↓ 701(371) ↓ 279(309) ↓</p> <p>← 254(356) 0(0) ← 61(59) ←</p> <p>0(0) → 0(0) → 0(0) →</p> <p>0(0) ↑ 291(701) ↑ 41(66) ↑</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>123(75) ↓ 249(240) ↓ 346(139) ↓</p> <p>← 91(318) 116(218) ← 56(166) ←</p> <p>90(190) → 210(123) → 28(42) →</p> <p>79(67) ↑ 143(247) ↑ 156(74) ↑</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>33(21) ↓ 193(438) ↓ 37(87) ↓</p> <p>← 80(57) 24(16) ← 99(96) ←</p> <p>17(46) → 9(29) → 27(71) →</p> <p>49(32) ↑ 388(224) ↑ 70(110) ↑</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>0(0) ↓ 278(515) ↓ 41(89) ↓</p> <p>← 73(50) 12(19) ← 67(77) ←</p> <p>0(0) → 17(19) → 0(0) →</p> <p>0(0) ↑ 433(315) ↑ 55(86) ↑</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./ Euclid Av. (SR-83)</p> <p>← 323(539) 23(52) ←</p> <p>117(119) → 0(0) →</p> <p>0(0) ↑ 371(282) ↑</p>	<p>6 SR-71 SB Ramps/ Shady View Dr. & Butterfield Ranch Rd.</p> <p>0(0) ↓ 0(0) ↓ 50(27) ↓</p> <p>← 0(0) 75(87) ← 0(0) ←</p> <p>68(92) → 0(0) →</p> <p>0(0) ↑ 0(0) ↑</p>	<p>7 Grove Av. & Merrill Av.</p> <p>5(4) ↓ 101(111) ↓</p> <p>← 88(119) 311(412) ←</p> <p>3(5) → 318(370) →</p>
<p>8 Flight Av. & Merrill Av.</p> <p>← 312(423) 73(80) ←</p> <p>325(370) → 93(111) →</p> <p>87(107) ↑ 62(85) ↑</p>	<p>9 Hellman Av./ Vineyard Av. & Merrill Av.</p> <p>Future Intersection</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>62(100) →</p> <p>98(81) ↑</p>	<p>11 Hellman Av. & Pine Av.</p> <p>0(0) ↓ 24(50) ↓ 47(83) ↓</p> <p>← 78(59) 178(188) ← 8(11) ←</p> <p>0(0) → 145(229) → 15(11) →</p> <p>5(17) ↑ 53(33) ↑ 8(11) ↑</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>Future Intersection</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>Future Intersection</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>0(0) ↓ 100(165) ↓</p> <p>← 0(0) 0(0) ← 222(214) ←</p> <p>172(202) ↑ 126(143) ↑</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>← 322(379) 0(0) ←</p> <p>0(0) → 0(0) → 162(212) →</p> <p>298(345) ↑ 169(274) ↑</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>0(0) ↓ 484(591) ↓ 0(0) ↓</p> <p>← 0(0) 0(0) ← 24(32) ←</p> <p>0(0) → 0(0) → 0(0) →</p> <p>0(0) ↑ 467(619) ↑ 15(38) ↑</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>5(16) ↓ 381(427) ↓ 124(181) ↓</p> <p>← 132(182) 61(100) ← 27(34) ←</p> <p>14(9) → 71(92) → 96(76) →</p> <p>41(113) ↑ 337(465) ↑ 26(29) ↑</p>	<p>18 Archibald Av. & Chino Av.</p> <p>0(0) ↓ 500(527) ↓ 3(10) ↓</p> <p>← 9(6) 0(0) ← 25(37) ←</p> <p>0(0) → 0(0) → 15(16) →</p> <p>11(16) ↑ 395(602) ↑ 24(35) ↑</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>2(7) ↓ 488(503) ↓ 42(68) ↓</p> <p>← 26(77) 111(158) ← 230(214) ←</p> <p>5(5) → 93(172) → 18(18) →</p> <p>12(20) ↑ 383(577) ↑ 140(273) ↑</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>700(621) ↓ 26(81) ↓</p> <p>← 69(51) 49(36) ←</p> <p>437(799) ↑ 18(58) ↑</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>391(232) ↓ 417(441) ↓ 9(29) ↓</p> <p>← 25(18) 110(98) ← 84(62) ←</p> <p>170(401) → 58(135) → 176(335) →</p> <p>323(221) ↑ 284(514) ↑ 31(99) ↑</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>Future Intersection</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>Future Intersection</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>Future Intersection</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>444(444) ↓ 233(394) ↓</p> <p>← 362(295) 268(195) ←</p> <p>276(537) ↑ 147(319) ↑</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>182(219) ↓ 312(368) ↓ 16(35) ↓</p> <p>← 28(28) 68(46) ← 0(0) ←</p> <p>169(240) → 36(74) → 6(23) →</p> <p>22(7) ↑ 255(408) ↑ 0(0) ↑</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>57(42) ↓ 9(6) ↓ 130(85) ↓</p> <p>← 43(146) 653(552) ← 11(28) ←</p> <p>23(63) → 422(725) → 10(13) →</p> <p>11(14) ↑ 3(10) ↑ 17(24) ↑</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>23(33) ↓ 33(34) ↓ 83(72) ↓</p> <p>← 35(105) 672(685) ← 3(10) ←</p> <p>19(34) → 543(793) → 11(16) →</p> <p>15(16) ↑ 17(46) ↑ 9(6) ↑</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>0(0) ↓ 0(0) ↓ 0(0) ↓</p> <p>← 0(0) 686(755) ← 3(10) ←</p> <p>0(0) → 600(836) → 39(43) →</p> <p>26(54) ↑ 0(0) ↑ 9(6) ↑</p>	<p>31 Hamner Av. & Ontario Ranch Rd./ Cantu Galleano Ranch Rd.</p> <p>7(14) ↓ 105(45) ↓ 87(114) ↓</p> <p>← 39(139) 319(450) ← 365(326) ←</p> <p>9(12) → 315(448) → 134(170) →</p> <p>94(198) ↑ 34(98) ↑ 221(451) ↑</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>19(61) ↓ 221(443) ↓ 92(24) ↓</p> <p>← 17(80) 23(58) ← 22(85) ←</p> <p>50(39) → 37(47) → 0(0) →</p> <p>0(0) ↑ 298(399) ↑ 96(29) ↑</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>65(148) ↓ 43(163) ↓ 117(188) ↓</p> <p>← 156(156) 586(565) ← 0(0) ←</p> <p>111(117) → 452(679) → 51(55) →</p> <p>43(62) ↑ 111(121) ↑ 0(0) ↑</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>456(358) ↓ 0(0) ↓</p> <p>← 0(0) 328(421) ←</p> <p>320(673) → 175(304) →</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>169(139) ↓ 0(0) ↓ 0(0) ↓</p> <p>← 569(567) 0(0) ←</p> <p>300(408) → 257(451) →</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>← 73(142) 0(0) ←</p> <p>83(130) → 262(552) →</p> <p>229(270) ↑ 0(0) ↑</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>0(0) ↓ 159(254) ↓</p> <p>← 0(0) 0(0) ←</p> <p>108(182) → 192(225) →</p> <p>410(314) ↑ 0(0) ↑ 0(0) ↑</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

Table 4-4
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Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
City of Ontario				
O1	Countryside	SFDR	819	DU
	Armstrong Ranch	SFDR	994	DU
O2	Edenglen	SFDR	310	DU
		Multi-Family Attached (Condo)	274	DU
		Shopping Center	217.520	TSF
		Business Park	550.000	TSF
O3	Esperanza	SFDR	914	DU
		Multi-Family Attached (Apartments)	496	DU
O4	Grand Park	SFDR	484	DU
		Multi-Family Attached (Apartments)	843	DU
O5	Parkside	SFDR	437	DU
		Multi-Family Attached (Apartments)	1,510	DU
		Shopping Center	115.000	TSF
O6	Rich Haven	SFDR	2,732	DU
		Multi-Family Attached (Condo)	1,524	DU
		Shopping Center	317.400	TSF
O7	Subarea 29 & Amendment	SFDR	2,149	DU
		Shopping Center	87.000	TSF
O8	The Avenue	SFDR	2,020	DU
		Multi-Family Attached (Apartments)	586	DU
		Shopping Center	250.000	TSF
O9	West Haven	SFDR	753	DU
		Shopping Center	87.000	TSF
O10	Tuscana Village	SFDR	176	DU
		Shopping Center	26.000	TSF
O11	PDEV10-011	SFDR	11	DU
O12	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000	TSF
O13	PDEV08-008	Shopping Center	3.920	TSF
O14	Colony Commerce West	High-Cube Warehouse	2213.360	TSF
		Manufacturing	737.786	TSF
O15	West Ontario Commerce Center SP	High-Cube Warehouse	1976.535	TSF
		Manufacturing	658.845	TSF
		Business Park	548.856	TSF
City of Chino				
C1a	Bickmore Street Residential (TM 18858)	SFDR	185	DU
C1b	Barthelemy	SFDR	193	DU
		Condo/Townhouse	198	DU
		Apartments	288	DU
C1c	Farmer Boys	Fast-food w/ Drive-Thru	3.218	TSF
		Shopping Center	2.300	TSF
C1d	TM17635	SFDR	67	DU
C1e	Bouma Residential	SFDR	106	DU
		Condo/Townhouse	94	DU

Table 4-4
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Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
C1f	Kimball Business Park	Light Industrial	140.500	TSF
		Warehousing	564.000	TSF
		High-Cube Warehouse	352.000	TSF
		Business Park	146.550	TSF
C1g	Chino Parcel Delivery	Parcel Delivery Facility	765.274	TSF
C1h	Kimball Business Center	Warehousing	715.000	TSF
		Light Industrial	255.000	TSF
		Business Park	233.000	TSF
		Self-Storage	110.000	TSF
C2	TM17574	Condo/Townhouse	108	DU
C3	Falloncrest at the Preserve	SFDR	204	DU
		Condo/Townhouse	786	DU
		Apartments	412	DU
		Shopping Center	77.597	TSF
		General Office	77.597	TSF
C4	TM18778	SFDR	65	DU
C5	PL11-0047	Apartments	135	DU
	TM 18873	Condo/Townhouse	149	DU
	TM 16838-2 PA 7B	SFDR	67	DU
C6	TM17898	SFDR	77	DU
	TM 17899	SFDR	66	DU
	PL 13-0435	SFDR	41	DU
C7	SA 07-07 RV Storage	RV Storage	313	SPC
C8	Chaffey College Expansion	Junior/Community College	93.50	AC
	College Park Commercial	Commercial	7.50	AC
	TM 18891	SFDR	118	DU
	TM 17893	SFDR	34	DU
	TM 17894	SFDR	39	DU
C9	PL13-0601	SFDR	209	DU
		SFDR	1,351	DU
C10	South of Pine	Condo/Townhouse	732	DU
		Apartments	670	DU
		SFDR	1,351	DU
C11	Majestic Gateway	High-Cube Warehouse	1,490.400	TSF
		Warehousing	180.000	TSF
		Specialty Retail	25.000	TSF
		Pharmacy/Drugstore with Drive-Thru	13.000	TSF
		Fast-Food with Drive-Thru	8.600	TSF
C12	PM18635	General Light Industrial	99.164	TSF
		High-Cube Warehouse	2,077.594	TSF
C13a	TM 18890	Condo/Townhouse	94	DU
C13b	TM 19980 Homecoming Phase 4 Apartments	Apartments	454	DU
C14	Watson Industrial Park	High-Cube Warehouse	3,889.900	TSF
C15	Chino Business Park	General Light Industrial	165.500	TSF
		Business Park	21.500	TSF

Table 4-4
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Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
C16	Flores Site	Shopping Center	4.000	TSF
		Gas Station w/ convenience store	16	VFP
		Express Car Wash	5.000	TSF
C17	Brewart Residential (TM 18923)	SFDR	127	DU
C18	Fern and Riverside Residential (TM 18901)	SFDR	94	DU
C19a	Borba Chino Residential (TM 18957)	SFDR	84	DU
C20	Edgewater Communities	SFDR	415	DU
		Condo/Townhouse	659	DU
		Museum/Retail	6.500	TSF
		Church	15.200	TSF
		Park	15.0	AC
C21	TM 18480 Harvest	SFDR	600	DU
C22	Church	Church	47.979	TSF
		Daycare	190	STU
City of Chino Hills				
CH1	Vila Borba Specific Plan	SFDR	176	DU
City of Eastvale				
E1	14-1077 - Grainger Site (APN:156-050-025, 156-050-026, 156-020-027)	Industrial	546.000	TSF
E2	10-0117 (TM36373)	SFDR	51	DU
E3	10-0271 - Eastvale Commerce Center (Phase 1 and 2)	Shopping Center	249.000	TSF
		Hotel	130	RM
		Business Park	610.000	TSF
E4	11-0354 - Arco Gas Station	Gas Station w/ convenience store and car wash	18.000	VFP
		Fast-Food w/o Drive-Thru	2.800	TSF
		Fast-Food with Drive-Thru	2.100	TSF
E5	The Marketplace at Enclave	Shopping Center	42.000	TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000	TSF
		Specialty Retail	9.200	TSF
		Fast-Food Without Drive-Thru	7.200	TSF
		Coffee/Donut Shop w/ Drive Thru	2.000	TSF
		Fast-Food with Drive-Thru	3.500	TSF
		Gas Station w/ convenience store and car wash	16	VFP
E7	11-0363 TTM 36382 (Altfillisch Residential Project ⁵)	SFDR	146	DU
E8	SP00358 - The Ranch at Eastvale	Shopping Center	267.200	TSF
		General Light Industrial	801.500	TSF
		Business Park	1,121.100	TSF
E9	SC Limonite, LLC	SFDR	330	TSF
E10	13-0395 - 65th Street Residential (Copper Sky)	SFDR	250	DU
E11	PP23219 (PM35865)	General Light Industrial	738.430	TSF
E12	Dairy Property	SFDR	119	DU
E13	TR35751	Condo/Townhouse	243	DU
E14	13-0632 - Sumner Residential (Stratham Homes)	SFDR	129	DU
E15	14-0046 - Kasbergen/William Lyons Homes	Condo/Townhouse	220	DU
E16	TR32821	Condo/Townhouse	350	DU
E17	TR32909	SFDR	140	DU
E18	10-0124 - TR31252 (The Lodge)	SFDR	205	DU

Table 4-4
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Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
E19	TR29997	SFDR	122	DU
City of Norco				
N1	Silverlakes Equestrian ⁶	Soccer Field	14	Fields
		Soccer Field	10	Fields
		Equestrian Facility	400	Stalls
City of Jurupa Valley				
JV1	PP24596	Warehousing	122.59	TSF
JV2	TR33428	SFDR	338	DU
JV3	TR33258	SFDR	45	DU
JV4	CUP03555	Mini-Warehouse	141.460	TSF
JV5	CUP03488 (Self Storage)	Mini-Warehouse	89.642	TSF
JV6	TR36692	SFDR	176	DU
	TR31768	SFDR	189	DU
	TR31778-1	SFDR	128	DU
	TR33461	SFDR	203	DU
	TR31644	SFDR	425	DU
JV7	TR31644	SFDR	213	DU
	TR31768	SFDR	95	DU
	TR31778	SFDR	64	DU
	TR33461	SFDR	102	DU
	Thorobred Farms	High-Cube Warehouse	1,176.120	TSF
JV8	Ter Maaten (TTM No. 36391)	SFDR	468	DU
		Park	8.4	AC
JV9	Riverside Drive Development	General Light Industrial	167.020	TSF
JV10	6316 Wineville Av. (Daycare)	Daycare	40	STU
JV11	Vernola Marketplace Apartments	Apartments	597	DU

¹ SFDR = Single Family Detached Residential

² TSF = Ten Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position ; AC = Acres

³ Source: Eastvale South Trip Generation Analysis, Albert A. Webb Associates, May 27, 2011

⁴ Source: Trip Generation Comparison for Cloverdale Marketplace, Phase II, Eastvale CA, Albert A. Webb Associates, August 15, 2011.

⁵ Source: Altfillisch Residential Project TIA Memorandum, LSA Associates, Inc., July 25, 2011.

⁶ Source: From Silverlakes TIA (Revised), Kunzman Associates, September 25, 2008.

4.7 HORIZON YEAR (2040) VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2040) without Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of San Bernardino. The current version of the SBTAM reflects the local input in the adopted 2016 SCAG RTP within the County of San Bernardino.

The traffic forecasts reflect the area-wide growth anticipated between Existing (2017) conditions and Horizon Year (2040) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year (2040) peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in April and December of 2016. The SBTAM has a base (validation) year of 2012 and a horizon (future forecast) year of 2040. The difference in model volumes (2040-2012) defines the growth in traffic over the 28-year period. The Riverside Transportation Analysis Model (RivTAM) has a base (validation) year of 2008 and a horizon (future forecast) year of 2035. The RivTAM 2035 model utilized for the purposes of this analysis assumes buildout of the City of Eastvale. A compounded growth rate consistent with the SCAG RTP/SCS has been applied to the Eastvale locations to determine 2040 forecasts.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 255), along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.28. These factors represent the relationship of the highest single AM peak hour to the modeled 3 hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4 hour PM peak period (an even distribution would result in a factor of 0.25). The model data from RivTAM represents peak hour data and therefore did not require adjustments.

Typically, the model growth is prorated and is subsequently added to the existing (base validation) traffic volumes to represent Horizon Year traffic conditions. In an effort to conduct a conservative analysis, reductions to traffic forecasts from either Existing or Opening Year Cumulative traffic conditions were not assumed as part of this analysis. As such, in conjunction with the addition of cumulative projects that are not consistent with the General Plan, additional growth has also been applied on a movement-by-movement basis, where applicable, to estimate reasonable Horizon Year (2040) forecasts. Horizon Year (2040) turning volumes were compared to Opening Year Cumulative (2019) volumes in order to ensure a minimum growth as a part of the refinement process. The minimum growth includes any additional growth between Opening

Year Cumulative (2019) and Horizon Year (2040) traffic conditions that is not accounted for by the traffic generated by cumulative development projects and ambient growth rates assumed between Existing (2017) and Opening Year Cumulative (2019) conditions. Adjustments have not been made to study area intersections that may be affected by new future roadway connections (such as the extension of Limonite Avenue), where travel patterns would likely get affected and forecasts may potentially decrease from the Opening Year cumulative conditions. Future estimated peak hour traffic data was used for new intersections and intersections with an anticipated change in travel patterns to further refine the Horizon Year (2040) peak hour forecasts.

The future Horizon Year (2040) without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis.

The SBTAM and RivTAM do not include a truck component or have data that is unusually low. As such, in an effort to conduct a conservative analysis, the presence of trucks has been accounted for based on the manual volume adjustments made to demonstrate growth above Opening Year Cumulative (2019) traffic forecasts, which are presented and evaluated in PCE (see Section 3.6 *Existing Traffic Counts* for discussion on PCE). As such, the Horizon Year (2040) forecasts are also assumed to be in PCE for the purposes of this analysis. Horizon Year (2040) With Project traffic forecasts reflects buildout of the Project (i.e., traffic associated with PA1, PA2, and PA3). Post-processing worksheets for Horizon Year (2040) without Project traffic conditions are provided in Appendix 4.1.

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5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 EXISTING PLUS PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project traffic. The ADT volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1. E+P weekday AM and PM peak hour intersection turning movement volumes are shown on Exhibit 5-2.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table 5-1, which indicates there are no additional study area intersections anticipated to operate at unacceptable LOS with the addition of Project traffic, in addition to those identified previously for Existing traffic conditions.

Consistent with Table 5-1, a summary of the peak hour intersection LOS for E+P conditions is shown on Exhibit 5-3. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TIA.

5.4 ROADWAY SEGMENT CAPACITY ANALYSIS

As noted previously, the City of Ontario stated roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future traffic demand. Table 5-2 provides a summary of the E+P conditions roadway segment capacity analysis based on the City of Ontario General Plan Roadway Segment Capacity Thresholds identified previously on Table 2-3. As shown on Table 5-2, there are no additional roadway segments anticipated to operate at an unacceptable LOS under E+P traffic conditions, in addition to those previously identified under Existing (2017) traffic conditions.

EXHIBIT 5-1: E+P AVERAGE DAILY TRAFFIC (ADT)

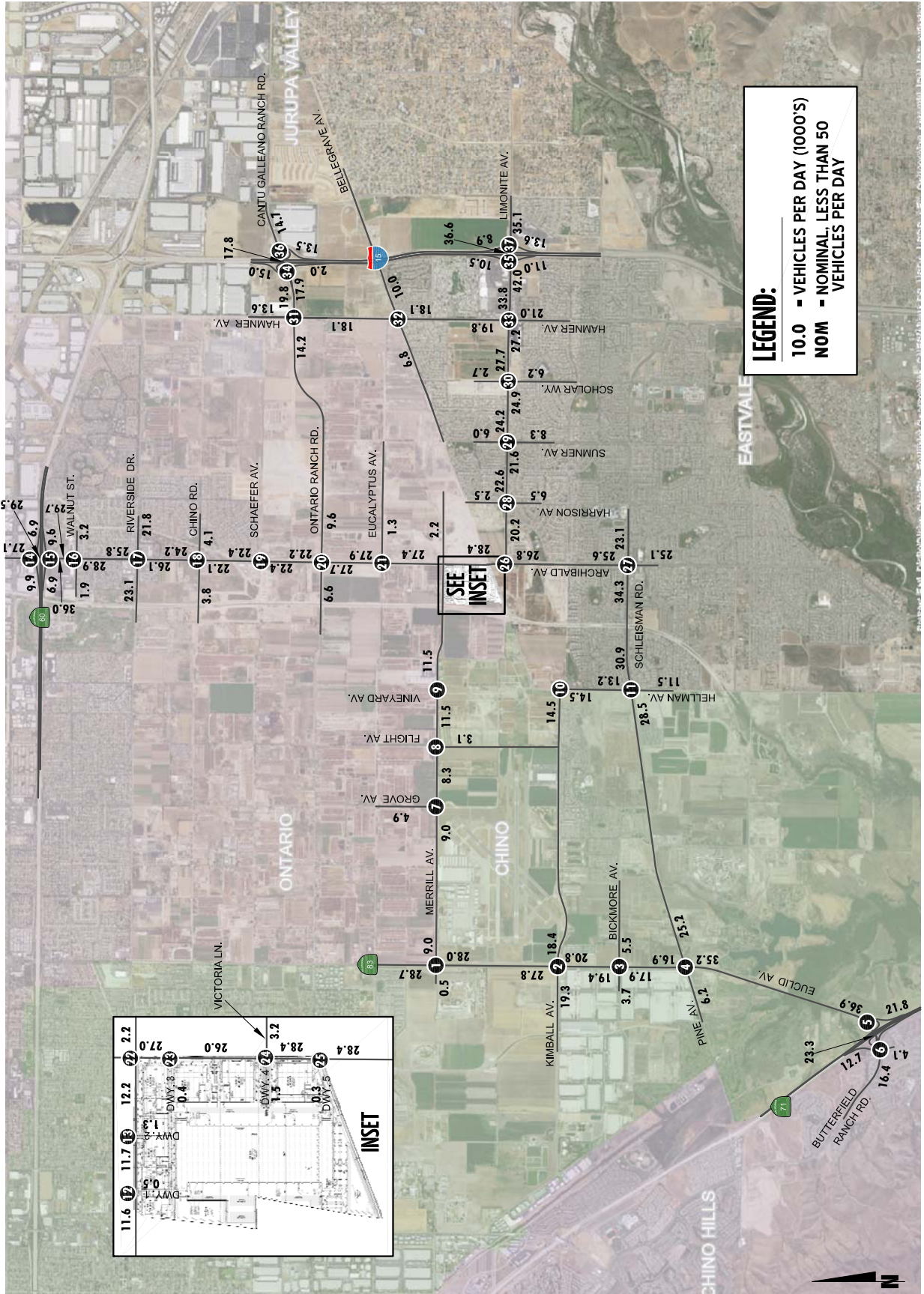


EXHIBIT 5-2: E+P TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./ Merrill Av.</p> <p>↓ 42(1) ↓ 963(894) ↓ 182(264)</p> <p>↑ 198(119) ↑ 46(0) ↑ 171(124)</p> <p>8(5) 6(20) 4(11)</p> <p>↑ 19(2) ↑ 968(971) ↑ 130(192)</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>↓ 313(83) ↓ 602(705) ↓ 146(271)</p> <p>↑ 253(121) ↑ 637(231) ↑ 28(21)</p> <p>136(310) 221(775) 25(48)</p> <p>↑ 98(67) ↑ 680(694) ↑ 24(24)</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>↓ 75(55) ↓ 512(558) ↓ 38(125)</p> <p>↑ 170(61) ↑ 368(25) ↑ 178(32)</p> <p>66(67) 18(87) 24(45)</p> <p>↑ 29(15) ↑ 539(661) ↑ 12(100)</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>↓ 14(14) ↓ 637(530) ↓ 56(56)</p> <p>↑ 57(29) ↑ 160(72) ↑ 852(458)</p> <p>5(14) 210(326) 32(28)</p> <p>↑ 56(33) ↑ 596(685) ↑ 482(1036)</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./ Euclid Av. (SR-83)</p> <p>← 954(773) ← 558(291)</p> <p>487(748) 291(172)</p> <p>70(148) 681(1093)</p>	<p>6 SR-71 SB Ramps/ Shady View Dr. & Butterfield Ranch Rd.</p> <p>← 35(152) ← 20(139) ← 259(703)</p> <p>↑ 0(0) ↑ 207(196) ↑ 385(98)</p> <p>749(271) 16(42)</p> <p>60(29) 291(15)</p>	<p>7 Grove Av. & Merrill Av.</p> <p>↓ 100(41) ↓ 96(122)</p> <p>↑ 203(112) ↑ 359(163)</p> <p>55(114) 183(398)</p>	
<p>8 Flight Av. & Merrill Av.</p> <p>← 560(214) ← 55(40)</p> <p>244(588) 74(68)</p> <p>↑ 133(57) ↑ 70(76)</p>	<p>9 Hellman Av./ Vineyard Av. & Merrill Av.</p> <p>Future Intersection</p>		<p>10 Hellman Av. & Kimball Av.</p> <p>324(848)</p> <p>823(289)</p>	<p>11 Hellman Av. & Pine Av.</p> <p>↓ 14(15) ↓ 119(228) ↓ 139(536)</p> <p>↑ 391(148) ↑ 970(503) ↑ 65(22)</p> <p>9(9) 485(1190) 290(387)</p> <p>↑ 9(9) ↑ 429(135) ↑ 312(101) ↑ 44(32)</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>284(657) 29(12)</p> <p>12(43)</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>← 596(214) ← 79(34)</p> <p>281(694) 14(6)</p> <p>13(45) 17(60)</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>↓ 189(376) ↓ 422(1072)</p> <p>↑ 488(185) ↑ 4(6) ↑ 340(349)</p> <p>564(410) 1261(495)</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>↓ 638(1148) ↓ 124(273)</p> <p>396(109) 3(5) 382(418)</p> <p>↑ 1430(796) ↑ 396(483)</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>↓ 17(18) ↓ 595(1217) ↓ 115(110)</p> <p>↑ 234(64) ↑ 28(13) ↑ 125(26)</p> <p>37(17) 10(7) 22(30)</p> <p>↑ 65(63) ↑ 1427(924) ↑ 52(28)</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>↓ 193(188) ↓ 417(714) ↓ 173(264)</p> <p>↑ 229(118) ↑ 445(390) ↑ 117(182)</p> <p>185(162) 296(624) 102(229)</p> <p>↑ 217(219) ↑ 890(594) ↑ 123(133)</p>	<p>18 Archibald Av. & Chino Av.</p> <p>↓ 36(21) ↓ 536(866) ↓ 85(86)</p> <p>↑ 170(79) ↑ 76(15) ↑ 25(16)</p> <p>33(95) 46(96) 14(42)</p> <p>↑ 58(30) ↑ 1016(773) ↑ 40(30)</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>↓ 48(40) ↓ 495(836) ↓ 36(37)</p> <p>↑ 59(37) ↑ 249(153) ↑ 239(248)</p> <p>31(109) 147(50) 59(106)</p> <p>↑ 172(65) ↑ 957(707) ↑ 275(253)</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>↓ 784(1149) ↓ 14(47)</p> <p>↑ 50(22) ↑ 10(2)</p> <p>366(1010) 27(30)</p>	
<p>22 Archibald Av. & Merrill Av.</p> <p>↓ 244(131) ↓ 509(988) ↓ 34(22)</p> <p>↑ 65(47) ↑ 24(8) ↑ 45(50)</p> <p>186(344) 9(25) 104(386)</p> <p>↑ 407(109) ↑ 1130(641) ↑ 50(21)</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>↓ 35(15) ↓ 622(1333)</p> <p>7(24)</p> <p>↑ 1587(771)</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>↓ 30(13) ↓ 566(1322)</p> <p>22(77) 8(29)</p> <p>↑ 78(33) ↑ 1429(662)</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>↓ 20(8) ↓ 608(1393)</p> <p>7(24)</p> <p>↑ 1542(845)</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>↓ 426(783) ↓ 190(635)</p> <p>↑ 757(241) ↑ 371(347)</p> <p>785(603) 280(382)</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>↓ 486(381) ↓ 397(626) ↓ 104(173)</p> <p>↑ 98(37) ↑ 687(319) ↑ 177(103)</p> <p>345(240) 113(1075) 123(464)</p> <p>↑ 344(221) ↑ 707(456) ↑ 161(103)</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>↓ 54(27) ↓ 75(25) ↓ 22(12)</p> <p>↑ 5(9) ↑ 944(524) ↑ 135(201)</p> <p>19(76) 438(896) 15(44)</p> <p>↑ 131(39) ↑ 59(46) ↑ 225(151)</p>	
<p>29 Sumner Av. & Limonite Av.</p> <p>↓ 72(67) ↓ 104(125) ↓ 94(70)</p> <p>↑ 16(50) ↑ 757(589) ↑ 92(192)</p> <p>74(86) 599(861) 27(60)</p> <p>↑ 144(49) ↑ 158(71) ↑ 199(156)</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>↓ 43(15) ↓ 144(72) ↓ 29(26)</p> <p>↑ 16(35) ↑ 692(820) ↑ 67(162)</p> <p>25(40) 853(1008) 67(49)</p> <p>↑ 96(34) ↑ 109(26) ↑ 162(140)</p>	<p>31 Hamner Av. & Ontario Ranch Rd./ Cantu Galleano Ranch Rd.</p> <p>↓ 37(33) ↓ 147(403) ↓ 130(250)</p> <p>↑ 160(128) ↑ 516(289) ↑ 161(305)</p> <p>20(33) 303(443) 69(229)</p> <p>↑ 104(107) ↑ 420(220) ↑ 385(156)</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>↓ 90(214) ↓ 243(625) ↓ 43(98)</p> <p>↑ 94(58) ↑ 129(120) ↑ 113(225)</p> <p>344(88) 151(82) 16(22)</p> <p>↑ 12(6) ↑ 471(336) ↑ 169(203)</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>↓ 118(161) ↓ 253(430) ↓ 253(224)</p> <p>↑ 107(191) ↑ 504(714) ↑ 220(428)</p> <p>153(214) 806(849) 32(70)</p> <p>↑ 129(144) ↑ 455(329) ↑ 414(253)</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>↓ 504(508) ↓ 366(482)</p> <p>↑ 64(181) ↑ 410(246)</p> <p>563(513) 160(156)</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>↓ 429(620) ↓ 2(0) ↓ 158(200)</p> <p>↑ 607(998) ↑ 668(429)</p> <p>1118(1241) 455(450)</p>	
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>↑ 287(262) ↑ 380(291)</p> <p>404(484) 525(511)</p> <p>↑ 188(164) ↑ 160(120)</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>↑ 354(168) ↑ 1045(1020)</p> <p>743(528) 532(913)</p> <p>229(407) 2(1) 325(652)</p>						

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 5-3: SUMMARY OF LOS FOR E+P CONDITIONS

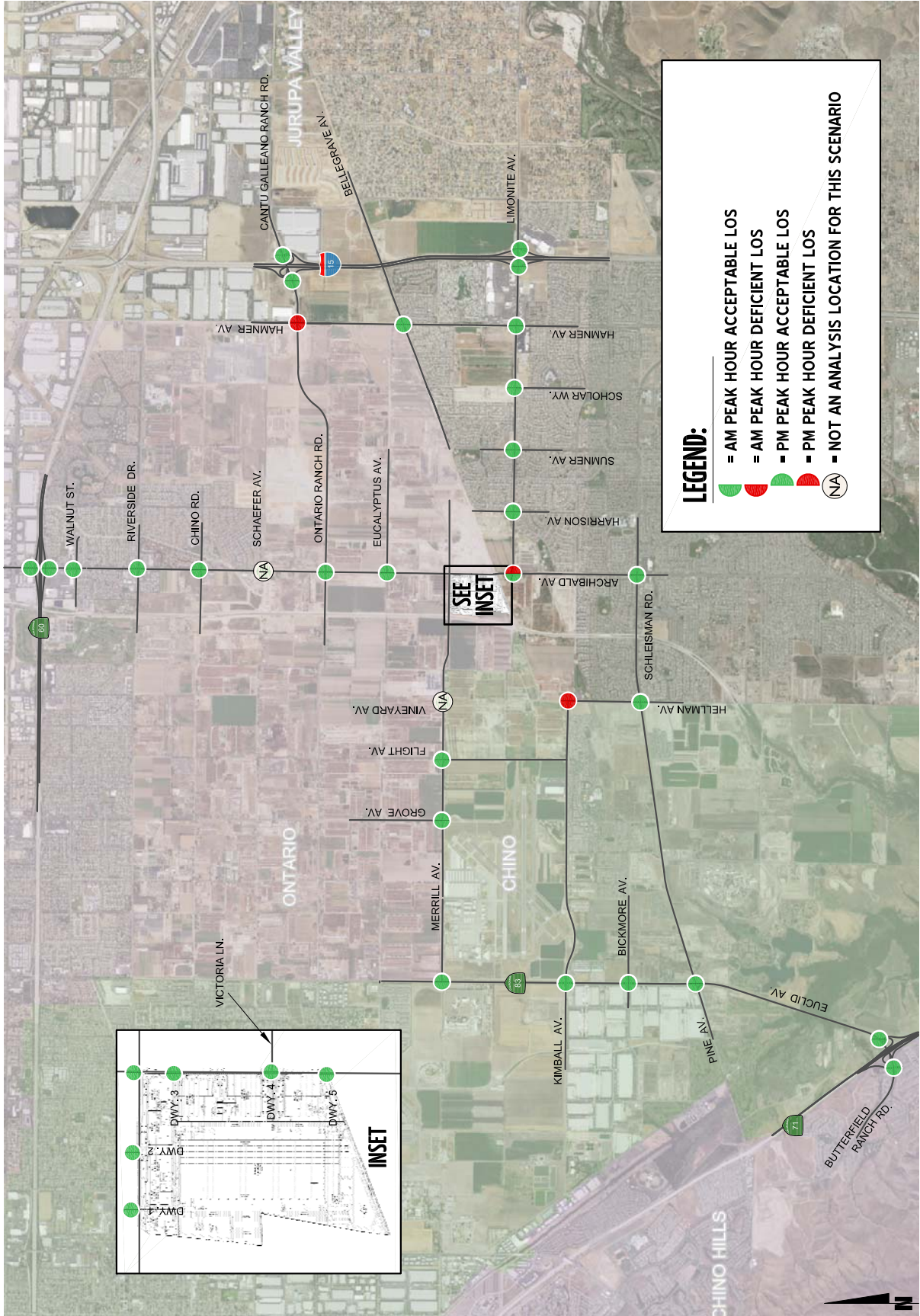


Table 5-1

Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control ²	Existing (2017)				E+P				Acceptable LOS	Significant Impact? ³
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Euclid Av. (SR-83) / Merrill Av.	TS	26.4	40.5	C	C	29.2	43.7	C	D	D	No
2	Euclid Av. (SR-83) / Kimball Av.	TS	50.0	45.7	D	D	51.6	46.0	D	D	D	No
3	Euclid Av. (SR-83) / Bickmore Av.	TS	46.1	25.8	D	C	46.1	26.9	D	C	D	No
4	Euclid Av. (SR-83) / Pine Av.	TS	40.1	34.2	D	C	40.3	34.5	D	C	D	No
5	SR-71 NB Ramps / Euclid Av. (SR-83)	TS	15.4	32.4	B	C	21.5	38.8	C	D	D	No
6	SR-71 SB Ramps / Euclid Av. (SR-83)	TS	53.5	34.2	D	C	53.5	36.2	D	D	D	No
7	Grove Av. / Merrill Av.	AWS	19.5	14.7	C	B	23.1	16.4	C	C	D	No
8	Flight Av. / Merrill Av.	CSS	27.9	19.0	D	C	31.3	21.0	D	C	D	No
9	Vineyard Av./Hellman Av. / Merrill Av.		Future Intersection				Future Intersection				D	No
10	Hellman Av. / Kimball Av.	AWS	98.6	56.2	F	F	>100.0	59.6	F	F	D	No
11	Hellman Av. / Pine Av.	TS	23.3	31.9	C	C	23.4	32.6	C	C	D	No
12	Driveway 1 / Merrill Av.	CSS	Future Intersection				10.1	14.4	B	B	D	No
13	Driveway 2 / Merrill Av.	TS	Future Intersection				11.4	11.5	B	B	D	No
14	Archibald Av. / SR-60 WB Ramps	TS	24.3	32.6	C	C	26.0	35.7	C	D	D	No
15	Archibald Av. / SR-60 EB Ramps	TS	25.0	28.5	C	C	25.1	28.6	C	C	D	No
16	Archibald Av. / Walnut Av.	TS	17.4	11.4	B	B	17.4	11.6	B	B	E	No
17	Archibald Av. / Riverside Dr.	TS	40.5	44.9	D	D	40.9	46.2	D	D	E	No
18	Archibald Av. / Chino Av.	TS	14.4	15.4	B	B	14.5	15.6	B	B	E	No
19	Archibald Av. / Schaefer Av.		Future Intersection				Future Intersection				E	No
20	Archibald Av. / Ontario Ranch Rd.	TS	23.3	21.1	C	C	25.1	22.0	C	C	E	No
21	Archibald Av. / Eucalyptus Av.	TS	7.1	5.9	A	A	7.2	6.5	A	A	E	No
22	Archibald Av. / Merrill Av.	TS	32.9	38.6	C	D	36.4	62.8	D	E	E	No
23	Archibald Av. / Driveway 3	CSS	Future Intersection				10.6	15.5	B	C	D	No
24	Archibald Av. / Driveway 4/Victoria Ln.	TS	Future Intersection				20.3	16.8	C	B	D	No
25	Archibald Av. / Driveway 5	CSS	Future Intersection				10.4	15.9	B	C	D	No
26	Archibald Av. / Limonite Av.	TS	40.1	65.5	D	E	51.1	80.1	D	F	D	Yes
27	Archibald Av. / Schleisman Rd.	TS	38.1	29.8	D	C	40.2	30.6	D	C	D	No
28	Harrison Av. / Limonite Av.	TS	20.3	18.7	C	B	20.6	18.8	C	B	D	No
29	Sumner Av. / Limonite Av.	TS	17.5	16.3	B	B	17.6	16.4	B	B	D	No
30	Scholar Way / Limonite Av.	TS	16.6	15.3	B	B	16.7	15.4	B	B	D	No
31	Hamner Av. / Ontario Ranch Rd.	TS	76.4	59.4	E	E	85.9	67.0	F	E	D	Yes
32	Hamner Av. / Bellegrave Av.	TS	29.5	44.5	C	D	29.6	44.6	C	D	D	No
33	Hamner Av. / Limonite Av.	TS	32.9	33.8	C	C	33.1	34.1	C	C	D	No
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	TS	12.9	8.6	B	A	13.2	8.9	B	A	D	No
35	I-15 SB Ramps / Limonite Av.	TS	29.3	30.0	C	C	29.4	30.0	C	C	D	No
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	TS	15.4	15.2	B	B	16.0	15.4	B	B	D	No
37	I-15 NB Ramps / Limonite Av.	TS	24.8	25.1	C	C	25.5	25.2	C	C	D	No

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

³ Impact is significant if the pre-project condition is at or better than LOS D (or acceptable LOS) and the project-generated traffic causes deterioration below acceptable levels, a deficiency is deemed to occur. However, if the pre-project condition is already below LOS D (or acceptable LOS), the Project will be responsible for mitigating its impact to a LOS equal to or better than it was without the Project.

Table 5-2

Roadway Segment Capacity Analysis for E+P Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	E+P	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	2U	14,000	8,407	0.60	B	9,005	0.64	B	D
2		Between Grove Av. and Vineyard Av.	2U	14,000	7,466	0.53	A	8,288	0.59	A	D
3		West of Driveway 2	2U	14,000	10,754	0.77	C	11,668	0.83	D	D
4	Archibald Avenue	North of Ontario Ranch Rd.	4D	35,900	21,177	0.59	A	22,216	0.62	B	D
5		Between Eucalyptus Av. and Merrill Av.	4D	35,900	20,073	0.56	A	22,023	0.61	B	D
6		North of the County Line	2D	17,950	27,064	1.51	F	28,401	1.58	F	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

5.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The intersection of Archibald Avenue at Driveway 4 is anticipated to warrant a traffic signal under E+P traffic conditions in addition to those previously warranted under Existing (2017) traffic conditions (see Appendix 5.2).

5.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for E+P are presented in Table 5-3. As shown on Table 5-3, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.3.

5.7 BASIC FREEWAY SEGMENT ANALYSIS

E+P mainline directional volumes for the AM and PM peak hours are provided on Exhibit 5-4. As shown on Table 5-4, no additional freeway segments analyzed for this TIA are were found to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for E+P traffic conditions, in addition to those previously identified under Existing traffic conditions. E+P basic freeway segment analysis worksheets are provided in Appendix 5.4.

5.8 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for E+P conditions and the results of this analysis are presented in Table 5-5. As shown in Table 5-5, there are no additional merge and diverge areas that currently operate at LOS E or LOS F for E+P in addition to those previously listed under Existing traffic conditions. E+P freeway ramp junction operations analysis worksheets are provided in Appendices 5.5.

Table 5-3

Peak Hour Freeway Off-Ramp Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2017)				E+P			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-71 NB Ramps / Euclid Avenue (SR-83)	NBL	1,745	38	48	Yes	Yes	38	49	Yes	Yes
	NBR	420	150 ²	992 ²	Yes	Yes ³	249 ²	1,054 ²	Yes	Yes ³
SR-71 SB Ramps / Euclid Avenue (SR-83)	SBL	1,100	129	468 ²	Yes	Yes	129	468 ²	Yes	Yes
	SBL/T	1,560	128	458 ²	Yes	Yes	128	458 ²	Yes	Yes
	SBR	255	0	43	Yes	Yes	0	43	Yes	Yes
Archibald Avenue/ SR-60 WB Ramps	WBL/T	1,389	331 ²	357 ²	Yes	Yes	368 ²	373 ²	Yes	Yes
	WBR	250	522 ²	52	Yes ³	Yes	522 ²	52	Yes ³	Yes
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	322	89	Yes	Yes	322	89	Yes	Yes
	EBR	350	157	298 ²	Yes	Yes	199	338 ²	Yes	Yes
I-15 SB Ramps / Cantu Galleano Ranch Rd.	SBL	1,440	61	62	Yes	Yes	56	67	Yes	Yes
	SBR	460	154	109	Yes	Yes	171	129	Yes	Yes
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	80 ²	59	Yes	Yes	80 ²	59	Yes	Yes
	NBL/R	580	0	0	Yes	Yes	0	0	Yes	Yes
	NBR	440	45	39	Yes	Yes	45	39	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	182	191	Yes	Yes	182	191	Yes	Yes
	SBL/T/R	400	95	256	Yes	Yes	95	260	Yes	Yes
	SBR	1,200	74	232	Yes	Yes	74	236	Yes	Yes
I-15 NB Ramps / Limonite Avenue	NBL	450	225 ²	350	Yes	Yes	270 ²	365	Yes	Yes
	NBL/T/R	1,235	90	252	Yes	Yes	107	257	Yes	Yes
	NBR	400	65	237	Yes	Yes	67	240	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

Table 5-4

Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction ¹	Mainline Segment	Lanes ²	Existing (2017)				E+P			
				Density ³		LOS ⁴		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-71	SB	South of Euclid Av. (SR-83)	2	39.4	27.3	E	D	39.5	27.6	E	D
	NB	South of Euclid Av. (SR-83)	3	24.3	24.9	C	C	24.5	24.9	C	C
SR-60	WB	West of Archibald Av.	4	22.4	21.7	C	C	22.4	21.8	C	C
		East of Archibald Av.	5	18.0	16.3	B	B	18.0	16.4	B	B
	EB	West of Archibald Av.	4	29.4	26.3	D	D	29.8	26.4	D	D
		East of Archibald Av.	4	28.1	27.6	D	D	28.2	27.7	D	D
I-15	SB	North of Cantu Galleano Ranch Rd.	4	24.5	24.6	C	C	24.7	24.7	C	C
		Cantu Galleano Ranch Rd. to Limonite Av.	3	32.1	32.0	D	D	32.1	32.0	D	D
		South of Limonite Av.	3	37.4	32.2	E	D	37.8	32.4	E	D
	NB	North of Cantu Galleano Ranch Rd.	5	19.1	16.7	C	B	19.1	16.8	C	B
		Cantu Galleano Ranch Rd. to Limonite Av.	3	32.7	27.0	D	D	32.7	27.0	D	D
		South of Limonite Av.	3	27.8	29.7	D	D	28.0	29.7	D	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

Table 5-5

Freeway Ramp Junction Merge/Diverge Analysis for E+P Conditions

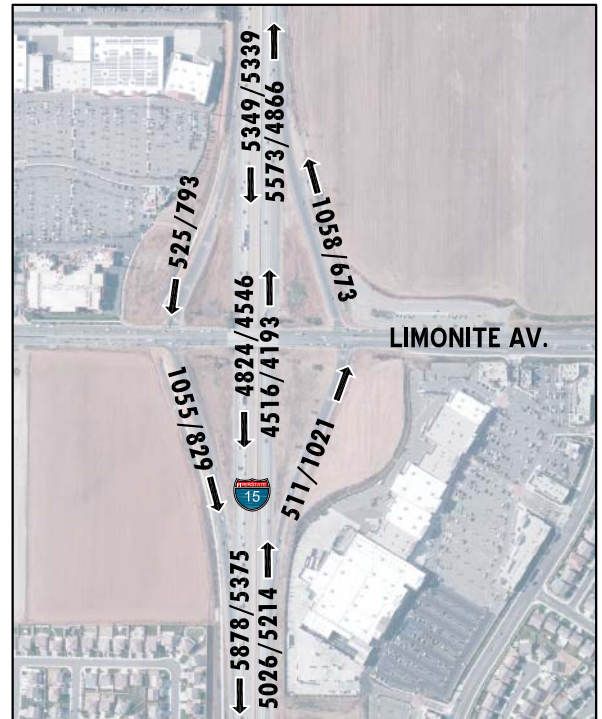
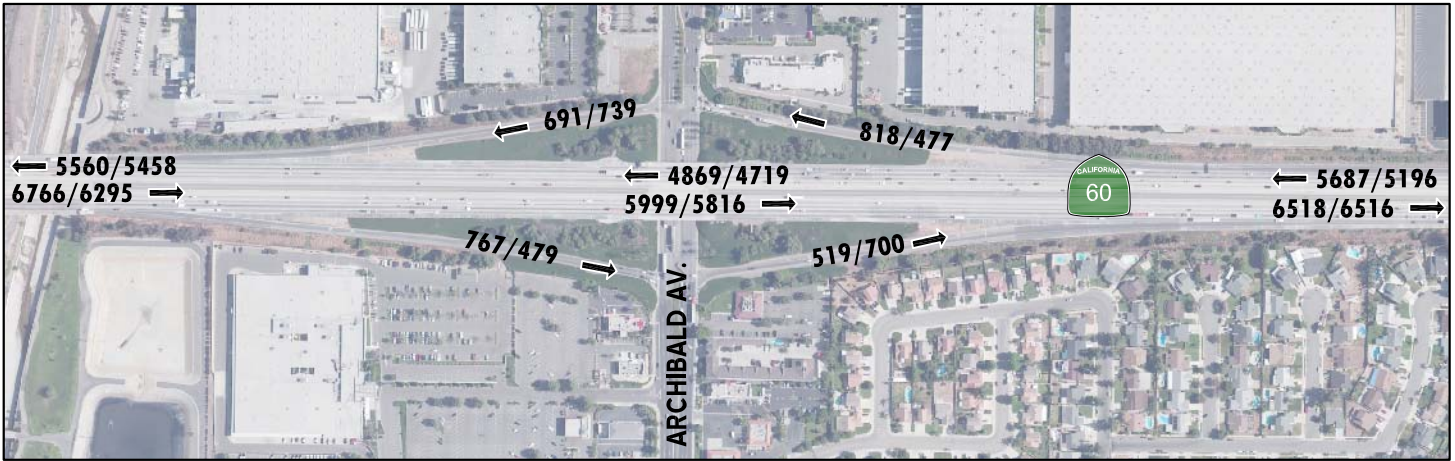
Freeway ¹	Direction ¹	Ramp or Segment	Lanes on Freeway ²	Existing (2017)						E+P	
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴
SR-71	NB	Loop On-Ramp at Euclid Av. (SR-83) (Upstream)	2	33.0	D	29.7	D	33.0	D	29.9	D
	SB	Loop On-Ramp at Euclid Av. (SR-83) (Downstream)	2	33.0	D	29.7	D	33.0	D	29.9	D
SR-60	NB	Off-Ramp at Euclid Av. (SR-83)	3	32.3	D	33.9	D	32.6	D	33.9	D
	WB	On-Ramp at Archibald Av.	4	23.2	C	22.7	C	23.2	C	23.1	C
		Off-Ramp at Archibald Av.	5	28.7	D	25.0	C	28.8	D	25.2	C
I-15	EB	Off-Ramp at Archibald Av.	4	35.1	E	31.3	D	35.4	E	31.4	D
	SB	On-Ramp at Archibald Av.	4	25.8	C	26.2	C	25.9	C	26.4	C
		Off-Ramp at Cantu Galleano Ranch Rd.	4	31.8	D	32.8	D	32.1	D	32.9	D
I-15	NB	On-Ramp at Limonite Av.	3	35.1	E	31.7	D	35.2	E	31.9	D
	WB	On-Ramp at Cantu Galleano Ranch Rd.	3	37.8	E	33.7	D	37.9	E	34.0	D
		Off-Ramp at Limonite Av.	3	32.5	D	34.5	D	32.6	D	34.5	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound
² Number of lanes are in the specified direction and is based on existing conditions
³ Density is measured by passenger cars per mile per lane (pc/mi/ln).
⁴ LOS = Level of Service



EXHIBIT 5-4: E+P FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



5.9 PROJECT IMPACTS AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project impacts and recommended improvements. Based on the City of Ontario significance criteria discussed in Section 2.9 *Thresholds of Significance*, the following intersections were found to be impacted by Project. Improvements necessary to reduce project-related traffic impacts to less than significant are also discussed below.

5.9.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended mitigation measures is presented in Table 5-6 for E+P traffic conditions. With the implementation of the intersection mitigation measures discussed below, there are no project-related impacts anticipated to the study area intersections. The intersection operations analysis worksheets for E+P traffic conditions, with improvements, are included in Appendix 5.6 of this TIA.

Hellman Avenue / Kimball Avenue (#10) – Although this intersection was found to operate at an unacceptable LOS (LOS F) during the peak hours under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during the peak hours with the addition of Project traffic. However, the Project is anticipated to contribute less than 50 peak hour trips (City of Chino’s significance criteria) and the delay is anticipated to increase by less than 5.0 seconds (City of Eastvale’s significance criteria). As such, the impact is considered less than significant.

Impact 1.1 – Archibald Avenue / Limonite Avenue (#26) – Although this intersection was found to operate at an unacceptable LOS (LOS E) during the PM peak hour under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during the peak hours with the addition of Project traffic. As such, the impact is considered cumulatively significant (Cumulative Impact 1.1).

Mitigation Measure 1.1 – Archibald Avenue / Limonite Avenue (#26) – The following improvement is necessary to reduce the Project’s proportionate increase in delay to pre-project levels or better, thus reducing the Project’s cumulative impact to less than significant:

- Construct a 2nd southbound left turn lane. The Project should contribute their fair share towards the implementation of this improvement to reduce the Project’s cumulative impact to less than significant.

Impact 2.1 – Hamner Avenue / Ontario Ranch Road (#31) – Although this intersection was found to operate at an unacceptable LOS (LOS F) during the AM and PM peak hours under Existing traffic conditions, the intersection is anticipated to continue to operate at unacceptable levels during both peak hours with the addition of Project traffic. As such, the impact is considered cumulatively significant (Cumulative Impact 2.1).

Table 5-6

Intersection Analysis for E+P Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
26	Archibald Av. / Limonite Av.																	
	- Existing Conditions	TS	0	1	1>	1	1	0	0	0	0	1	0	1>	40.1	65.5	D	E
	- With Improvements	TS	0	1	1>	<u>2</u>	1	0	0	0	0	1	0	1>	41.7	30.1	D	C
	- E+P	TS	0	1	1>	1	1	0	0	0	0	1	0	1>	51.1	80.1	D	F
	- With Improvements ⁴	TS	0	1	1>	<u>2</u>	1	0	0	0	0	1	0	1>	44.9	32.5	D	C
31	Hamner Av. / Ontario Ranch Rd.																	
	- Existing Conditions	TS	1	1	0	1	1	0	1	1	1	1	1	1	76.4	59.4	E	E
	- With Improvements	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>2</u>	1	21.2	19.7	C	B
	- E+P	TS	1	1	0	1	1	0	1	1	1	1	1	1	85.9	67.0	F	E
	- With Improvements ^{4,5}	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>2</u>	1	21.8	19.8	C	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d = Defacto Right Turn Lane; 1 = Improvement

² Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (o movements sharing a single lane) are shown.

³ CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

⁴ Mitigation measure consists of fair share contribution towards the improvements (as the same improvements are required for existing conditions).

⁵ Improvements shown are currently under construction and are anticipated to be completed by mid to late 2017.

Mitigation Measure 2.1 – Hamner Avenue / Ontario Ranch Road (#31) – It should be noted that the intersection of Hamner Avenue and Ontario Ranch Road is currently under construction to widen Hamner Avenue between Ontario Ranch Road/Cantu Galleano Ranch Road and Bellegrave Avenue. It is anticipated that once these improvements are completed (mid to late 2017), the intersection would operate at acceptable LOS during the peak hours and the Project’s cumulative impact at the intersection would be less than significant.

5.9.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

As shown on Table 5-7, the segment of Archibald Avenue north of the County Line would accommodate the anticipated daily traffic flows once the section is widened to a four-lane section. This segment would be widened as part of frontage improvements in conjunction with the development of the proposed Project.

5.9.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously on Table 5-3, there are no peak hour queuing issues at SR-71 Freeway and Euclid Avenue (SR-83), SR-60 Freeway and Archibald Avenue, I-15 Freeway and Cantu Galleano Ranch Road, and I-15 Freeway and Limonite Avenue interchanges. As such, no improvements have been recommended.

5.9.4 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Ontario (or other neighboring jurisdictions) on SHS roadway segments. As such, no improvements have been recommended to address the E+P deficiencies on the SHS, because there is no feasible mitigation available.

Table 5-7

Roadway Segment Capacity Analysis for E+P Conditions With Improvements

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	E+P	V/C ²	LOS ³	Acceptable LOS
6	Archibald Avenue	North of the County Line	4D	35,900	27,064	0.75	C	28,401	0.79	C	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

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6 OPENING YEAR CUMULATIVE (2019) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2019) Without and With Project traffic forecasts, and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2019) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways such as the northern extension of Meadow Valley Avenue on Kimball Avenue and the northern extension of Hellman Avenue north of Kimball Avenue).

6.2 OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 1.02% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2019) Without Project traffic conditions are shown on Exhibits 6-1 and 6-2, respectively.

6.3 OPENING YEAR CUMULATIVE (2019) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Opening Year Cumulative (2019) Without Project traffic in conjunction with the addition of Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2019) With Project traffic conditions are shown on Exhibits 6-3 and 6-4, respectively.

EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT AVERAGE DAILY TRAFFIC (ADT)

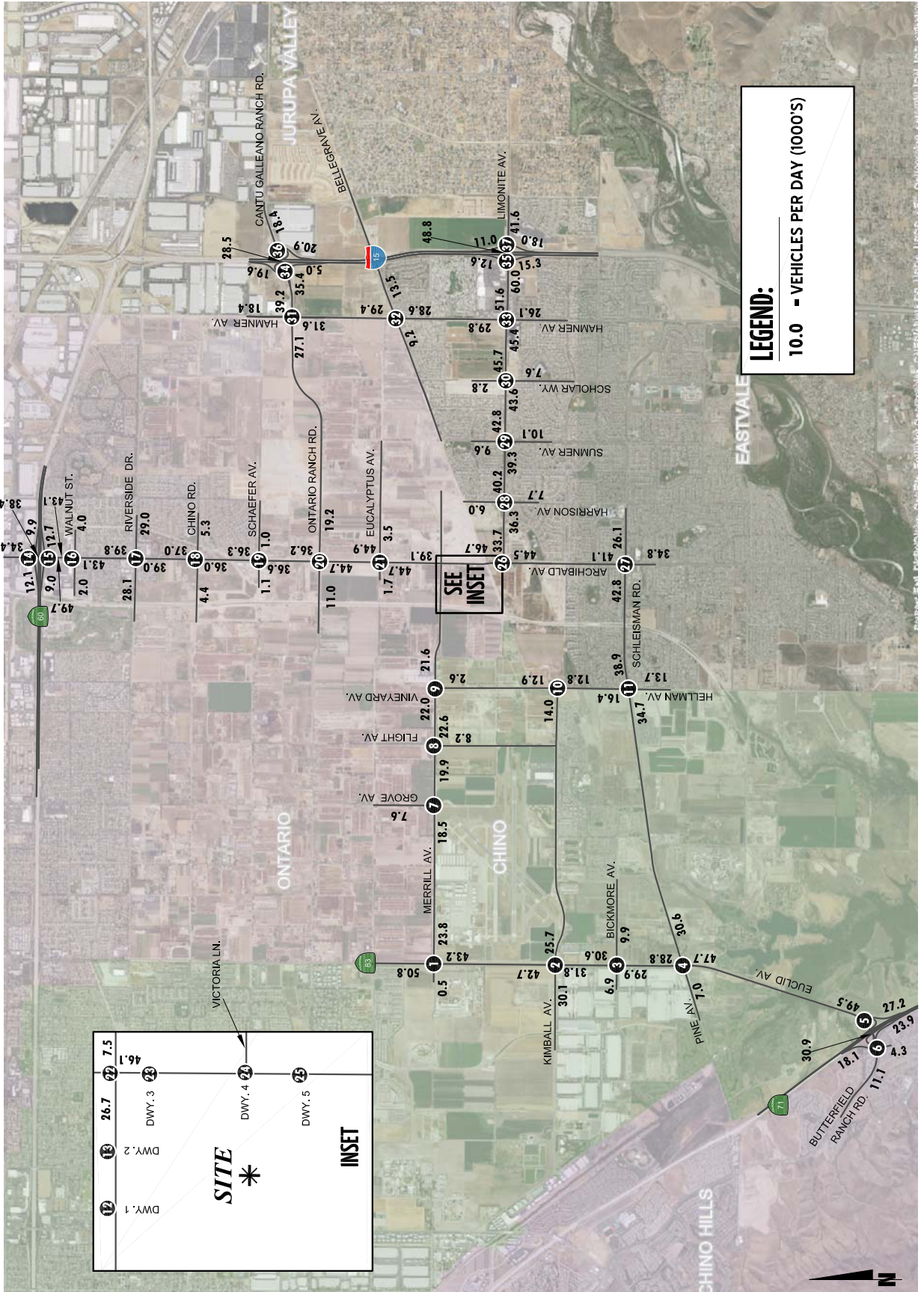


EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2018) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p> <p>←44(1) ←1649(1157) ←506(721) ←656(524) ←48(0) ←431(222)</p> <p>8(5) 6(21) 4(11)</p> <p>19(2) 1097(1649) 205(400)</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>←648(222) ←868(946) ←444(276) ←153(383) ←577(393) ←85(188)</p> <p>285(657) 381(782) 54(92)</p> <p>181(136) 825(958) 181(99)</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>←111(78) ←718(992) ←77(217) ←257(121) ←407(42) ←284(130)</p> <p>85(115) 28(119) 52(118)</p> <p>79(47) 923(901) 82(215)</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>←15(15) ←934(1040) ←99(147) ←132(80) ←179(94) ←950(545)</p> <p>5(15) 236(358) 33(29)</p> <p>58(34) 1028(1017) 548(1159)</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p> <p>←1306(1307) ←603(355)</p> <p>624(898) 303(179)</p> <p>73(154) 1045(1405)</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p> <p>←36(158) ←21(145) ←319(758) ←0(0) ←290(291) ←400(102)</p> <p>847(374) 17(44)</p> <p>63(30) 303(16)</p>	<p>7 Grove Av. & Merrill Av.</p> <p>←110(47) ←185(231) ←294(218) ←1073(537)</p> <p>60(123) 574(767)</p>
<p>8 Flight Av. & Merrill Av.</p> <p>←1277(582) ←130(122)</p> <p>628(957) 170(181)</p> <p>226(166) 113(164)</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p> <p>←999(573) ←270(23)</p> <p>521(1109) 169(31)</p> <p>427(72) 147(62)</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>←251(201) ←118(322)</p> <p>228(339) 173(399)</p> <p>318(156) 456(154)</p>	<p>11 Hellman Av. & Pine Av.</p> <p>←15(15) ←147(287) ←74(636) ←271(202) ←1184(701) ←74(32)</p> <p>9(9) 639(1463) 317(413)</p> <p>451(158) 378(138) 52(43)</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>Future Intersection</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>Future Intersection</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>←196(391) ←528(1276) ←508(192) ←4(6) ←550(567)</p> <p>749(594) 1435(648)</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>←950(1559) ←128(284)</p> <p>411(113) 3(5) 527(633)</p> <p>1773(1128) 573(749)</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>←17(18) ←1035(1829) ←120(114) ←243(67) ←29(14) ←154(59)</p> <p>38(18) 10(7) 22(31)</p> <p>68(66) 1932(1507) 69(67)</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>←206(212) ←747(1142) ←304(456) ←371(305) ←524(506) ←147(222)</p> <p>207(177) 379(741) 200(313)</p> <p>265(338) 1243(1010) 153(166)</p>	<p>18 Archibald Av. & Chino Av.</p> <p>←37(22) ←987(1397) ←91(99) ←185(88) ←79(16) ←49(53)</p> <p>34(99) 47(99) 30(60)</p> <p>71(47) 1431(1330) 65(64)</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>←4(11) ←1066(1482) ←4(14) ←13(8) ←27(18) ←11(12)</p> <p>6(9) 9(30) 20(20)</p> <p>20(20) 1489(1453) 7(12)</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>←51(49) ←930(1342) ←79(106) ←87(115) ←370(317) ←414(444)</p> <p>37(118) 246(223) 77(127)</p> <p>190(86) 1356(1235) 406(468)</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>←10(33) ←1376(1758) ←40(130) ←121(74) ←0(0) ←60(38)</p> <p>29(19) 0(0) 68(45)</p> <p>23(76) 1816(1702) 46(89)</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>←791(340) ←628(1415) ←79(75) ←93(66) ←135(106) ←186(166)</p> <p>447(675) 67(161) 262(705)</p> <p>726(311) 1333(1116) 83(121)</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>Future Intersection</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>Future Intersection</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>Future Intersection</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>←663(1217) ←413(991) ←1091(521) ←654(556)</p> <p>947(1148) 438(716)</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>←469(590) ←722(1008) ←122(209) ←125(65) ←783(378) ←184(107)</p> <p>397(479) 570(1192) 134(506)</p> <p>380(237) 980(878) 167(107)</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>←113(70) ←87(32) ←153(97) ←48(155) ←1578(1072) ←152(238)</p> <p>42(142) 860(1596) 24(57)</p> <p>145(53) 64(58) 251(181)</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>←98(102) ←141(164) ←181(145) ←52(157) ←1403(1273) ←99(210)</p> <p>96(124) 1149(1630) 38(76)</p> <p>163(66) 181(120) 216(168)</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>←45(16) ←150(75) ←30(27) ←16(37) ←1354(1586) ←72(179)</p> <p>26(42) 1472(1828) 107(91)</p> <p>123(89) 113(27) 178(152)</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p> <p>←42(47) ←257(464) ←222(374) ←205(272) ←799(725) ←532(643)</p> <p>28(43) 612(847) 204(405)</p> <p>199(308) 470(326) 621(613)</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>←113(283) ←474(1093) ←135(123) ←111(139) ←157(183) ←139(319)</p> <p>408(131) 194(132) 17(23)</p> <p>12(6) 788(749) 272(240)</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>←188(316) ←306(611) ←380(421) ←267(355) ←1067(1290) ←229(446)</p> <p>270(340) 1277(1515) 81(118)</p> <p>169(208) 584(463) 431(263)</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>←929(864) ←381(501) ←67(188) ←747(673)</p> <p>888(1145) 341(466)</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>←616(784) ←2(0) ←164(208) ←1156(1587) ←695(446)</p> <p>1460(1689) 720(881)</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>←364(411) ←393(303)</p> <p>501(626) 793(1030)</p> <p>424(443) 168(124)</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>←368(175) ←1238(1311)</p> <p>881(731) 743(1165)</p> <p>613(723) 2(1) 338(678)</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 6-3: OPENING YEAR CUMULATIVE (2019) WITH PROJECT AVERAGE DAILY TRAFFIC (ADT)

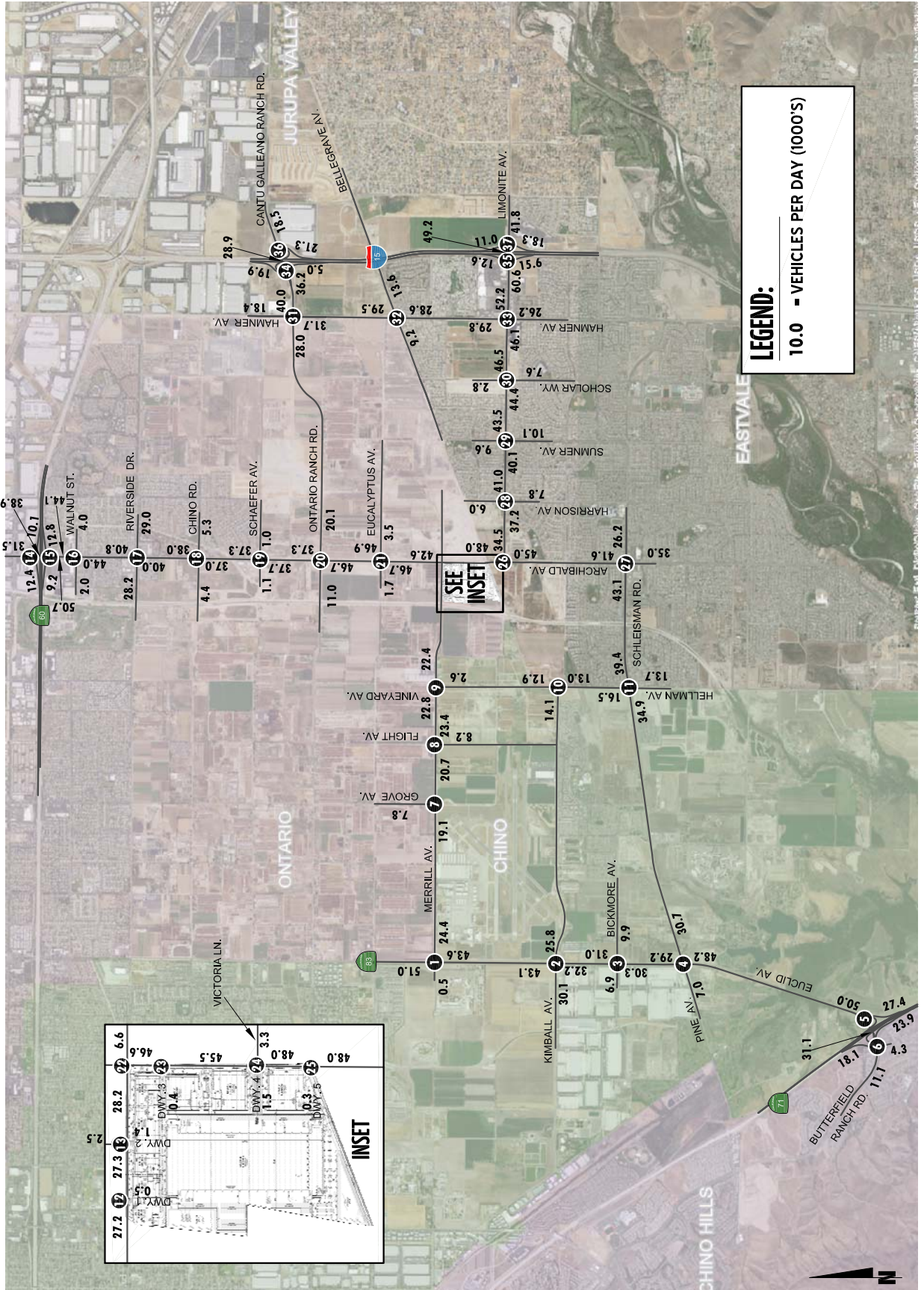


EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2018) WITH PROJECT TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p> <p>44(1) ← 1649(1157) → 522(728) ← 661(541) → 48(0) ← 438(248) →</p> <p>8(5) → 19(2) → 6(21) → 1097(1649) → 4(11) → 229(410) →</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>648(222) ← 153(383) → 875(972) ← 579(398) → 444(276) ← 85(188) →</p> <p>285(657) → 181(136) → 386(784) → 849(968) → 54(92) → 181(99) →</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>111(78) ← 257(121) → 725(1018) ← 407(42) → 77(217) ← 284(130) →</p> <p>85(115) → 79(47) → 28(119) → 947(911) → 52(118) → 82(215) →</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>15(15) ← 941(1066) → 99(147) ← 132(80) → 15(15) ← 179(94) →</p> <p>5(15) → 58(34) → 236(358) → 1052(1027) → 33(29) → 556(1163) →</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p> <p>1316(1342) ← 603(355) →</p> <p>624(898) → 73(154) → 303(179) → 1078(1419) →</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p> <p>36(158) ← 0(0) → 21(145) ← 290(291) → 319(758) ← 400(102) →</p> <p>847(374) → 63(30) → 17(44) → 303(16) →</p>	<p>7 Grove Av. & Merrill Av.</p> <p>110(47) ← 299(235) → 201(238) ← 1085(580) →</p> <p>60(123) → 110(47) → 615(784) →</p>
<p>8 Flight Av. & Merrill Av.</p> <p>1294(643) ← 130(122) →</p> <p>685(981) → 226(166) → 170(181) → 113(164) →</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p> <p>1016(634) ← 270(23) →</p> <p>578(1133) → 427(72) → 169(31) → 147(62) →</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>251(201) ← 118(322) →</p> <p>228(339) → 321(166) → 183(403) → 456(154) →</p>	<p>11 Hellman Av. & Pine Av.</p> <p>15(15) ← 274(212) → 147(287) ← 1187(711) → 84(640) ← 75(34) →</p> <p>9(9) → 451(158) → 649(1467) → 378(138) → 317(413) → 54(44) →</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>1703(769) ←</p> <p>744(1571) → 12(43) → 29(12) →</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>63(42) ← 28(92) → 0(0) ← 1627(681) → 82(54) ← 79(34) →</p> <p>21(71) → 13(45) → 720(1537) → 0(0) → 14(6) → 17(60) →</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>196(391) ← 508(192) → 538(1280) ← 4(6) → 574(577) ←</p> <p>758(627) → 1438(658) →</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>984(1573) ← 128(284) →</p> <p>411(113) → 1785(1171) → 3(5) → 580(775) → 558(646) →</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>17(18) ← 243(67) → 1100(1856) ← 29(14) → 120(114) ← 154(59) →</p> <p>38(18) → 68(66) → 10(7) → 1951(1577) → 22(31) → 69(67) →</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>208(212) ← 371(305) → 812(1169) ← 524(506) → 304(456) ← 149(223) →</p> <p>207(177) → 266(340) → 379(741) → 1262(1080) → 202(314) → 154(168) →</p>	<p>18 Archibald Av. & Chino Av.</p> <p>37(22) ← 185(88) → 1055(1426) ← 79(16) → 91(99) ← 51(54) →</p> <p>34(99) → 71(47) → 47(99) → 1451(1403) → 30(60) → 66(66) →</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>1136(1512) ← 13(8) → 4(11) ← 27(18) → 4(14) ← 11(12) →</p> <p>6(9) → 20(20) → 9(30) → 1510(1528) → 20(20) → 7(12) →</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>51(49) ← 87(115) → 1000(1372) ← 370(317) → 79(106) ← 476(470) →</p> <p>37(118) → 191(88) → 246(223) → 1377(1310) → 79(128) → 425(534) →</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>10(33) ← 121(74) → 1510(1814) ← 0(0) → 40(130) ← 60(38) →</p> <p>29(19) → 23(76) → 0(0) → 1856(1844) → 68(45) → 46(89) →</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>854(367) ← 93(66) → 698(1468) ← 135(106) → 79(52) ← 186(114) →</p> <p>470(755) → 746(333) → 67(161) → 1351(1178) → 283(735) → 83(121) →</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>35(15) ← 1132(2302) →</p> <p>7(24) → 2180(1632) →</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>30(13) ← 1076(2291) →</p> <p>22(77) → 78(33) → 8(29) → 2016(1522) →</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>20(8) ← 1118(2362) →</p> <p>7(24) → 2268(1711) →</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>675(1257) ← 430(1052) → 1148(545) ← 654(556) →</p> <p>984(1164) → 438(716) → 438(716) →</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>476(614) ← 130(67) → 725(1018) ← 783(378) → 124(214) ← 184(107) →</p> <p>420(489) → 380(237) → 570(1192) → 990(882) → 134(506) → 167(107) →</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>113(70) ← 48(155) → 87(32) ← 1633(1096) → 153(97) ← 152(238) →</p> <p>42(142) → 147(54) → 877(1655) → 64(58) → 25(59) → 251(181) →</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>98(102) ← 52(157) → 141(164) ← 1457(1296) → 181(145) ← 99(210) →</p> <p>96(124) → 165(67) → 1165(1687) → 181(120) → 39(78) → 216(168) →</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>45(16) ← 16(37) → 150(75) ← 1404(1607) → 30(27) → 72(179) →</p> <p>26(42) → 126(90) → 1487(1882) → 113(27) → 108(94) → 178(152) →</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p> <p>45(48) ← 205(272) → 257(464) ← 854(749) → 222(374) ← 532(643) →</p> <p>29(46) → 202(309) → 629(906) → 470(326) → 205(408) → 621(613) →</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>113(283) ← 114(140) → 474(1093) ← 157(183) → 136(126) ← 139(319) →</p> <p>408(131) → 12(6) → 194(132) → 788(749) → 17(23) → 272(240) →</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>188(316) ← 267(355) → 306(611) ← 1109(1308) → 380(421) ← 229(446) →</p> <p>270(340) → 177(212) → 1290(1560) → 584(463) → 84(127) → 431(263) →</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>978(885) ← 67(188) → 381(501) ← 754(676) →</p> <p>905(1204) → 341(466) →</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>616(784) ← 1198(1605) → 2(0) ← 695(446) → 164(208) ←</p> <p>1463(1698) → 730(918) →</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>371(414) ← 395(303) →</p> <p>503(633) → 424(443) → 808(1082) → 166(124) →</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>368(175) ← 1246(1315) →</p> <p>881(731) → 647(737) → 746(1174) → 2(1) → 338(678) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

6.4 INTERSECTION OPERATIONS ANALYSIS

6.4.1 OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2019) Without Project conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown in Table 6-1, the following additional study area intersections are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2019) Without Project traffic conditions, in addition to the locations previously identified under Existing traffic conditions:

- Euclid Av. (SR-83) / Merrill Av. (#1) – LOS F AM and PM peak hours
- Euclid Av. (SR-83) / Kimball Av. (#2) – LOS F AM and PM peak hours
- Euclid Av. (SR-83) / Bickmore Av. (#3) – LOS E AM and PM peak hours
- Euclid Av. (SR-83) / Pine Av. (#4) – LOS E AM and PM peak hours
- SR-71 Southbound Ramps / Euclid Av. (SR-83) (#6) – LOS E AM peak hour only
- Grove Av. / Merrill Av. (#7) – LOS F AM and PM peak hours
- Flight Av. / Merrill Av. (#8) – LOS F AM and PM peak hours
- Hellman Av. / Merrill Av. (#9) – LOS F AM peak hour; LOS E PM peak hour
- Hallman Av. / Pine Av. (#11) – LOS E PM peak hour only
- Archibald Av. / SR-60 WB Ramps (#14) – LOS F AM peak hour; LOS E PM peak hour
- Archibald Av. / Riverside Dr. (#17) – LOS F AM and PM peak hours
- Archibald Av. / Schaefer Av. (#19) – LOS F AM and PM peak hours
- Archibald Av. / Ontario Ranch Rd. (#20) – LOS F AM peak hour only
- Archibald Av. / Merrill Av. (#22) – LOS F AM and PM peak hours
- Archibald Av. / Limonite Av. (#26) – LOS F AM and PM peak hours
- Archibald Av. / Schleisman Rd. (#27) – LOS E PM peak hour only
- Harrison Av. / Limonite Av. (#28) – LOS E AM peak hour only
- Hamner Av. / Ontario Ranch Rd. (#31) – LOS E AM peak hour only
- Hamner Av. / Limonite Av. (#33) – LOS E PM peak hour only
- I-15 Southbound Ramps / Limonite Av. (#35) – LOS E AM peak hour only

A summary of the peak hour intersection LOS for Opening Year Cumulative (2019) Without Project conditions is shown on Exhibit 6-5. The intersection operations analysis worksheets for Opening Year Cumulative (2019) Without Project traffic conditions are included in Appendix 6.1 of this TIA.

Table 6-1

Intersection Analysis for Opening Year Cumulative (2019) Conditions

#	Intersection	Traffic Control ²	2019 Without Project				2019 With Project				Acceptable LOS	Significant Impact? ³
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Euclid Av. (SR-83) / Merrill Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	D	Yes
2	Euclid Av. (SR-83) / Kimball Av.	TS	156.2	>200.0	F	F	162.3	>200.0	F	F	D	No
3	Euclid Av. (SR-83) / Bickmore Av.	TS	74.5	71.1	E	E	84.5	74.0	F	E	D	No
4	Euclid Av. (SR-83) / Pine Av.	TS	57.2	62.3	E	E	59.6	65.6	E	E	D	No
5	SR-71 NB Ramps / Euclid Av. (SR-83)	TS	11.6	39.8	B	D	12.9	48.2	B	D	D	No
6	SR-71 SB Ramps / Euclid Av. (SR-83)	TS	74.0	33.9	E	C	74.9	34.9	E	C	D	No
7	Grove Av. / Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	Yes
8	Flight Av. / Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	Yes
9	Vineyard Av./Hellman Av. / Merrill Av.	CSS	>100.0	39.9	F	E	>100.0	64.1	F	F	D	Yes
10	Hellman Av. / Kimball Av.	AWS	25.9	23.9	D	C	27.0	24.4	D	C	D	No
11	Hellman Av. / Pine Av.	TS	26.6	55.2	C	E	26.7	56.1	C	E	D	No
12	Driveway 1 / Merrill Av.	CSS	Future Intersection				11.3	19.0	B	C	D	No
13	Driveway 2 / Merrill Av.	TS	Future Intersection				14.9	14.6	B	B	D	No
14	Archibald Av. / SR-60 WB Ramps	TS	84.9	60.2	F	E	92.1	62.1	F	E	D	Yes
15	Archibald Av. / SR-60 EB Ramps	TS	27.9	51.7	C	D	28.8	52.6	C	D	D	No
16	Archibald Av. / Walnut Av.	TS	37.8	21.8	D	C	39.1	23.6	D	C	E	No
17	Archibald Av. / Riverside Dr.	TS	91.1	118.3	F	F	94.0	126.9	F	F	E	Yes
18	Archibald Av. / Chino Av.	TS	22.2	43.9	C	D	24.5	47.5	C	D	E	No
19	Archibald Av. / Schaefer Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	E	Yes
20	Archibald Av. / Ontario Ranch Rd.	TS	85.7	68.8	F	E	97.7	77.6	F	E	E	Yes
21	Archibald Av. / Eucalyptus Av.	TS	16.2	24.8	B	C	17.0	30.2	B	C	E	No
22	Archibald Av. / Merrill Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	E	Yes
23	Archibald Av. / Driveway 3	CSS	Future Intersection				15.1	26.5	C	D	D	No
24	Archibald Av. / Driveway 4/Victoria Ln.	TS	Future Intersection				14.1	10.7	B	B	D	No
25	Archibald Av. / Driveway 5	CSS	Future Intersection				14.7	27.3	C	D	D	No
26	Archibald Av. / Limonite Av.	TS	162.6	>200.0	F	F	180.0	>200.0	F	F	D	Yes
27	Archibald Av. / Schleisman Rd.	TS	50.5	55.5	D	E	52.6	60.1	D	E	D	No
28	Harrison Av. / Limonite Av.	TS	59.7	33.0	E	C	65.9	34.1	E	C	D	Yes
29	Sumner Av. / Limonite Av.	TS	23.9	22.8	C	C	24.1	23.2	C	C	D	No
30	Scholar Way / Limonite Av.	TS	22.6	30.0	C	C	23.2	34.0	C	C	D	No
31	Hamner Av. / Ontario Ranch Rd. ³	TS	47.1	73.7	D	E	47.4	74.5	D	E	D	Yes
32	Hamner Av. / Bellegrave Av. ³	TS	26.6	23.6	C	C	26.7	23.7	C	C	D	No
33	Hamner Av. / Limonite Av.	TS	48.6	61.7	D	E	50.3	64.4	D	E	D	No
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	TS	25.0	24.6	C	C	30.2	31.2	C	C	D	No
35	I-15 SB Ramps / Limonite Av.	TS	58.7	53.3	E	D	60.9	57.5	E	E	D	Yes
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	TS	42.2	50.3	D	D	42.5	54.4	D	D	D	No
37	I-15 NB Ramps / Limonite Av.	TS	49.9	39.1	D	D	50.5	39.6	D	D	D	No

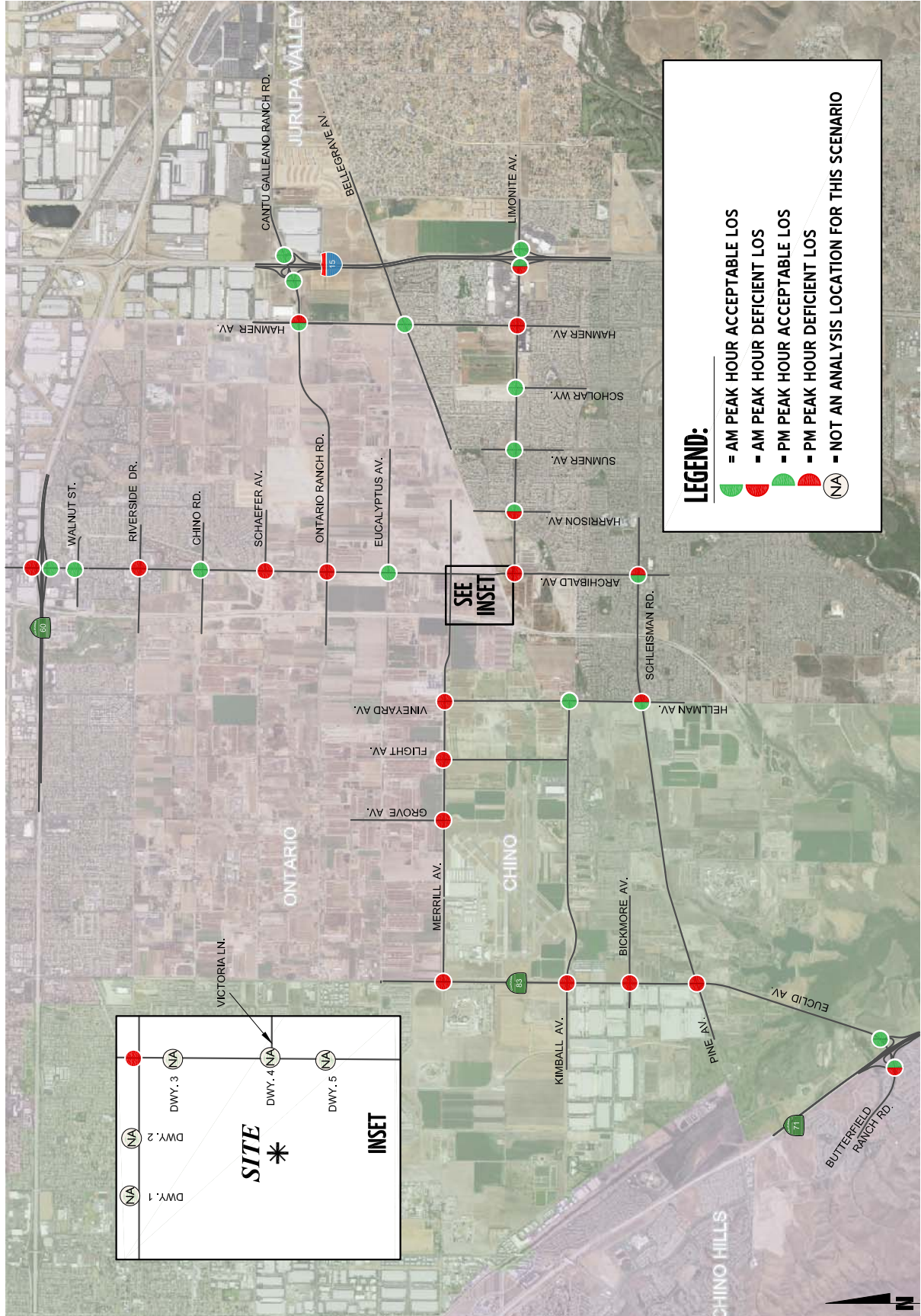
* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; CSS = Improvement

³ Improvements currently under construction and anticipated to be completed by mid to late 2017 have been assumed to be in place.

EXHIBIT 6-5: SUMMARY OF LOS FOR OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS



6.4.2 OPENING YEAR CUMULATIVE (2019) WITH PROJECT TRAFFIC CONDITIONS

As shown on Table 6-1 and illustrated on Exhibit 6-6, there are no additional study area intersections anticipated to experience unacceptable LOS with the addition of Project traffic during the peak hours. The intersection operations analysis worksheets for Opening Year Cumulative (2019) With Project traffic conditions are included in Appendix 6.2 of this TIA.

6.5 ROADWAY SEGMENT CAPACITY ANALYSIS

As noted previously, the roadway segment capacities are approximate figures only, and are typically used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future forecasted traffic demand.

Table 6-2 provides a summary of the Opening Year Cumulative (2019) conditions roadway segment capacity analysis based on the City of Ontario General Plan Roadway Segment Capacity Thresholds identified previously on Table 2-3. As shown on Table 6-2, all of the study area roadway segments are anticipated to operate at unacceptable LOS (based on daily roadway segment capacities) under Opening Year Cumulative (2019) Without and With Project traffic conditions.

A peak hour assessment of intersections located on either side of a deficient roadway segment has been conducted to determine if peak hour traffic flows can be accommodated by the potentially deficient roadway segment. If it is determined that peak traffic flows can be accommodated at the City's stated LOS thresholds, then roadway segment widening is typically not recommended.

6.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

Hellman Avenue and Merrill Avenue is anticipated to warrant a traffic signal under Opening Year Cumulative (2019) Without Project traffic conditions in addition to those previously warranted under Existing and E+P traffic conditions. The intersection of Driveway 2 and Merrill Avenue is anticipated to meet planning level (ADT) volume based traffic signal warrants for Opening Year Cumulative (2019) With Project traffic conditions in addition to those previously warranted under Opening Year Cumulative (2019) Without traffic conditions (see Appendices 6.3 and 6.4).

6.7 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2019) Without and With Project traffic conditions are shown in Table 6-3. As shown on Table 6-3, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for Opening Year Cumulative (2019) Without and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 6.5 and 6.6, respectively.

EXHIBIT 6-6: SUMMARY OF LOS FOR OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS

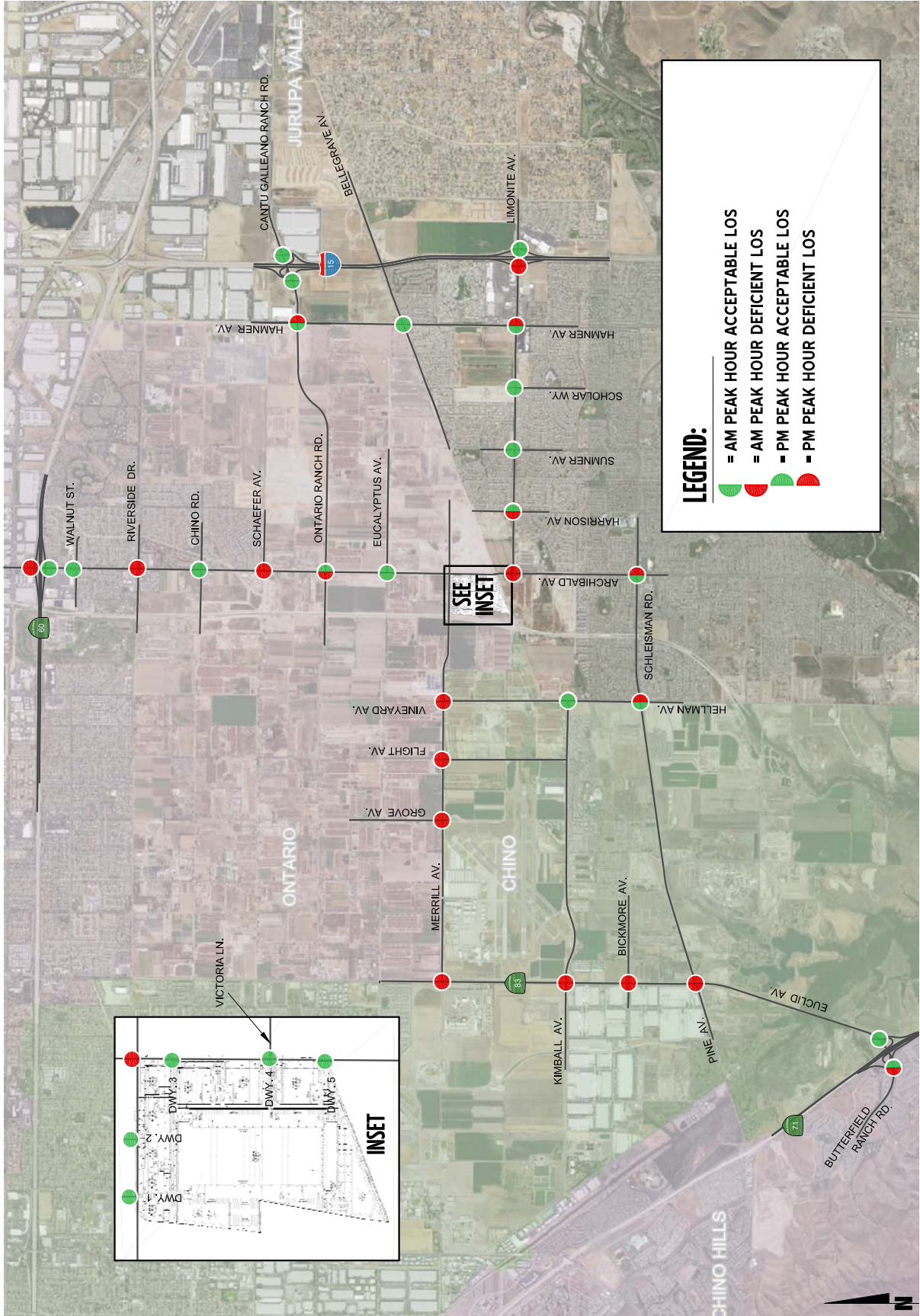


Table 6-2

Roadway Segment Capacity Analysis for Opening Year Cumulative (2019) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2019 Without Project	V/C ²	LOS ³	2019 With Project	V/C ²	LOS ³	Acceptable LOS
1		East of Euclid Av. (SR-83)	2U	14,000	18,516	1.32	F	19,114	1.37	F	D
2	Merrill Avenue	Between Grove Av. and Vineyard Av.	2U	14,000	19,912	1.42	F	20,734	1.48	F	D
3		West of Driveway 2	2U	14,000	26,376	1.88	F	27,290	1.95	F	D
4		North of Ontario Ranch Rd.	4D	35,900	36,227	1.01	F	37,266	1.04	F	D
5	Archibald Avenue	Between Eucalyptus Av. and Merrill Av.	4D	35,900	39,133	1.09	F	41,083	1.14	F	D
6		North of the County Line	2D	17,950	46,665	2.60	F	48,002	2.67	F	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Table 6-3

Peak Hour Freeway Off-Ramp Queuing Summary for Opening Year Cumulative (2019) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2019 Without Project				2019 With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-71 NB Ramps / Euclid Avenue (SR-83)	NBL	1,745	40	50	Yes	Yes	40	51	Yes	Yes
	NBR	420	821 ²	1,470 ²	Yes ³	Yes ³	890 ²	1,536 ²	Yes ³	Yes ³
SR-71 SB Ramps / Euclid Avenue (SR-83)	SBL	1,100	155	523 ²	Yes	Yes	155	523 ²	Yes	Yes
	SBL/T	1,560	154	507 ²	Yes	Yes	154	507 ²	Yes	Yes
	SBR	255	0	44	Yes	Yes	0	44	Yes	Yes
Archibald Avenue/ SR-60 WB Ramps	WBL/T	1,389	678 ²	688 ²	Yes	Yes	712 ²	701 ²	Yes	Yes
	WBR	250	551 ²	58	Yes ³	Yes	551 ²	59	Yes ³	Yes
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	340 ²	93	Yes	Yes	340 ²	93	Yes	Yes
	EBR	350	504 ²	649 ²	Yes ³	Yes ³	547 ²	650 ²	Yes ³	Yes ³
I-15 SB Ramps / Cantu Galleano Ranch Rd.	SBL	1,440	57	68	Yes	Yes	57	68	Yes	Yes
	SBR	460	627 ²	563 ²	Yes ³	Yes ³	673 ²	583 ²	Yes ³	Yes ³
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	203 ²	203 ²	Yes	Yes	203 ²	190 ²	Yes	Yes
	NBL/R	580	0	0	Yes	Yes	0	0	Yes	Yes
	NBR	440	51	43	Yes	Yes	51	43	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	187	200	Yes	Yes	186	200	Yes	Yes
	SBL/T/R	400	426 ²	516 ²	Yes	Yes ³	436 ²	516 ²	Yes ³	Yes ³
	SBR	1,200	389 ²	475 ²	Yes	Yes	397 ²	475 ²	Yes	Yes
I-15 NB Ramps / Limonite Avenue	NBL	450	542 ²	578 ²	Yes ³	Yes ³	541 ²	594 ²	Yes ³	Yes ³
	NBL/T/R	1,235	570 ²	571 ²	Yes	Yes	572 ²	580 ²	Yes	Yes
	NBR	400	157	475 ²	Yes	Yes ³	176	477 ²	Yes ³	Yes ³

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

6.8 BASIC FREEWAY SEGMENT ANALYSIS

Opening Year Cumulative (2019) Without and With Project mainline directional volumes for the AM and PM peak hours are provided on Exhibits 6-7 and 6-8, respectively. As shown on Table 6-4, the following additional freeway segments are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for both Opening Year cumulative (2019) Without and With Project conditions, in addition to those previously identified under Existing and E+P traffic conditions:

- I-15 Freeway Southbound, Cantu Galleano Ranch Rd. to Limonite Av. (#8) – LOS E AM and PM peak hours
- I-15 Freeway Northbound, Cantu Galleano Ranch Rd. to Limonite Av. (#11) – LOS E AM peak hour only
- I-15 Freeway Northbound, South of Limonite Av. (#12) – LOS E AM and PM peak hours

Opening Year Cumulative (2019) Without and With Project basic freeway segment analysis worksheets are provided in Appendix 6.7 and 6.8, respectively.

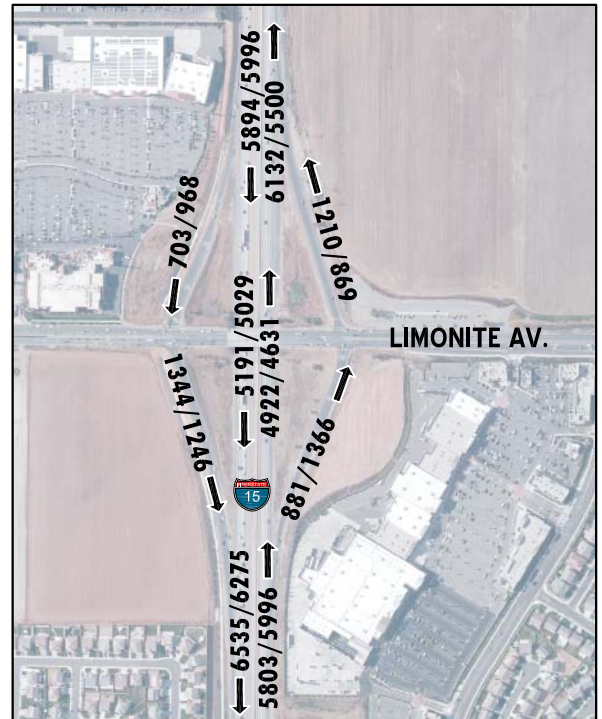
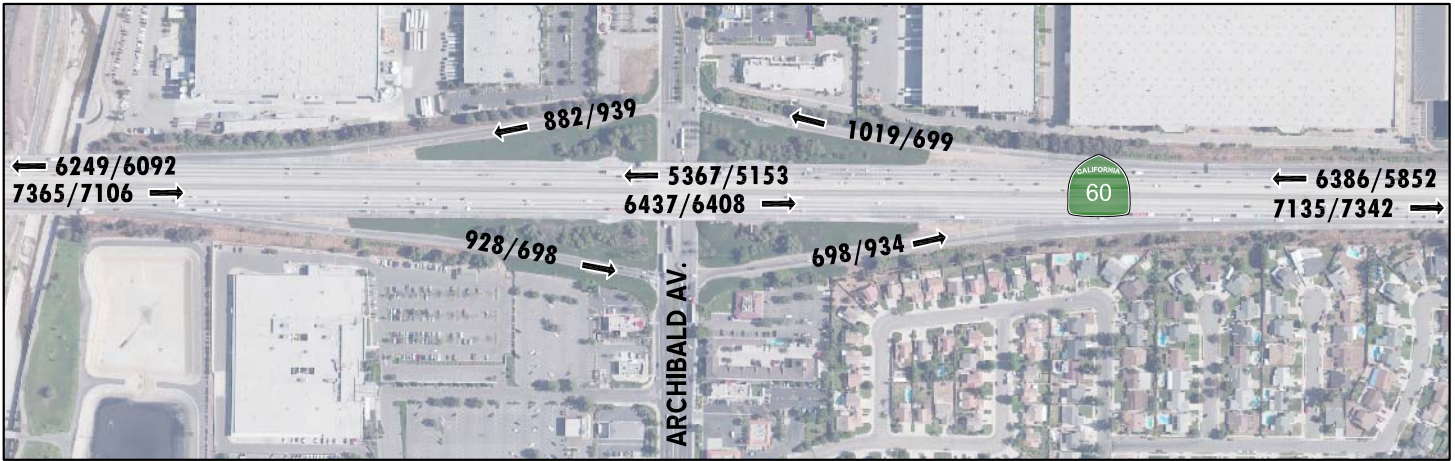
6.9 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for Opening Year Cumulative (2019) conditions and the results of this analysis are presented in Table 6-5. As shown in Table 6-5, the following additional merge and diverge areas are anticipated operate at LOS E or LOS F for Opening Year Cumulative (2019) Without and With Project, in addition to those previously identified under Existing and E+P traffic conditions:

- SR-71 Freeway, Southbound Loop On-Ramp at Euclid Av. (SR-83) (Upstream) (#1) – LOS E AM peak hour only
- SR-71 Freeway, Southbound Loop On-Ramp at Euclid Av. (SR-83) (Downstream) (#2) – LOS E AM peak hour only
- SR-71 Freeway, Northbound Off-Ramp at Euclid Av. (SR-83) (#3) – LOS E AM and PM peak hours
- I-15 Freeway, Southbound Off-Ramp at Cantu Galleano Ranch Rd. (#8) – LOS E AM and PM peak hours
- I-15 Freeway, Northbound Off-Ramp at Limonite Av. (#11) – LOS E AM and PM peak hours

Opening Year Cumulative (2019) Without and With Project freeway ramp junction operations analysis worksheets are provided in Appendices 6.9 and 6.10, respectively.

EXHIBIT 6-7: OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)

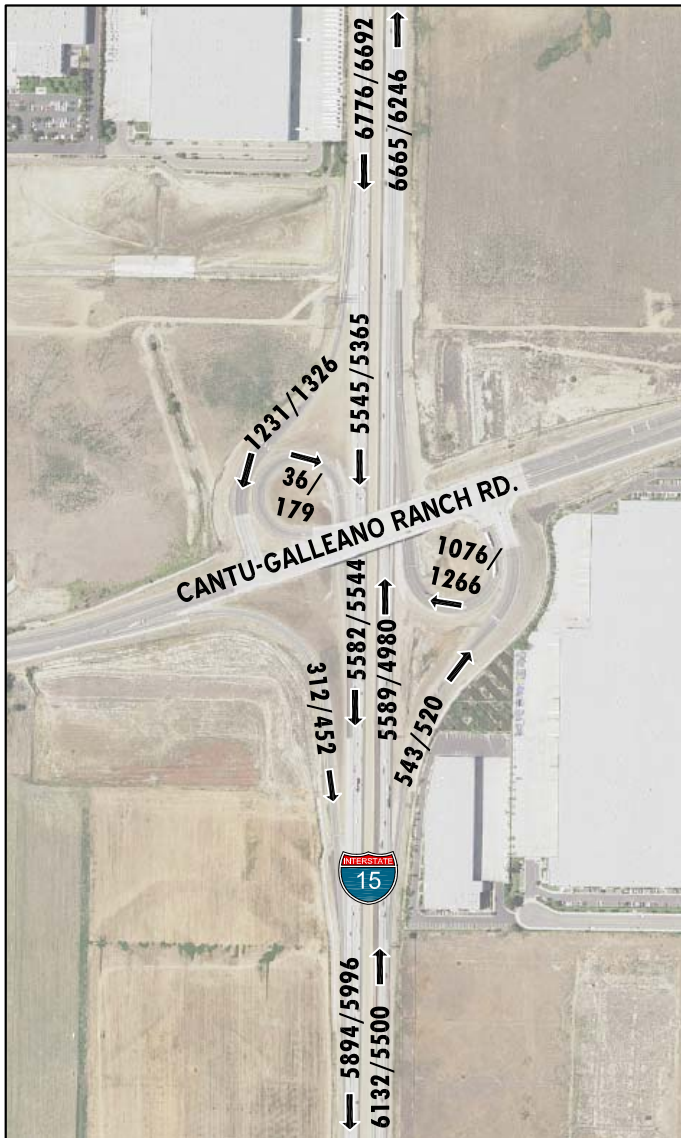
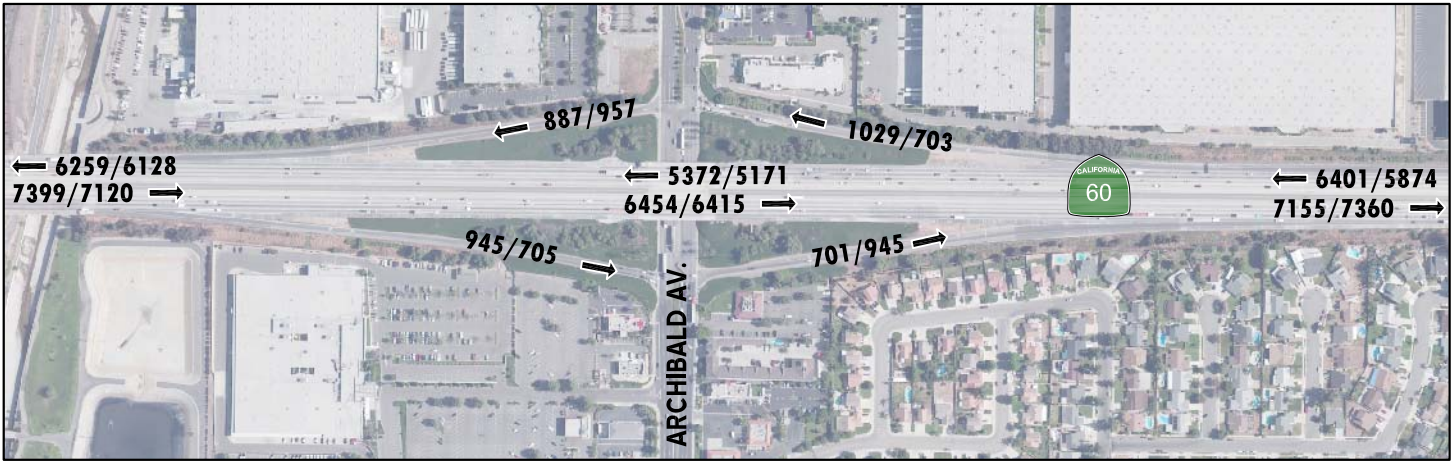


LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EXHIBIT 6-8: OPENING YEAR CUMULATIVE (2019) WITH PROJECT FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



Table 6-4

Basic Freeway Segment Analysis for Opening Year Cumulative (2019) Conditions

Freeway	Direction ¹	Mainline Segment	Lanes ²	2019 Without Project				2019 With Project			
				Density ³		LOS ⁴		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-71	SB	South of Euclid Av. (SR-83)	2	48.1	34.1	F	D	48.3	34.3	F	D
	NB	South of Euclid Av. (SR-83)	3	28.0	28.3	D	D	28.1	28.4	D	D
SR-60	WB	West of Archibald Av.	4	26.0	25.0	C	C	26.0	25.1	C	C
		East of Archibald Av.	5	20.5	18.6	C	C	20.5	18.6	C	C
	EB	West of Archibald Av.	4	34.1	31.4	D	D	34.4	31.5	D	D
		East of Archibald Av.	4	32.4	33.4	D	D	32.5	33.5	D	D
I-15	SB	North of Cantu Galleano Ranch Rd.	4	29.4	28.8	D	D	29.7	28.9	D	D
		Cantu Galleano Ranch Rd. to Limonite Av.	3	38.0	38.9	E	E	38.0	38.9	E	E
		South of Limonite Av.	3	46.7	43.1	F	E	46.8	43.4	F	E
	NB	North of Cantu Galleano Ranch Rd.	5	21.1	19.6	C	C	21.1	19.7	C	C
		Cantu Galleano Ranch Rd. to Limonite Av.	3	39.1	32.3	E	D	39.1	32.3	E	D
		South of Limonite Av.	3	35.3	37.5	E	E	35.5	37.6	E	E

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

Table 6-5

Freeway Ramp Junction Merge/Diverge Analysis for Opening Year Cumulative (2019) Conditions

Freeway ¹	Direction ¹	Ramp or Segment	Lanes on Freeway ²	2019 Without Project				2019 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴
SR-71	SB	Loop On-Ramp at Euclid Av. (SR-83) (Upstream)	36.1	E	33.8	D	36.2	E	34.0	D	
		Loop On-Ramp at Euclid Av. (SR-83) (Downstream)	36.1	E	33.8	D	36.2	E	34.0	D	
SR-60	NB	Off-Ramp at Euclid Av. (SR-83)	35.3	E	36.7	E	35.5	E	36.8	E	
	WB	On-Ramp at Archibald Av.	26.6	C	26.2	C	26.6	C	26.4	C	
		Off-Ramp at Archibald Av.	31.2	D	28.8	D	31.4	D	28.9	D	
SR-60	EB	Off-Ramp at Archibald Av.	38.8	E	35.9	E	39.0	E	36.0	E	
		On-Ramp at Archibald Av.	28.9	D	30.5	D	29.1	D	30.6	D	
	Off-Ramp at Cantu Galleano Ranch Rd.	37.9	E	37.9	E	38.2	E	38.1	E		
I-15	SB	On-Ramp at Limonite Av.	39.5	F	37.8	E	39.5	F	38.0	E	
		On-Ramp at Cantu Galleano Ranch Rd.	41.5	F	39.8	E	41.6	F	40.1	E	
	Off-Ramp at Limonite Av.	36.7	E	38.4	E	36.8	E	38.5	E		

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service



6.10 RECOMMENDED IMPROVEMENTS

6.10.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as significantly impacted by the Project, in an effort to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). Significant impacts have been identified at deficient intersections if the Project contributes 50 or more peak hours or if the addition of Project traffic increases the delay by 5.0 seconds or more (for the intersections in Eastvale only).

The effectiveness of the recommended improvement strategies discussed below to address Opening Year Cumulative (2019) traffic deficiencies is presented in Table 6-6. Worksheets for Opening Year Cumulative (2019) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 6.11 and Appendix 6.12.

6.10.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

As shown on Table 6-6, the Opening Year Cumulative peak hour analysis indicates that the adjacent study area intersections on either side of the deficient roadway segments are anticipated to operate at acceptable LOS with the recommended intersection improvements shown. These intersection improvements consist of installation of traffic signals, additional turn lanes, additional through lanes, and traffic signal modifications to accommodate right turn overlap phasing. Table 6-7 shows the LOS for each of the applicable roadway segments with improvements consistent with those shown on Table 6-6 for the adjacent study area intersections, where roadway widening through additional through lanes has been recommended. In other words, only the roadway segments adjacent to study area intersections where additional through lanes have been recommended on Table 6-6 are shown on Table 6-7. As shown on Table 6-7, all roadway segments shown are anticipated to improve in LOS to acceptable levels.

6.10.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously on Table 6-3, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with addition of Project traffic. However, Table 6-8 shows the queuing results with the proposed intersection improvements shown previously on Table 6-6. Worksheets for Opening Year Cumulative (2019) Without and With Project traffic conditions, with improvements, off-ramp queuing analysis are provided in Appendices 6.13 and 6.14, respectively.

Table 6-6

Intersection Analysis for Opening Year Cumulative (2019) Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
1	Euclid Av. (SR-83) / Merrill Av.																	
	- Without Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	0	0	1	0	<u>1</u>	1	<u>1</u> >	36.7	45.9	D	D
	- With Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	0	0	1	0	<u>1</u>	1	<u>1</u> >	37.9	48.5	D	D
7	Grove Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	0	0	0	0	1	0	<u>1</u>	<u>2</u>	0	0	<u>2</u>	0	32.0	16.5	C	B
	- With Project	<u>TS</u>	0	0	0	0	1	0	<u>1</u>	<u>2</u>	0	0	<u>2</u>	0	35.4	17.8	D	B
8	Flight Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	<u>1</u>	<u>0</u>	<u>1</u>	0	0	0	0	<u>2</u>	1	1	<u>2</u>	0	13.2	16.3	B	B
	- With Project	<u>TS</u>	<u>1</u>	<u>0</u>	<u>1</u>	0	0	0	0	<u>2</u>	1	1	<u>2</u>	0	13.5	16.3	B	B
9	Vineyard Av./Hellman Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	<u>1</u>	0	<u>1</u>	0	0	0	0	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	0	26.7	12.2	C	B
	- With Project	<u>TS</u>	<u>1</u>	0	<u>1</u>	0	0	0	0	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	0	27.4	12.5	C	B
14	Archibald Av. / SR-60 WB Ramps																	
	- Without Project ⁴	TS	<u>2</u>	3	0	0	4	0	0	0	0	<u>1</u>	1	1	32.4	33.4	C	C
	- With Project ⁴	TS	<u>2</u>	3	0	0	4	0	0	0	0	<u>1</u>	1	1	33.1	34.3	C	C
17	Archibald Av. / Riverside Dr.																	
	- Without Project	TS	<u>2</u>	3	0	<u>2</u>	3	0	1	2	d	1	2	<u>1</u> >	53.2	66.8	D	E
	- With Project	TS	<u>2</u>	3	0	<u>2</u>	3	0	1	2	d	1	2	<u>1</u> >	54.1	70.5	E	E
19	Archibald Av. / Schaefer Av.																	
	- Without Project	<u>TS</u>	<u>1</u>	2	0	1	2	0	0	<u>1</u>	0	0	<u>1</u>	0	14.3	17.0	B	B
	- With Project	<u>TS</u>	<u>1</u>	2	0	1	2	0	0	<u>1</u>	0	0	<u>1</u>	0	14.6	18.0	B	B
20	Archibald Av. / Ontario Ranch Rd.																	
	- Without Project	TS	<u>2</u>	2	<u>1</u> >	1	2	1	2	2	1>>	2	1	1	42.2	41.4	D	D
	- With Project	TS	<u>2</u>	2	<u>1</u> >	1	2	1	2	2	1>>	2	1	1	46.7	45.9	D	D
22	Archibald Av. / Merrill Av.																	
	- Without Project	TS	<u>2</u>	<u>3</u>	1	2	<u>3</u>	<u>1</u> >	<u>2</u>	<u>2</u>	<u>1</u> >>	1	<u>2</u>	1	46.8	36.8	D	D
	- With Project	TS	<u>2</u>	<u>3</u>	1	2	<u>3</u>	<u>1</u> >	<u>2</u>	<u>2</u>	<u>1</u> >>	1	<u>2</u>	1	49.7	42.7	E	D
26	Archibald Av. / Limonite Av.																	
	- Without Project	TS	0	<u>2</u>	1>	<u>2</u>	<u>2</u>	0	0	0	0	<u>2</u>	0	<u>2</u> >	24.3	41.0	C	D
	- With Project	TS	0	<u>2</u>	1>	<u>2</u>	<u>2</u>	0	0	0	0	<u>2</u>	0	<u>2</u> >	25.7	46.8	C	D
28	Harrison Av. / Limonite Av.																	
	- Without Project	TS	1	1	1	1	1	0	1	3	d	1	<u>3</u>	1	30.2	31.9	C	C
	- With Project	TS	1	1	1	1	1	0	1	3	d	1	<u>3</u>	1	30.6	33.1	C	C
31	Hamner Av. / Ontario Ranch Rd.																	
	- Without Project	TS	2	3	<u>1</u> >	2	2	1	2	3	1	2	2	1	24.0	36.7	C	D
	- With Project	TS	2	3	<u>1</u> >	2	2	1	2	3	1	2	2	1	24.0	37.7	C	D
35	I-15 SB Ramps / Limonite Av.																	
	- Without Project	TS	0	0	0	1	1	1	0	<u>3</u>	1	2	<u>3</u>	0	45.4	46.6	D	D
	- With Project	TS	0	0	0	1	1	1	0	<u>3</u>	1	2	<u>3</u>	0	46.3	50.8	D	D

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d = Defacto Right Turn Lane; 1 = Improvement

² Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

⁴ Includes modifying the coordinated cycle length from 90 seconds to 120 seconds.

⁵ Includes new lanes on the westbound approach, implementing split phase for the eastbound and westbound approaches, and removing the eastbound (south leg) crosswalk.

Table 6-7

Roadway Segment Capacity Analysis for Opening Year Cumulative (2019) Conditions With Improvements

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2019 Without Project	V/C ²	LOS ³	2019 With Project	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	4D	28,000	18,516	0.66	B	19,114	0.68	B	D
2		Between Grove Av. and Vineyard Av.	4D	28,000	19,912	0.71	C	20,734	0.74	C	D
3		West of Driveway 2 ⁴	4D	35,000	26,376	0.75	C	27,290	0.78	C	D
4	Archibald Avenue	North of Ontario Ranch Rd.	6D	53,900	36,227	0.67	B	37,266	0.69	B	D
5		Between Eucalyptus Av. and Merrill Av.	6D	53,900	39,133	0.73	C	41,083	0.76	C	D
6		North of the County Line	6D	53,900	46,665	0.87	D	48,002	0.89	D	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

⁴ Additional capacity provided along the Project's frontage via turn lanes.

Table 6-8

Peak Hour Freeway Off-Ramp Queuing Summary for Opening Year Cumulative (2019) Conditions With Improvements

Intersection	Movement	Available Stacking Distance (Feet)	2019 Without Project				2019 With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
Archibald Avenue/ SR-60 WB Ramps	WBL	1,389	294	377 ²	Yes	Yes	310	387 ²	Yes	Yes
	WBL/T	1,312	293	338	Yes	Yes	308	347	Yes	Yes
	WBR	250	619 ²	58	Yes ³	Yes	621 ²	58	Yes ³	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	173	200	Yes	Yes	173	200	Yes	Yes
	SBL/T/R	400	390 ²	503 ²	Yes	Yes ³	401 ²	503 ²	Yes	Yes ³
	SBR	1,200	351 ²	464 ²	Yes	Yes	362 ²	464 ²	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

6.10.4 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the City of Ontario (or other neighboring jurisdictions) on SHS roadway segments. As such, no improvements have been recommended to address the Opening Year Cumulative (2019) deficiencies on the SHS, because there is no feasible mitigation available.

7 HORIZON YEAR (2040) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts, and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways such as the northern extension of Meadow Valley Avenue on Kimball Avenue and the northern extension of Hellman Avenue north of Kimball Avenue).
- The Pine Avenue extension between its El Prado Road and the SR-71 Freeway.
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for Horizon Year traffic conditions and would affect the travel patterns within the study area (e.g., new future roadways within the New Model Colony area such as Schaefer Avenue east of Archibald Avenue, Eucalyptus Avenue east of Archibald Avenue, Merrill Avenue east of Archibald Avenue, The Preserve Specific Plan roadway network within the City of Chino, etc.).

7.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM (see Section 4.7 *Horizon Year (2040) Volume Development* of this TIA for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibits 7-1 and 7-2, respectively.

7.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM, plus the traffic generated by the proposed Project (see Section 4.7 *Horizon Year (2040) Volume Development* of this TIA for a detailed discussion on the post-processing methodology). Horizon Year (2040) With Project traffic forecasts reflects buildout of the Project (i.e., traffic associated with PA1, PA2, and PA3). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibits 7-3 and 7-4, respectively.

EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT AVERAGE DAILY TRAFFIC (ADT)

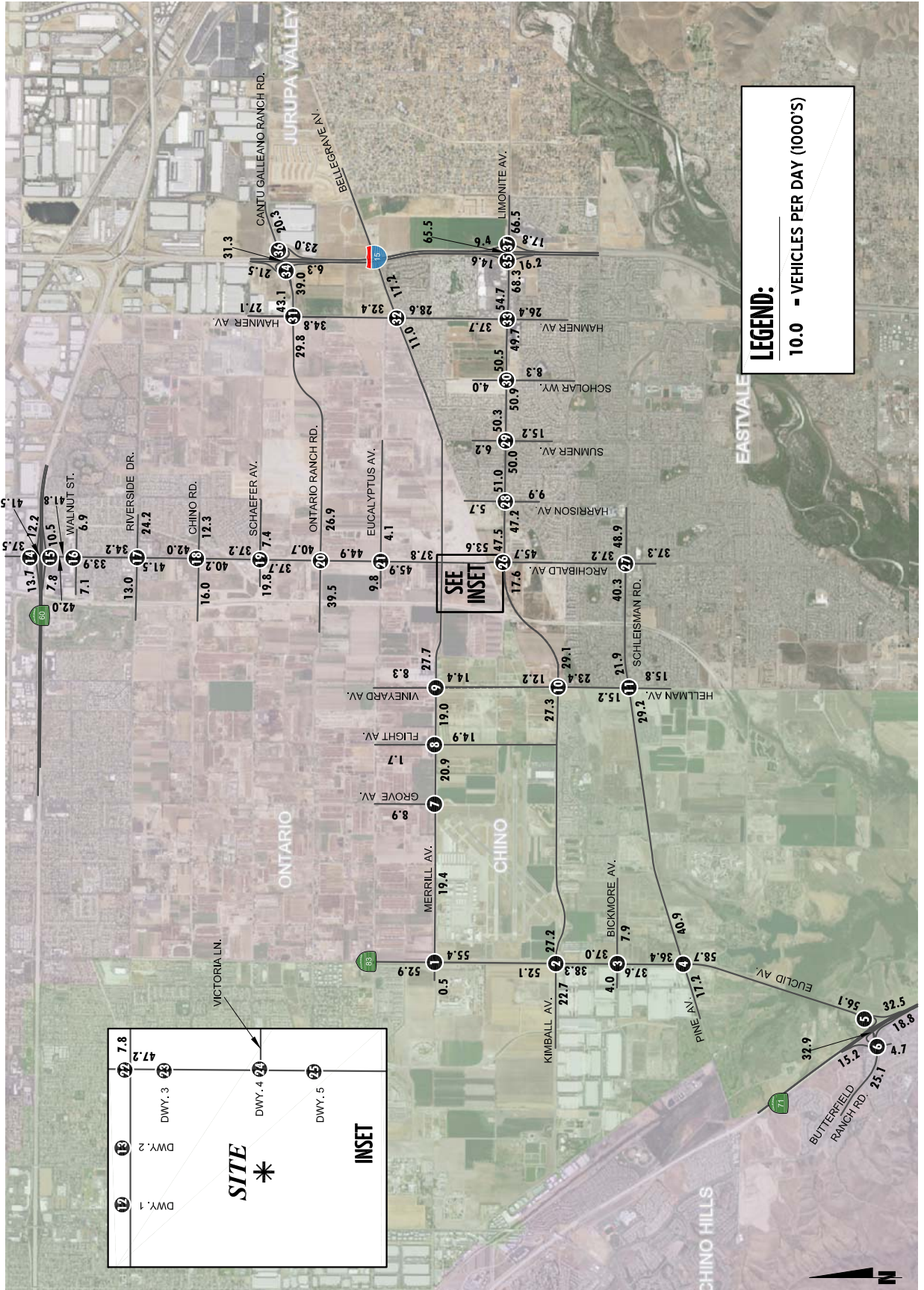


EXHIBIT 7-2: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p> <p>56(1) ← 2337(1898) → 459(606) ← 461(407) → 62(0) ← 222(145) →</p> <p>10(6) → 25(2) → 8(27) → 1150(2280) → 5(14) → 130(239) →</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>212(226) ← 1470(1244) → 548(402) ← 280(576) → 364(552) ← 268(304) →</p> <p>131(277) → 124(195) → 391(572) → 720(1318) → 150(232) → 203(295) →</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>115(47) ← 1617(1529) → 111(164) ← 63(203) → 28(18) ← 70(196) →</p> <p>29(175) → 48(15) → 11(58) → 933(1434) → 21(60) → 182(90) →</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>94(113) ← 1360(1301) → 255(356) ← 227(308) → 418(552) ← 703(543) →</p> <p>80(135) → 186(212) → 329(865) → 840(1048) → 199(367) → 510(767) →</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p> <p>2172(2131) ← 383(395) →</p> <p>543(842) → 234(262) → 328(228) → 1018(1232) →</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p> <p>64(102) ← 24(164) → 276(714) ← 0(0) → 678(825) ← 454(115) →</p> <p>1049(415) → 71(35) → 19(50) → 241(18) →</p>	<p>7 Grove Av. & Merrill Av.</p> <p>124(53) ← 225(270) → 342(265) ← 602(496) →</p> <p>68(139) → 537(731) →</p>
<p>8 Flight Av. & Merrill Av.</p> <p>31(16) ← 9(41) → 22(15) ← 548(495) → 37(16) ← 163(254) →</p> <p>5(42) → 363(250) → 521(612) → 10(15) → 235(346) → 195(205) →</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p> <p>72(192) ← 44(75) → 33(229) ← 176(98) → 162(579) ← 307(109) →</p> <p>127(122) → 487(219) → 436(646) → 78(66) → 191(365) → 167(424) →</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>186(124) ← 135(367) → 21(43) ← 50(37) → 766(753) ← 328(492) →</p> <p>256(186) → 169(203) → 473(1054) → 521(175) → 133(274) → 288(444) →</p>	<p>11 Hellman Av. & Pine Av.</p> <p>360(534) ← 185(326) → 95(283) ← 164(162) → 765(749) ← 85(38) →</p> <p>302(484) → 511(178) → 381(1173) → 436(188) → 359(468) → 61(50) →</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>Future Intersection</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>Future Intersection</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>283(622) ← 630(349) → 729(1848) ← 2(7) → 427(559) ← 638(312) → 1710(999) →</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>885(1825) ← 271(582) →</p> <p>521(237) → 1827(1074) → 2(1) → 537(441) → 369(462) →</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>22(24) ← 878(1832) → 134(139) ← 261(73) → 32(15) ← 169(65) →</p> <p>53(19) → 2003(1297) → 11(8) → 76(74) → 28(34) → 76(74) →</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>120(189) ← 655(1280) → 242(313) ← 270(133) → 284(364) ← 240(316) →</p> <p>211(145) → 185(324) → 411(544) → 1421(906) → 198(302) → 244(231) →</p>	<p>18 Archibald Av. & Chino Av.</p> <p>117(280) ← 690(1083) → 96(174) ← 110(133) → 140(288) ← 97(117) →</p> <p>204(232) → 112(232) → 212(312) → 835(916) → 184(206) → 91(142) →</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>199(269) ← 936(1288) → 31(111) ← 97(108) → 103(447) ← 114(76) →</p> <p>174(284) → 287(314) → 107(111) → 925(1226) → 137(188) → 32(125) →</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>283(354) ← 688(823) → 108(169) ← 199(196) → 676(1019) ← 300(391) →</p> <p>239(416) → 371(486) → 720(1209) → 625(808) → 401(514) → 127(168) →</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>354(36) ← 1102(1427) → 88(145) ← 139(82) → 33(15) ← 128(69) →</p> <p>112(64) → 306(95) → 54(28) → 1056(1361) → 301(104) → 53(97) →</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>479(319) ← 1153(1669) → 85(83) ← 86(43) → 125(109) ← 207(184) →</p> <p>296(563) → 346(256) → 67(156) → 1155(1482) → 237(507) → 386(187) →</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>Future Intersection</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>Future Intersection</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>Future Intersection</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>215(209) ← 1077(1839) → 228(334) ← 458(648) → 711(618) ← 229(244) →</p> <p>204(274) → 120(82) → 620(760) → 1310(1076) → 92(108) → 204(280) →</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>145(221) ← 1142(1048) → 652(681) ← 289(258) → 1108(1357) ← 519(474) →</p> <p>668(415) → 299(357) → 1164(1613) → 736(1312) → 241(523) → 778(482) →</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>136(144) ← 30(109) → 164(109) ← 82(93) → 1345(1682) ← 38(251) →</p> <p>71(78) → 117(134) → 1275(1488) → 57(58) → 56(208) → 144(157) →</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>96(88) ← 140(166) → 126(93) ← 22(66) → 1284(1859) ← 165(489) →</p> <p>100(114) → 386(421) → 1627(1575) → 212(79) → 294(539) → 276(321) →</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>58(66) ← 194(95) → 39(34) ← 21(47) → 1299(2045) ← 90(214) →</p> <p>45(65) → 123(270) → 1721(1526) → 147(34) → 87(195) → 218(186) →</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p> <p>104(453) ← 283(785) → 341(462) ← 293(299) → 878(933) ← 585(707) →</p> <p>160(193) → 219(339) → 673(925) → 517(359) → 225(446) → 683(674) →</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>124(311) ← 521(1203) → 149(199) ← 135(153) → 194(201) ← 260(351) →</p> <p>449(144) → 87(117) → 214(252) → 866(812) → 68(140) → 299(339) →</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>273(413) ← 437(983) → 660(633) ← 506(648) → 868(1358) ← 162(362) →</p> <p>319(332) → 123(234) → 1366(1057) → 657(1010) → 100(177) → 317(363) →</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>1022(951) ← 389(776) →</p> <p>971(1260) → 90(250) → 376(512) → 822(741) →</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>561(509) ← 0(0) → 424(517) ← 1057(913) → 1455(2191) ←</p> <p>1962(1655) → 779(666) →</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>452(478) ← 395(383) →</p> <p>518(762) → 465(485) → 841(1132) → 188(138) →</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>413(480) ← 1934(2519) →</p> <p>579(686) → 0(0) → 654(910) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 7-3: HORIZON YEAR (2040) WITH PROJECT AVERAGE DAILY TRAFFIC (ADT)

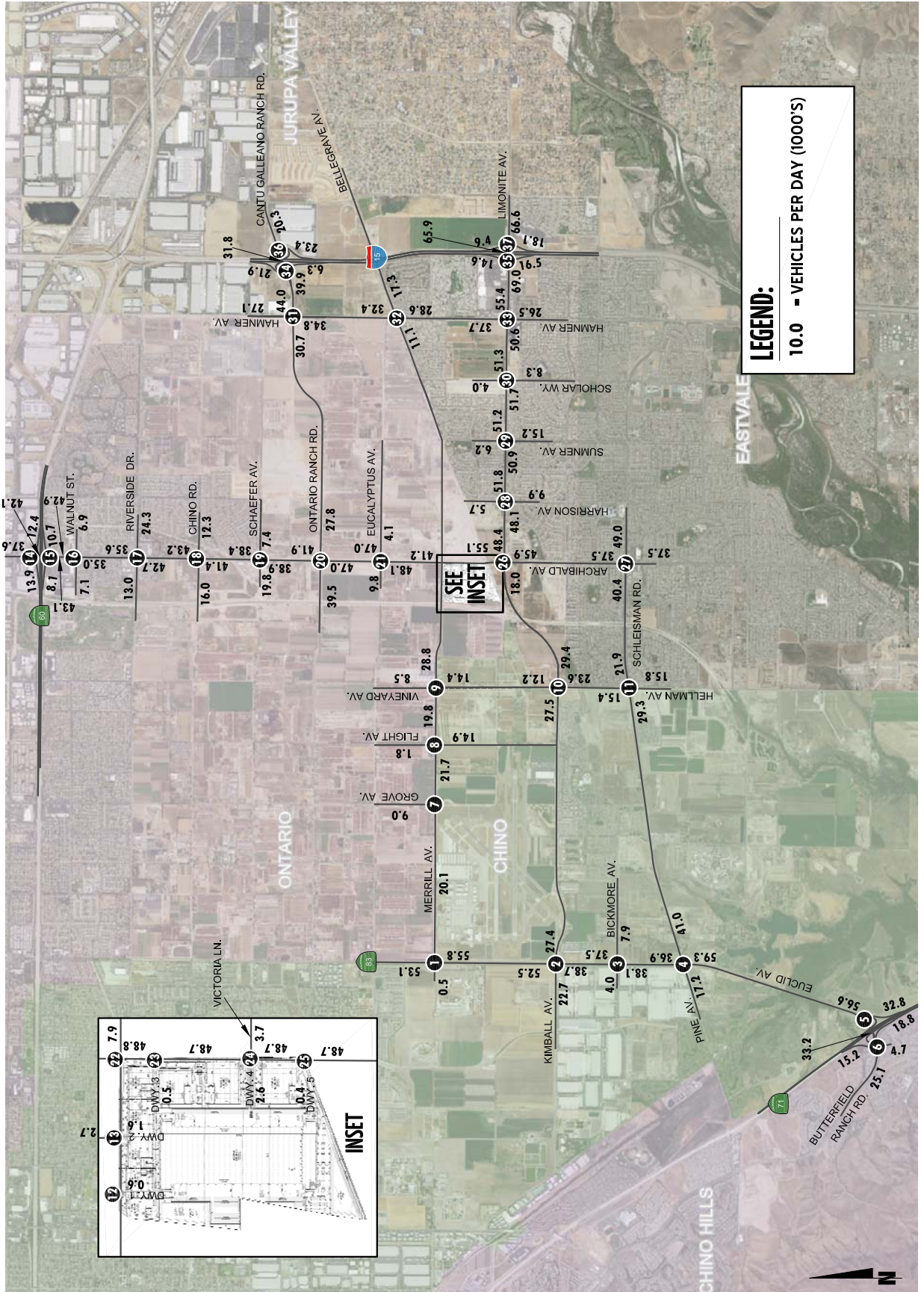


EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.</p> <p>56(1) ← 2337(1898) ← 473(612) ←</p> <p>465(422) ← 62(0) ← 231(176) ←</p> <p>10(6) → 8(27) → 5(14) →</p> <p>25(2) → 1150(2280) → 159(251) →</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>212(226) ← 1479(1275) ← 548(402) ←</p> <p>280(576) ← 366(558) ← 269(306) ←</p> <p>131(277) → 397(575) → 150(232) →</p> <p>124(195) → 749(1330) → 205(296) →</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>115(47) ← 1626(1562) ← 111(164) ←</p> <p>63(203) ← 28(18) ← 70(196) ←</p> <p>29(175) → 11(58) → 21(60) →</p> <p>48(15) → 984(1447) → 182(90) →</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>94(113) ← 1369(1334) ← 255(356) ←</p> <p>227(308) ← 418(552) ← 705(551) ←</p> <p>80(135) → 329(865) → 199(367) →</p> <p>186(212) → 871(1061) → 518(770) →</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./Euclid Av. (SR-83)</p> <p>2184(2173) ← 383(395) ←</p> <p>543(842) → 328(228) →</p> <p>234(262) → 1057(1249) →</p>	<p>6 SR-71 SB Ramps/Shady View Dr. & Butterfield Ranch Rd.</p> <p>64(102) ← 24(164) ← 276(714) ←</p> <p>0(0) ← 678(825) ← 454(115) ←</p> <p>1049(415) → 19(50) →</p> <p>71(35) → 241(18) →</p>	<p>7 Grove Av. & Merrill Av.</p> <p>124(53) ← 233(273) ←</p> <p>68(139) → 580(749) →</p> <p>344(273) ← 615(542) ←</p>
<p>8 Flight Av. & Merrill Av.</p> <p>31(16) ← 22(15) ← 41(18) ←</p> <p>10(45) ← 564(549) ← 163(254) ←</p> <p>5(42) → 573(634) → 235(346) →</p> <p>363(250) → 10(15) → 195(205) →</p>	<p>9 Hellman Av./Vineyard Av. & Merrill Av.</p> <p>72(192) ← 44(75) ← 47(235) ←</p> <p>180(113) ← 179(638) ← 307(109) ←</p> <p>127(122) → 492(669) → 191(365) →</p> <p>487(219) → 78(66) → 167(424) →</p>	<p>10 Hellman Av. & Kimball Av.</p> <p>186(124) ← 135(367) ← 21(43) ←</p> <p>50(37) ← 770(768) ← 331(503) ←</p> <p>256(186) → 487(1060) → 133(274) →</p> <p>169(203) → 521(175) → 298(448) →</p>	<p>11 Hellman Av. & Pine Av.</p> <p>363(545) ← 185(326) ← 95(283) ←</p> <p>164(162) ← 765(749) ← 85(38) ←</p> <p>312(488) → 381(1173) → 359(468) →</p> <p>511(178) → 436(188) → 61(50) →</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>1009(703) ←</p> <p>568(1260) → 35(15) →</p> <p>15(52) →</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>69(46) ← 0(0) ← 90(59) ←</p> <p>31(101) ← 924(602) ← 98(41) ←</p> <p>23(78) → 542(1226) → 17(7) →</p> <p>16(55) → 0(0) → 21(73) →</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>283(622) ← 741(1853) ←</p> <p>68(139) → 580(749) →</p> <p>630(349) ← 2(7) ← 456(571) ←</p> <p>649(351) → 1714(1012) →</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>926(1842) ← 271(582) ←</p> <p>521(237) → 2(1) → 406(478) →</p> <p>1842(1126) → 546(472) →</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>22(24) ← 957(1865) ← 134(139) ←</p> <p>261(73) ← 32(15) ← 169(65) ←</p> <p>53(19) → 11(8) → 28(34) →</p> <p>74(72) → 2027(1380) → 76(74) →</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>120(189) ← 734(1313) ← 242(313) ←</p> <p>270(133) ← 284(364) ← 242(317) ←</p> <p>211(145) → 411(544) → 200(303) →</p> <p>186(326) → 1445(989) → 245(233) →</p>	<p>18 Archibald Av. & Chino Av.</p> <p>117(280) ← 773(1118) ← 96(174) ←</p> <p>110(133) ← 140(288) ← 99(118) ←</p> <p>204(232) → 212(312) → 184(206) →</p> <p>112(232) → 860(1003) → 92(144) →</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>199(269) ← 1021(1324) ← 31(111) ←</p> <p>97(108) ← 103(447) ← 116(77) ←</p> <p>174(284) → 107(111) → 137(188) →</p> <p>287(314) → 951(1316) → 33(127) →</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>283(354) ← 775(859) ← 108(169) ←</p> <p>199(196) ← 676(1019) ← 366(419) ←</p> <p>239(416) → 720(1209) → 401(514) →</p> <p>371(486) → 651(900) → 147(237) →</p>	<p>21 Archibald Av. & Eucalyptus Av.</p> <p>354(36) ← 1255(1491) ← 88(145) ←</p> <p>139(82) ← 33(15) ← 130(70) ←</p> <p>112(64) → 54(28) → 301(104) →</p> <p>306(95) → 1102(1522) → 54(99) →</p>
<p>22 Archibald Av. & Merrill Av.</p> <p>551(349) ← 1236(1704) ← 85(83) ←</p> <p>86(43) ← 131(112) ← 213(187) ←</p> <p>325(663) → 69(162) → 260(533) →</p> <p>371(283) → 1173(1545) → 388(193) →</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>42(18) ← 1666(2405) ←</p> <p>8(29) →</p> <p>1932(2021) →</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>40(17) ← 1599(2394) ←</p> <p>42(147) → 12(42) →</p> <p>125(52) → 1735(1838) →</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>87(35) ← 1583(2455) ←</p> <p>17(59) →</p> <p>2051(2062) →</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>223(237) ← 1083(1860) ← 248(403) ←</p> <p>524(676) ← 711(618) ← 229(244) ←</p> <p>230(285) → 620(760) → 92(108) →</p> <p>120(82) → 1330(1085) → 204(280) →</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>146(223) ← 1146(1061) ← 654(687) ←</p> <p>295(261) ← 1108(1357) ← 519(474) ←</p> <p>670(416) → 1164(1613) → 241(523) →</p> <p>299(357) → 748(1317) → 778(482) →</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>136(144) ← 30(109) ← 164(109) ←</p> <p>82(93) ← 1409(1709) ← 38(251) ←</p> <p>71(78) → 1294(1555) → 57(210) →</p> <p>119(135) → 57(58) → 144(157) →</p>
<p>29 Sumner Av. & Limonite Av.</p> <p>96(88) ← 140(166) ← 126(93) ←</p> <p>22(66) ← 1346(1885) ← 165(489) ←</p> <p>100(114) → 1646(1640) → 295(541) →</p> <p>388(422) → 212(79) → 276(321) →</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>58(66) ← 194(95) ← 39(34) ←</p> <p>21(47) ← 1359(2070) ← 90(214) ←</p> <p>45(65) → 1739(1589) → 88(197) →</p> <p>125(271) → 147(34) → 218(186) →</p>	<p>31 Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.</p> <p>104(453) ← 287(787) ← 341(462) ←</p> <p>293(299) ← 944(961) ← 585(707) ←</p> <p>160(193) → 693(994) → 225(446) →</p> <p>219(339) → 518(363) → 683(674) →</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>128(313) ← 521(1203) ← 149(199) ←</p> <p>135(153) ← 202(204) ← 260(351) ←</p> <p>450(148) → 216(260) → 68(140) →</p> <p>87(117) → 866(812) → 299(339) →</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>273(413) ← 437(983) ← 660(633) ←</p> <p>506(648) ← 920(1380) ← 162(362) ←</p> <p>319(332) → 1382(1111) → 102(185) →</p> <p>131(237) → 657(1010) → 317(363) →</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>1082(976) ← 389(776) ←</p> <p>90(250) ← 828(744) ←</p> <p>991(1329) → 376(512) →</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>351(509) ← 0(0) ← 924(517) ←</p> <p>1057(913) ← 1507(2213) ←</p> <p>1965(1666) → 791(710) →</p>
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>458(481) ← 393(383) ←</p> <p>520(768) → 859(1195) →</p> <p>465(485) → 188(138) →</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>413(480) ← 1944(2523) ←</p> <p>1997(1920) → 392(263) →</p> <p>620(603) → 0(0) → 654(910) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

7.4 INTERSECTION OPERATIONS ANALYSIS

7.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*. As shown in Table 7-1, the following additional study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions, in addition to the intersections previously identified under Existing, E+P, and Opening Year Cumulative (2019) traffic conditions:

- Archibald Av. / SR-60 Eastbound Ramps (#15) – LOS E AM peak hour; LOS F PM peak hour
- Archibald Av. / Chino Av. (#18) – LOS F PM peak hour only
- Archibald Av. / Eucalyptus Av. (#21) – LOS F AM peak hour only
- Sumner Av. / Limonite Av. (#29) – LOS E AM peak hour; LOS F PM peak hour
- Scholar Wy. / Limonite Av. (#30) – LOS E AM peak hour only
- I-15 Northbound Ramps / Cantu Galleano Ranch Rd. (#36) – LOS E AM peak hour; LOS F PM peak hour
- I-15 Northbound Ramps / Limonite Av. (#37) – LOS E AM and PM peak hours

A summary of the peak hour intersection LOS for Horizon Year (2040) Without Project conditions is shown on Exhibit 7-5. The intersection operations analysis worksheets for Horizon Year (2040) Without Project traffic conditions are included in Appendix 7.1 of this TIA.

7.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS

As shown on Table 7-1 and illustrated on Exhibit 7-6, there are no additional study area intersections anticipated to experience unacceptable LOS with the addition of Project traffic during one or more peak hours. The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 7.2 of this TIA.

7.5 ROADWAY SEGMENT CAPACITY ANALYSIS

As noted previously, the roadway segment capacities are approximate figures only, and are typically used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future forecasted traffic demand.

Table 7-2 provides a summary of the Horizon Year (2040) conditions roadway segment capacity analysis based on the City of Ontario General Plan Roadway Segment Capacity Thresholds identified previously on Table 2-3. As shown on Table 7-2, all of the study area roadway segments are anticipated to operate at unacceptable LOS (based on daily roadway segment capacities) under Horizon Year (2040) Without and With Project traffic conditions.

Table 7-1

Intersection Analysis for Horizon Year (2040) Conditions

#	Intersection	Traffic Control ²	2040 Without Project				2040 With Project				Acceptable LOS	Significant Impact? ³
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service			
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Euclid Av. (SR-83) / Merrill Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	D	Yes
2	Euclid Av. (SR-83) / Kimball Av.	TS	168.7	>200.0	F	F	177.1	>200.0	F	F	D	Yes
3	Euclid Av. (SR-83) / Bickmore Av.	TS	>200.0	76.3	F	E	>200.0	77.0	F	E	D	No
4	Euclid Av. (SR-83) / Pine Av.	TS	141.5	>200.0	F	F	145.9	>200.0	F	F	D	Yes
5	SR-71 NB Ramps / Euclid Av. (SR-83)	TS	12.9	42.6	B	D	14.8	51.4	B	D	D	No
6	SR-71 SB Ramps / Euclid Av. (SR-83)	TS	100.3	33.9	F	C	101.4	38.7	F	D	D	No
7	Grove Av. / Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	Yes
8	Flight Av. / Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	Yes
9	Vineyard Av./Hellman Av. / Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	Yes
10	Hellman Av. / Kimball Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	D	No
11	Hellman Av. / Pine Av.	TS	89.0	166.9	F	F	93.6	170.9	F	F	D	No
12	Driveway 1 / Merrill Av.	CSS	Future Intersection				10.5	15.8	B	C	D	No
13	Driveway 2 / Merrill Av.	TS	Future Intersection				12.4	12.9	B	B	D	No
14	Archibald Av. / SR-60 WB Ramps	TS	89.0	116.2	F	F	93.5	117.5	F	F	D	Yes
15	Archibald Av. / SR-60 EB Ramps	TS	60.9	92.5	E	F	69.3	94.5	E	F	D	Yes
16	Archibald Av. / Walnut Av.	TS	42.7	21.1	D	C	44.5	22.9	D	C	E	No
17	Archibald Av. / Riverside Dr.	TS	90.1	93.3	F	F	92.5	128.2	F	F	E	Yes
18	Archibald Av. / Chino Av.	TS	58.1	145.6	E	F	61.6	149.2	E	F	E	Yes
19	Archibald Av. / Schaefer Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	E	Yes
20	Archibald Av. / Ontario Ranch Rd.	TS	125.1	>200.0	F	F	139.9	>200.0	F	F	E	Yes
21	Archibald Av. / Eucalyptus Av.	TS	173.8	28.3	F	C	194.1	39.4	F	D	E	Yes
22	Archibald Av. / Merrill Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	E	Yes
23	Archibald Av. / Driveway 3	CSS	Future Intersection				20.9	22.3	C	C	D	No
24	Archibald Av. / Driveway 4/Victoria Ln.	TS	Future Intersection				15.5	15.5	B	B	D	No
25	Archibald Av. / Driveway 5	CSS	Future Intersection				19.9	22.7	C	C	D	No
26	Archibald Av. / Limonite Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	D	Yes
27	Archibald Av. / Schleisman Rd.	TS	>200.0	145.8	F	F	>200.0	147.2	F	F	D	No
28	Harrison Av. / Limonite Av.	TS	60.7	73.7	E	E	67.6	79.1	E	E	D	Yes
29	Sumner Av. / Limonite Av.	TS	57.9	100.0	E	F	59.6	105.3	E	F	D	Yes
30	Scholar Way / Limonite Av.	TS	39.8	62.7	D	E	41.7	64.5	D	E	D	No
31	Hamner Av. / Ontario Ranch Rd. ³	TS	69.3	96.7	E	F	70.5	99.0	E	F	D	No
32	Hamner Av. / Bellegrave Av. ³	TS	32.0	44.9	C	D	32.1	48.8	C	D	D	No
33	Hamner Av. / Limonite Av.	TS	76.6	95.5	E	F	76.6	96.6	E	F	D	No
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	TS	35.7	46.9	D	D	45.2	47.6	D	D	D	No
35	I-15 SB Ramps / Limonite Av.	TS	58.5	84.5	E	F	59.0	86.0	E	F	D	Yes
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	TS	67.0	91.8	E	F	67.9	103.3	E	F	D	Yes
37	I-15 NB Ramps / Limonite Av.	TS	57.1	62.9	E	E	57.6	64.1	E	E	D	No

BOLD = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

³ Improvements currently under construction and anticipated to be completed by mid to late 2017 have been assumed to be in place.

Table 7-2

Roadway Segment Capacity Analysis for Horizon Year (2040) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2040 Without Project	V/C ²	LOS ³	2040 With Project	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	2U	14,000	19,441	1.39	F	20,051	1.43	F	D
2		Between Grove Av. and Vineyard Av.	2U	14,000	20,907	1.49	F	21,677	1.55	F	D
3		West of Driveway 2	2U	14,000	27,695	1.98	F	28,755	2.05	F	D
4	Archibald Avenue	North of Ontario Ranch Rd.	4D	35,900	40,720	1.13	F	41,942	1.17	F	D
5		Between Eucalyptus Av. and Merrill Av.	4D	35,900	45,932	1.28	F	48,084	1.34	F	D
6		North of the County Line	2D	17,950	47,201	2.63	F	48,716	2.71	F	D

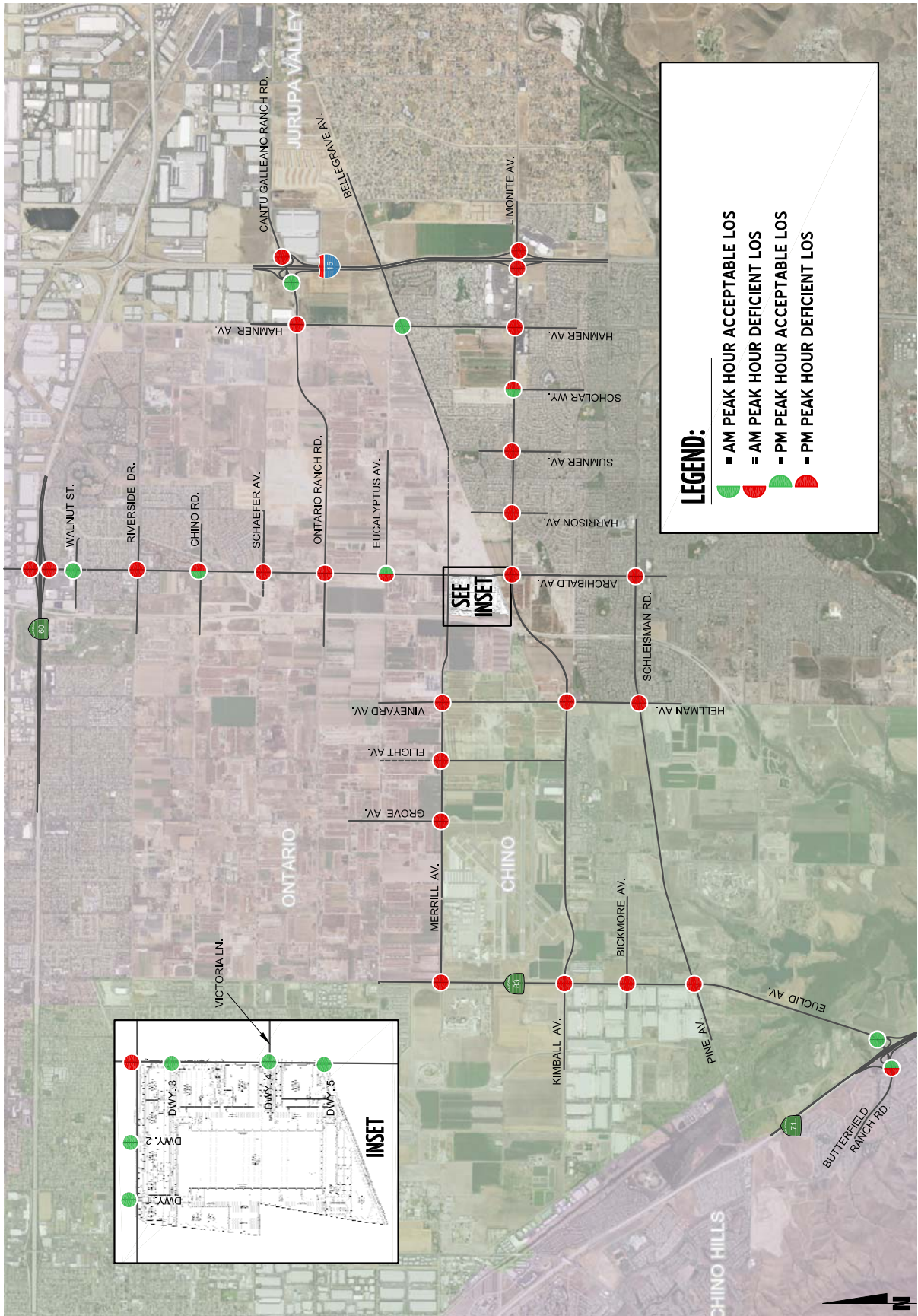
BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

EXHIBIT 7-6: SUMMARY OF LOS FOR HORIZON YEAR (2040) WITH PROJECT CONDITIONS



A peak hour assessment of intersections located on either side of a deficient roadway segment has been conducted to determine if peak hour traffic flows can be accommodated by the potentially deficient roadway segment. If it is determined that peak traffic flows can be accommodated at the City's stated LOS thresholds, then roadway segment widening is typically not recommended.

7.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

The intersection of Archibald Avenue and Schaefer Avenue intersections are anticipated to meet ADT based traffic signal warrants for Horizon Year (2040) Without Project traffic conditions in addition to those previously warranted under Existing, E+P, and Opening Year Cumulative (2019) traffic conditions (see Appendix 7.3). No traffic signal warrant analysis was performed for Horizon Year (2040) With Project traffic conditions as all unsignalized study area intersections are warranted in a previous scenario.

7.7 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2040) traffic conditions are presented in Table 7-3. As shown on Table 7-3, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for Horizon Year (2040) traffic conditions off-ramp queuing analysis are provided in Appendices 7.4 and 7.5.

7.8 BASIC FREEWAY SEGMENT ANALYSIS

Horizon Year (2040) mainline directional volumes for the AM and PM peak hours are provided on Exhibits 7-7 and 7-8. As shown on Table 7-4, the following freeway segments analyzed for this study are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours, in addition to those previously identified in Opening Year Cumulative (2019) traffic conditions:

- SR-71 Freeway Northbound, South of Euclid Av. (SR-83) (#2) – LOS F AM and PM peak hours
- SR-60 Freeway Eastbound, West of Archibald Av. (#5) – LOS E AM and PM peak hours
- SR-60 Freeway Eastbound, East of Archibald Av. (#6) – LOS E AM and PM peak hours

There are no additional freeway segments that are anticipated to operate at an unacceptable LOS during the peak hours with the addition of Project traffic conditions. Horizon Year (2040) Without and With Project basic freeway segment analysis worksheets are provided in Appendix 7.6 and 7.7, respectively.

Table 7-3

Peak Hour Freeway Off-Ramp Queuing Summary for Horizon Year (2040) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-71 NB Ramps / Euclid Avenue (SR-83)	NBL	1,745	106	80	Yes	Yes	106	81	Yes	Yes
	NBR	420	739 ²	1,195 ²	Yes ³	Yes ³	810 ²	1,263 ²	Yes ³	Yes ³
SR-71 SB Ramps / Euclid Avenue (SR-83)	SBL	1,100	136	544 ²	Yes	Yes	136	481 ²	Yes	Yes
	SBL/T	1,560	135	528 ²	Yes	Yes	135	461 ²	Yes	Yes
	SBR	255	0	15	Yes	Yes	0	7	Yes	Yes
Archibald Avenue/ SR-60 WB Ramps	WBL/T	1,389	480 ²	664 ²	Yes	Yes	524 ²	681 ²	Yes	Yes
	WBR	250	739 ²	286 ²	Yes ³	Yes ³	739 ²	286 ²	Yes ³	Yes ³
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	495 ²	176	Yes	Yes	495 ²	176	Yes	Yes
	EBR	350	242	385 ²	Yes	Yes ³	286	408 ²	Yes	Yes ³
I-15 SB Ramps / Cantu Galleano Ranch Rd.	SBL	1,440	59	118	Yes	Yes	164	123	Yes	Yes
	SBR	460	714 ²	647 ²	Yes ³	Yes ³	0 ²	679 ²	Yes ³	Yes ³
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	234 ²	233 ²	Yes	Yes	234 ²	233 ²	Yes	Yes
	NBL/R	580	0	0	Yes	Yes	0	0	Yes	Yes
	NBR	440	57 ²	47	Yes	Yes	57 ²	47	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	329 ²	445 ²	Yes	Yes ³	358 ²	445 ²	Yes	Yes ³
	SBL/T/R	400	235 ²	385 ²	Yes	Yes	272 ²	385 ²	Yes	Yes
	SBR	1,200	201	342 ²	Yes	Yes	230 ²	342 ²	Yes	Yes
I-15 NB Ramps / Limonite Avenue	NBL	450	690 ²	644 ²	Yes ³	Yes ³	748 ²	649 ²	Yes ³	Yes ³
	NBL/T/R	1,235	631 ²	600 ²	Yes	Yes	696 ²	608 ²	Yes	Yes
	NBR	400	569 ²	550 ²	Yes ³	Yes ³	625 ²	565 ²	Yes ³	Yes ³

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

Table 7-4

Basic Freeway Segment Analysis for Horizon Year (2040) Conditions

Freeway	Direction ¹	Mainline Segment	Lanes ²	2040 Without Project				2040 With Project			
				Density ³		LOS ⁴		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-71	SB	South of Euclid Av. (SR-83)	2	989.9	448.7	F	F	1,055.6	490.8	F	F
	NB	South of Euclid Av. (SR-83)	3	91.4	107.4	F	F	92.5	108.0	F	F
SR-60	WB	West of Archibald Av.	4	19.8	28.1	C	D	20.0	28.6	C	D
		East of Archibald Av.	5	16.2	21.1	B	C	16.3	21.2	B	C
	EB	West of Archibald Av.	4	44.8	35.2	E	E	45.4	35.3	F	E
		East of Archibald Av.	4	43.5	37.9	E	E	43.8	38.1	E	E
I-15	SB	North of Cantu Galleano Ranch Rd.	4	29.2	15.5	D	B	29.5	15.5	D	B
		Cantu Galleano Ranch Rd. to Limonite Av.	3	36.4	24.5	E	C	36.4	24.7	E	C
		South of Limonite Av.	3	54.2	29.3	F	D	54.3	29.5	F	D
	NB	North of Cantu Galleano Ranch Rd.	5	18.0	16.3	B	B	18.0	16.5	C	B
		Cantu Galleano Ranch Rd. to Limonite Av.	3	28.7	23.0	D	C	28.7	23.2	D	C
		South of Limonite Av.	3	33.1	28.8	D	D	33.3	29.1	D	D

* **BOLD** = Unacceptable Level of Service

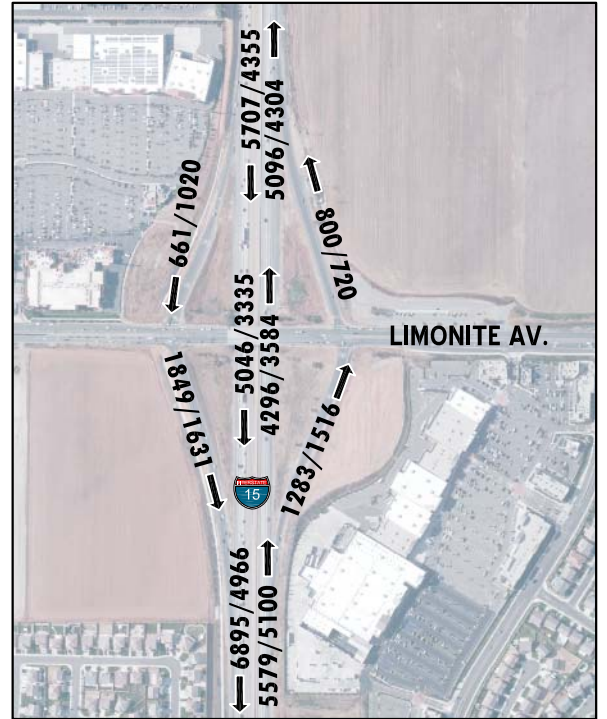
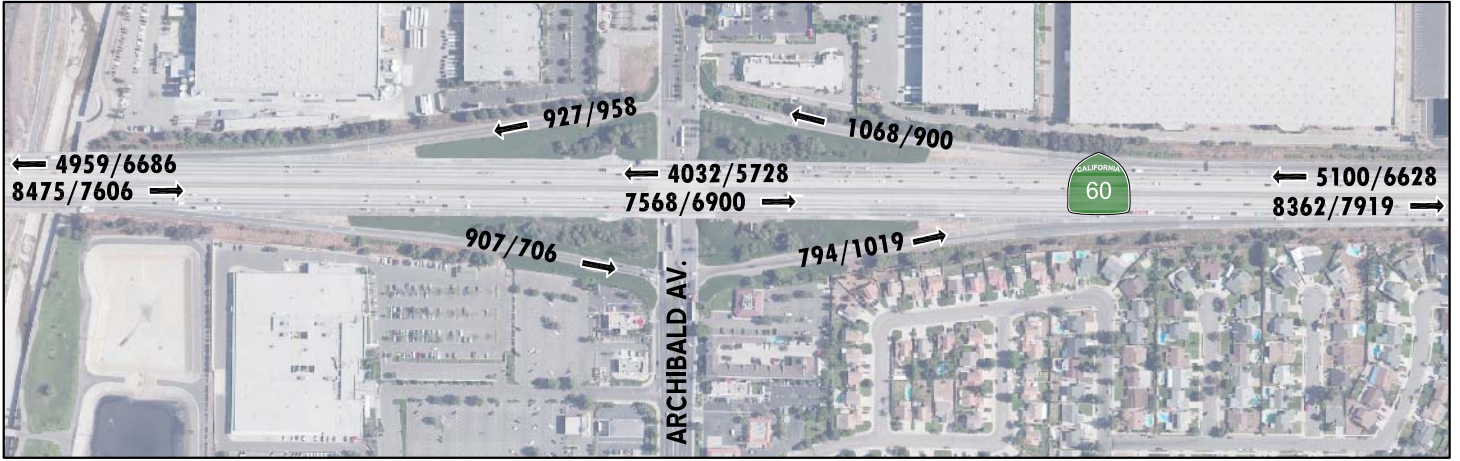
¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

EXHIBIT 7-7: HORIZON YEAR (2040) WITHOUT PROJECT FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)

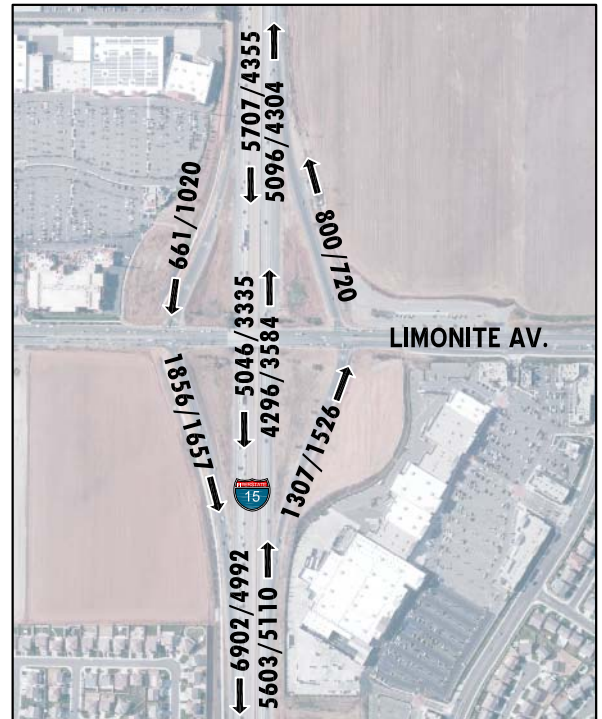
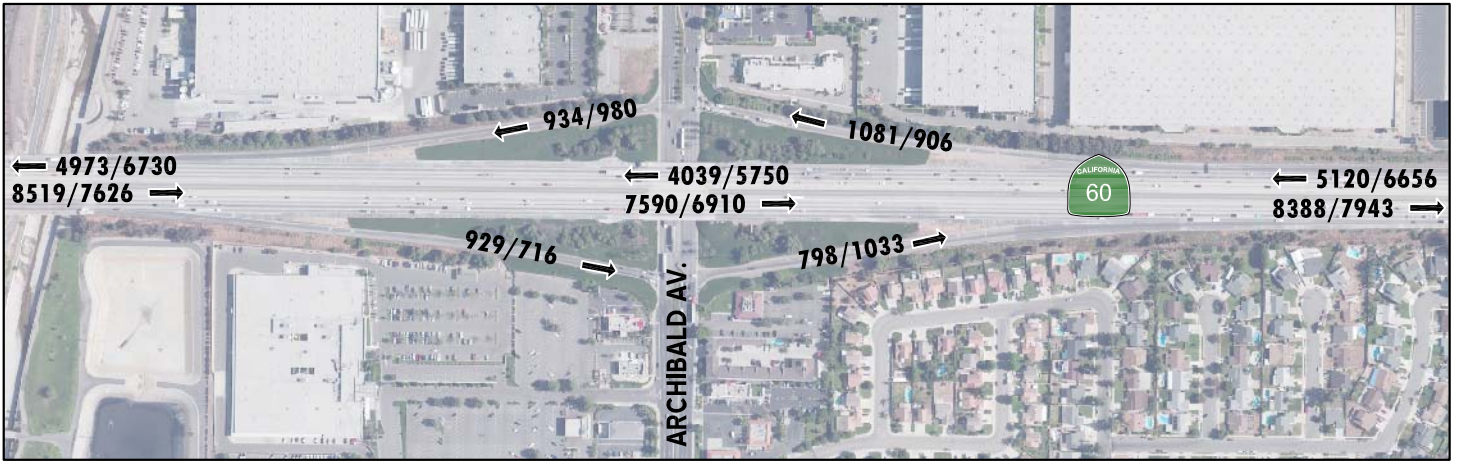


LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EXHIBIT 7-8: HORIZON YEAR (2040) WITH PROJECT FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



7.9 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for Horizon Year Cumulative (2040) conditions and the results of this analysis are presented in Table 7-5. As shown in Table 7-5, there are no merge and diverge areas anticipated to operate at LOS E or LOS F for Horizon Year (2040) Without Project, in addition to those previously identified under Existing, E+P, and Opening Year Cumulative (2019) traffic conditions.

There are no additional merge and diverge areas that are anticipated to operate at an unacceptable LOS during the peak hours with the addition of Project traffic. Horizon Year Cumulative (2040) Without and With Project freeway ramp junction operations analysis worksheets are provided in Appendices 7.8 and 7.9, respectively.

7.10 HORIZON YEAR (2040) DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

7.10.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as significantly impacted by the Project, in an effort to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). Significant impacts have been identified at deficient intersections if the Project contributes 50 or more peak hours or if the addition of Project traffic increases the delay by 5.0 seconds or more (for the intersections in Eastvale only).

The effectiveness of the recommended improvement strategies discussed below to address Horizon Year (2040) traffic deficiencies is presented in Table 7-6 for both the Without and With Limonite Avenue Extension alternatives.

The Project Applicant shall participate in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions through the payment of City of Ontario DIF (if the improvements are included in the DIF program) or on a fair share basis (if the improvements are not included in the DIF program). These fees shall be collected by the City of Ontario, with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases. Each of the improvements shown on Table 7-5 have been identified as being included as part of City DIF fee program or fair share contribution in Section 1.5 *Local and Regional Funding Mechanisms* of this TIA.

Worksheets for Horizon Year (2040) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 7.10 and Appendix 7.11, respectively.

Table 7-5

Freeway Ramp Junction Merge/Diverge Analysis for Horizon Year (2040) Conditions

Freeway	Direction ¹	Ramp or Segment	Lanes on Freeway ²	2040 Without Project				2040 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴
SR-71	SB	Loop On-Ramp at Euclid Av. (SR-83) (Upstream)	52.1	F	55.7	F	52.2	F	56.0	F	
		Loop On-Ramp at Euclid Av. (SR-83) (Downstream)	52.1	F	55.7	F	52.2	F	56.0	F	
SR-60	NB	Off-Ramp at Euclid Av. (SR-83)	58.2	F	60.7	F	58.4	F	60.7	F	
	WB	On-Ramp at Archibald Av.	22.5	C	28.3	D	22.6	C	28.6	D	
		Off-Ramp at Archibald Av.	28.2	D	31.2	D	28.4	D	31.3	D	
I-15	EB	Off-Ramp at Archibald Av.	43.4	E	38.1	E	43.7	F	38.3	E	
		On-Ramp at Archibald Av.	33.8	D	32.8	D	33.9	D	33.0	D	
	SB	Off-Ramp at Cantu Galleano Ranch Rd.	38.9	E	24.6	C	39.4	E	24.8	C	
On-Ramp at Limonite Av.		43.0	F	32.4	D	43.1	F	32.7	D		
I-15	NB	On-Ramp at Cantu Galleano Ranch Rd.	37.5	E	35.9	E	37.6	E	36.3	E	
		Off-Ramp at Limonite Av.	36.7	E	35.2	E	36.8	E	35.4	E	

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service



Table 7-6
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Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
1	Euclid Av. (SR-83) / Merrill Av.																	
	- Without Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	0	0	1	0	<u>1</u>	1	<u>1</u> >	28.8	29.8	C	C
	- With Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	0	0	1	0	<u>1</u>	1	<u>1</u> >	29.0	30.0	C	C
2	Euclid Av. (SR-83) / Kimball Av.																	
	- Without Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	<u>1</u> >	<u>2</u>	2	0	<u>2</u>	2	<u>1</u> >	47.3	52.4	D	D
	- With Project ⁴	TS	1	<u>3</u>	1	<u>2</u>	<u>3</u>	<u>1</u> >	<u>2</u>	2	0	<u>2</u>	2	<u>1</u> >	47.8	53.3	D	D
4	Euclid Av. (SR-83) / Pine Av.																	
	- Without Project ⁴	TS	1	<u>3</u>	<u>1</u> >>	<u>2</u>	<u>3</u>	<u>1</u>	1	<u>2</u>	1	2	<u>2</u>	<u>1</u>	50.7	49.1	D	D
	- With Project ⁴	TS	1	<u>3</u>	<u>1</u> >>	<u>2</u>	<u>3</u>	<u>1</u>	1	<u>2</u>	1	2	<u>2</u>	<u>1</u>	51.0	49.6	D	D
7	Grove Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	0	0	0	0	1	0	<u>1</u>	<u>2</u>	0	0	<u>2</u>	0	19.9	17.2	B	B
	- With Project	<u>TS</u>	0	0	0	0	1	0	<u>1</u>	<u>2</u>	0	0	<u>2</u>	0	20.5	17.8	C	B
8	Flight Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	<u>1</u>	1	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>2</u>	<u>1</u> >	1	<u>2</u>	0	26.8	27.0	C	C
	- With Project	<u>TS</u>	<u>1</u>	1	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>2</u>	<u>1</u> >	1	<u>2</u>	0	27.7	27.3	C	C
9	Vineyard Av./Hellman Av. / Merrill Av.																	
	- Without Project	<u>TS</u>	<u>2</u>	<u>1</u>	<u>1</u> >	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	29.3	37.9	C	D
	- With Project	<u>TS</u>	<u>2</u>	<u>1</u>	<u>1</u> >	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	30.3	38.5	C	D
14	Archibald Av. / SR-60 WB Ramps																	
	- Without Project ⁴	TS	<u>2</u>	3	0	0	4	0	0	0	0	<u>1</u>	1	1	23.7	26.5	C	C
	- With Project ⁴	TS	<u>2</u>	3	0	0	4	0	0	0	0	<u>1</u>	1	1	24.1	27.8	C	C
15	Archibald Av. / SR-60 EB Ramps																	
	- Without Project ⁴	TS	0	<u>3</u>	<u>1</u>	<u>2</u>	3	0	0	1	1	0	0	0	39.0	38.2	D	D
	- With Project ⁴	TS	0	<u>3</u>	<u>1</u>	<u>2</u>	3	0	0	1	1	0	0	0	39.9	39.2	D	D
17	Archibald Av. / Riverside Dr.																	
	- Without Project ^{4,5}	TS	<u>2</u>	3	0	<u>2</u>	3	0	1	2	d	1	2	<u>1</u> >	53.3	59.1	D	E
	- With Project ^{4,5}	TS	<u>2</u>	3	0	<u>2</u>	3	0	1	2	d	1	2	<u>1</u> >	54.1	61.2	D	E
18	Archibald Av. / Chino Av.																	
	- Without Project	TS	1	3	0	1	<u>3</u>	0	1	1	0	1	1	1	28.2	53.6	C	D
	- With Project	TS	1	3	0	1	<u>3</u>	0	1	1	0	1	1	1	28.7	54.6	C	D
19	Archibald Av. / Schaefer Av.																	
	- Without Project	<u>TS</u>	<u>2</u>	<u>3</u>	0	1	<u>3</u>	<u>1</u> >	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	23.4	48.9	C	D
	- With Project	<u>TS</u>	<u>2</u>	<u>3</u>	0	1	<u>3</u>	<u>1</u> >	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	23.6	51.9	C	D
20	Archibald Av. / Ontario Ranch Rd.																	
	- Without Project	TS	<u>2</u>	<u>3</u>	<u>1</u> >	1	<u>3</u>	1	2	<u>3</u>	<u>1</u> >>	2	<u>3</u>	1	46.8	78.6	D	E
	- With Project	TS	<u>2</u>	<u>3</u>	<u>1</u> >	1	<u>3</u>	1	2	<u>3</u>	<u>1</u> >>	2	<u>3</u>	1	51.8	79.7	D	E
21	Archibald Av. / Eucalyptus Av.																	
	- Without Project	TS	<u>1</u>	<u>3</u>	0	1	<u>3</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	1	0	54.6	21.6	D	C
	- With Project	TS	<u>1</u>	<u>3</u>	0	1	<u>3</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	1	0	65.3	22.5	E	C
22	Archibald Av. / Merrill Av.																	
	- Without Project	TS	<u>2</u>	<u>3</u>	1	2	<u>3</u>	<u>1</u> >	<u>2</u>	<u>2</u>	<u>1</u> >>	<u>2</u>	<u>2</u>	1	24.6	38.8	C	D
	- With Project	TS	<u>2</u>	<u>3</u>	1	2	<u>3</u>	<u>1</u> >	<u>2</u>	<u>2</u>	<u>1</u> >>	<u>2</u>	<u>2</u>	1	25.9	51.9	C	D

Table 7-6
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Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
26	Archibald Av. / Limonite Av.																	
	- Without Project	TS	<u>1</u>	<u>3</u>	1>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	0	<u>2</u>	<u>2</u>	<u>2</u> >	35.4	44.9	D	D
	- With Project	TS	<u>1</u>	<u>3</u>	1>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	0	<u>2</u>	<u>2</u>	<u>2</u> >	36.6	45.8	D	D
28	Harrison Av. / Limonite Av.																	
	- Without Project	TS	1	1	1	1	1	0	1	3	d	1	<u>3</u>	1	38.1	44.6	D	D
	- With Project	TS	1	1	1	1	1	0	1	3	d	1	<u>3</u>	1	40.9	47.8	D	D
29	Sumner Av. / Limonite Av.																	
	- Without Project	TS	<u>2</u>	2	0	1	2	0	2	3	0	2	3	1	32.2	50.6	C	D
	- With Project	TS	<u>2</u>	2	0	1	2	0	2	3	0	2	3	1	32.5	53.8	C	D
35	I-15 SB Ramps / Limonite Av.																	
	- Without Project ⁶	TS	0	0	0	1	1	<u>2</u>	0	<u>3</u>	<u>1</u> >>	0	<u>3</u>	<u>1</u> >>	9.9	11.1	A	B
	- With Project ⁶	TS	0	0	0	1	1	<u>2</u>	0	<u>3</u>	<u>1</u> >>	0	<u>3</u>	<u>1</u> >>	9.9	11.2	A	B
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.																	
	- Without Project ⁷	TS	1	1	1	0	0	0	0	3	1	2	3	0	26.9	34.2	C	C
	- With Project ⁷	TS	1	1	1	0	0	0	0	3	1	2	3	0	26.9	36.0	C	F

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d= Defacto Right Turn Lane; 1 = Improvement

² Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

⁴ Includes modifying the coordinated cycle length from 90 seconds to 120 seconds.

⁵ Recommended improvement consists of restriping the EB shared left-through lane as a shared left-through-right turn lane.

⁶ Improvements are consistent with planned partial cloverleaf interchange.

⁷ No physical improvement required. Recommendation is to increase the cycle length during the peak hours to 120 seconds.

7.10.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

As shown on Table 7-6, the Horizon Year peak hour analysis indicates that the adjacent study area intersections on either side of the deficient roadway segments are anticipated to operate at acceptable LOS with the recommended intersection improvements shown. These intersection improvements consist of installation of traffic signals, additional turn lanes, additional through lanes, and traffic signal modifications to accommodate right turn overlap phasing. Table 7-7 shows the LOS for each of the applicable roadway segments with improvements consistent with those shown on Table 7-6 for the adjacent study area intersections, where roadway widening through additional through lanes has been recommended. In other words, only the roadway segments adjacent to study area intersections where additional through lanes have been recommended on Table 7-6 are shown on Table 7-7. As shown on Table 7-7, although most roadway segments shown are anticipated to improve in LOS to acceptable levels, there is 1 deficient roadway segment (Archibald Avenue north of the County Line) with the recommended roadway segment improvements, however, roadway segment widening does not appear necessary to address the deficiencies at the identified roadway segments based on the peak hour intersection operations analysis shown on Table 7-6.

7.10.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

Table 7-8 shows the queuing results with the proposed intersection improvements shown previously on Table 7-6. As shown, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for Horizon Year (2040) Without and With Project traffic conditions, with improvements, off-ramp queuing analysis are provided in Appendices 7.12 and 7.13, respectively.

7.10.4 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

The Final Transportation Report for the California State Route 60 Freeway (prepared by Caltrans in July 2005), includes the construction of an additional high-occupancy vehicle (HOV) lane in each direction of the SR-60 Freeway and the construction of two truck by-pass lanes within the vicinity of the Archibald Avenue interchange. (11) Improvements along the I-15 Freeway near the vicinity of Cantu Galleano Ranch Road and Limonite Avenue include the addition of one to two tolled express lanes in each direction between the SR-60 Freeway and Cajalco Road. At the time of study preparation, an analysis of the future planned improvements along the SR-71 Freeway was not readily available (i.e., no study has been conducted to date). As such, no additional analysis has been performed for these freeway mainline segments and ramp merge/diverge junctions and no improvements are assumed within this analysis.

Table 7-7

Roadway Segment Capacity Analysis for Horizon Year (2040) Conditions With Improvements

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2040 Without Project	V/C ²	LOS ³	2040 With Project	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	4D	28,000	19,441	0.69	B	20,051	0.72	C	D
2		Between Grove Av. and Vineyard Av.	4D	28,000	20,907	0.75	C	21,677	0.77	C	D
3		West of Driveway 2 ⁴	4D	35,000	27,695	0.79	C	28,755	0.82	D	D
4	Archibald Avenue	North of Ontario Ranch Rd.	6D	53,900	40,720	0.76	C	41,942	0.78	C	D
5		Between Eucalyptus Av. and Merrill Av.	6D	53,900	45,932	0.85	D	48,084	0.89	D	D
6		North of the County Line	6D	53,900	47,201	0.88	D	48,716	0.90	E	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

⁴ Additional capacity provided along the Project's frontage via turn lanes.

Table 7-8

Peak Hour Freeway Off-Ramp Queuing Summary for Horizon Year (2040) Conditions With Improvements

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
Archibald Avenue/ SR-60 WB Ramps	WBL	1,389	209	412 ²	Yes	Yes	224	424 ²	Yes	Yes
	WBL/T	1,312	204	368 ²	Yes	Yes	220	378 ²	Yes	Yes
	WBR	250	783 ²	340 ²	Yes ³	Yes ³	783 ²	346 ²	Yes ³	Yes ³
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	636 ²	221	Yes	Yes	636	221	Yes	Yes
	EBR	350	297	437	Yes	Yes ³	355 ²	491 ²	Yes ³	Yes ³
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	176	155	Yes	Yes	176	155	Yes	Yes
	NBL/R	580	0	0	Yes	Yes	0	0	Yes	Yes
	NBR	440	43	34	Yes	Yes	43	34	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	234	255	Yes	Yes	242	263	Yes	Yes
	SBL/T/R	400	234	257	Yes	Yes	242	265	Yes	Yes
	SBR	1,200	117	239	Yes	Yes	118	246	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

Caltrans typically assumes a reduction of fourteen percent to the freeway mainline through volumes in this region to account for vehicles utilizing the carpool (high-occupancy vehicle) lanes. The reduction to the SR-60 and I-15 Freeway mainline volumes has been applied to account for the proposed HOV/Express Toll lanes and truck bypass lanes. The analysis has been performed assuming the same number of mixed-flow lanes and on and off-ramp configurations as existing baseline conditions at the SR-60 Freeway at Euclid Avenue (SR-83) and I-15 Freeway at Limonite Avenue interchanges. Reductions to mainline volumes have been taken into account for the HOV/Express Toll lanes and truck bypass lanes, but HCM analyses for the freeway facility only considers the mixed-flow lanes.

As shown on Table 7-9, the SR-60 and I-15 Freeway mainline segments are anticipated to operate at an acceptable LOS with the improvements discussed above. Table 7-10 shows that the following SR-60 and I-15 Freeway ramp junctions are anticipated to continue to operate at an unacceptable LOS with the improvements discussed above (i.e., LOS E or worse), although they are anticipated to operate at an improved density as compared to the “without improvement” condition:

- SR-60 Freeway, Eastbound, Off-Ramp at Archibald Avenue (#6) – LOS E AM peak hour only
- I-15 Freeway, Southbound Off-Ramp at Limonite Av. (#8) – LOS E AM peak hour only
- I-15 Freeway, Southbound On-Ramp at Limonite Av. (#9) – LOE AM peak hour only

Worksheets for Horizon Year (2040) Without and With Project conditions freeway mainline level of service analysis, with improvements, are provided in Appendix 7.14 and Appendix 7.15. Horizon Year (2040) Without and With Project freeway ramp junction level of service analysis worksheets, with improvements, are provided in Appendix 7.16 and Appendix 7.17.

Table 7-9

Basic Freeway Segment Analysis for Horizon Year (2040) Conditions With Improvements

Freeway	Direction ¹	Mainline Segment	Lanes ²	2040 Without Project				2040 With Project			
				Density ³		LOS ⁴		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-60	WB	West of Archibald Av.	4	16.7	22.9	B	C	16.9	23.3	B	C
		East of Archibald Av.	5	13.8	17.9	B	B	13.9	18.0	B	B
	EB	West of Archibald Av.	4	31.7	27.1	D	D	32.3	27.2	D	D
		East of Archibald Av.	4	31.2	28.9	D	D	31.4	29.0	D	D
I-15	SB	North of Cantu Galleano Ranch Rd.	4	24.8	13.1	C	B	25.1	13.2	C	B
		Cantu Galleano Ranch Rd. to Limonite Av.	4	20.1	12.6	C	B	20.1	12.7	C	B
		South of Limonite Av.	4	25.8	24.8	C	C	25.8	24.9	C	C
	NB	North of Cantu Galleano Ranch Rd.	5	15.7	14.6	B	B	15.8	14.7	B	B
		Cantu Galleano Ranch Rd. to Limonite Av.	4	17.2	12.1	B	B	17.2	12.1	B	B
		South of Limonite Av.	4	19.1	17.7	C	B	19.2	17.8	C	B

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on an additional HOV and truck bypass lane on the SR-60 Freeway and an additional mainline and HOV lane on the I-15 Freeway.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

Table 7-10

Freeway Ramp Junction Merge/Diverge Analysis for Horizon Year (2040) Conditions With Improvements

Freeway ¹	Direction ¹	Ramp or Segment	Lanes on Freeway ²	2040 Without Project				2040 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴
SR-60	WB	On-Ramp at Archibald Av.	4	19.9	B	25.0	C	20.0	C	25.3	C
		Off-Ramp at Archibald Av.	5	26.5	C	29.1	D	26.6	C	29.3	D
	EB	Off-Ramp at Archibald Av.	4	37.4	E	33.2	D	37.8	E	33.3	D
		On-Ramp at Archibald Av.	4	28.8	D	28.6	D	29.0	D	28.8	D
I-15	SB	Off-Ramp at Cantu Galleano Ranch Rd.	4	35.8	E	22.2	C	36.3	E	22.3	C
		On-Ramp at Limonite Av.	4	39.0	E	29.5	D	39.0	E	29.7	D
	NB	On-Ramp at Cantu Galleano Ranch Rd.	4	34.1	D	33.3	D	34.2	D	33.4	D
		Off-Ramp at Limonite Av.	4	33.6	D	32.5	D	33.8	D	32.7	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on an additional HOV and truck bypass lane on the SR-60 Freeway and an additional mainline and HOV lane on the I-15 Freeway.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

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8 REFERENCES

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9. **City of Fontana.** *Truck Trip Generation Study.* Fontana : s.n., August 2003.
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11. **California Department of Transportation (Caltrans).** *Final Transportation Report for the California State Route 60 Freeway.* July 2005.

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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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December 15, 2016

Mr. Larry Tay
City of Ontario
303 E. B Street
Ontario, CA 91764

SUBJECT: SCOPING ASSUMPTIONS FOR THE COLONY COMMERCE CENTER EAST TRAFFIC IMPACT ANALYSIS

Dear Mr. Larry Tay:

The firm of Urban Crossroads, Inc. is pleased to submit this letter documenting the recommended scoping assumptions for the proposed Colony Commerce Center East (“Project”), which is located on the southwest corner of Archibald Avenue and Merrill Avenue in the City of Ontario. Urban Crossroads, Inc. has calculated trip generation, evaluated trip distribution patterns, and the recommended analysis locations. It is our understanding that the Project is to consist of up to 998,680-square foot (sf) high-cube warehouse/distribution center building (Building 9) and 8 smaller buildings totaling 673,810-sf (Buildings 1 through 8). 25 percent of the total building square footage for Buildings 1-8 is assumed to be manufacturing use, while the remaining 75 percent is assumed to be general warehouse use. The proposed Project is anticipated to be developed in a single phase with a projected Project Buildout of 2018.

PROJECT DESCRIPTION

Exhibit 1 illustrates the preliminary Project site plan. The proposed Project is part of the Colony Commerce East Specific Plan. The proposed Project is contained within Planning Area (PA) 1 and PA2 of the Specific Plan. The remaining PA3 (highlighted and identified as the Katob Property) is not a part of this Project and is proposed to be developed with up to 231,195 square feet of industrial use in the future. As indicated on Exhibit 1, the total development is proposed to consist of up to 168,453-sf of manufacturing use (25 percent of Buildings 1 through 8), 505,358-sf of warehousing use (75 percent of Buildings 1 through 8), and 998,680-sf high-cube warehouse/distribution center use (Building 9). Vehicular and truck traffic access will be provided via the following driveways (see Exhibit 1):

- Driveway 1 / Merrill Avenue – Right-in/right-out driveway providing access to both passenger cars and trucks for Buildings 1, 2, and 9
- Driveway 2 / Merrill Avenue – Full access driveway providing access to both passenger cars and trucks for Buildings 3, 4, 5, 6, and 9
- Archibald Avenue / Driveway 3 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 5, 6, and 9

- Archibald Avenue / Driveway 4 – Full access driveway providing access to both passenger cars and trucks for Buildings 6, 7, 8, and 9
- Archibald Avenue / Driveway 5 – Right-in/right-out driveway providing access to passenger cars and trucks for Buildings 8 and 9

Exhibit 2 illustrates the proposed study area and study area intersections. As indicated on Exhibit 2, the proposed development is located between Kimball Avenue and Bickmore Avenue on either side of the future Mayhew Avenue in the City of Ontario. The Project is approximately 3.3 miles south of State Route 60 (SR-60) Interchange on Archibald Avenue and approximately 3.0 miles west of Interstate 15 (O-15) Freeway on Limonite Avenue.

EXISTING ANALYSIS

As shown on Exhibit 2, most of the traffic counts within the study area were collected in either in the end of April or early May of 2016. A 1 percent growth is proposed to be added to these April/May 2016 traffic counts to represent Existing (2017) traffic conditions. For the locations where counts were collected in December 2016, no growth will be applied to reflect Existing (2017) traffic conditions.

OPENING YEAR ANALYSIS

Consistent with other traffic studies performed in the area, an Existing plus Project (E+P) condition analysis will be performed to determine the Project's direct impacts:

- Existing plus Project (Buildout)

To assess potential cumulative traffic impacts, Opening Year scenarios (identified below) will be evaluated in the traffic study:

- Opening Year Cumulative (2018) Without Project
- Opening Year Cumulative (2018) With Project

Other cumulative development projects will be manually added in conjunction with an ambient (background) growth factor for each of the Opening Year Cumulative analysis scenarios. Where applicable, 100% of the cumulative development projects that are either under construction or would be completed by 2018 would be included as opposed to the proposed absorption percentage. We are proposing the following absorption rate be applied to the remaining cumulative projects: 30% for 2018.

HORIZON YEAR (2040) ANALYSIS

The Horizon Year (2040) traffic volume forecasts will be based on data obtained from the San Bernardino Traffic Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing with the exception of study area intersections located in Riverside County. Horizon Year forecasts for

study area intersections located within the County of Riverside will be derived from the Riverside County Transportation Analysis Model (RivTAM).

The Katob Property (PA3 of the Colony Commerce East Specific Plan) will be included for Horizon Year (2040) traffic conditions only. The site is assumed to consist of up to 231,195 square feet of industrial use. The site will take access to Archibald Avenue via Driveway 5 (access road located along the Project's southern boundary).

The Horizon Year (2040) traffic forecasts for the study area will be based on existing peak hour traffic count data and raw model output data. Data will be obtained from the SBTAM and RivTAM for the Without Project scenario. The following Horizon Year (2040) scenarios will be evaluated in the traffic study:

- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Trip generation rates for the Project are shown in Table 1 for both passenger car equivalent (PCE) and actual vehicles. The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project in PCE are shown on Table 2, and Table 3 shows the trip generation summary based on actual vehicles. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their *Trip Generation* manual, 9th Edition, 2012.

For purposes of this analysis, the following ITE land use codes and vehicle mixes have been utilized:

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for up to 25 percent of the total square footage for Buildings 1 through 8. The ITE *Trip Generation* manual includes very limited data regarding the types of vehicles that are generated for manufacturing uses (passenger cars and various sizes of trucks). As such, data regarding the vehicle mix has been obtained from a separate report; the City of Fontana *Truck Trip Generation Study* (August 2003) for the manufacturing uses proposed as part of the Project. Buildings 1 through 8 have been identified as manufacturing. The "Light Industrial" vehicle mix data has been utilized as a vehicle mix for manufacturing is not readily available.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 75 percent of the total square footage for Buildings 1 through 8. The ITE *Trip Generation* manual includes very limited data regarding the types of vehicles that are generated for warehousing uses (passenger cars and various sizes of trucks). Data regarding the vehicle mix

has therefore been obtained from a separate report; the City of Fontana *Truck Trip Generation Study* (August 2003) for the warehousing use proposed as part of the Project. The “Heavy Warehouse” vehicle mix data has been utilized for all 4 buildings.

- ITE land use code 152 (High-Cube Warehousing) has been used to derive site specific trip generation estimates for Building 9. Total vehicle mix percentages were also obtained from the ITE *Trip Generation* manual in conjunction with the South Coast Air Quality Management District’s (SCAQMD) recommended truck mix, by axle type. The SCAQMD is currently recommending the use of the ITE *Trip Generation* manual in conjunction with their truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects, as truck emission represent more than 90 percent of air quality impacts from these projects. This recommended procedure has been utilized for the purposes of this analysis in effort to be consistent with other technical studies being prepared for the Project. The percentage of trucks has been determined from the table shown on page 267 of the ITE *Trip Generation* manual. As shown on page 267, the truck trip generation rate for weekday daily traffic is 0.64 or 38.1% of the total traffic. Similarly, the truck trip generation rate for the weekday AM peak hour is 0.03 (27.3% of the total traffic) and 0.04 (or 33.3% of the total traffic) for the weekday PM peak hour. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the SCAQMD interim recommended truck mix. The SCAQMD has recently performed surveys of existing facilities and compiled the data to provide interim guidance on the mix of heavy trucks for these types of high-cube warehousing/distribution facilities. Based on this interim guidance from the SCAQMD, the following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the site: 22.0% of the total trucks as 2-axle trucks, 17.7% of the total trucks as 3-axle trucks, and 60.3% of the total trucks as 4+-axle trucks.

Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical “real-world” mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP), 2016 Update.

As shown on Table 2, the proposed Project is anticipated to generate a net total of 11,218 PCE trip-ends per day, 1,113 PCE AM peak hour trips and 1,174 PCE PM peak hour trips. In comparison, the proposed Project is anticipated to generate a net total of 9,217 actual vehicle trip-ends per day with 869 AM peak hour trips and 914 PM peak hour trips (see Table 3).

TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the City of Ontario, City of Chino, City of Chino Hills, City of Eastvale, and the California Department of Transportation (Caltrans). Given these differences, separate trip distributions were generated for both passenger cars and truck trips.

The Opening Year Cumulative distribution patterns utilize the existing roadway system in relation to the Horizon Year trip distribution patterns, which assumes future roadway connections. The Project trip distribution patterns are also affected by near-term development patterns in the vicinity of the Project site. The extension of Hellman Avenue north of Merrill Avenue, Carpenter Avenue north of Merrill Avenue, Schaefer Avenue at Archibald Avenue, Limonite Avenue/Kimball Avenue extension between Hellman Avenue and Archibald Avenue, and the Merrill Avenue extension to Bellegrave Avenue will also be assumed for Horizon Year conditions only.

Exhibit 3 illustrates the truck trip distribution patterns for Opening Year Cumulative and Horizon Year conditions. As shown on Exhibit 3, trucks are anticipated to utilize designated truck routes such as Merrill Avenue, Euclid Avenue (SR-83), Archibald Avenue, Edison Avenue/Ontario Ranch Road, and Limonite Avenue to reach regional freeways such as the SR-71, SR-60, and I-15 Freeways. These travel patterns are not anticipated to change with the addition of new future facilities for Horizon Year traffic conditions. Exhibit 4 illustrates the Opening Year Cumulative passenger car trip distribution patterns. The Opening Year Cumulative passenger car trip distribution patterns are based on a SBTAM select zone run for the zone containing the Project, with modifications to utilize the existing roadways only.

Exhibit 5 illustrates the passenger car trip distribution patterns for Horizon Year traffic conditions. The passenger car trip distribution patterns are based on a SBTAM select zone run for the zone containing the Project.

INTERSECTION ANALYSIS LOCATIONS

The Colony Commerce Center East traffic study will implement the San Bernardino Associated Governments (SANBAG) Congestion Management Program (CMP) for traffic impact analysis reports. CMP intersections, where applicable, are illustrated on Exhibit 2. The general preparation of the traffic impact study for this Project will continue to be in conformance with the typical requirements of the San Bernardino County CMP.

Exhibit 2 depicts the recommended intersection analysis locations, based upon the analysis in this scoping letter. The recommended local analysis locations are based on the highest Project traffic contribution presented for either Opening Year Cumulative or Horizon Year scenarios.

INTERSECTION ANALYSIS METHODOLOGY

For the purposes of this analysis, signalized intersection operations analysis will be based on the methodology described in Chapter 18 and 31 of the *Highway Capacity Manual (2010)*. Intersection LOS operations are based on an intersection's average control delay. A maximum cycle length of 120 seconds will be utilized. Unsignalized intersections will be evaluated using the methodology described in Chapter 19, Chapter 20, and Chapter 32 of the HCM 2010. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

Existing and Opening Year Cumulative Traffic Conditions:

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

Horizon Year (2040) Traffic Conditions:

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual right: 1800 vphgpl
- Exclusive triple left: 1600 vphgpl or less

LEVEL OF SERVICE (LOS) CRITERIA

The definitions of an operational deficiency for each of the applicable jurisdictions are as follows:

CITY OF ONTARIO

The City of Ontario utilizes a minimum acceptable LOS of LOS E.

CITY OF CHINO

According to the City of Chino, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours. Therefore, any intersection operating at LOS E or F is considered deficient. LOS will also be reported by movement for the City's review.

CITY OF EASTVALE

The City of Eastvale General Plan Policy C-10 sets a standard of LOS C with LOS D as acceptable in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramps. Based on this criteria, LOS D is the minimum acceptable LOS at all study intersections in the City of Eastvale.

CMP

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, except where an existing LOS F condition is identified in the CMP document.

CALTRANS

For the study intersections at Caltrans freeway-to-arterial ramps, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours.

SPECIAL ISSUES

The following special issues will be addressed in the traffic study:

- Truck turning templates will be used to address how Project truck traffic (e.g., large trucks such as a WB-67) would enter and exit the Project site to determine radii at curb returns, radii of streets per Highway Design Manual, and widths/radii required for on-site maneuvering for two-way truck traffic.
- Provide a queuing analysis for the Project driveways and site adjacent signalized intersections for Horizon Year (2040) traffic conditions to determine necessary storage lengths. Site plan and proposed driveway placement/median openings will need to be reviewed for locations and queuing of trucks/cars based on proximity to the intersection of Archibald Avenue/Merrill Avenue and distances to other driveways.
- Conduct a traffic signal warrant analysis for Driveway 2 and Merrill Avenue (ADT-based).
- "Fair-share" contributions for improvements within the City's DIF program and within in other jurisdictions will be included in the TIA.

CUMULATIVE DEVELOPMENT PROJECTS

Exhibit 6 illustrates a cumulative development location map. A summary of the cumulative development projects is shown on Table 4. Please review to let us know if there are any projects that should be

Mr. Larry Tay
City of Ontario
December 15, 2016
Page 8 of 8

removed or provide information on new cumulative projects that should be added. We will also reach out to the adjacent City of Chino, City of Chino Hills, and City of Eastvale, to obtain updated cumulative projects within their respective jurisdictions. Cumulative development projects will be utilized for evaluating Opening Year Cumulative traffic conditions, in conjunction with the addition of background growth (i.e., compounded growth of 2 percent per year over 1 year).

FEE PROGRAM

It is requested that the City provide a list of facilities that are included in the City's fee program.

SIGNAL TIMING

It is requested that the City of Ontario provide existing signal timing for intersections within their jurisdiction. Caltrans will also be contacted to obtain existing signal timing for facilities located within their jurisdiction. If existing signal timing is not available, default values consistent with the most current CA MUTCD guidelines will be utilized.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the Colony Commerce Center East Traffic Impact Analysis. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area.

If you have any questions, please contact me directly at (949) 336-5978.

Respectfully submitted,

URBAN CROSSROADS, INC.



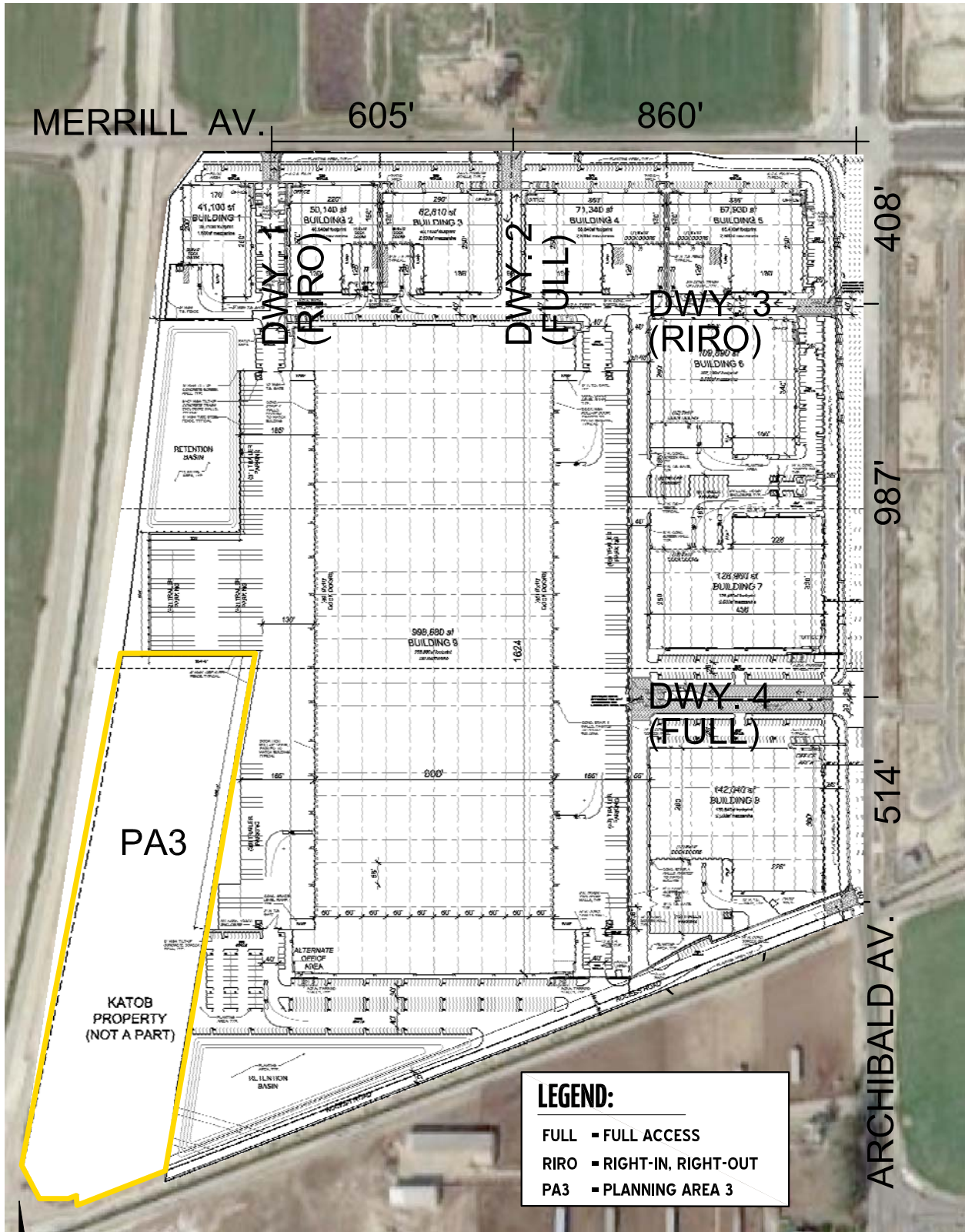
Aric Evatt, PTP
President



Charlene So, PE
Senior Transportation Engineer

Attachments

EXHIBIT 1: PRELIMINARY SITE PLAN



LEGEND:

- FULL ■ FULL ACCESS
- RIRO ■ RIGHT-IN, RIGHT-OUT
- PA3 ■ PLANNING AREA 3

EXHIBIT 2: LOCATION MAP

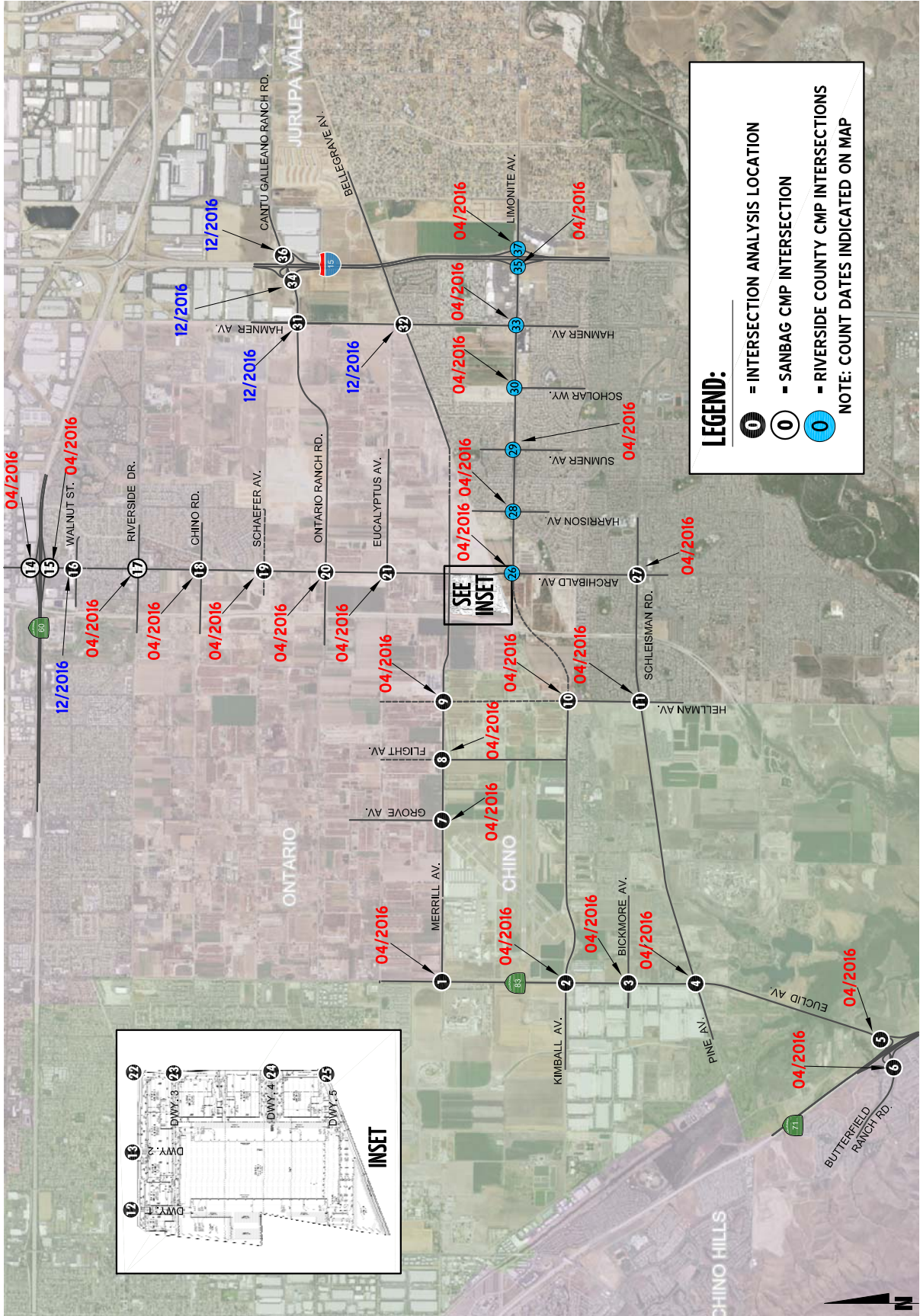


EXHIBIT 3 (1OF2): PROJECT (OPENING YEAR CUMULATIVE AND HORIZON YEAR TRUCK) TRIP DISTRIBUTION

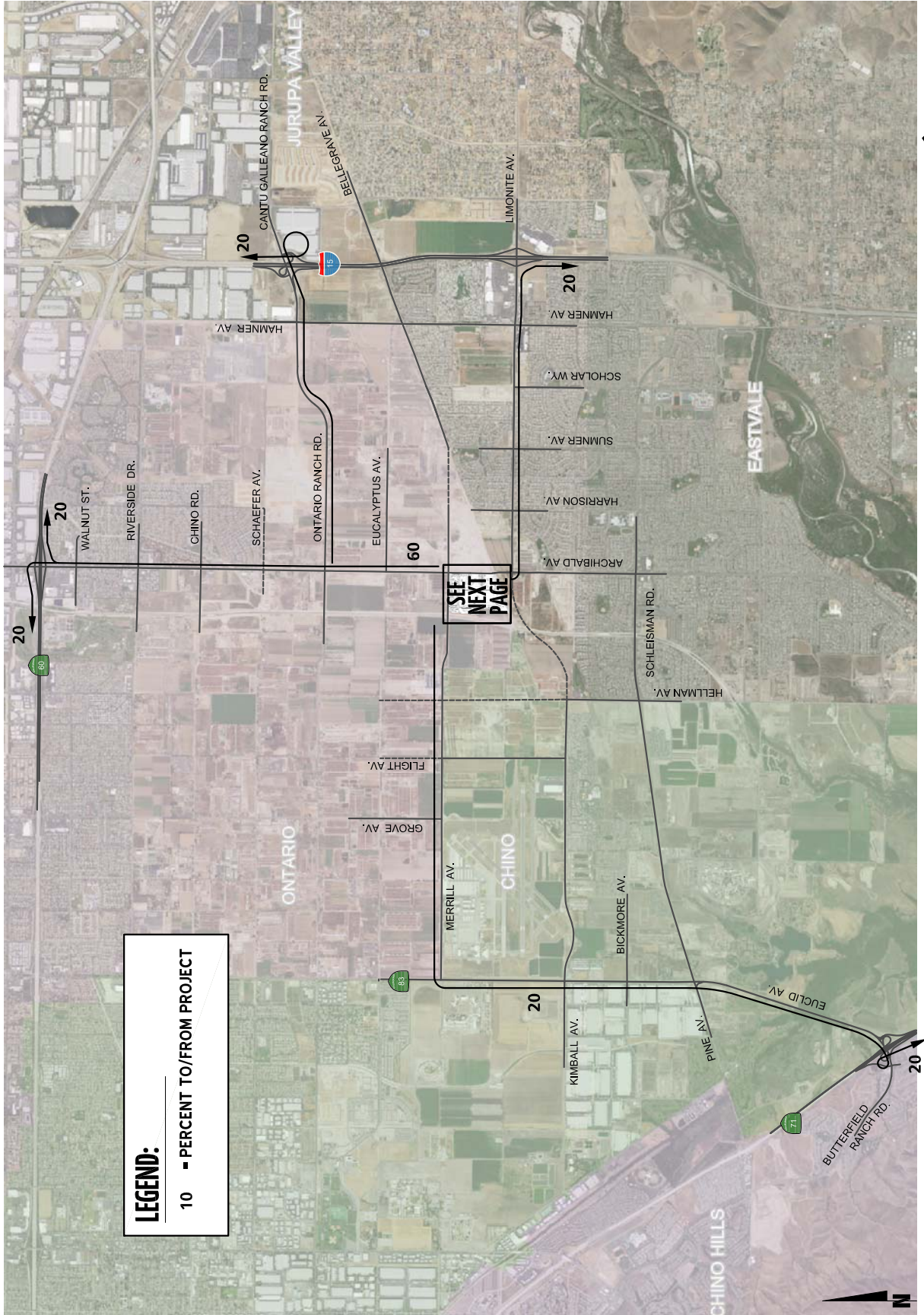


EXHIBIT 3 (2OF2): PROJECT (OPENING YEAR CUMULATIVE AND HORIZON YEAR TRUCK) TRIP DISTRIBUTION

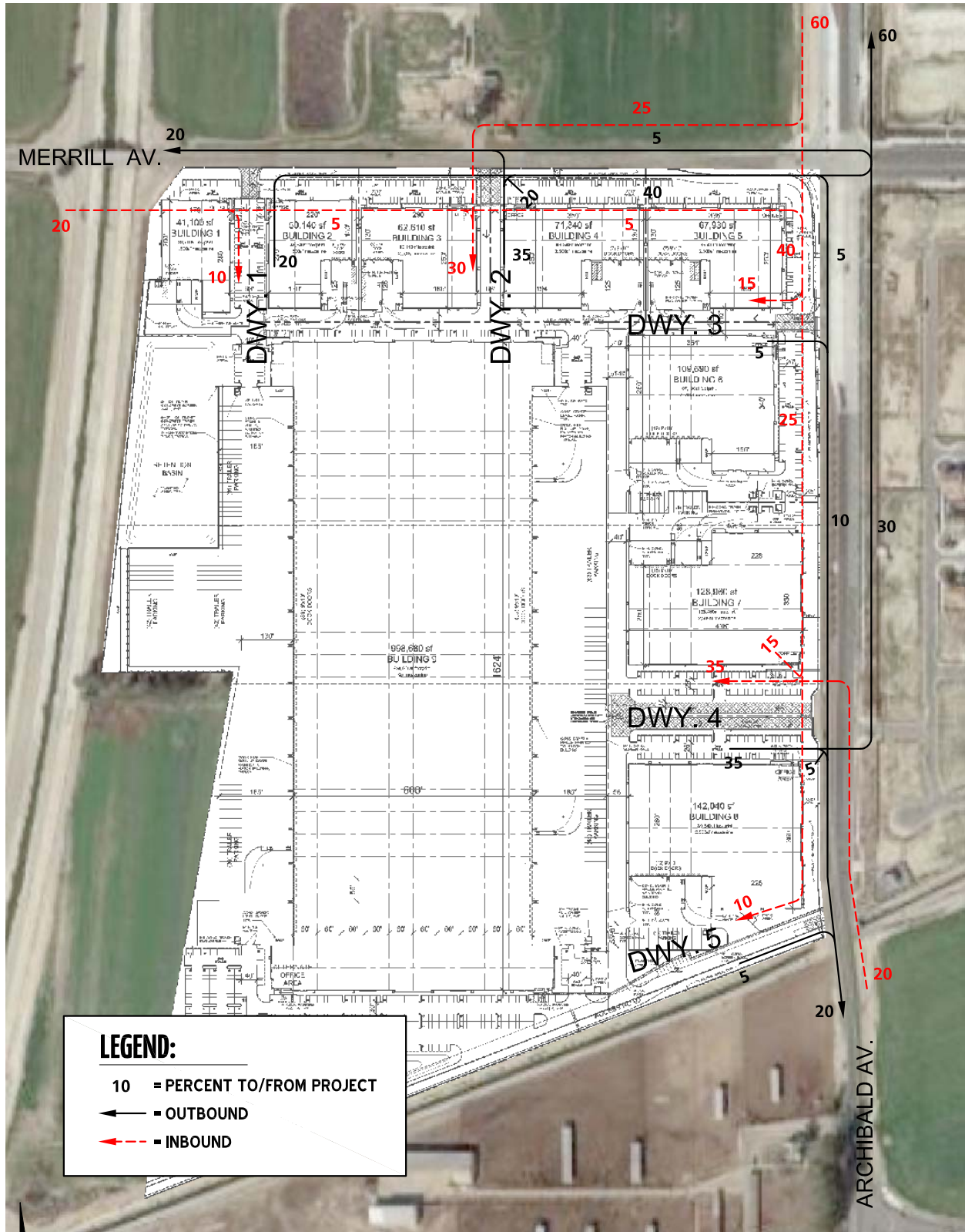
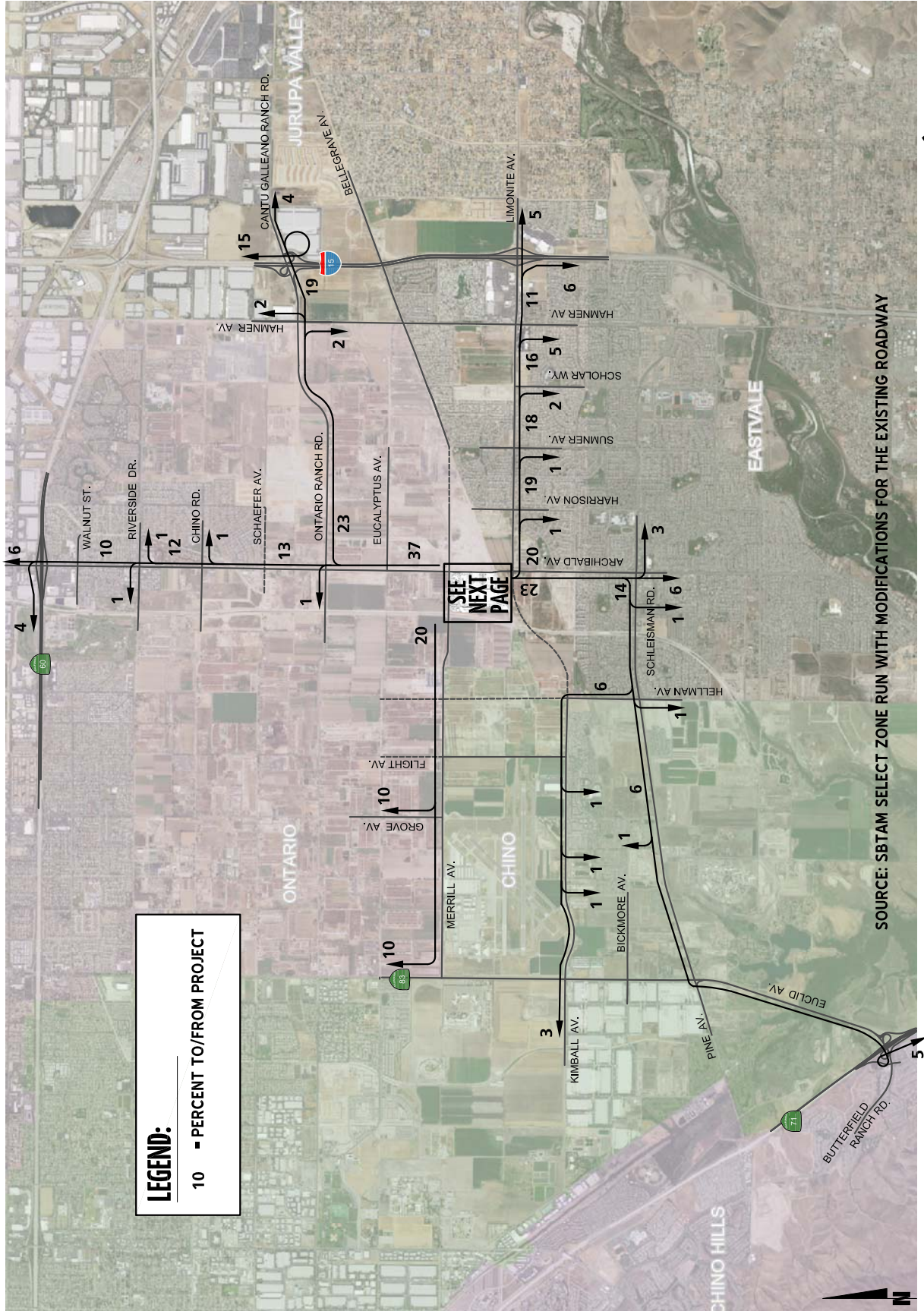


EXHIBIT 4 (1OF2): PROJECT (OPENING YEAR CUMULATIVE PASSENGER CAR) TRIP DISTRIBUTION



SOURCE: SBTAM SELECT ZONE RUN WITH MODIFICATIONS FOR THE EXISTING ROADWAY

LEGEND:
 10 - PERCENT TO/FROM PROJECT



EXHIBIT 4 (2OF2): PROJECT (OPENING YEAR CUMULATIVE PASSENGER CAR) TRIP DISTRIBUTION

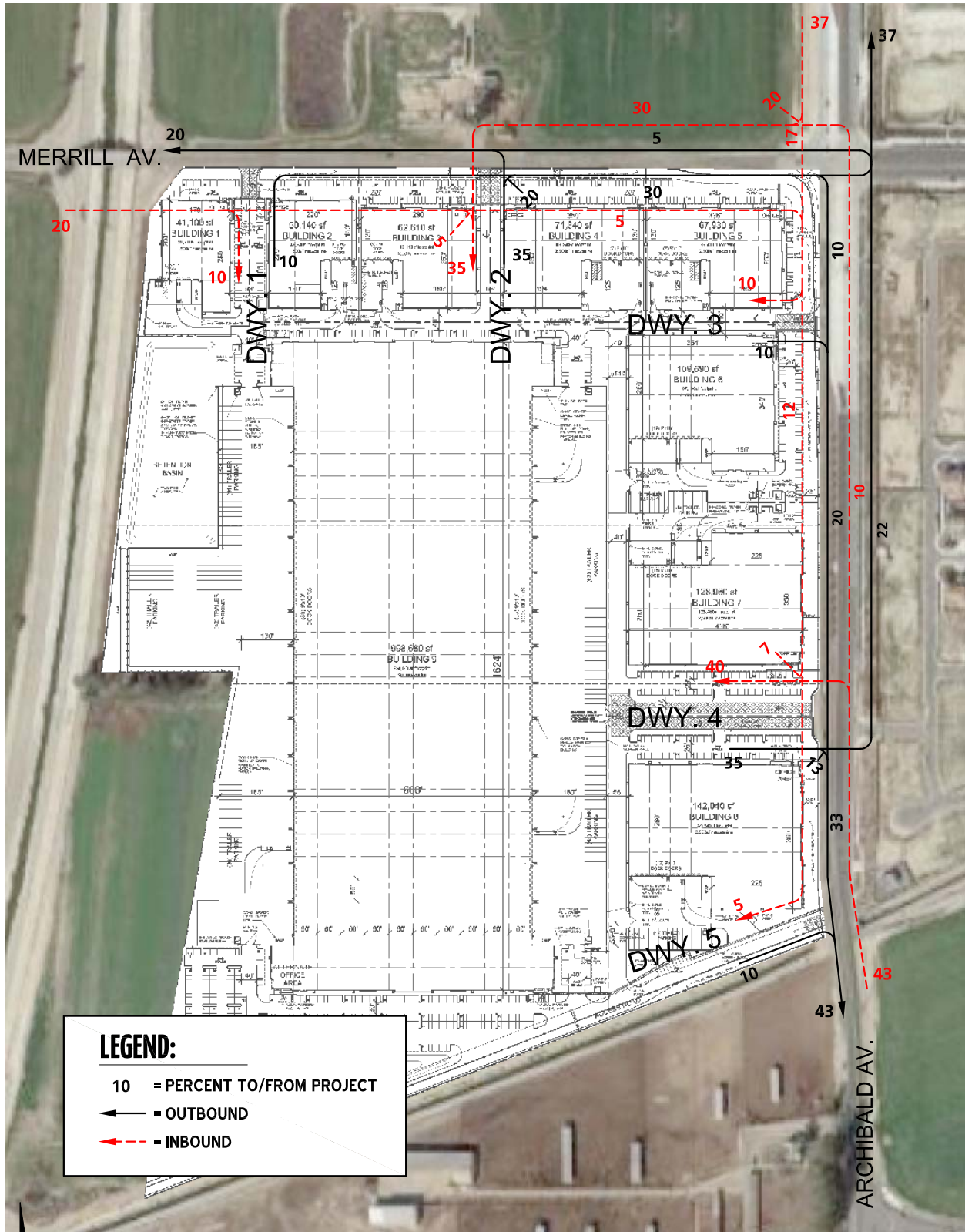


EXHIBIT 5 (1OF2): PROJECT (HORIZON YEAR PASSENGER CAR) TRIP DISTRIBUTION

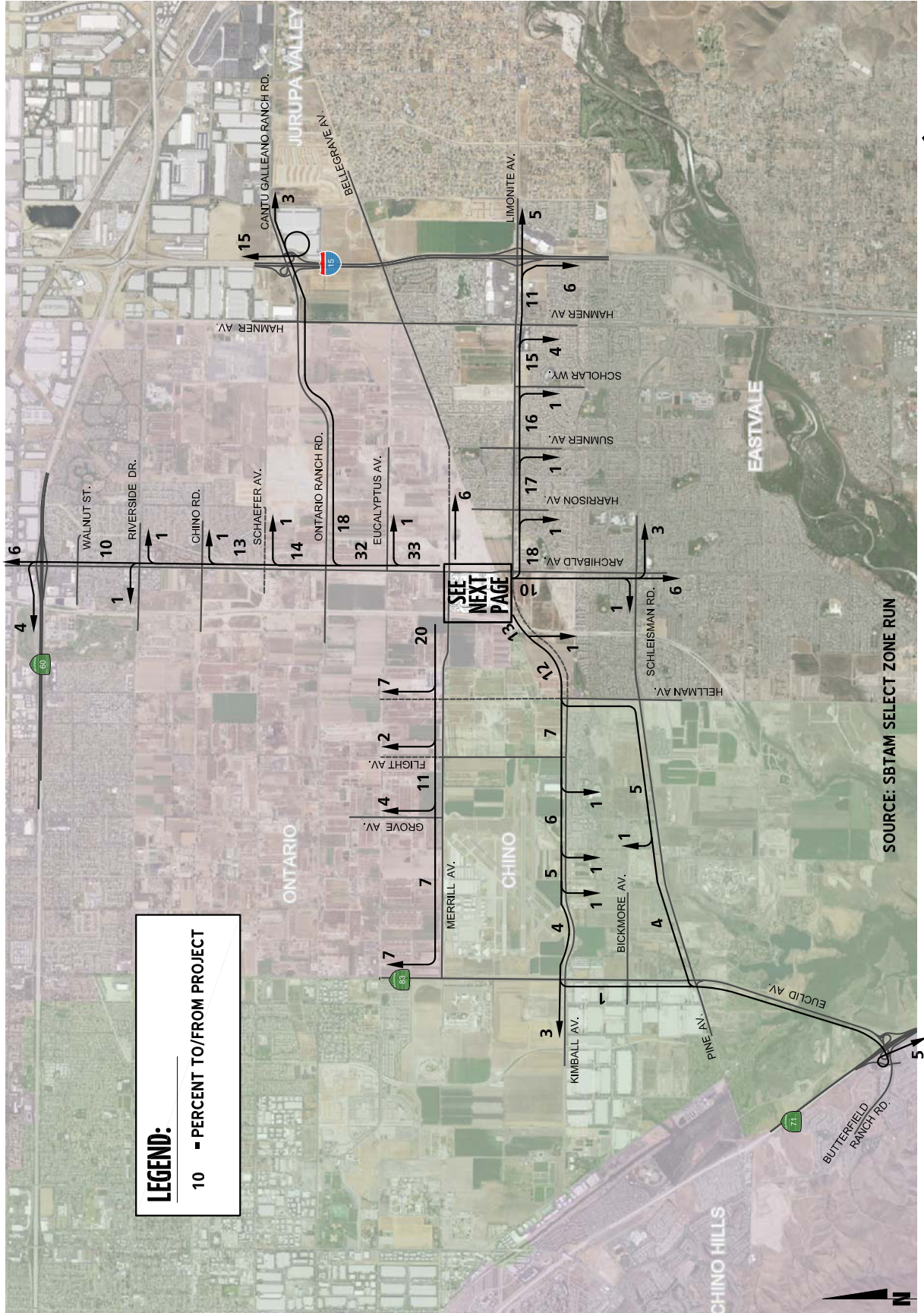


EXHIBIT 5 (2OF2): PROJECT (HORIZON YEAR PASSENGER CAR) TRIP DISTRIBUTION

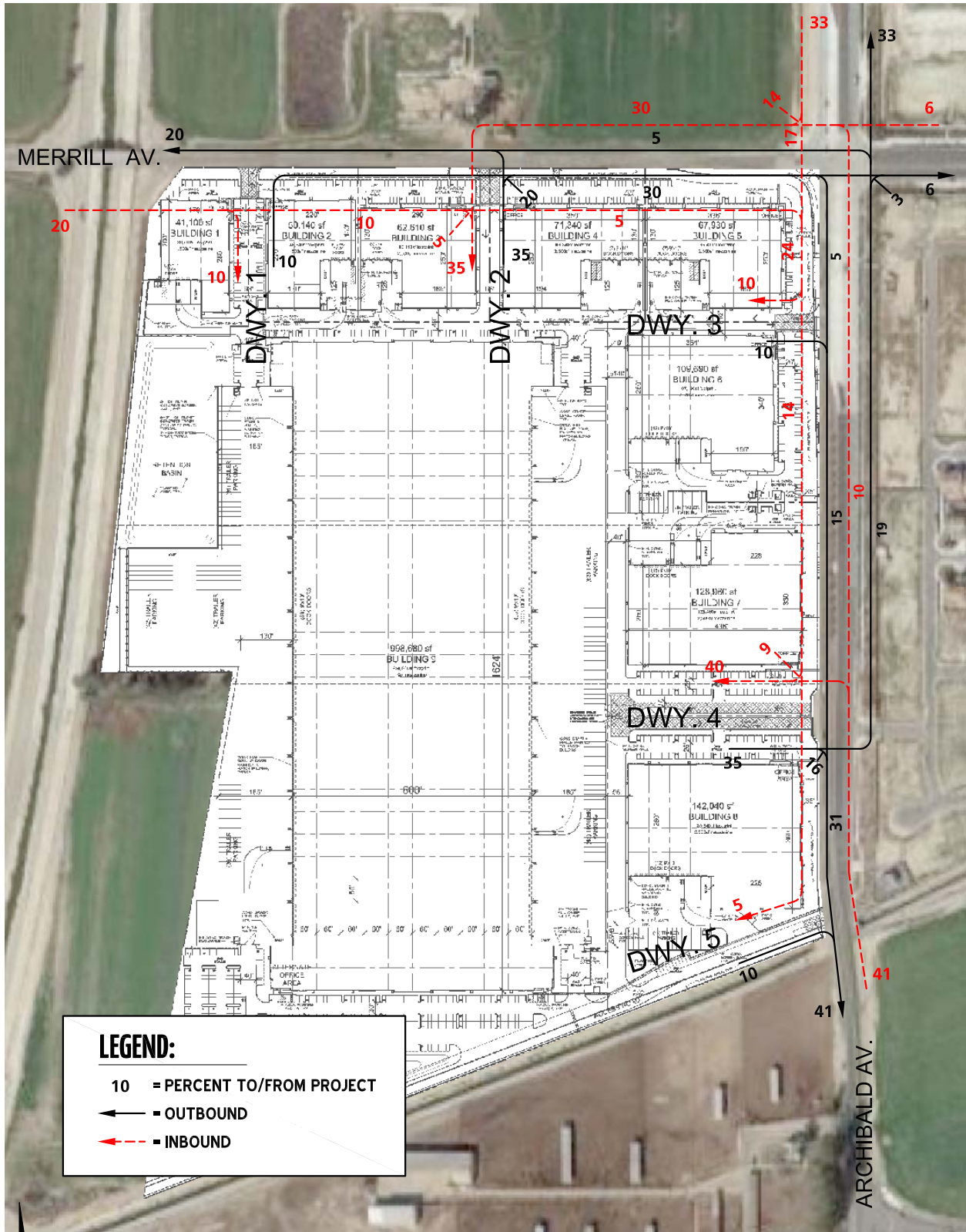
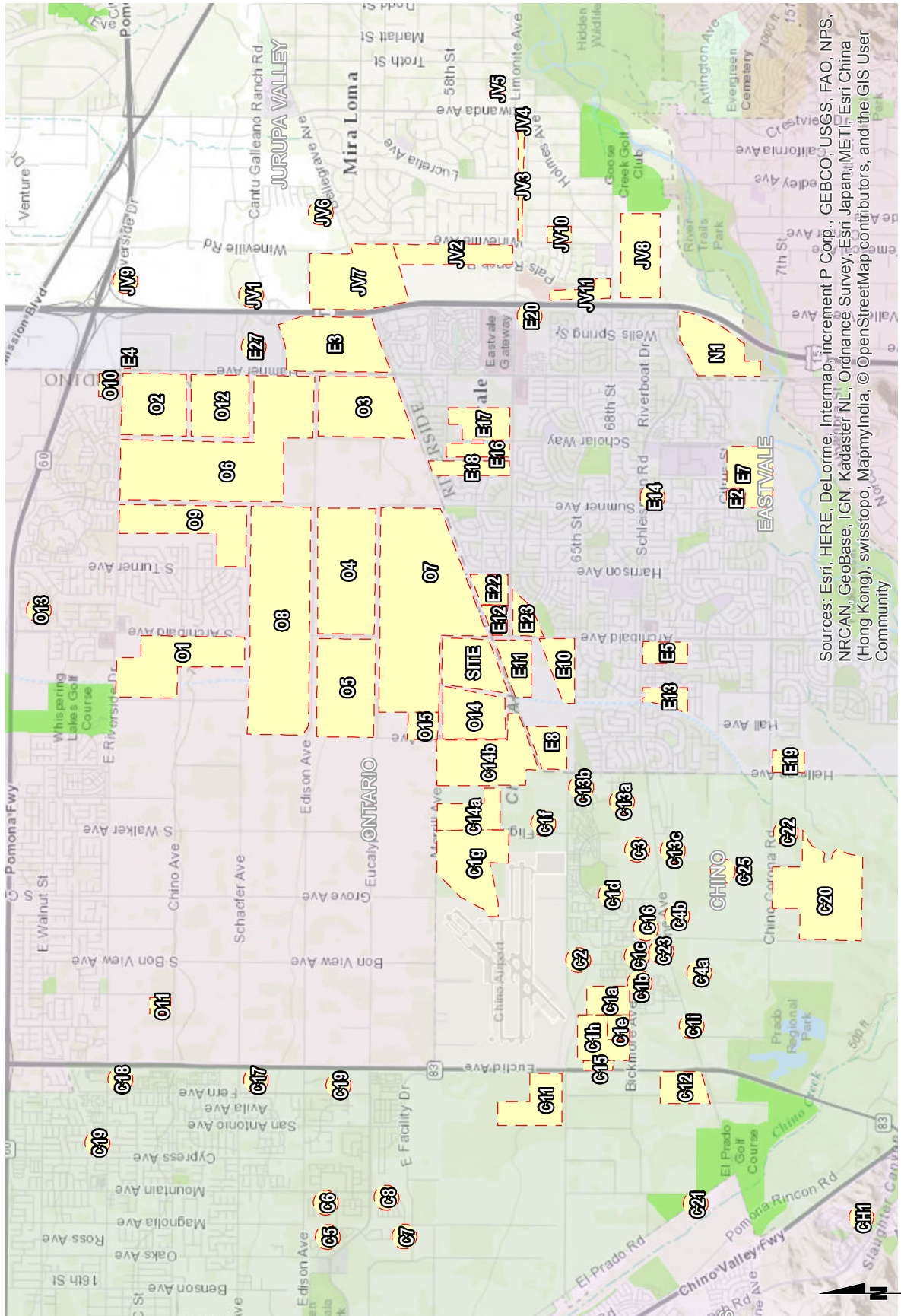


EXHIBIT 6: CUMULATIVE DEVELOPMENT LOCATION MAP



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Table 4-1

Project Trip Generation Rates

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Rates (PCE)									
Manufacturing ⁴	TSF	140	0.570	0.160	0.730	0.260	0.470	0.730	3.820
	Passenger Cars		0.448	0.126	0.574	0.204	0.369	0.574	3.003
	2-Axle Trucks (PCE = 1.5)		0.068	0.019	0.088	0.031	0.056	0.088	0.458
	3-Axle Trucks (PCE = 2.0)		0.044	0.012	0.057	0.020	0.037	0.057	0.298
	4-Axle+ Trucks (PCE = 3.0)		0.162	0.046	0.208	0.074	0.134	0.208	1.089
Warehouse ⁵	TSF	150	0.240	0.060	0.300	0.080	0.240	0.320	3.560
	Passenger Cars		0.191	0.048	0.239	0.064	0.191	0.255	2.833
	2-Axle Trucks (PCE = 1.5)		0.012	0.003	0.016	0.004	0.012	0.017	0.185
	3-Axle Trucks (PCE = 2.0)		0.022	0.006	0.028	0.007	0.022	0.030	0.330
	4-Axle+ Trucks (PCE = 3.0)		0.089	0.022	0.111	0.030	0.089	0.118	1.317
High-Cube Warehouse/Distribution Center ³	TSF	152	0.076	0.034	0.110	0.037	0.083	0.120	1.680
	Passenger Cars		0.055	0.025	0.080	0.025	0.055	0.080	1.040
	2-Axle Trucks (PCE = 1.5)		0.007	0.003	0.010	0.004	0.009	0.013	0.211
	3-Axle Trucks (PCE = 2.0)		0.007	0.003	0.011	0.004	0.010	0.014	0.226
	4-Axle+ Trucks (PCE = 3.0)		0.037	0.017	0.054	0.022	0.050	0.072	1.158

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Rates (Actual Vehicles)									
Manufacturing ⁴	TSF	140	0.570	0.160	0.730	0.260	0.470	0.730	3.820
	Passenger Cars		0.448	0.126	0.574	0.204	0.369	0.574	3.003
	2-Axle Trucks		0.046	0.013	0.058	0.021	0.038	0.058	0.306
	3-Axle Trucks		0.022	0.006	0.028	0.010	0.018	0.028	0.149
	4-Axle+ Trucks		0.054	0.015	0.069	0.025	0.045	0.069	0.363
Warehouse ⁵	TSF	150	0.240	0.060	0.300	0.080	0.240	0.320	3.560
	Passenger Cars		0.191	0.048	0.239	0.064	0.191	0.255	2.833
	2-Axle Trucks		0.008	0.002	0.010	0.003	0.008	0.011	0.123
	3-Axle Trucks		0.011	0.003	0.014	0.004	0.011	0.015	0.165
	4-Axle+ Trucks		0.030	0.007	0.037	0.010	0.030	0.039	0.439
High-Cube Warehouse/Distribution Center ³	TSF	152	0.076	0.034	0.110	0.037	0.083	0.120	1.680
	Passenger Cars		0.055	0.025	0.080	0.025	0.055	0.080	1.040
	2-Axle Trucks		0.005	0.002	0.007	0.003	0.006	0.009	0.141
	3-Axle Trucks		0.004	0.002	0.005	0.002	0.005	0.007	0.113
	4-Axle+ Trucks		0.012	0.006	0.018	0.007	0.017	0.024	0.386

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Ninth Edition (2012).

² TSF = thousand square feet

³ High Cube Warehouse Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual.

Truck mix (by axle type) source from SCAQMD. PCE rates are per SANBAG.

AM peak hour = 72.7% passenger cars, 6.01% 2-Axle trucks, 4.83% 3-Axle trucks, 16.46% 4-Axle trucks

PM peak hour = 66.7% passenger cars, 7.33% 2-Axle trucks, 5.89% 3-Axle trucks, 20.08% 4-Axle trucks

ADT = 61.9% passenger cars, 8.38% 2-Axle trucks, 6.74% 3-Axle trucks, 22.98% 4-Axle trucks

⁴ Manufacturing Vehicle Mix Source: City of Fontana Truck Trip Generation Study for Land Use 110 (Light Industrial), August 2003. PCE rates per SANBAG.

⁵ Warehouse Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 150, August 2003. PCE rates are per SANBAG.

Table 4-2

Project Trip Generation Summary (PCE)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Manufacturing (25% of Buildings 1-8)	168.453	TSF							
Passenger Cars:			75	21	97	34	62	97	506
Truck Trips:									
2-axle:			12	3	15	5	10	15	77
3-axle:			7	2	10	3	6	10	50
4+-axle:			27	8	35	12	23	35	183
- Net Truck Trips (PCE)			46	13	59	21	38	59	311
TOTAL NET TRIPS (PCE)²			122	34	156	56	100	156	817
Warehousing (75% of Buildings 1-8)	505.358	TSF							
Passenger Cars:			97	24	121	32	97	129	1,432
Truck Trips:									
2-axle:			6	2	8	2	6	8	93
3-axle:			11	3	14	4	11	15	167
4+-axle:			45	11	56	15	45	60	665
- Net Truck Trips (PCE)			62	16	78	21	62	83	926
TOTAL NET TRIPS (PCE)²			159	40	199	53	159	212	2,357
High-Cube Warehouse (Building 9)	998.680	TSF							
Passenger Cars:			55	25	80	25	55	80	1,039
Truck Trips:									
2-axle:			7	3	10	4	9	13	211
3-axle:			7	3	11	4	10	14	226
4+-axle:			37	17	54	22	50	72	1,157
- Net Truck Trips (PCE)			52	23	75	31	69	99	1,594
TOTAL NET TRIPS (PCE)²			107	48	155	56	124	179	2,632
Total (PCE)			387	122	509	164	383	547	5,806

¹ TSF = thousand square feet² TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Table 4-3

Project Trip Generation Summary (Actual Vehicles)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Manufacturing (25% of Buildings 1-8)	168.453	TSF							
Passenger Cars:			75	21	97	34	62	97	506
Truck Trips:									
2-axle:			8	2	10	4	6	10	51
3-axle:			4	1	5	2	3	5	25
4+-axle:			9	3	12	4	8	12	61
- Net Truck Trips			21	6	26	9	17	26	138
TOTAL NET TRIPS²			96	27	123	44	79	123	643
Warehousing (75% of Buildings 1-8)	505.358	TSF							
Passenger Cars:			97	24	121	32	97	129	1,432
Truck Trips:									
2-axle:			4	1	5	1	4	6	62
3-axle:			6	1	7	2	6	8	83
4+-axle:			15	4	19	5	15	20	222
- Net Truck Trips			25	6	31	8	25	33	368
TOTAL NET TRIPS²			121	30	152	40	121	162	1,799
High-Cube Warehouse	998.680	TSF							
Passenger Cars:			55	25	80	25	55	80	1,039
Truck Trips:									
2-axle:			5	2	7	3	6	9	141
3-axle:			4	2	5	2	5	7	113
4+-axle:			12	6	18	7	17	24	386
- Net Truck Trips			21	9	30	12	28	40	639
TOTAL NET TRIPS²			76	34	110	37	83	120	1,678
		Total	293	91	384	121	283	405	4,120

¹ TSF = thousand square feet² TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

Table 4
Page 1 of 4

Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
City of Ontario				
O1	Countryside	SFDR	819	DU
	Armstrong Ranch	SFDR	994	DU
O2	Edenglen	SFDR	310	DU
		Multi-Family Attached (Condo)	274	DU
		Shopping Center	217.520	TSF
O3	Esperanza	Business Park	550.000	TSF
		SFDR	914	DU
		Multi-Family Attached (Apartments)	496	DU
O4	Grand Park	SFDR	484	DU
		Multi-Family Attached (Apartments)	843	DU
O5	Parkside	SFDR	437	DU
		Multi-Family Attached (Apartments)	1,510	DU
		Shopping Center	115.000	TSF
O6	Rich Haven	SFDR	2,732	DU
		Multi-Family Attached (Condo)	1,524	DU
		Shopping Center	317.400	TSF
O7	Subarea 29 & Amendment	SFDR	2,149	DU
		Shopping Center	87.000	TSF
O8	The Avenue	SFDR	2,020	DU
		Multi-Family Attached (Apartments)	586	DU
		Shopping Center	250.000	TSF
O9	West Haven	SFDR	753	DU
		Shopping Center	87.000	TSF
O10	Tuscana Village	SFDR	176	DU
		Shopping Center	26.000	TSF
O11	PDEV10-011	SFDR	11	DU
O12	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000	TSF
O13	PDEV08-008	Shopping Center	3.920	TSF
O14	Colony Commerce West	High-Cube Warehouse	2213.360	TSF
		Manufacturing	737.786	TSF
O15	West Ontario Commerce Center SP	High-Cube Warehouse	1976.535	TSF
		Manufacturing	658.845	TSF
		Business Park	548.856	TSF
City of Chino				
C1a	Bickmore Street Residential	SFDR	196	DU
C1b	TM 17611	SFDR	21	DU
C1c	TM 17612	SFDR	42	DU
C1d	TM17635	SFDR	67	DU
C1e	Bouma Residential	SFDR	106	DU
		Condo/Townhouse	94	DU
C1f	Kimball Business Park	Light Industrial	140.500	TSF
		Warehousing	564.000	TSF
		High-Cube Warehouse	352.000	TSF
		Business Park	146.550	TSF
C1g	Chino Parcel Delivery	Parcel Delivery Facility	765.274	TSF

Table 4
Page 2 of 4

Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
C1h	Kimball Business Center	Warehousing	715.000	TSF
		Light Industrial	255.000	TSF
		Business Park	233.000	TSF
		Self-Storage	110.000	TSF
C1i	Barthelemy	SFDR	193	DU
		Condo/Townhouse	198	DU
		Apartments	288	DU
C2	TM17574	Condo/Townhouse	108	DU
C3	Falloncrest at the Preserve	SFDR	204	DU
		Condo/Townhouse	786	DU
		Apartments	412	DU
		Shopping Center	77.597	TSF
		General Office	77.597	TSF
C4a	West Preserve (Barthelemy Project)	SFDR	193	DU
		Condo/Townhouse	198	DU
		Apartments	288	DU
		Youth Soccer	1	Field
C4b	TM18778	SFDR	65	DU
C5	PL11-0047	Apartments	135	DU
	TM 18873	Condo/Townhouse	149	DU
	TM 16838-2 PA 7B	SFDR	67	DU
C6	TM17898	SFDR	77	DU
	TM 17899	SFDR	66	DU
	PL 13-0435	SFDR	41	DU
C7	TM18848	Condo/Townhouse	101	DU
C8	TM17891	SFDR	75	DU
	TM 17890	SFDR	94	DU
	TM 18891	SFDR	118	DU
	TM 17892	SFDR	63	DU
	TM 17893	SFDR	34	DU
	TM 17894	SFDR	39	DU
	TM 17895	SFDR	19	DU
	TM 17896	SFDR	67	DU
C9	PL11-0299	General Light Industrial	50.000	TSF
	PL13-0601	SFDR	209	DU
C10	South of Pine	SFDR	1,351	DU
		Condo/Townhouse	732	DU
		Apartments	670	DU
C11	Majestic Airport Center	High-Cube Warehouse	2,890.400	TSF
		Warehousing	180.000	TSF
		Specialty Retail	25.000	TSF
		Pharmacy/Drugstore with Drive-Thru	13.000	TSF
		Fast-Food with Drive-Thru	8.600	TSF
C12	PM18635	General Light Industrial	99.164	TSF
		High-Cube Warehouse	2,077.594	TSF
C13a	TM16420-1	Apartments	799	DU

Table 4
Page 3 of 4

Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
C13b	TM 18890	Condo/Townhouse	94	DU
C13c	Lewis Residential	Apartments	400	DU
C14a	PM19368 (Chino East Industrial)	General Light Industrial	1,593.500	TSF
C14b	Watson Industrial Park	High-Cube Warehouse	3,889.900	TSF
C15	Chino Business Park	General Light Industrial	165.500	TSF
		Business Park	21.500	TSF
C16	Flores Site	Shopping Center	4.000	TSF
		Gas Station w/ convenience store	16	VFP
		Express Car Wash	5.000	TSF
C17	Brewart Residential	SFDR	127	DU
C18	Fern and Riverside Residential	SFDR	94	DU
C19a	Borba Chino Residential	SFDR	84	DU
C20	Edgewater Communities	SFDR	415	DU
		Condo/Townhouse	659	DU
		Museum/Retail	6.500	TSF
		Church	15.200	TSF
		Park	15.0	AC
C21	Carson Industrial El Prado	High-Cube Warehouse	442.363	TSF
	Carson Mountain Industrial	High-Cube Warehouse	227.977	TSF
C22	Mill Creek	SFDR	1,074	DU
C23	Church	Church	47.979	TSF
		Daycare	190	STU
City of Chino Hills				
CH1	Vila Borba Specific Plan	SFDR	176	DU
City of Eastvale				
E1	14-1077 - Grainger Site (APN:156-050-025, 156-050-026, 156-020-027)	Industrial	546.000	TSF
E2	10-0117 (TM36373)	SFDR	51	DU
E3	10-0271 - Eastvale Commerce Center (Phase 1 and 2)	Shopping Center	249.000	TSF
		Hotel	130	RM
		High Cube Warehouse	3,100.000	TSF
		Business Park	610.000	TSF
E4	11-0354 - Arco Gas Station	Gas Station w/ convenience store and car wash	18.000	VFP
		Fast-Food w/o Drive-Thru	2.800	TSF
		Fast-Food with Drive-Thru	2.100	TSF
E5	The Marketplace at Enclave	Shopping Center	42.000	TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000	TSF
		Specialty Retail	9.200	TSF
		Fast-Food Without Drive-Thru	7.200	TSF
		Coffee/Donut Shop w/ Drive Thru	2.000	TSF
		Fast-Food with Drive-Thru	3.500	TSF
		Gas Station w/ convenience store and car wash	16	VFP
E7	11-0363 TTM 36382 (Altfillisch Residential Project ⁵)	SFDR	146	DU
E8	SP00358 - The Ranch at Eastvale	Shopping Center	267.200	TSF
		General Light Industrial	801.500	TSF
		Business Park	1,121.100	TSF
E9	SC Limonite, LLC	SFDR	330	TSF

Table 4
Page 4 of 4

Cumulative Development Land Use Summary

#	Project/Location	Land Use ¹	Quantity	Units ²
E10	13-0395 - 65th Street Residential (Copper Sky)	SFDR	250	DU
E11	PP23219 (PM35865)	General Light Industrial	738.430	TSF
E12	Dairy Property	SFDR	119	DU
E13	TR35751	Condo/Townhouse	243	DU
E14	13-0632 - Sumner Residential (Stratham Homes)	SFDR	129	DU
E15	14-0046 - Kasbergen/William Lyons Homes	Condo/Townhouse	220	DU
E16	TR32821	Condo/Townhouse	350	DU
E17	TR32909	SFDR	140	DU
E18	10-0124 - TR31252 (The Lodge)	SFDR	205	DU
E19	TR29997	SFDR	122	DU
City of Norco				
N1	Silverlakes Equestrian ⁶	Soccer Field	14	Fields
		Soccer Field	10	Fields
		Equestrian Facility	400	Stalls
City of Jurupa Valley				
JV1	PP24596	Warehousing	122.59	TSF
JV2	TR33428	SFDR	338	DU
JV3	TR33258	SFDR	45	DU
JV4	CUP03555	Mini-Warehouse	141.460	TSF
JV5	CUP03488 (Self Storage)	Mini-Warehouse	89.642	TSF
JV6	TR36692	SFDR	176	DU
	TR31768	SFDR	189	DU
	TR31778-1	SFDR	128	DU
	TR33461	SFDR	203	DU
	TR31644	SFDR	425	DU
JV7	TR31644	SFDR	213	DU
	TR31768	SFDR	95	DU
	TR31778	SFDR	64	DU
	TR33461	SFDR	102	DU
	Thorobred Farms	High-Cube Warehouse	1,176.120	TSF
JV8	Ter Maaten (TTM No. 36391)	SFDR	468	DU
		Park	8.4	AC
JV9	Riverside Drive Development	General Light Industrial	167.020	TSF
JV10	6316 Wineville Av. (Daycare)	Daycare	40	STU
JV11	Vernola Marketplace Apartments	Apartments	597	DU

¹ SFDR = Single Family Detached Residential

² TSF = Ten Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position ; AC = Acres

³ Source: Eastvale South Trip Generation Analysis, Albert A. Webb Associates, May 27, 2011

⁴ Source: Trip Generation Comparison for Cloverdale Marketplace, Phase II, Eastvale CA, Albert A. Webb Associates, August 15, 2011.

⁵ Source: Altfillisch Residential Project TIA Memorandum, LSA Associates, Inc., July 25, 2011.

⁶ Source: From Silverlakes TIA (Revised), Kunzman Associates, September 25, 2008.

APPENDIX 1.2:
SITE ADJACENT QUEUES

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Queuing and Blocking Report
 Horizon Year (2040) With Project - AM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 12: Driveway 1 & Merrill Av.

Movement	NB
Directions Served	R
Maximum Queue (ft)	35
Average Queue (ft)	11
95th Queue (ft)	36
Link Distance (ft)	370
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Driveway 2 & Merrill Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LTR	LTR
Maximum Queue (ft)	61	182	139	31	129	204	225	71	173
Average Queue (ft)	20	81	60	5	60	89	104	18	67
95th Queue (ft)	52	146	114	23	102	170	185	48	129
Link Distance (ft)		529	529			790	790	338	383
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			200	300				
Storage Blk Time (%)									
Queuing Penalty (veh)									

Queuing and Blocking Report
 Horizon Year (2040) With Project - AM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 22: Archibald Av. & Merrill Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	146	166	63	47	131	142	152	106	70	64	190	196
Average Queue (ft)	83	97	18	8	21	56	90	52	30	23	117	121
95th Queue (ft)	138	154	45	27	83	120	140	92	64	51	177	180
Link Distance (ft)			790	790				2238	2238			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			300	200	200			300	450	450
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 22: Archibald Av. & Merrill Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	227	246	239	146	52	86	262	259	258	267
Average Queue (ft)	124	136	128	69	22	39	171	165	142	104
95th Queue (ft)	207	224	213	118	49	71	236	234	218	208
Link Distance (ft)	351	351	351				2605	2605	2605	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				400	200	200				300
Storage Blk Time (%)							3			0
Queuing Penalty (veh)							3			1

Intersection: 23: Archibald Av. & Driveway 3

Movement	EB	SB	SB
Directions Served	R	T	TR
Maximum Queue (ft)	34	74	76
Average Queue (ft)	9	2	3
95th Queue (ft)	31	47	54
Link Distance (ft)	454	351	351
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
 Horizon Year (2040) With Project - AM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 24: Archibald Av. & Driveway 4

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	T
Maximum Queue (ft)	77	36	91	113	140	310	283	283	82	315	322	348
Average Queue (ft)	29	10	37	55	69	151	111	138	28	130	150	167
95th Queue (ft)	66	33	74	94	121	254	219	243	67	254	276	291
Link Distance (ft)	490	490	622	622		397	397	397		898	898	898
Upstream Blk Time (%)	0											
Queuing Penalty (veh)	0											
Storage Bay Dist (ft)	300						200					
Storage Blk Time (%)	0						2					
Queuing Penalty (veh)	0						1					

Intersection: 24: Archibald Av. & Driveway 4

Movement	SB
Directions Served	R
Maximum Queue (ft)	234
Average Queue (ft)	19
95th Queue (ft)	102
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	200
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Archibald Av. & Driveway 5

Movement	EB
Directions Served	R
Maximum Queue (ft)	43
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	964
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 7

Queuing and Blocking Report

Horizon Year (2040) With Project - PM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 12: Driveway 1 & Merrill Av.

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	27	71
Average Queue (ft)	1	30
95th Queue (ft)	20	56
Link Distance (ft)	396	380
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Driveway 2 & Merrill Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LTR	LTR
Maximum Queue (ft)	161	326	261	27	94	187	211	134	109
Average Queue (ft)	62	186	131	2	37	79	100	51	46
95th Queue (ft)	157	340	245	14	76	158	175	101	90
Link Distance (ft)		548	548			790	790	339	383
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		1							
Storage Bay Dist (ft)	300			200	300				
Storage Blk Time (%)		3	1						
Queuing Penalty (veh)		3	0						

Queuing and Blocking Report
 Horizon Year (2040) With Project - PM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 22: Archibald Av. & Merrill Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	330	358	525	348	274	108	131	87	57	52	210	320
Average Queue (ft)	241	262	226	91	133	38	73	35	24	14	94	115
95th Queue (ft)	369	397	752	414	265	82	118	67	50	34	164	213
Link Distance (ft)			790	790				2238	2238			
Upstream Blk Time (%)			3	0								0
Queuing Penalty (veh)			22	0								0
Storage Bay Dist (ft)	300	300			300	200	200			300	450	450
Storage Blk Time (%)	13	21			0							0
Queuing Penalty (veh)	11	17			0							0

Intersection: 22: Archibald Av. & Merrill Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	360	378	370	300	60	330	826	804	804	350
Average Queue (ft)	190	205	196	63	21	201	528	525	515	267
95th Queue (ft)	318	327	314	182	51	443	843	842	852	487
Link Distance (ft)	352	352	352				2605	2605	2605	
Upstream Blk Time (%)	0	1	0	0						
Queuing Penalty (veh)	1	4	3	0						
Storage Bay Dist (ft)				400	200	200				300
Storage Blk Time (%)	0		0	0			62		44	
Queuing Penalty (veh)	1		1	0			51		153	

Intersection: 23: Archibald Av. & Driveway 3

Movement	EB	NB	SB	SB
Directions Served	R	T	T	T
Maximum Queue (ft)	69	8	78	73
Average Queue (ft)	25	0	3	3
95th Queue (ft)	57	6	55	53
Link Distance (ft)	465	897	352	352
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
 Horizon Year (2040) With Project - PM Peak Hour WITH IMPROVEMENTS

10/03/2017

Intersection: 24: Archibald Av. & Driveway 4

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	T	TR	L	T	T	T	
Maximum Queue (ft)	171	55	103	66	102	284	261	247	134	334	377	358	
Average Queue (ft)	83	22	37	22	37	145	113	110	25	143	173	187	
95th Queue (ft)	143	49	80	51	76	241	204	193	78	304	333	341	
Link Distance (ft)	490	490	622	622		397	397	397		897	897	897	
Upstream Blk Time (%)						0							
Queuing Penalty (veh)						0							
Storage Bay Dist (ft)					300					200			
Storage Blk Time (%)						0					4	7	
Queuing Penalty (veh)						0					1	1	

Intersection: 24: Archibald Av. & Driveway 4

Movement	SB
Directions Served	R
Maximum Queue (ft)	179
Average Queue (ft)	12
95th Queue (ft)	86
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	200
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Archibald Av. & Driveway 5

Movement	EB
Directions Served	R
Maximum Queue (ft)	91
Average Queue (ft)	38
95th Queue (ft)	72
Link Distance (ft)	964
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

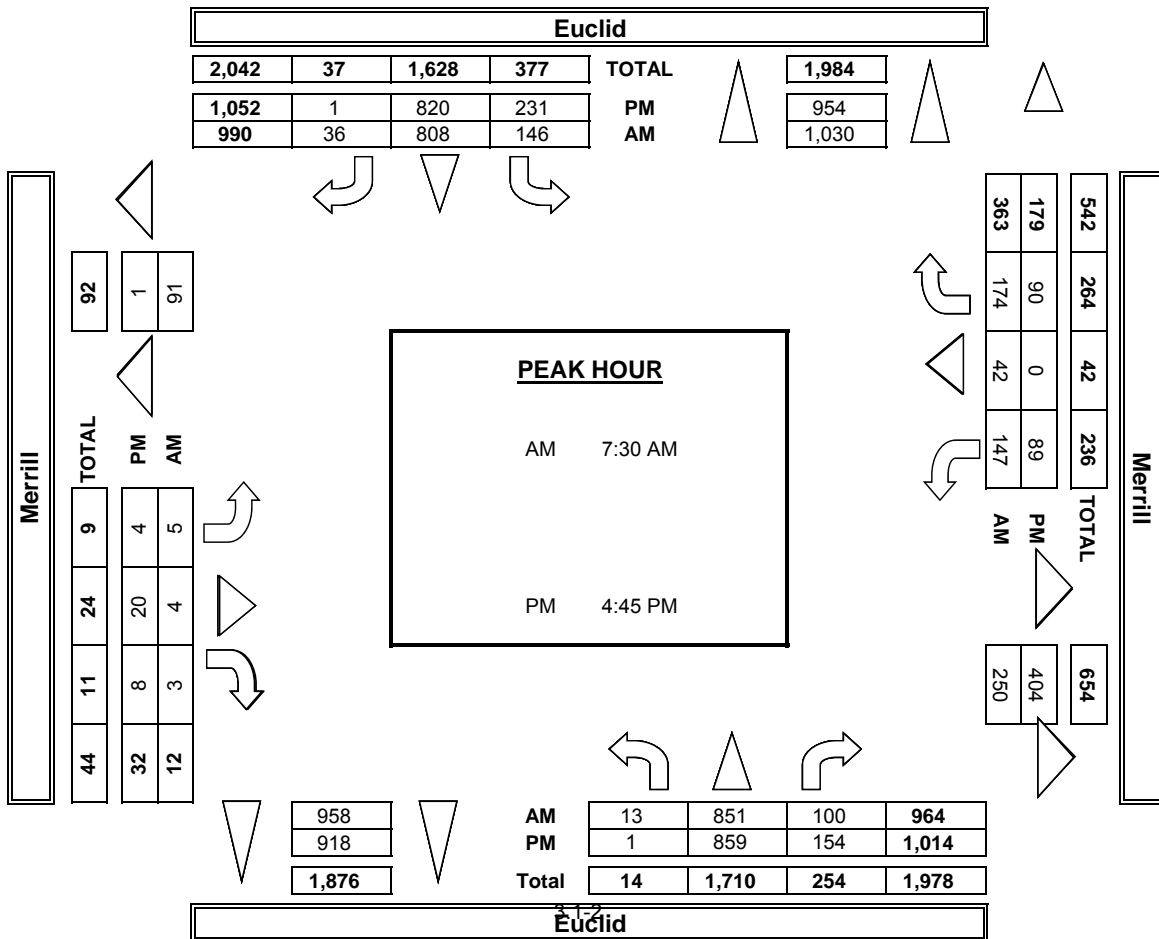
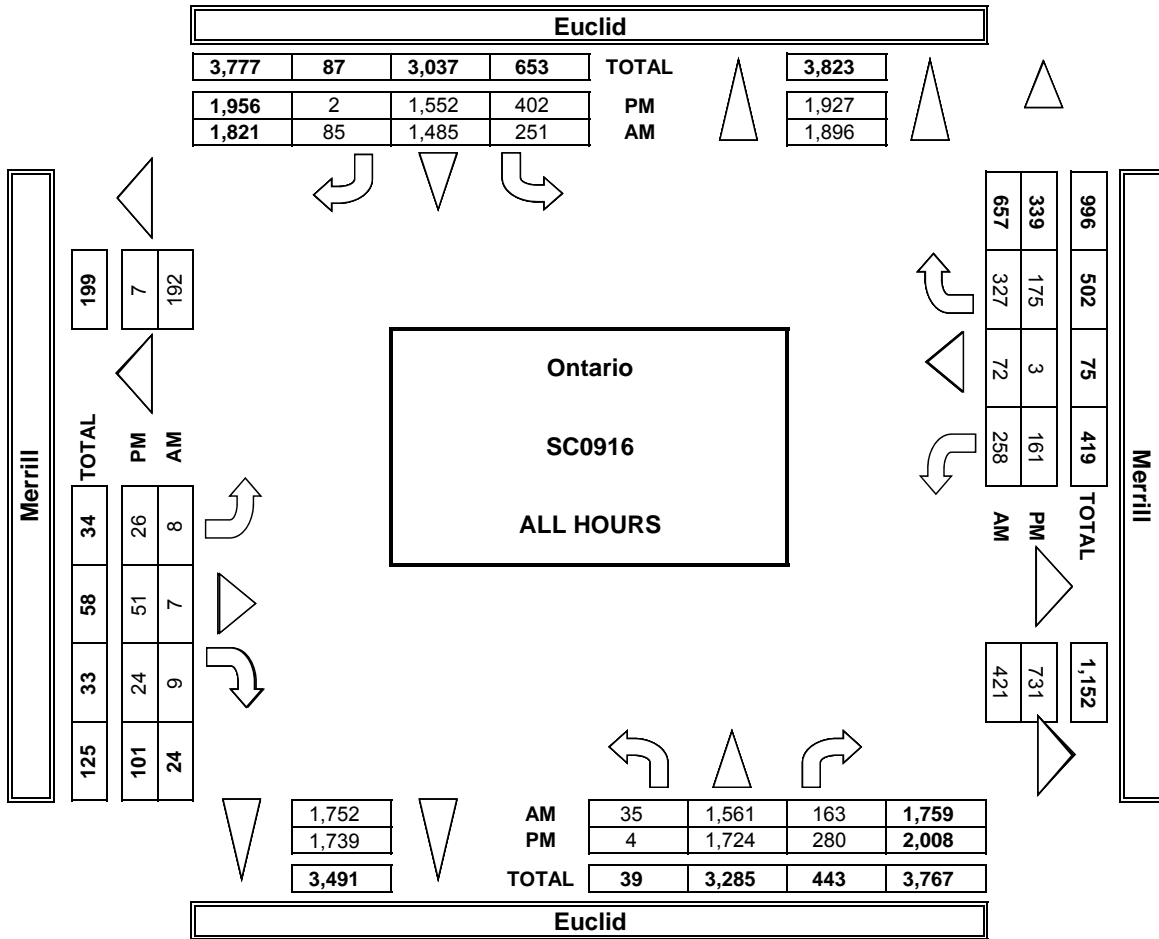
Network Summary

Network wide Queuing Penalty: 270

APPENDIX 3.1:
EXISTING TRAFFIC COUNTS

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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Merrill	PROJECT #: SC0916	LOCATION #: 9	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Merrill			WESTBOUND Merrill			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	0	13	0	2	12	0	0	0	0	1	1	2	31
	7:15 AM	0	9	0	1	10	1	1	0	0	2	0	2	26
	7:30 AM	0	5	1	1	14	0	0	0	0	3	0	3	27
	7:45 AM	0	5	0	1	11	0	0	0	0	3	0	1	21
	8:00 AM	0	13	0	2	12	0	0	0	0	1	0	2	30
	8:15 AM	0	6	1	2	12	0	1	0	0	0	1	2	25
	8:30 AM	1	12	0	2	13	0	0	0	0	1	0	1	30
	8:45 AM	1	6	0	1	13	1	0	0	0	1	0	0	23
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	3

VOLUMES	2	69	2	12	97	2	2	0	0	12	2	13	213
APPROACH %	3%	95%	3%	11%	87%	2%	100%	0%	0%	44%	7%	48%	
APP/DEPART	73	/	84	111	/	109	2	/	14	27	/	6	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	2	37	1	7	50	1	1	0	0	3	1	5	108
APPROACH %	5%	93%	3%	12%	86%	2%	100%	0%	0%	33%	11%	56%	
PEAK HR FACTOR	0.769			0.967			0.250			0.750			0.900

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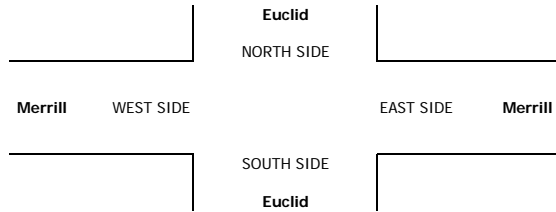
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	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	6	3	2	5	0	0	0	0	0	3	19	
	4:15 PM	0	4	3	0	5	0	0	0	0	2	0	1	15
	4:30 PM	0	8	1	1	3	0	0	0	0	2	0	1	16
	4:45 PM	0	8	4	2	7	0	0	0	0	1	0	0	22
	5:00 PM	0	5	2	5	4	0	0	0	0	0	0	1	17
	5:15 PM	0	10	2	2	7	0	0	0	0	0	0	2	23
	5:30 PM	0	2	3	5	3	0	0	0	0	0	0	0	13
	5:45 PM	0	2	1	3	7	0	0	0	0	0	0	3	16

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0	0	0	0
0	0	0	0
0	0	0	0
2	0	0	3

VOLUMES	0	45	19	20	41	0	0	0	0	5	0	11	141
APPROACH %	0%	70%	30%	33%	67%	0%	0%	0%	0%	31%	0%	69%	
APP/DEPART	64	/	56	61	/	46	0	/	39	16	/	0	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	31	9	10	21	0	0	0	0	3	0	4	78
APPROACH %	0%	78%	23%	32%	68%	0%	0%	0%	0%	43%	0%	57%	
PEAK HR FACTOR	0.833			0.861			0.000			0.583			0.848
APP/DEPART	40	/	35	31	/	24	0	/	19	7	/	0	0

2	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Merrill	PROJECT #: SC0916	LOCATION #: 9	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0

VOLUMES	0	1	0	0	1	0	0	0	0	0	0	0	2
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	1	/	1	1	/	1	0	/	0	0	/	0	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	1	0	0	1	0	0	0	0	0	0	0	2
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.250			0.250			0.000			0.000			0.500
APP/DEPART	1	/	1	1	/	1	0	/	0	0	/	0	0

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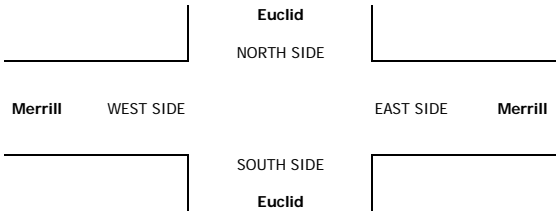
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3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

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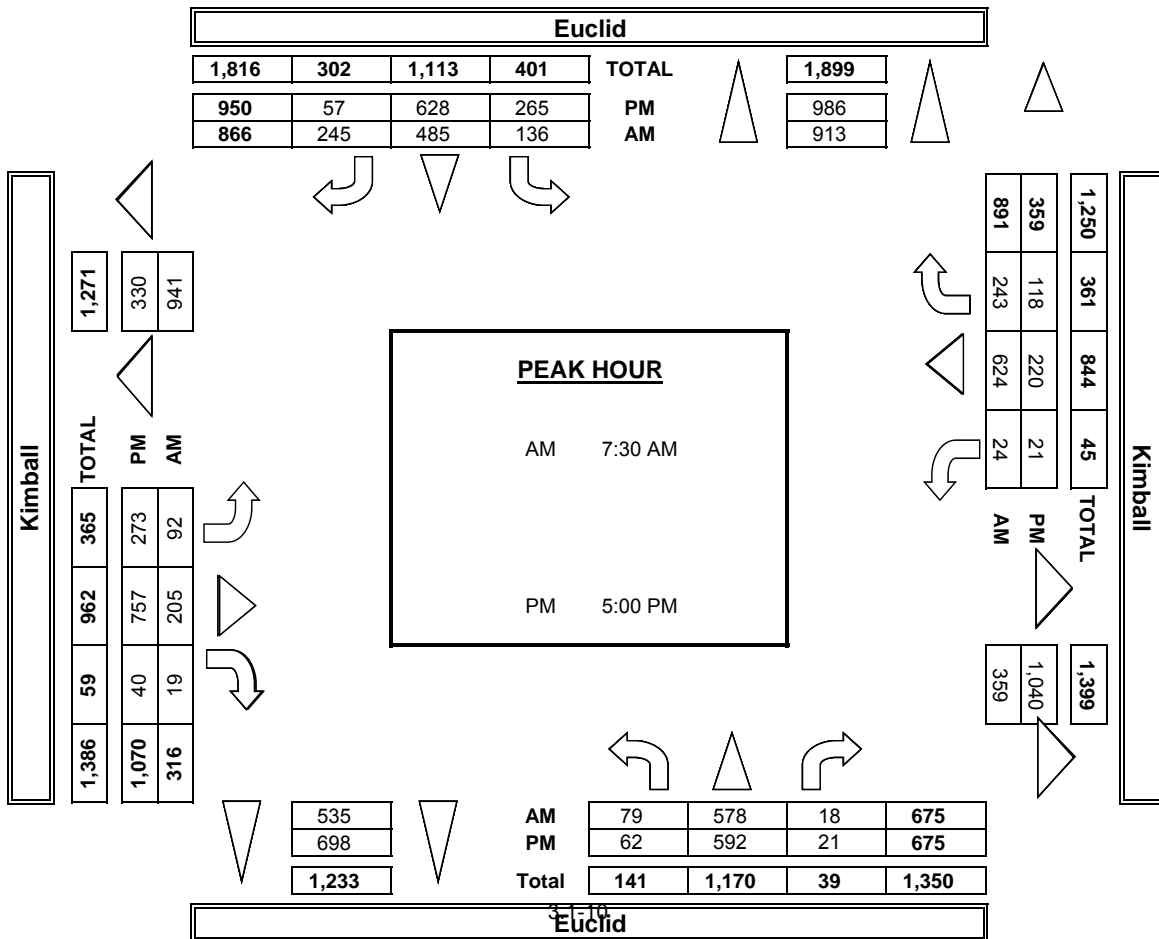
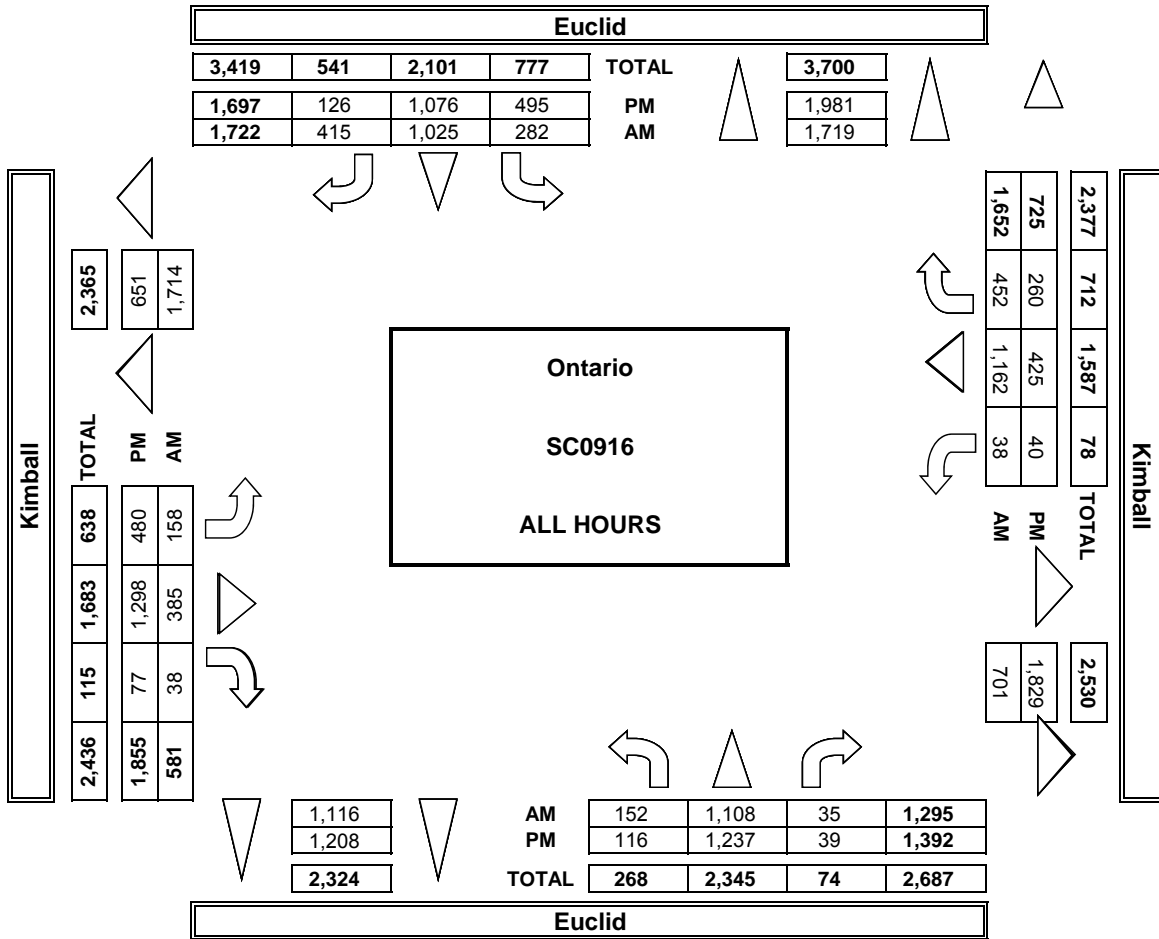
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0	0	0	0
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VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Kimball	PROJECT #: SC0916	LOCATION #: 10	CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1.5	WR 0.5	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 1

AM	7:00 AM	13	91	3	24	118	42	15	57	3	3	210	47	626
	7:15 AM	17	116	0	36	90	40	9	37	3	1	143	49	541
	7:30 AM	10	149	1	20	99	51	20	48	4	5	170	53	630
	7:45 AM	21	119	5	30	80	68	14	52	3	7	167	58	624
	8:00 AM	16	118	4	29	93	49	21	45	5	2	139	57	578
	8:15 AM	16	129	6	49	120	38	14	54	3	8	142	64	643
	8:30 AM	9	141	4	47	122	36	14	37	3	3	86	61	563
	8:45 AM	29	128	5	30	118	24	8	38	4	3	97	48	532
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	131	991	28	265	840	348	115	368	28	32	1,154	437	4,737
	APPROACH %	11%	86%	2%	18%	58%	24%	23%	72%	5%	2%	71%	27%	
	APP/DEPART	1,150	/	1,544	1,453	/	911	511	/	660	1,623	/	1,622	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	59	515	16	128	392	206	69	199	15	22	618	232	2,475
	APPROACH %	10%	87%	3%	18%	54%	28%	24%	70%	5%	3%	71%	27%	
	PEAK HR FACTOR	0.928			0.877			0.983			0.940			0.962
	APP/DEPART	594	/	816	726	/	433	283	/	343	872	/	883	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	10	96	5	54	83	12	44	102	9	4	34	26	479
	4:15 PM	11	136	6	73	118	8	34	128	6	4	53	40	617
	4:30 PM	13	169	2	53	99	14	64	151	6	6	59	29	665
	4:45 PM	17	154	3	45	104	15	51	153	10	5	58	45	660
	5:00 PM	26	112	3	70	156	9	66	167	3	4	47	31	694
	5:15 PM	7	136	8	58	138	12	63	192	6	7	49	28	704
	5:30 PM	12	129	4	60	139	10	87	211	15	7	57	27	758
	5:45 PM	14	147	4	73	153	13	40	178	9	3	63	29	726
	VOLUMES	110	1,079	35	486	990	93	449	1,282	64	40	420	255	5,303
	APPROACH %	9%	88%	3%	31%	63%	6%	25%	71%	4%	6%	59%	36%	
	APP/DEPART	1,224	/	1,787	1,569	/	1,109	1,795	/	1,800	715	/	607	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	50	524	19	258	586	44	256	748	33	21	216	115	2,882
	APPROACH %	8%	87%	3%	29%	66%	5%	25%	72%	3%	6%	61%	33%	
	PEAK HR FACTOR	0.912			0.932			0.828			0.926			0.951
	APP/DEPART	602	/	898	891	/	649	1,037	/	1,025	352	/	310	0

0	0	0	0	0
4	0	0	0	4
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1	0	0	0	1
1	0	0	0	1
2	0	0	0	2
1	1	0	0	2
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11	1	0	0	12

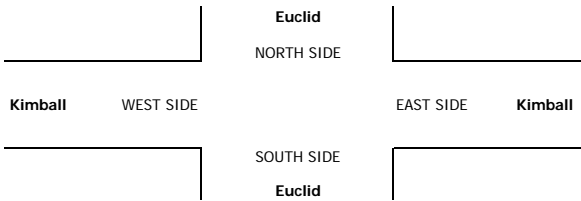
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4	15	1	4
3	3	1	9
2	11	1	20
2	5	0	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
14	62	3	52

8	30	2	22
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
2	0	0	0	2
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0	0	0	0	0
1	1	0	0	2
8	2	0	0	10
0	0	0	0	0
16	4	0	1	21

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0	0	0	0
0	0	0	0
0	6	1	5
2	3	0	10
1	2	0	3
0	6	3	1
2	3	0	9
5	3	0	7
3	4	1	8
3	5	2	8
16	32	7	51

13	15	3	32
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Kimball	PROJECT #: SC0916	LOCATION #: 10	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W ▶ E ▼ S
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LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	6	0	0	11	1	2	1	0	1	0	0	22
7:15 AM	0	4	0	0	10	0	1	0	0	0	0	0	15
7:30 AM	0	11	0	2	11	1	2	1	0	0	1	1	30
7:45 AM	0	12	0	0	18	2	1	1	0	0	1	0	35
8:00 AM	1	7	0	0	15	0	0	1	0	0	0	0	24
8:15 AM	1	7	0	0	11	2	2	1	0	0	0	0	24
8:30 AM	1	5	0	2	12	1	0	0	0	1	0	1	23
8:45 AM	0	7	0	0	11	4	1	2	0	0	0	1	26
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	1

VOLUMES	3	59	0	4	99	11	9	7	0	2	2	3	199
APPROACH %	5%	95%	0%	4%	87%	10%	56%	44%	0%	29%	29%	43%	
APP/DEPART	62	/	71	114	/	101	16	/	11	7	/	16	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	2	37	0	2	55	5	5	4	0	0	2	1	113
APPROACH %	5%	95%	0%	3%	89%	8%	56%	44%	0%	0%	67%	33%	
PEAK HR FACTOR	0.813			0.775			0.750			0.375			0.807

0	1	0	0
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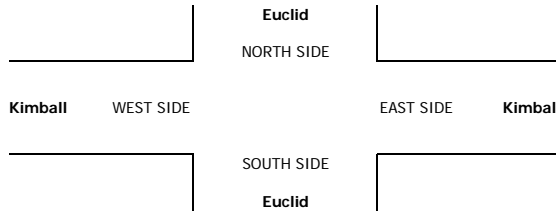
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	13	0	2	8	2	1	2	0	0	0	0	29
4:15 PM	0	11	0	0	7	2	1	0	1	0	1	0	23
4:30 PM	1	15	0	0	6	0	0	0	0	0	0	0	22
4:45 PM	0	13	0	0	7	2	1	0	0	0	0	0	23
5:00 PM	1	9	0	0	8	1	3	0	0	0	0	0	22
5:15 PM	0	8	0	0	7	0	1	1	1	0	0	0	18
5:30 PM	0	13	0	2	7	0	0	2	0	0	0	0	24
5:45 PM	0	9	0	0	6	0	3	0	0	0	1	1	20

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0

VOLUMES	3	91	0	4	56	7	10	5	2	0	2	1	181
APPROACH %	3%	97%	0%	6%	84%	10%	59%	29%	12%	0%	67%	33%	
APP/DEPART	94	/	102	67	/	58	17	/	9	3	/	12	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	2	52	0	2	28	6	3	2	1	0	1	0	97
APPROACH %	4%	96%	0%	6%	78%	17%	50%	33%	17%	0%	100%	0%	
PEAK HR FACTOR	0.844			0.750			0.500			0.250			0.836
APP/DEPART	54	/	55	36	/	29	6	/	4	1	/	9	0

0	2	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Kimball	PROJECT #: SC0916	LOCATION #: 10	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	1	5	0	0	10	2	2	2	2	0	0	1	25
7:15 AM	1	5	0	0	4	3	2	1	2	0	0	0	18
7:30 AM	1	4	0	2	5	8	3	0	2	1	0	2	28
7:45 AM	5	2	0	2	6	9	3	0	2	1	1	2	33
8:00 AM	4	8	0	1	11	9	7	0	0	0	0	0	40
8:15 AM	2	6	2	0	5	5	2	0	0	0	1	0	23
8:30 AM	0	8	1	0	11	6	6	2	1	1	0	0	36
8:45 AM	1	6	4	0	8	7	1	0	0	1	0	0	28
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4	0	0	0	4

0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0
0	1	0	0
0	1	1	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	7	1	0

VOLUMES	15	44	7	5	60	49	26	5	9	4	2	5	231
APPROACH %	23%	67%	11%	4%	53%	43%	65%	13%	23%	36%	18%	45%	
APP/DEPART	66	/	75	114	/	77	40	/	17	11	/	62	0

BEGIN PEAK HR	7:45 AM												
VOLUMES	8	24	3	3	33	29	18	2	3	2	2	2	132
APPROACH %	21%	63%	8%	5%	51%	45%	78%	9%	13%	33%	33%	33%	
PEAK HR FACTOR	0.792			0.774			0.639			0.375			0.825
APP/DEPART	38	/	44	65	/	41	23	/	8	6	/	39	0

0	6	1	0
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03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	8	0	0	3	4	1	1	2	0	0	0	20
4:15 PM	0	6	1	0	4	4	1	0	0	0	0	0	16
4:30 PM	0	8	0	0	3	2	2	1	1	0	0	0	17
4:45 PM	0	5	0	0	4	1	5	1	0	0	0	0	16
5:00 PM	1	4	0	0	3	4	4	0	2	0	0	0	18
5:15 PM	0	6	1	0	4	2	5	0	0	0	1	0	19
5:30 PM	0	5	0	0	2	1	1	1	1	0	1	0	12
5:45 PM	0	2	1	0	3	1	0	1	2	0	0	0	10

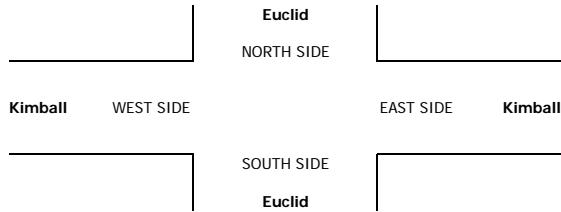
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1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	1	0	0
0	0	1	0
2	2	1	0

VOLUMES	2	44	3	0	26	19	19	5	8	0	2	0	128
APPROACH %	4%	90%	6%	0%	58%	42%	59%	16%	25%	0%	100%	0%	
APP/DEPART	49	/	63	45	/	34	32	/	8	2	/	23	0

BEGIN PEAK HR	4:30 PM												
VOLUMES	1	23	1	0	14	9	16	2	3	0	1	0	70
APPROACH %	4%	92%	4%	0%	61%	39%	76%	10%	14%	0%	100%	0%	
PEAK HR FACTOR	0.781			0.821			0.875			0.250			0.921
APP/DEPART	25	/	39	23	/	17	21	/	3	1	/	11	0

1	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Kimball	PROJECT #: SC0916	LOCATION #: 10	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1.5	WR 0.5	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	1	0	0	1	0	0	0	0	0	1	0	3
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
APP/DEPART	1	/	1	1	/	1	0	/	0	1	/	1	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	1	0	0	1	0	0	0	0	0	0	0	2
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.250			0.250			0.000			0.000			0.500
APP/DEPART	1	/	1	1	/	1	0	/	0	0	/	0	0

0	0	0	0
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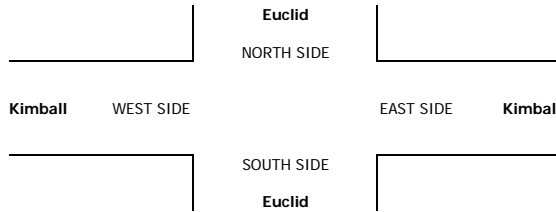
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Kimball	PROJECT #: SC0916	LOCATION #: 10	CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
BUSES			

LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	2	0	1	2	0	1	1.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

AM	7:00 AM	0	0	0	2	0	0	0	0	0	0	0	2
	7:15 AM	0	2	0	0	2	0	0	1	0	0	0	5
	7:30 AM	0	1	0	0	0	0	0	1	0	0	0	4
	7:45 AM	2	0	0	0	1	0	0	0	0	0	0	3
	8:00 AM	0	1	0	0	0	0	0	0	0	0	1	2
	8:15 AM	0	0	0	1	0	0	0	0	0	0	0	1
	8:30 AM	0	1	0	1	0	0	0	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	2	5	0	4	3	0	0	2	0	0	3	19	
APPROACH %	29%	71%	0%	57%	43%	0%	0%	100%	0%	0%	100%		
APP/DEPART	7	/	8	7	/	3	2	/	6	3	/	2	
BEGIN PEAK HR	7:00 AM												
VOLUMES	2	4	0	0	3	0	0	2	0	0	3	14	
APPROACH %	33%	67%	0%	0%	100%	0%	0%	100%	0%	0%	100%		
PEAK HR FACTOR	0.750			0.375			0.500			0.375			0.700
APP/DEPART	6	/	7	3	/	3	2	/	2	3	/	2	

0	0	0	0
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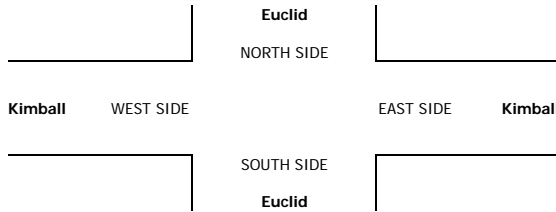
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	0	0	0	1	0	0	2
	4:30 PM	0	1	0	0	0	0	0	0	0	1	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	1	0	0	0	0	1	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

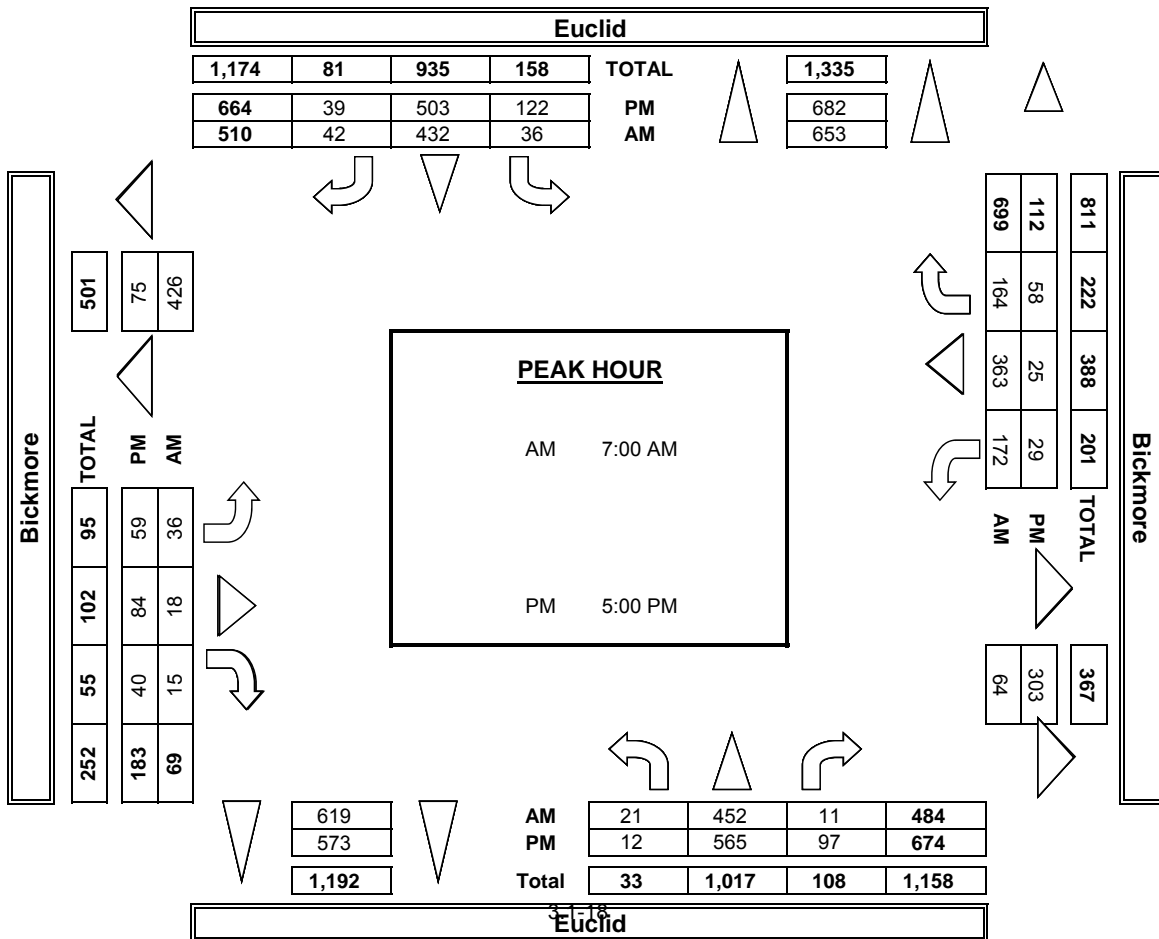
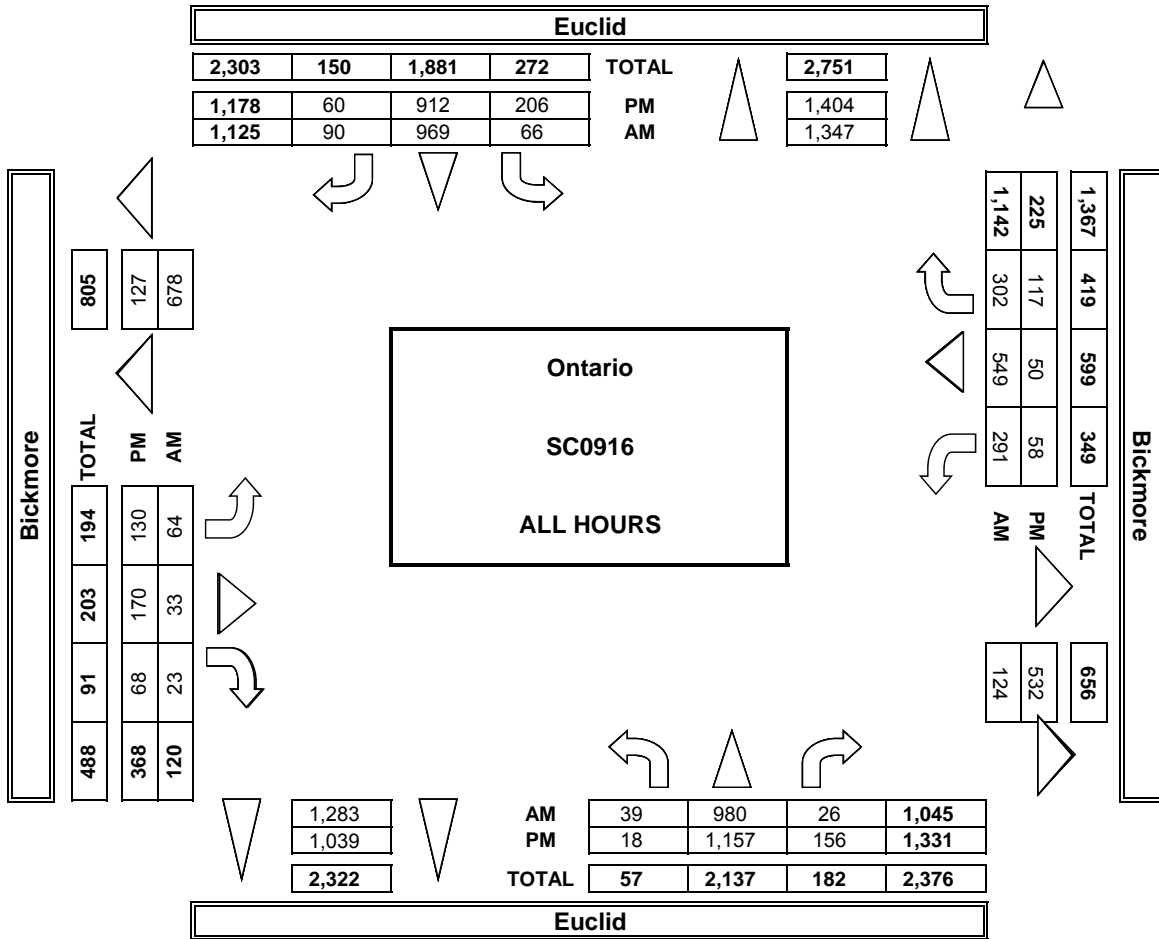
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	2	0	0	0	1	0	1	0	0	1	5	
APPROACH %	0%	100%	0%	0%	0%	100%	0%	100%	0%	0%	100%		
APP/DEPART	2	/	3	1	/	0	1	/	1	1	/	1	
BEGIN PEAK HR	3:45 PM												
VOLUMES	0	2	0	0	0	0	0	1	0	0	1	4	
APPROACH %	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%		
PEAK HR FACTOR	0.500			0.000			0.250			0.250			0.500
APP/DEPART	2	/	3	0	/	0	1	/	1	1	/	0	

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Bickmore	PROJECT #: SC0916	LOCATION #: 11	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E
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LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Bickmore			WESTBOUND Bickmore			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	7	0	2	4	1	5	0	2	0	0	0	21
7:15 AM	0	1	0	0	3	1	5	0	4	0	0	0	14
7:30 AM	0	0	0	0	4	0	4	0	1	1	0	1	11
7:45 AM	1	5	0	0	2	3	3	0	2	0	0	0	16
8:00 AM	0	2	0	0	6	4	4	0	1	1	0	0	18
8:15 AM	2	4	0	0	3	2	5	0	1	0	0	0	17
8:30 AM	0	6	0	0	8	5	2	0	1	0	0	1	23
8:45 AM	1	7	0	0	4	4	2	0	0	0	0	0	18
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	1	0	0	1

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0

VOLUMES	4	32	0	2	34	20	30	0	12	2	0	2	138
APPROACH %	11%	89%	0%	4%	61%	36%	71%	0%	29%	50%	0%	50%	
APP/DEPART	36	/	65	56	/	48	42	/	1	4	/	24	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	3	19	0	0	21	15	13	0	3	1	0	1	76
APPROACH %	14%	86%	0%	0%	58%	42%	81%	0%	19%	50%	0%	50%	
PEAK HR FACTOR	0.688			0.692			0.667			0.500			0.826
APP/DEPART	22	/	33	36	/	25	16	/	0	2	/	18	0

0	0	0	0
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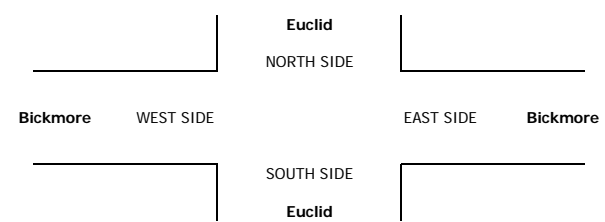
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	6	0	0	2	0	1	0	0	0	0	0	9
4:15 PM	0	4	0	0	2	0	2	0	0	0	0	0	8
4:30 PM	0	4	0	0	1	0	2	0	0	0	0	0	7
4:45 PM	0	5	0	0	1	4	1	0	0	1	0	0	12
5:00 PM	0	2	1	0	3	1	1	0	0	0	0	0	8
5:15 PM	0	7	0	0	0	2	0	1	0	0	0	0	10
5:30 PM	1	7	0	0	1	0	0	0	2	0	0	0	11
5:45 PM	0	1	0	0	4	1	0	0	0	1	0	0	7

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	36	1	0	14	8	7	1	2	2	0	0	72
APPROACH %	3%	95%	3%	0%	64%	36%	70%	10%	20%	100%	0%	0%	
APP/DEPART	38	/	43	22	/	18	10	/	2	2	/	9	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	1	21	1	0	5	7	2	1	2	1	0	0	41
APPROACH %	4%	91%	4%	0%	42%	58%	40%	20%	40%	100%	0%	0%	
PEAK HR FACTOR	0.719			0.600			0.625			0.250			0.854
APP/DEPART	23	/	23	12	/	8	5	/	2	1	/	8	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Bickmore	PROJECT #: SC0916	LOCATION #: 11	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
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0	0	0	0
0	0	0	0

VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.250			0.000			0.000			0.000			0.250

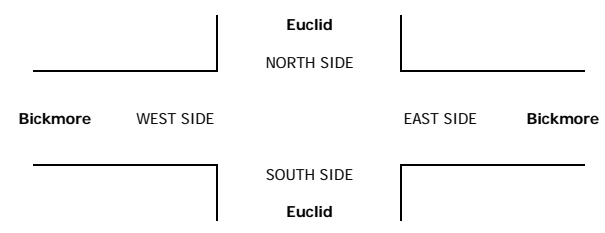
0	0	0	0
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APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	03:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Tue, Apr 26, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Ontario
Euclid
Pine

PROJECT #:
LOCATION #:
CONTROL:

SC0916
12
SIGNAL

NOTES:

PM	PM	▲ N
MD	← W	▶ E
OTHER		▼ S
OTHER		

Add U-Turns to Left Turns

LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Pine			WESTBOUND Pine			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	4	87	118	10	138	2	1	34	0	247	57	7	705
7:15 AM	6	137	90	8	142	3	1	51	4	168	51	11	672
7:30 AM	3	128	118	19	123	2	1	53	3	196	43	2	691
7:45 AM	7	126	95	9	132	2	0	44	5	221	52	11	704
8:00 AM	14	133	114	9	153	4	2	54	1	179	32	16	711
8:15 AM	13	118	118	14	147	1	1	49	7	210	31	11	720
8:30 AM	5	143	99	19	138	2	0	35	4	209	37	10	701
8:45 AM	7	116	108	18	126	3	2	39	2	184	28	16	649
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	59	988	860	106	1,099	19	8	359	26	1,614	331	84	5,553
APPROACH %	3%	52%	45%	9%	90%	2%	2%	91%	7%	80%	16%	4%	
APP/DEPART	1,907	/	1,082	1,224	/	2,741	393	/	1,323	2,029	/	407	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	39	520	426	51	570	9	3	182	17	819	152	48	2,836
APPROACH %	4%	53%	43%	8%	90%	1%	1%	90%	8%	80%	15%	5%	
PEAK HR FACTOR	0.943			0.949			0.886			0.897			0.985
APP/DEPART	985	/	571	630	/	1,408	202	/	659	1,019	/	198	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	3	162	254	14	105	3	0	66	6	99	19	12	743
4:15 PM	2	156	250	14	91	1	3	47	3	84	14	7	672
4:30 PM	4	156	262	15	94	1	1	66	9	113	23	5	749
4:45 PM	6	147	256	11	115	3	2	78	4	77	15	9	723
5:00 PM	5	140	222	17	111	2	6	87	6	103	19	6	724
5:15 PM	5	137	254	13	128	7	2	79	6	104	13	9	757
5:30 PM	6	176	265	13	125	3	2	70	5	98	21	4	788
5:45 PM	5	154	257	12	104	2	2	81	8	129	18	5	777
VOLUMES	36	1,228	2,020	109	873	22	18	574	47	807	142	57	5,933
APPROACH %	1%	37%	62%	11%	87%	2%	3%	90%	7%	80%	14%	6%	
APP/DEPART	3,284	/	1,305	1,004	/	1,728	639	/	2,701	1,006	/	199	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	21	607	998	55	468	14	12	317	25	434	71	24	3,046
APPROACH %	1%	37%	61%	10%	87%	3%	3%	90%	7%	82%	13%	5%	
PEAK HR FACTOR	0.909			0.907			0.894			0.870			0.966
APP/DEPART	1,626	/	643	537	/	928	354	/	1,370	529	/	105	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	2	0	0	4

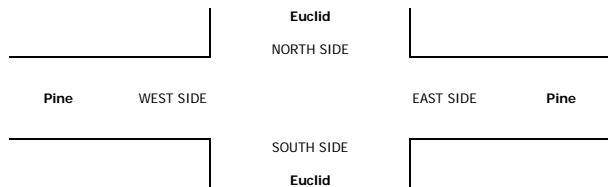
RTOR			
NRR	SRR	ERR	WRR
59	1	0	3
38	0	0	4
41	0	0	0
42	1	0	3
40	2	0	5
52	1	0	4
42	1	0	3
47	0	0	7
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
361	6	0	29

176	5	0	15
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NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	2	0	0	3

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
89	0	0	3
85	0	0	3
103	0	0	1
85	2	0	5
98	2	0	2
99	1	0	1
106	1	0	1
117	0	0	2
782	6	0	18

420	4	0	6
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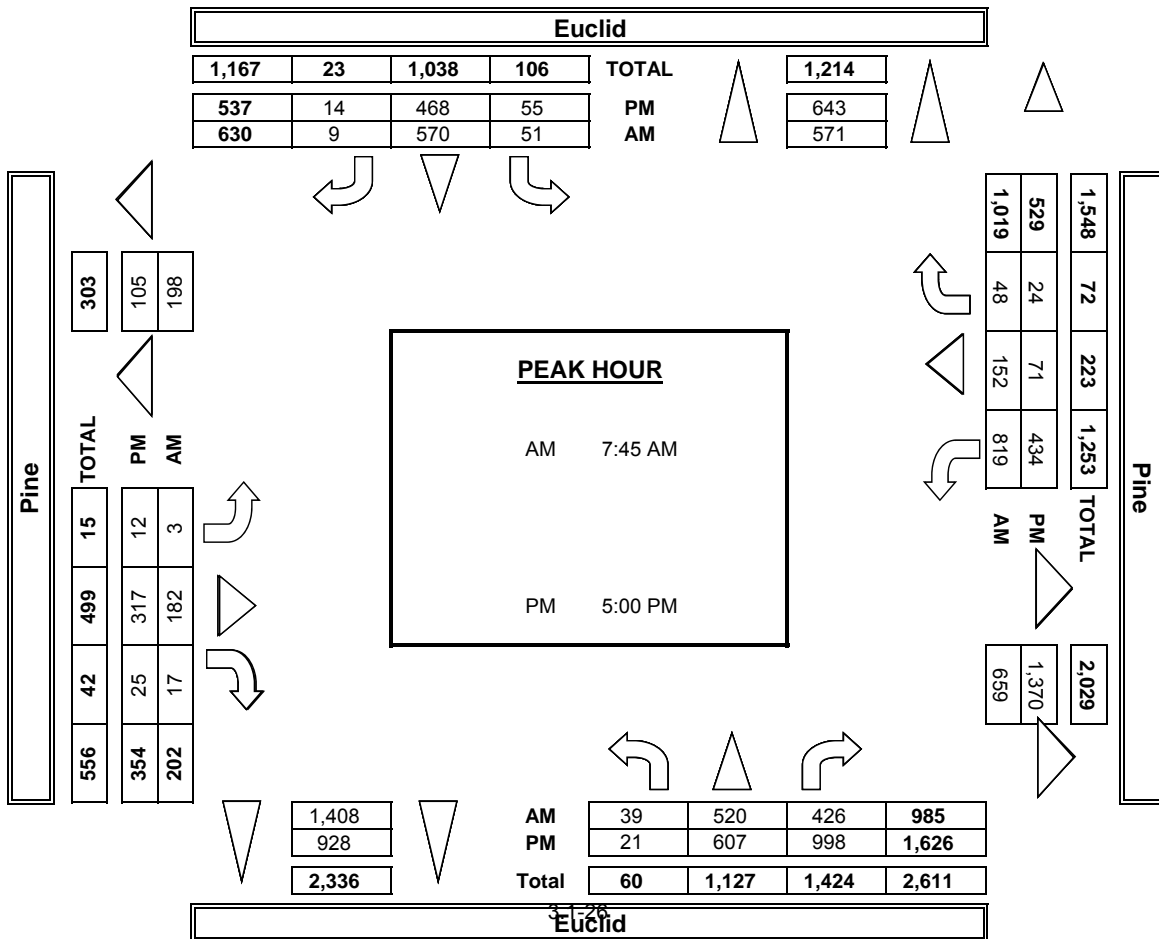
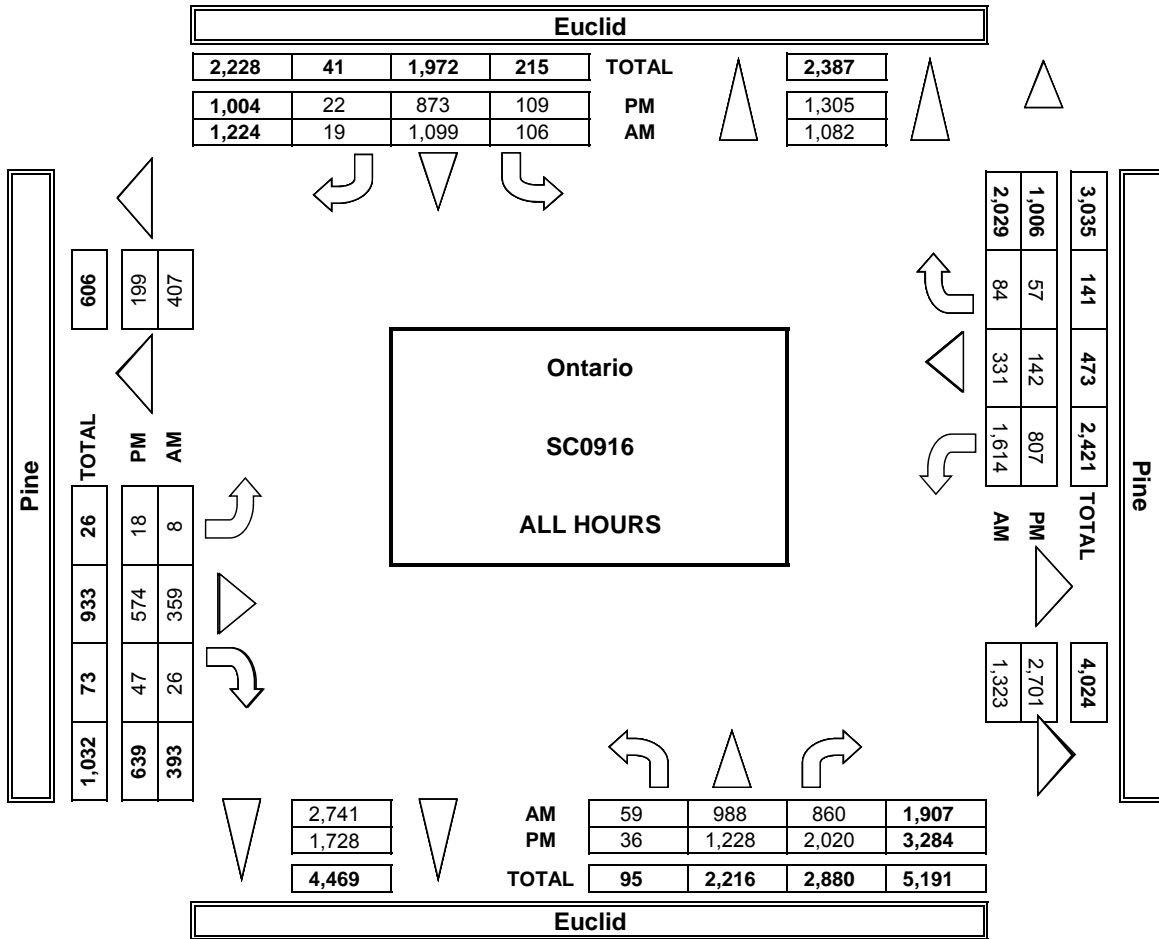
Time	E Side	W Side	S Side	N Side	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	2	1	0	1	4
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	2	1	0	1	4
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	4	0	0	4
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	2	0	0	2
5:45 PM	0	0	0	0	0
TOTAL	0	6	0	0	6

ALL PED AND BIKE				
E Side	W Side	S Side	N Side	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	1	0	1	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	6	0	0	6

PEDESTRIAN CROSSINGS				
E Side	W Side	S Side	N Side	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	1	0	1	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	2	0	0	2

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Pine	PROJECT #: SC0916	LOCATION #: 12	CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Euclid NL 1	Euclid NT 2	NR 1	Euclid SL 1	Euclid ST 1.5	SR 0.5	Pine EL 1	Pine ET 1	ER 1	Pine WL 2	Pine WT 1	WR 0	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 1

7:00 AM	4	82	109	9	131	2	0	32	-1	245	56	7	676
7:15 AM	5	132	85	5	127	2	1	48	3	160	51	10	629
7:30 AM	3	117	102	18	107	1	0	44	1	186	43	2	624
7:45 AM	6	113	85	7	116	1	0	39	1	217	52	8	645
8:00 AM	10	124	103	8	138	2	1	50	1	176	29	14	656
8:15 AM	10	109	109	13	133	1	1	42	3	205	29	8	663
8:30 AM	4	133	89	16	125	1	0	33	3	206	35	9	654
8:45 AM	5	108	100	16	117	3	2	37	2	177	26	15	608
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	47	918	782	92	994	13	5	325	13	1,572	321	73	5,155
APPROACH %	3%	53%	45%	8%	90%	1%	1%	95%	4%	80%	16%	4%	
APP/DEPART	1,747	/	998	1,099	/	2,581	343	/	1,197	1,966	/	379	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	28	479	386	44	512	5	2	164	8	804	145	39	2,618
APPROACH %	3%	54%	43%	8%	91%	1%	1%	94%	5%	81%	15%	4%	
PEAK HR FACTOR	0.944			0.948			0.837			0.892			0.987
APP/DEPART	895	/	520	561	/	1,326	174	/	594	988	/	178	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	148	248	14	102	3	0	64	5	93	17	9	704
4:15 PM	1	140	241	14	84	1	2	47	3	82	14	7	636
4:30 PM	2	141	253	15	86	1	1	63	8	111	23	5	709
4:45 PM	5	127	245	11	109	3	2	78	4	76	15	9	684
5:00 PM	4	124	214	15	105	2	6	86	5	97	19	6	683
5:15 PM	3	124	251	13	123	7	2	77	5	102	13	6	726
5:30 PM	5	163	257	13	117	3	1	70	4	96	21	3	753
5:45 PM	3	148	255	11	98	2	2	80	8	128	18	5	758
VOLUMES	24	1,115	1,964	106	824	22	16	565	42	785	140	50	5,653
APPROACH %	1%	36%	63%	11%	87%	2%	3%	91%	7%	81%	14%	5%	
APP/DEPART	3,103	/	1,183	952	/	1,652	623	/	2,633	975	/	185	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	14	559	977	52	443	14	11	313	22	423	71	20	2,920
APPROACH %	1%	36%	63%	10%	87%	3%	3%	90%	6%	82%	14%	4%	
PEAK HR FACTOR	0.912			0.890			0.892			0.851			0.963
APP/DEPART	1,551	/	590	509	/	889	346	/	1,342	514	/	99	0

0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	2	0	0	4

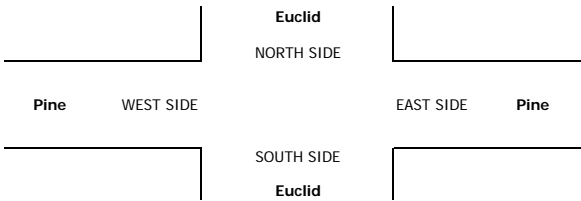
59	1	0	3
35	0	0	4
33	0	0	0
42	0	0	3
40	1	0	5
52	1	0	4
38	1	0	2
42	0	0	7
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
341	4	0	28

172	3	0	14
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	2	0	0	3

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
89	0	0	2
84	0	0	3
100	0	0	1
83	2	0	5
93	2	0	2
97	1	0	0
102	1	0	0
117	0	0	2
765	6	0	15

409	4	0	4
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Pine	PROJECT #: LOCATION #: CONTROL:	SC0916 12 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM	▲	N
		PM	◀	W
		MD	▶	E
		OTHER	▼	S

LANES:	NORTHBOUND Euclid			SOUTHBOUND Euclid			EASTBOUND Pine			WESTBOUND Pine			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	2	0	0	4	0	1	1	0	0	1	0	9
7:15 AM	0	1	2	0	6	0	0	0	1	0	0	0	10
7:30 AM	0	6	3	0	6	1	0	1	0	1	0	0	18
7:45 AM	1	5	1	0	5	0	0	3	3	1	0	0	19
8:00 AM	3	2	3	0	6	1	0	1	0	1	2	1	20
8:15 AM	3	3	1	0	3	0	0	0	2	1	0	0	13
8:30 AM	1	6	5	1	3	1	0	1	1	1	0	1	21
8:45 AM	2	4	2	0	3	0	0	2	0	1	0	0	14
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
1	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	0	1
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
5	0	0	1

VOLUMES	10	29	17	1	36	3	1	9	7	6	3	2	124
APPROACH %	18%	52%	30%	3%	90%	8%	6%	53%	41%	55%	27%	18%	
APP/DEPART	56	/	32	40	/	49	17	/	27	11	/	16	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

2	0	0	1
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BEGIN PEAK HR	7:45 AM												
VOLUMES	8	16	10	1	17	2	0	5	6	4	2	2	73
APPROACH %	24%	47%	29%	5%	85%	10%	0%	45%	55%	50%	25%	25%	
PEAK HR FACTOR	0.708			0.714			0.458			0.500			0.869
APP/DEPART	34	/	18	20	/	27	11	/	16	8	/	12	0

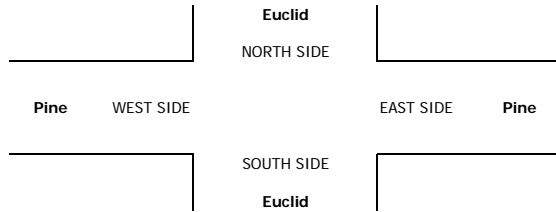
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	0	1

VOLUMES	7	24	4	0	19	0	2	1	3	3	0	4	67
APPROACH %	20%	69%	11%	0%	100%	0%	33%	17%	50%	43%	0%	57%	
APP/DEPART	35	/	30	19	/	25	6	/	5	7	/	7	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

2	0	0	1
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Euclid Pine	PROJECT #: SC0916	LOCATION #: 12	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	1.5	0.5	1	1	1	2	1	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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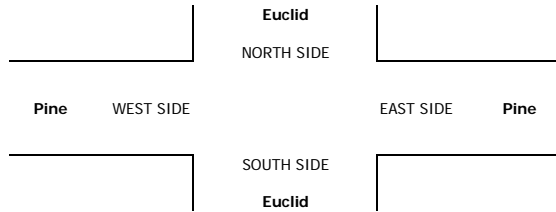
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

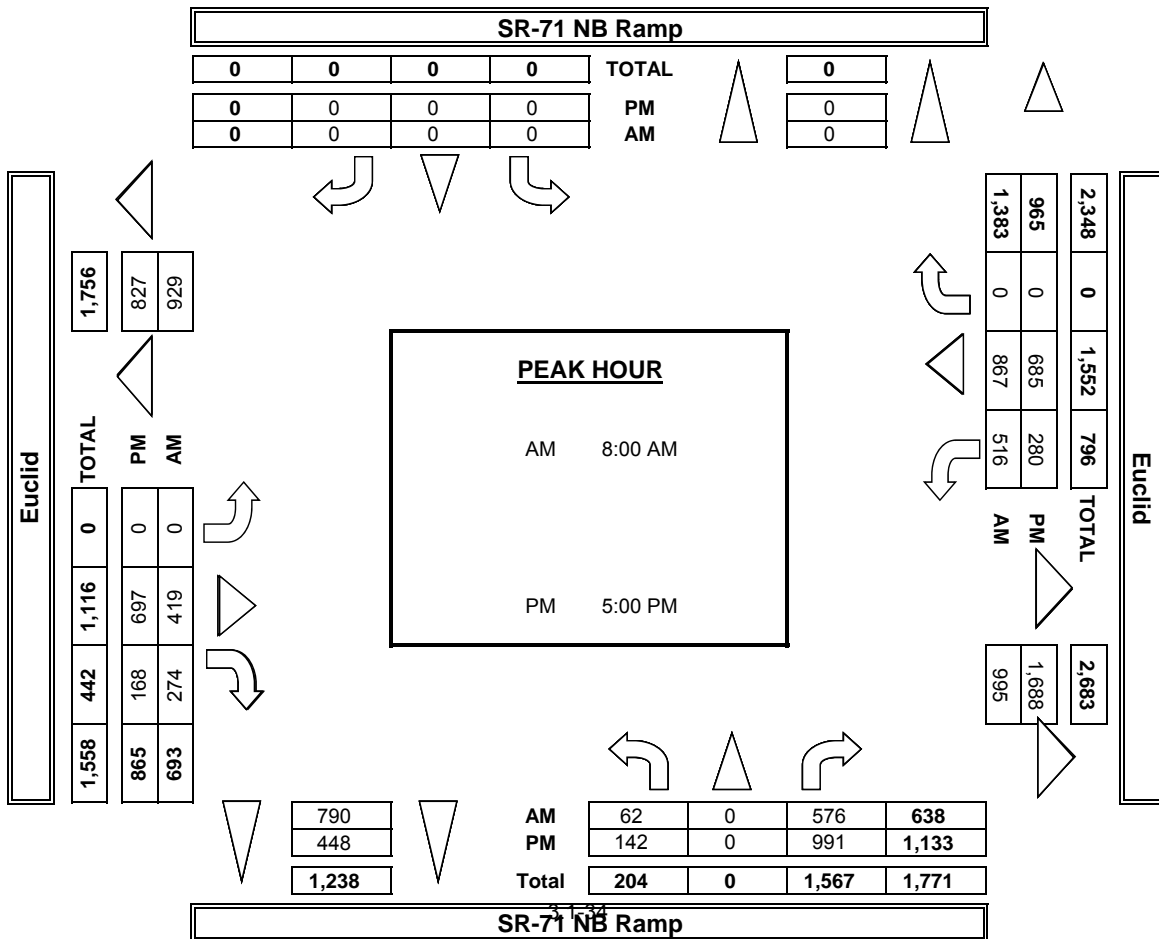
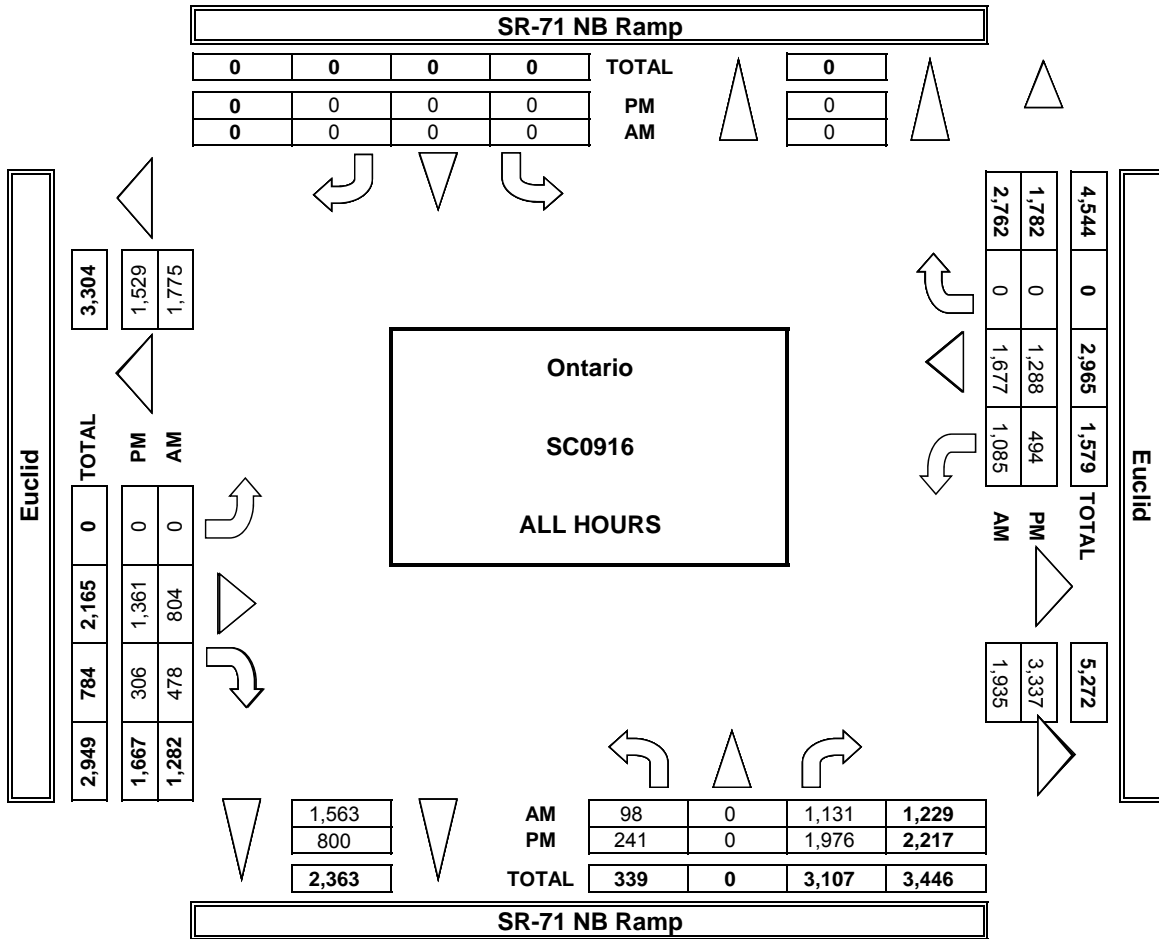
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0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario SR-71 NB Ramp Euclid	PROJECT #: SC0916	LOCATION #: 13	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	3	0	0	0	0	1	2	1	7	0	14
7:15 AM	0	0	7	0	0	0	0	0	2	1	12	0	22
7:30 AM	0	0	2	0	0	0	0	6	4	2	14	0	28
7:45 AM	0	0	6	0	0	0	0	4	2	2	15	0	29
8:00 AM	0	0	6	0	0	0	0	0	0	0	9	0	15
8:15 AM	0	0	11	0	0	0	0	7	1	2	10	0	31
8:30 AM	1	0	1	0	0	0	0	2	0	1	10	0	15
8:45 AM	0	0	6	0	0	0	0	5	2	3	11	0	27
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	42	0	0	0	0	25	13	12	88	0	181
APPROACH %	2%	0%	98%	0%	0%	0%	0%	66%	34%	12%	88%	0%	
APP/DEPART	43	/	0	0	/	25	38	/	67	100	/	89	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	25	0	0	0	0	17	7	6	48	0	103
APPROACH %	0%	0%	100%	0%	0%	0%	0%	71%	29%	11%	89%	0%	
PEAK HR FACTOR	0.568			0.000			0.600			0.794			0.831

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

APP/DEPART	25	/	0	0	/	13	24	/	42	54	/	48	0
BEGIN PEAK HR	03:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.568			0.000			0.600			0.794			0.831

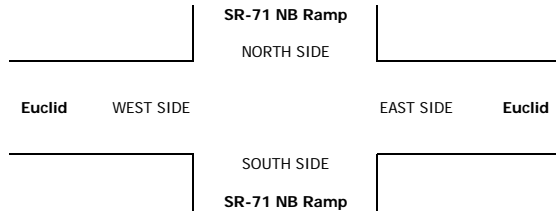
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	4	0	88	0	0	0	0	28	3	8	24	0	155
APPROACH %	4%	0%	96%	0%	0%	0%	0%	90%	10%	25%	75%	0%	
APP/DEPART	92	/	0	0	/	11	31	/	116	32	/	28	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	3	0	53	0	0	0	0	16	1	5	13	0	91
APPROACH %	5%	0%	95%	0%	0%	0%	0%	94%	6%	28%	72%	0%	
PEAK HR FACTOR	0.778			0.000			0.708			0.643			0.875

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario SR-71 NB Ramp Euclid	PROJECT #: LOCATION #: CONTROL:	SC0916 13 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM	▲	N
		PM	◀	W
		MD	S	E ▶
		OTHER	▼	

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	1	0	0	0	0	2	0	1	4	0	8
7:15 AM	0	0	2	0	0	0	0	1	1	2	5	0	11
7:30 AM	0	0	0	0	0	0	0	9	0	4	2	0	15
7:45 AM	0	0	2	0	0	0	0	1	0	3	2	0	8
8:00 AM	0	0	5	0	0	0	0	3	1	6	3	0	18
8:15 AM	0	0	4	0	0	0	0	3	1	4	3	0	15
8:30 AM	1	0	9	0	0	0	0	9	0	3	7	0	29
8:45 AM	0	0	6	0	0	0	0	3	0	1	3	0	13
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	29	0	0	0	0	31	3	24	29	0	117
APPROACH %	3%	0%	97%	0%	0%	0%	0%	91%	9%	45%	55%	0%	
APP/DEPART	30	/	0	0	/	27	34	/	60	53	/	30	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	1	0	24	0	0	0	0	18	2	14	16	0	75
APPROACH %	4%	0%	96%	0%	0%	0%	0%	90%	10%	47%	53%	0%	
PEAK HR FACTOR	0.625			0.000			0.556			0.750			0.647

0	0	0	0
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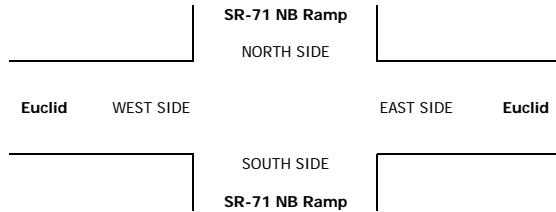
APP/DEPART	25	/	0	0	/	16	20	/	42	30	/	17	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	5	0	0	0	0	1	0	1	2	0	10
4:15 PM	0	0	3	0	0	0	0	2	0	0	0	0	5
4:30 PM	0	0	3	0	0	0	0	2	0	0	1	0	6
4:45 PM	0	0	6	0	0	0	0	2	0	2	3	0	13
5:00 PM	0	0	5	0	0	0	0	0	0	1	2	0	8
5:15 PM	0	0	5	0	0	0	0	2	0	0	2	0	9
5:30 PM	1	0	3	0	0	0	0	1	0	0	4	0	9
5:45 PM	0	0	1	0	0	0	0	1	0	1	3	0	6

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	2	0	31	0	0	0	0	11	0	5	17	0	66
APPROACH %	6%	0%	94%	0%	0%	0%	0%	100%	0%	23%	77%	0%	
APP/DEPART	33	/	0	0	/	5	11	/	42	22	/	19	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	1	0	19	0	0	0	0	5	0	3	11	0	39
APPROACH %	5%	0%	95%	0%	0%	0%	0%	100%	0%	21%	79%	0%	
PEAK HR FACTOR	0.833			0.000			0.625			0.700			0.750

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario SR-71 NB Ramp Euclid	PROJECT #: SC0916	LOCATION #: 13	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND SR-71 NB Ramp			SOUTHBOUND SR-71 NB Ramp			EASTBOUND Euclid			WESTBOUND Euclid			TOTAL
	NL 2	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 1	WL 1	WT 2	WR X	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	1	0	0	0	0	0	0	0	1	0	2
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	1	/	0	0	/	0	0	/	1	1	/	1	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	1	0	0	0	0	0	0	0	0	0	1
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.250			0.000			0.000			0.000			0.250
APP/DEPART	1	/	0	0	/	0	0	/	1	0	/	0	0

0	0	0	0
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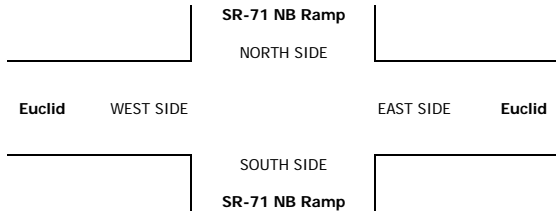
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

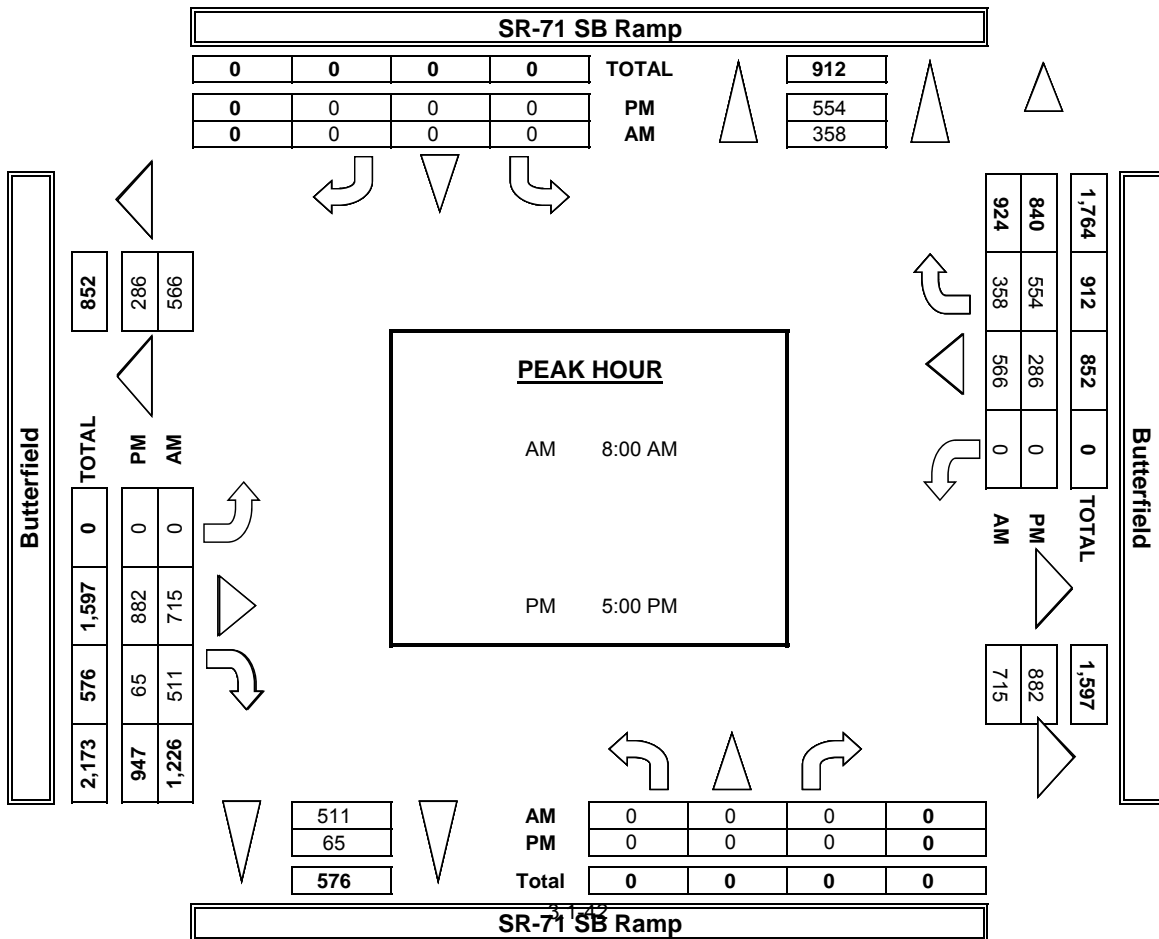
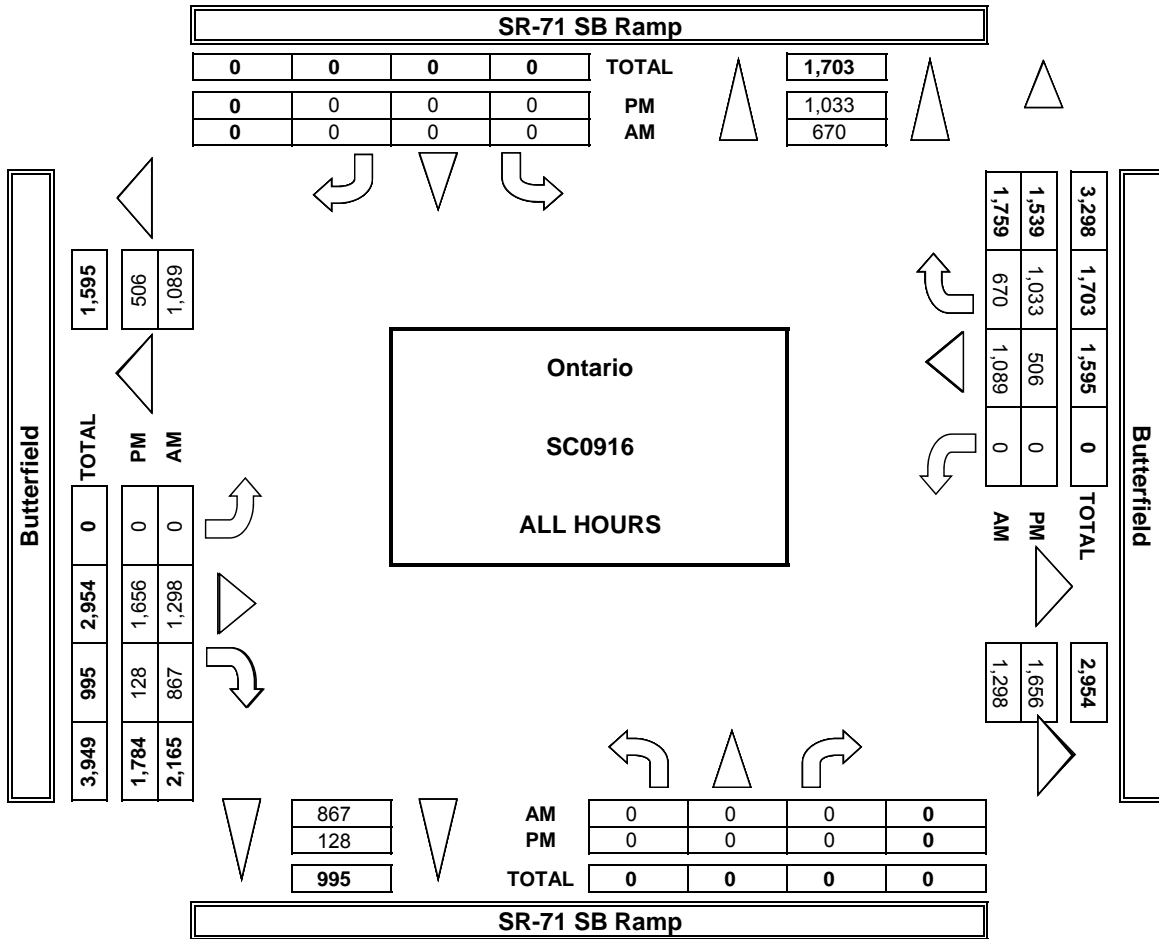
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0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0
BEGIN PEAK HR	4:30 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.250		
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario SR-71 SB Ramp Butterfield	PROJECT #: SC0916	LOCATION #: 14	CONTROL: STOP ALL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM		▲	
		PM		N	
		MD	◀ W		E ▶
		OTHER		S	
OTHER		▼			

LANES:	NORTHBOUND SR-71 SB Ramp			SOUTHBOUND SR-71 SB Ramp			EASTBOUND Butterfield			WESTBOUND Butterfield			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	2	0	0	0	2	4
7:15 AM	0	0	0	0	0	0	0	4	0	0	0	3	7
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	4	9
7:45 AM	0	0	0	0	0	0	0	4	0	0	0	5	9
8:00 AM	0	0	0	0	0	0	0	6	0	0	0	6	12
8:15 AM	0	0	0	0	0	0	0	5	0	0	0	4	9
8:30 AM	0	0	0	0	0	0	0	3	0	0	1	5	9
8:45 AM	0	0	0	0	0	0	0	4	0	0	0	2	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	33	0	0	1	31	65
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	3%	97%	
APP/DEPART	0	/	31	0	/	0	33	/	33	32	/	1	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	0	0	0	0	18	0	0	1	20	39
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	5%	95%	
PEAK HR FACTOR	0.000			0.000			0.750			0.875			0.813
APP/DEPART	0	/	20	0	/	0	18	/	18	21	/	1	0

0	0	0	0
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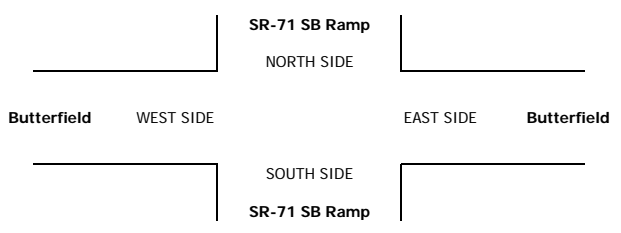
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	3	5
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	2	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	4
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	4	7
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	4

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	12	0	0	0	16	28
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	
APP/DEPART	0	/	16	0	/	0	12	/	12	16	/	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	7	0	0	0	10	17
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	
PEAK HR FACTOR	0.000			0.000			0.583			0.625			0.607
APP/DEPART	0	/	10	0	/	0	7	/	7	10	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario SR-71 SB Ramp Butterfield	PROJECT #: LOCATION #: CONTROL:	SC0916 14 STOP ALL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND SR-71 SB Ramp			SOUTHBOUND SR-71 SB Ramp			EASTBOUND Butterfield			WESTBOUND Butterfield			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
APP/DEPART	0	0	0	0	0	0	0	0	0	0	1	0	1
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	0	0	0	0	0	0	0	0	0	1	0	1

0	0	0	0
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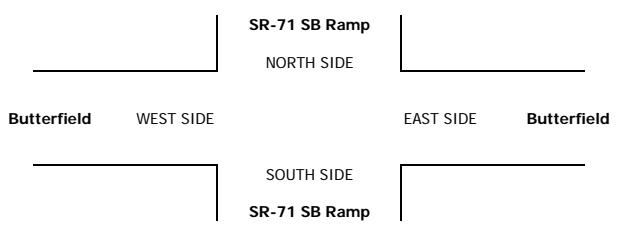
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

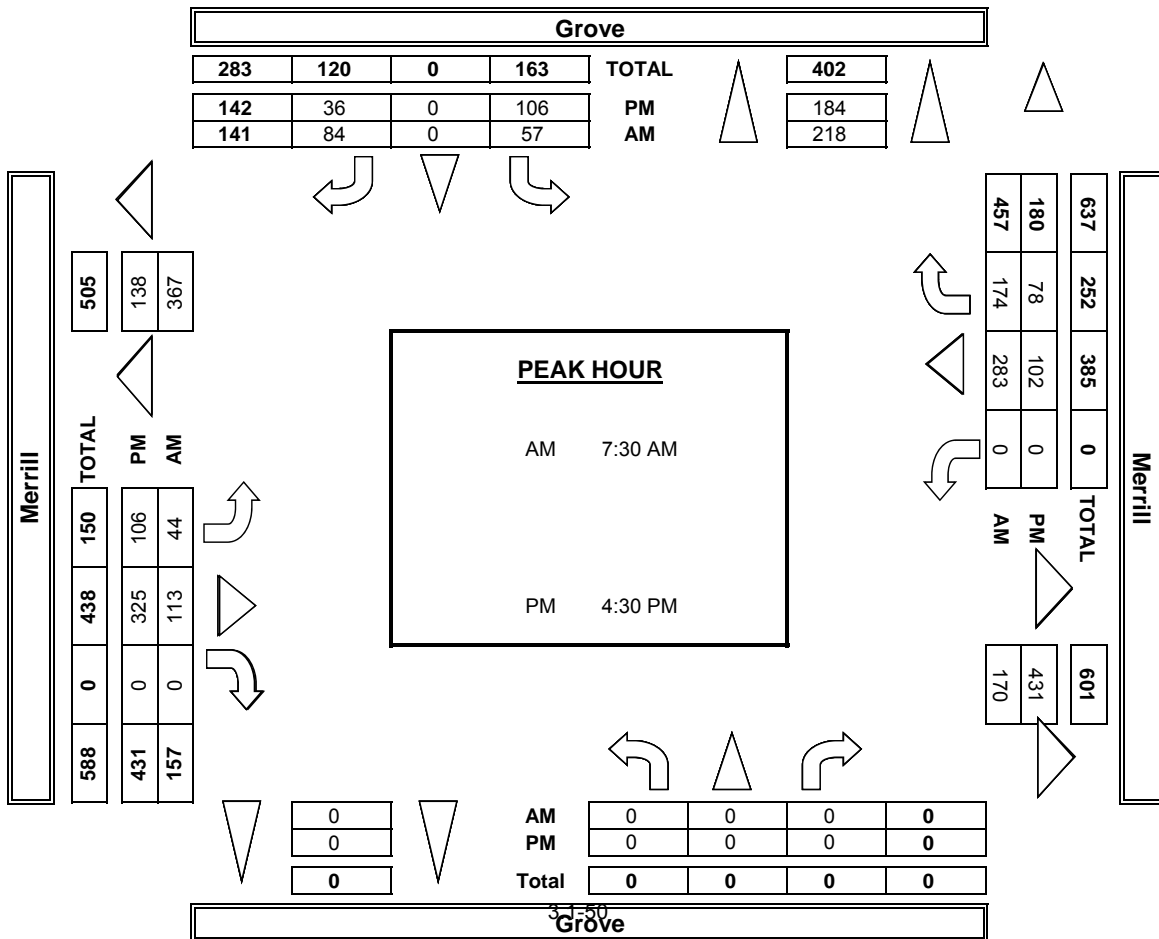
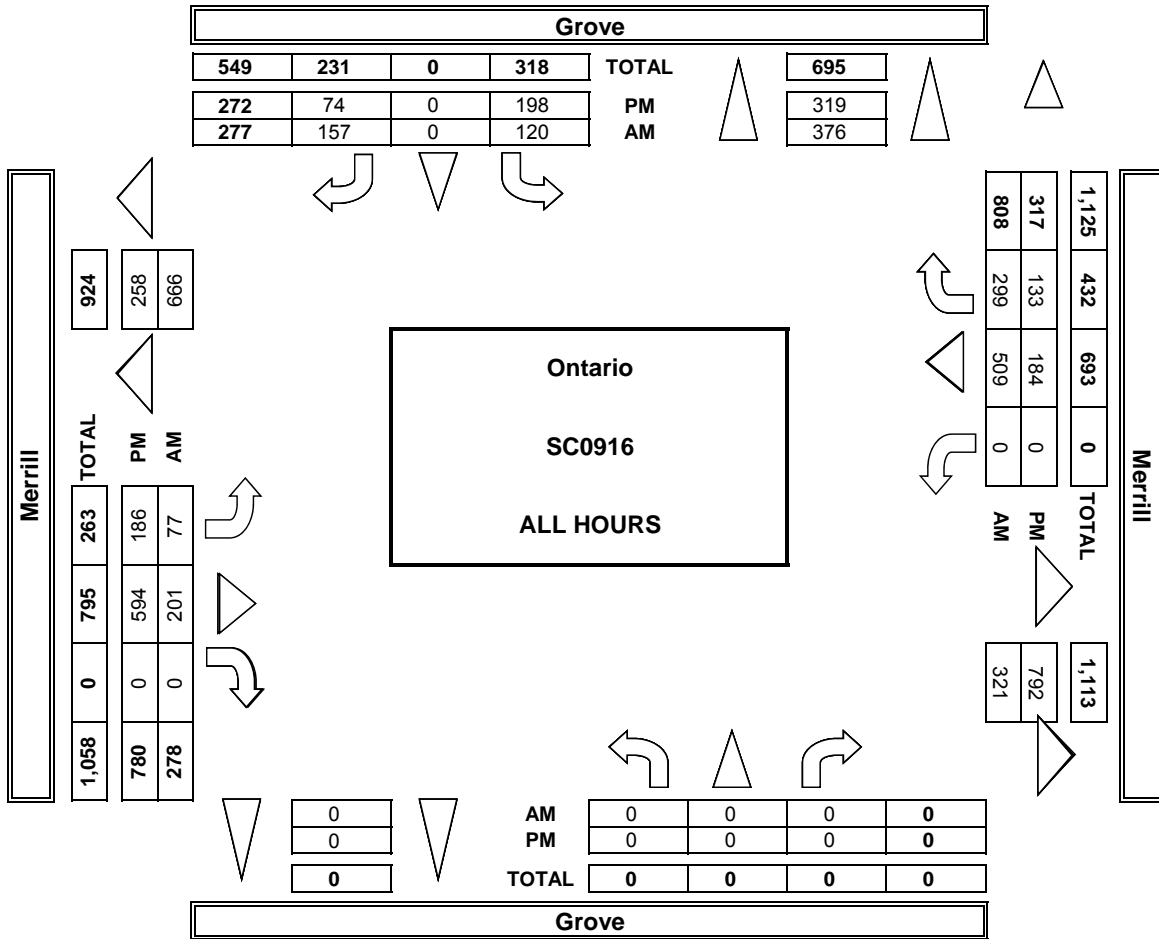
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
APP/DEPART	0	0	0	0	0	0	0	0	0	0	1	0	1
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	0	0	0	0	0	0	0	0	0	1	0	1

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Grove Merrill	PROJECT #: LOCATION #: CONTROL:	SC0916 18 STOP ALL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM		▲	
		PM	◀ W	N	E ▶
		MD		S	
		OTHER		▼	

LANES:	NORTHBOUND Grove			SOUTHBOUND Grove			EASTBOUND Merrill			WESTBOUND Merrill			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	1	0	1	0	0	3	0	5
7:15 AM	0	0	0	0	0	0	0	3	0	0	5	0	8
7:30 AM	0	0	0	3	0	0	0	2	0	0	7	2	14
7:45 AM	0	0	0	0	0	0	1	1	0	0	4	0	6
8:00 AM	0	0	0	0	0	0	1	3	0	0	3	0	7
8:15 AM	0	0	0	2	0	1	1	3	0	0	2	3	12
8:30 AM	0	0	0	2	0	0	0	1	0	0	2	1	6
8:45 AM	0	0	0	4	0	0	0	2	0	0	1	4	11
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	11	0	2	3	16	0	0	27	10	69
APPROACH %	0%	0%	0%	85%	0%	15%	16%	84%	0%	0%	73%	27%	
APP/DEPART	0	/	13	13	/	0	19	/	27	37	/	29	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	5	0	1	3	9	0	0	16	5	39
APPROACH %	0%	0%	0%	83%	0%	17%	25%	75%	0%	0%	76%	24%	
PEAK HR FACTOR	0.000			0.500			0.750			0.583			0.696
APP/DEPART	0	/	8	6	/	0	12	/	14	21	/	17	0

0	0	0	0
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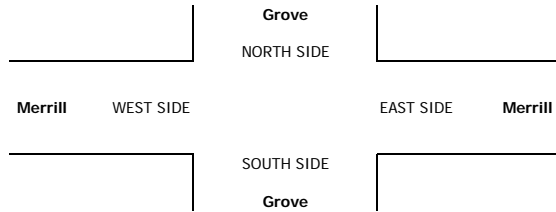
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	1	1	0	0	2	0	4
4:15 PM	0	0	0	1	0	0	0	4	0	0	3	1	9
4:30 PM	0	0	0	2	0	0	0	3	0	0	5	0	10
4:45 PM	0	0	0	0	0	0	1	2	0	0	1	0	4
5:00 PM	0	0	0	0	0	0	0	9	0	0	1	1	11
5:15 PM	0	0	0	1	0	0	0	4	0	0	2	1	8
5:30 PM	0	0	0	0	0	1	0	6	0	0	0	2	9
5:45 PM	0	0	0	1	0	0	1	3	0	0	1	1	7

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

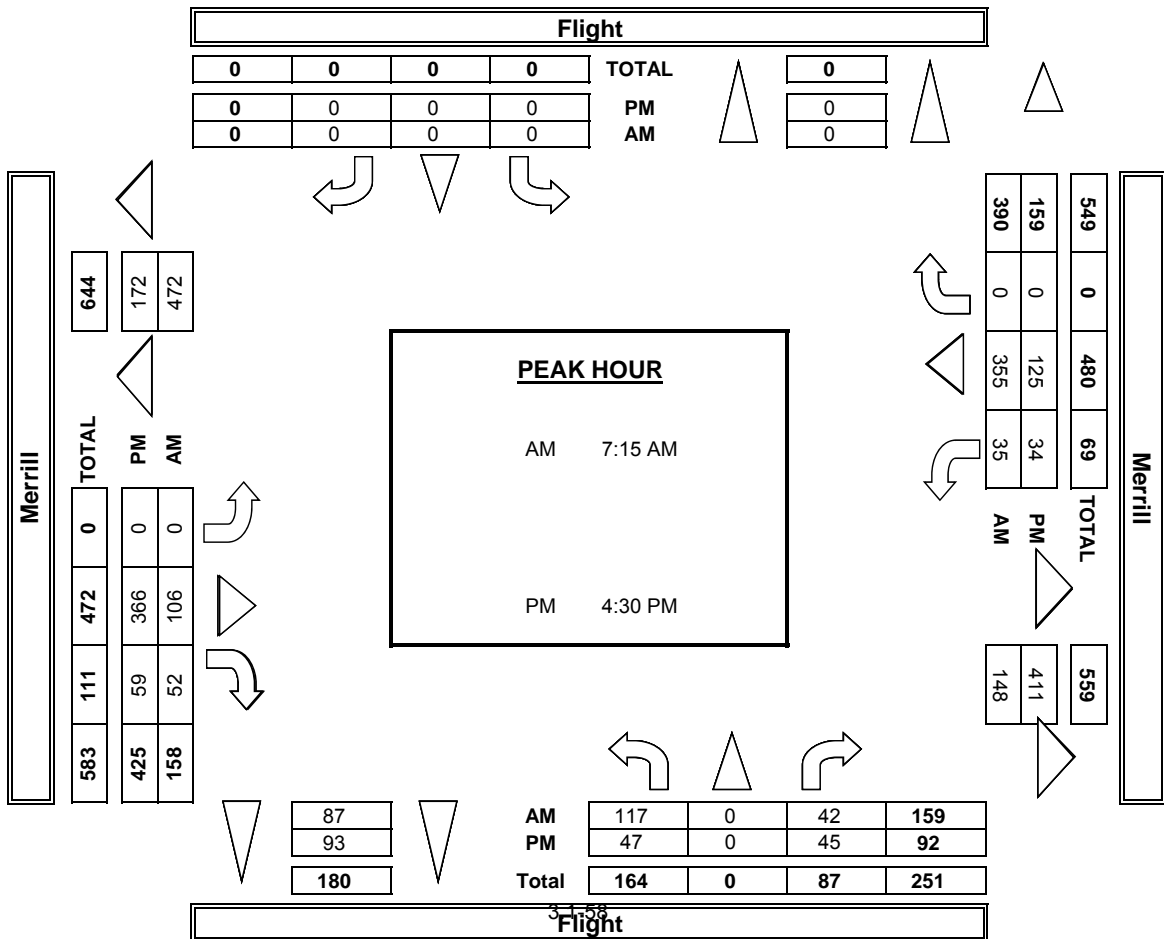
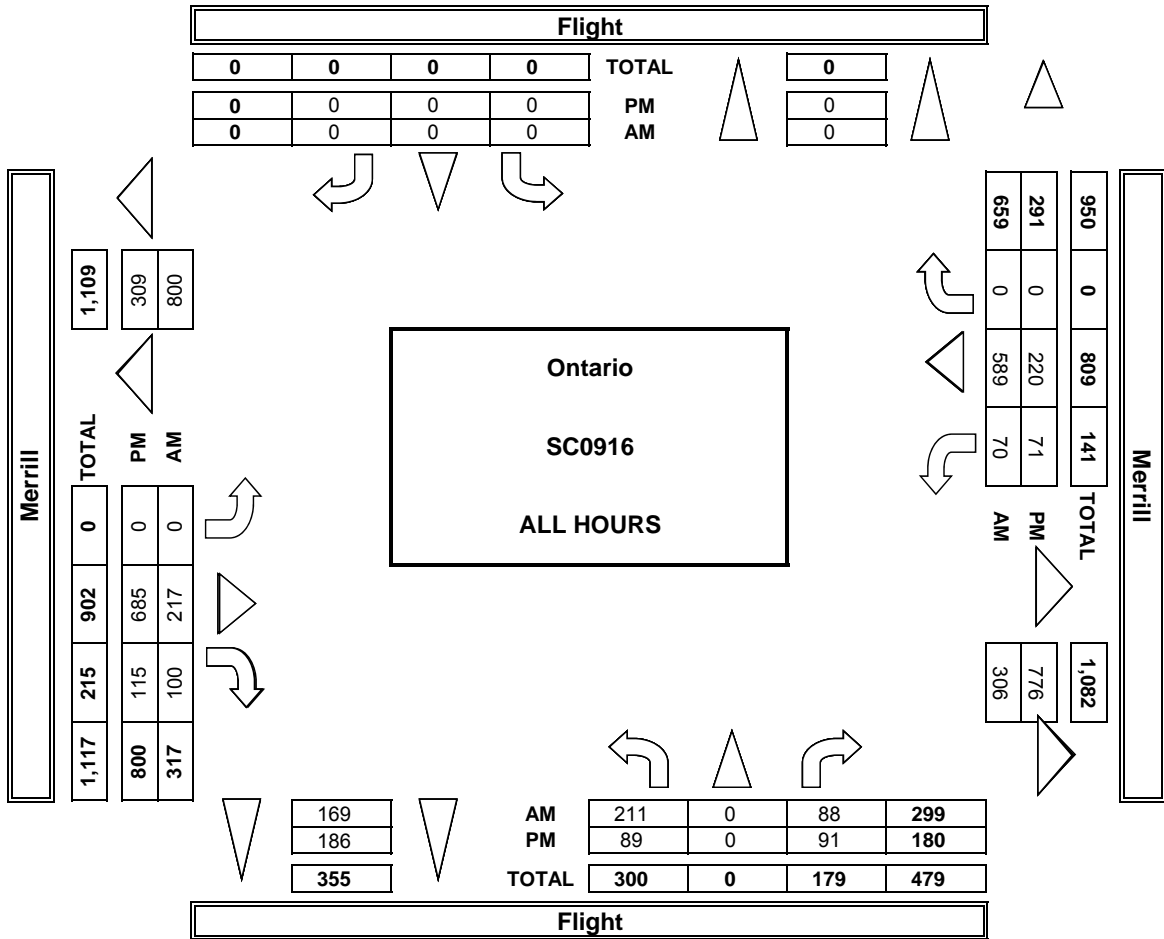
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	5	0	1	3	32	0	0	15	6	62
APPROACH %	0%	0%	0%	83%	0%	17%	9%	91%	0%	0%	71%	29%	
APP/DEPART	0	/	9	6	/	0	35	/	37	21	/	16	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	2	0	1	1	22	0	0	4	5	35
APPROACH %	0%	0%	0%	67%	0%	33%	4%	96%	0%	0%	44%	56%	
PEAK HR FACTOR	0.000			0.750			0.639			0.750			0.795
APP/DEPART	0	/	6	3	/	0	23	/	24	9	/	5	0

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Flight Merrill	PROJECT #: SC0916	LOCATION #: 20	CONTROL: STOP N
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER	▲ N ◀ W ▶ E S ▼
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LANES:	NORTHBOUND Flight			SOUTHBOUND Flight			EASTBOUND Merrill			WESTBOUND Merrill			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	2	0	0	0	0	0	0	2	0	1	6	0	11
7:15 AM	0	0	0	0	0	0	0	2	2	0	1	0	5
7:30 AM	0	0	0	0	0	0	0	1	2	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	2	2	0	4	0	8
8:00 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
8:15 AM	1	0	0	0	0	0	0	2	1	1	2	0	7
8:30 AM	0	0	0	0	0	0	0	2	0	3	0	0	5
8:45 AM	4	0	0	0	0	0	0	3	0	0	1	0	8
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	7	0	0	0	0	0	15	7	5	17	0	51
APPROACH %	100%	0%	0%	0%	0%	0%	68%	32%	23%	77%	0%	
APP/DEPART	7	/	0	0	/	12	22	/	15	22	/	24
BEGIN PEAK HR	7:00 AM											
VOLUMES	2	0	0	0	0	0	0	7	6	1	11	0
APPROACH %	100%	0%	0%	0%	0%	0%	0%	54%	46%	8%	92%	0%
PEAK HR FACTOR	0.250			0.000			0.813			0.429		
APP/DEPART	2	/	0	0	/	7	13	/	7	12	/	13

0	0	0	0
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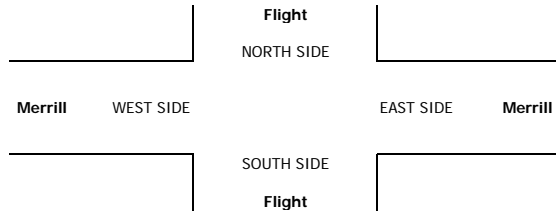
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	2	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	3	1	0	1	0
4:30 PM	0	0	1	0	0	0	0	2	1	0	1	0
4:45 PM	0	0	1	0	0	0	0	2	0	2	1	0
5:00 PM	2	0	0	0	0	0	0	4	2	0	0	0
5:15 PM	1	0	0	0	0	0	0	1	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	1	1	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	3	0	3	0	0	0	15	6	2	5	0	34
APPROACH %	50%	0%	50%	0%	0%	0%	71%	29%	29%	71%	0%	
APP/DEPART	6	/	0	0	/	8	21	/	18	7	/	8
BEGIN PEAK HR	4:15 PM											
VOLUMES	2	0	2	0	0	0	11	4	2	3	0	24
APPROACH %	50%	0%	50%	0%	0%	0%	73%	27%	40%	60%	0%	
PEAK HR FACTOR	0.500			0.000			0.625			0.417		
APP/DEPART	4	/	0	0	/	6	15	/	13	5	/	5

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Flight Merrill	PROJECT #: LOCATION #: CONTROL:	SC0916 20 STOP N
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM	▲	N	
		PM	◀	W	E ▶
		MD		S	
		OTHER	▼		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	1	0	0	0	0	1	0	0	1	0	3
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	1	0	2	0	0	0	0	3	0	2	0	8	
7:45 AM	3	0	0	0	0	0	0	1	2	0	3	9	
8:00 AM	0	0	0	0	0	0	0	1	4	0	1	6	
8:15 AM	2	0	0	0	0	0	0	1	0	1	0	4	
8:30 AM	2	0	0	0	0	0	0	1	0	1	0	4	
8:45 AM	1	0	0	0	0	0	0	1	3	0	4	9	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	9	0	3	0	0	0	0	5	14	0	13	0	44
APPROACH %	75%	0%	25%	0%	0%	0%	0%	26%	74%	0%	100%	0%	
APP/DEPART	12	/	0	0	/	14	19	/	8	13	/	22	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	6	0	2	0	0	0	0	2	10	0	7	0	27
APPROACH %	75%	0%	25%	0%	0%	0%	0%	17%	83%	0%	100%	0%	
PEAK HR FACTOR	0.667			0.000			0.600			0.583			0.750
APP/DEPART	8	/	0	0	/	10	12	/	4	7	/	13	0

0	0	0	0
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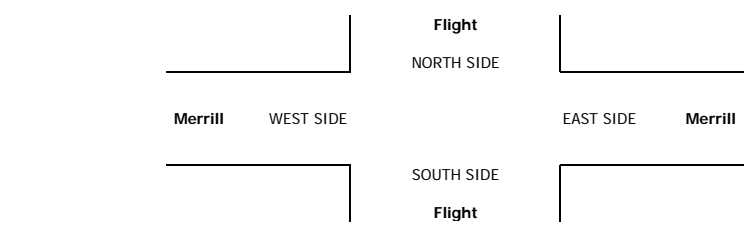
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	1	0	3	0	5	
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	2	
4:30 PM	2	0	0	0	0	0	0	1	0	1	2	6	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	1	0	0	0	0	1	0	0	1	3	
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	
5:45 PM	0	0	0	0	0	0	0	1	0	0	2	3	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	2	0	2	0	0	0	0	7	2	1	9	0	23
APPROACH %	50%	0%	50%	0%	0%	0%	0%	78%	22%	10%	90%	0%	
APP/DEPART	4	/	0	0	/	3	9	/	9	10	/	11	0
BEGIN PEAK HR	3:45 PM												
VOLUMES	2	0	1	0	0	0	0	2	2	1	5	0	13
APPROACH %	67%	0%	33%	0%	0%	0%	0%	50%	50%	17%	83%	0%	
PEAK HR FACTOR	0.375			0.000			0.500			0.500			0.542
APP/DEPART	3	/	0	0	/	3	4	/	3	6	/	7	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Flight Merrill	PROJECT #: SC0916	LOCATION #: 20	CONTROL: STOP N
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E
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LANES:	NORTHBOUND Flight			SOUTHBOUND Flight			EASTBOUND Merrill			WESTBOUND Merrill			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	0	0	0	0	0	0	2	1	0	1	0	4
	7:15 AM	2	0	0	0	0	0	2	0	0	2	0	6
	7:30 AM	0	0	1	0	0	0	2	2	0	10	0	15
	7:45 AM	1	0	0	0	0	0	0	1	0	4	0	6
	8:00 AM	2	0	0	0	0	0	3	1	1	3	0	10
	8:15 AM	1	0	0	0	0	0	4	0	0	2	0	7
	8:30 AM	0	0	0	0	0	0	1	3	0	4	0	8
	8:45 AM	1	0	0	0	0	0	4	1	2	3	0	11
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	7	0	1	0	0	0	0	18	9	3	29	0	67
APPROACH %	88%	0%	13%	0%	0%	0%	0%	67%	33%	9%	91%	0%	
APP/DEPART	8	/	0	0	/	12	27	/	19	32	/	36	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	4	0	1	0	0	0	0	9	4	1	19	0	38
APPROACH %	80%	0%	20%	0%	0%	0%	0%	69%	31%	5%	95%	0%	
PEAK HR FACTOR	0.625			0.000			0.813			0.500			0.633
APP/DEPART	5	/	0	0	/	5	13	/	10	20	/	23	0

0	0	0	0
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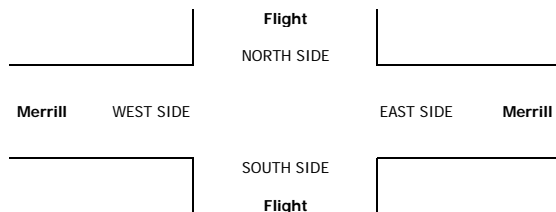
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	2	0	1	0	0	0	2	0	0	0	0	5
	4:15 PM	1	0	1	0	0	0	4	0	0	3	0	9
	4:30 PM	0	0	0	0	0	0	4	0	1	5	0	10
	4:45 PM	0	0	3	0	0	0	3	0	1	1	0	8
	5:00 PM	1	0	1	0	0	0	7	1	0	2	0	12
	5:15 PM	1	0	0	0	0	0	5	1	0	1	0	8
5:30 PM	1	0	2	0	0	0	7	0	1	1	0	12	
5:45 PM	0	0	1	0	0	0	2	0	0	1	0	4	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	6	0	9	0	0	0	0	34	2	3	14	0	68
APPROACH %	40%	0%	60%	0%	0%	0%	0%	94%	6%	18%	82%	0%	
APP/DEPART	15	/	0	0	/	5	36	/	43	17	/	20	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	3	0	6	0	0	0	0	22	2	2	5	0	40
APPROACH %	33%	0%	67%	0%	0%	0%	0%	92%	8%	29%	71%	0%	
PEAK HR FACTOR	0.750			0.000			0.750			0.875			0.833
APP/DEPART	9	/	0	0	/	4	24	/	28	7	/	8	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Flight Merrill	PROJECT #: SC0916	LOCATION #: 20	CONTROL: STOP N
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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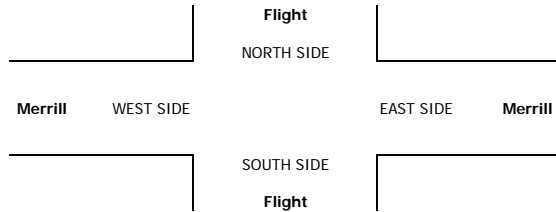
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0	0
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VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Flight Merrill	PROJECT #: SC0916	LOCATION #: 20	CONTROL: STOP N
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	◀ W	E ▶	▲ N S ▼
BUSES					

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.5	X	0.5	X	X	X	X	1	1	1	1	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	1	1	0	1	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	1	1	1	2	0	5
APPROACH %	0%	0%	0%	0%	0%	0%	0%	50%	50%	33%	67%	0%	
APP/DEPART	0	/	0	0	/	2	2	/	1	3	/	2	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	0	0	0	0	1	1	1	2	0	5
APPROACH %	0%	0%	0%	0%	0%	0%	0%	50%	50%	33%	67%	0%	
PEAK HR FACTOR	0.000			0.000			0.250			0.750			0.417
APP/DEPART	0	/	0	0	/	2	2	/	1	3	/	2	0

0	0	0	0
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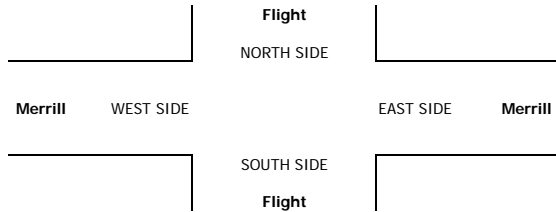
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	1	/	0	0	/	0	0	/	0	0	/	1	0
BEGIN PEAK HR	3:15 PM												
VOLUMES	1	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.250			0.000			0.000			0.000			0.250
APP/DEPART	1	/	0	0	/	0	0	/	0	0	/	1	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Tue, Apr 26, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST: Ontario
Hellman
Kimball

PROJECT #:
LOCATION #:
CONTROL: SC0916
26
STOP ALL

NOTES:

PM	▲ N	
PM	← W	→ E
MD		▼ S
OTHER		

Add U-Turns to Left Turns

LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	188	0	0	0	0	0	0	0	58	0	0	0	246
7:15 AM	190	0	0	0	0	0	0	0	68	0	0	0	258
7:30 AM	197	0	0	0	0	0	0	0	49	0	0	0	246
7:45 AM	154	0	0	0	0	0	0	0	55	0	0	0	209
8:00 AM	160	0	0	0	0	0	0	0	64	0	0	0	224
8:15 AM	159	0	0	0	0	0	0	0	67	0	0	0	226
8:30 AM	145	0	0	0	0	0	0	0	66	0	0	0	211
8:45 AM	107	0	0	0	0	0	0	0	82	0	0	0	189
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	1,300	0	0	0	0	0	0	0	509	0	0	0	1,809
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
APP/DEPART	1,300	/	0	0	0	514	509	/	0	0	/	1,295	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
5	0	0	0	5

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	7:00 AM												
VOLUMES	729	0	0	0	0	0	0	0	230	0	0	0	959
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
PEAK HR FACTOR	0.925			0.000			0.846			0.000			0.929
APP/DEPART	729	/	0	0	0	232	230	/	0	0	/	727	0

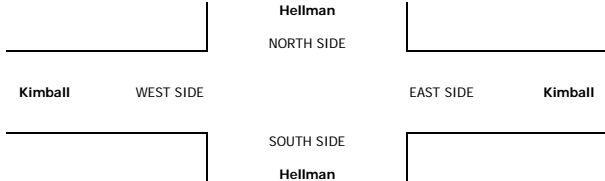
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	67	0	0	0	0	0	0	0	142	0	0	0	209
4:15 PM	66	0	0	0	0	0	0	0	168	0	0	0	234
4:30 PM	61	0	0	0	0	0	0	0	170	0	0	0	231
4:45 PM	77	0	0	0	0	0	0	0	174	0	0	0	251
5:00 PM	61	0	0	0	0	0	0	0	185	0	0	0	246
5:15 PM	58	0	0	0	0	0	0	0	202	0	0	0	260
5:30 PM	52	0	0	0	0	0	0	0	225	0	0	0	277
5:45 PM	58	0	0	0	0	0	0	0	188	0	0	0	246
VOLUMES	500	0	0	0	0	0	0	0	1,454	0	0	0	1,954
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
APP/DEPART	500	/	0	0	0	1,462	1,454	/	0	0	/	492	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	248	0	0	0	0	0	0	0	786	0	0	0	1,034
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
PEAK HR FACTOR	0.805			0.000			0.873			0.000			0.933
APP/DEPART	248	/	0	0	0	787	786	/	0	0	/	247	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
3	0	0	0	3
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
8	0	0	0	8

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



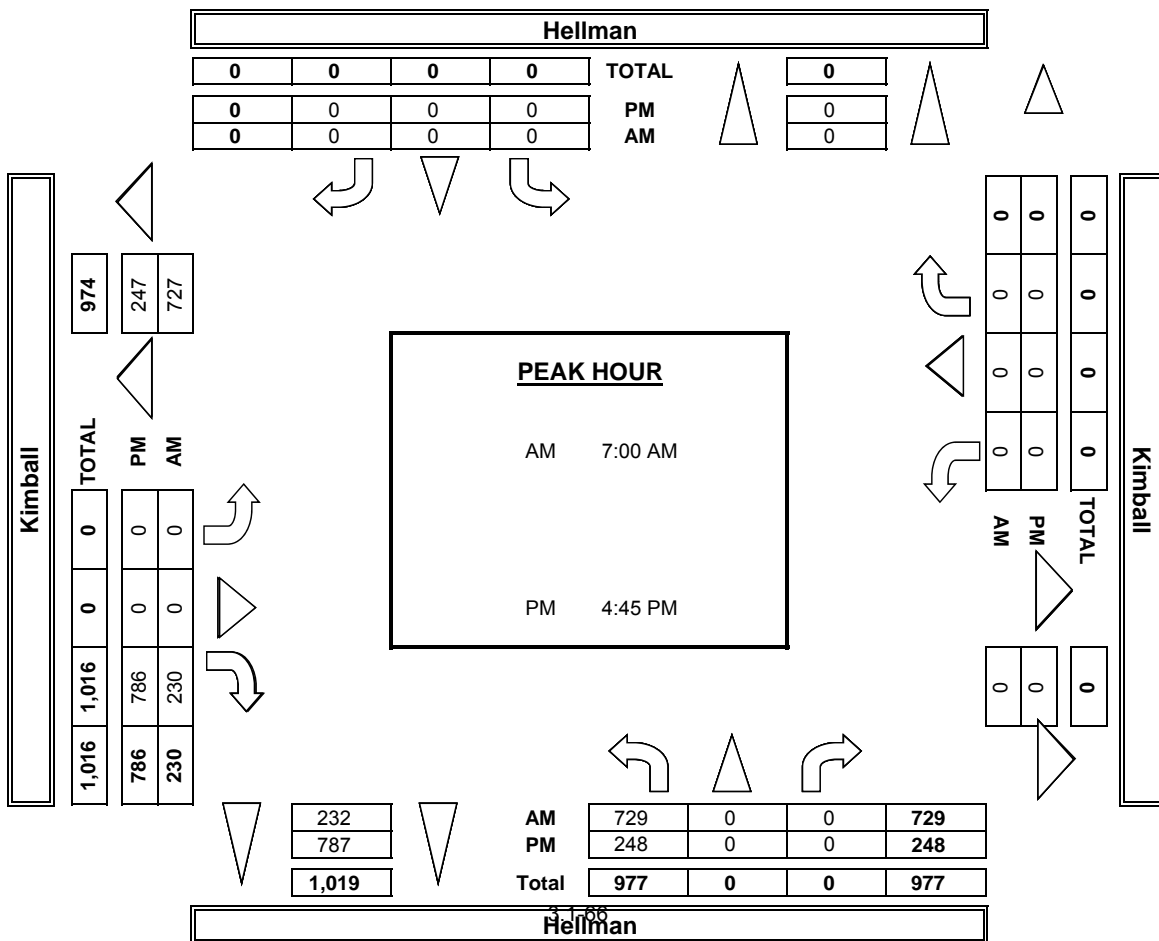
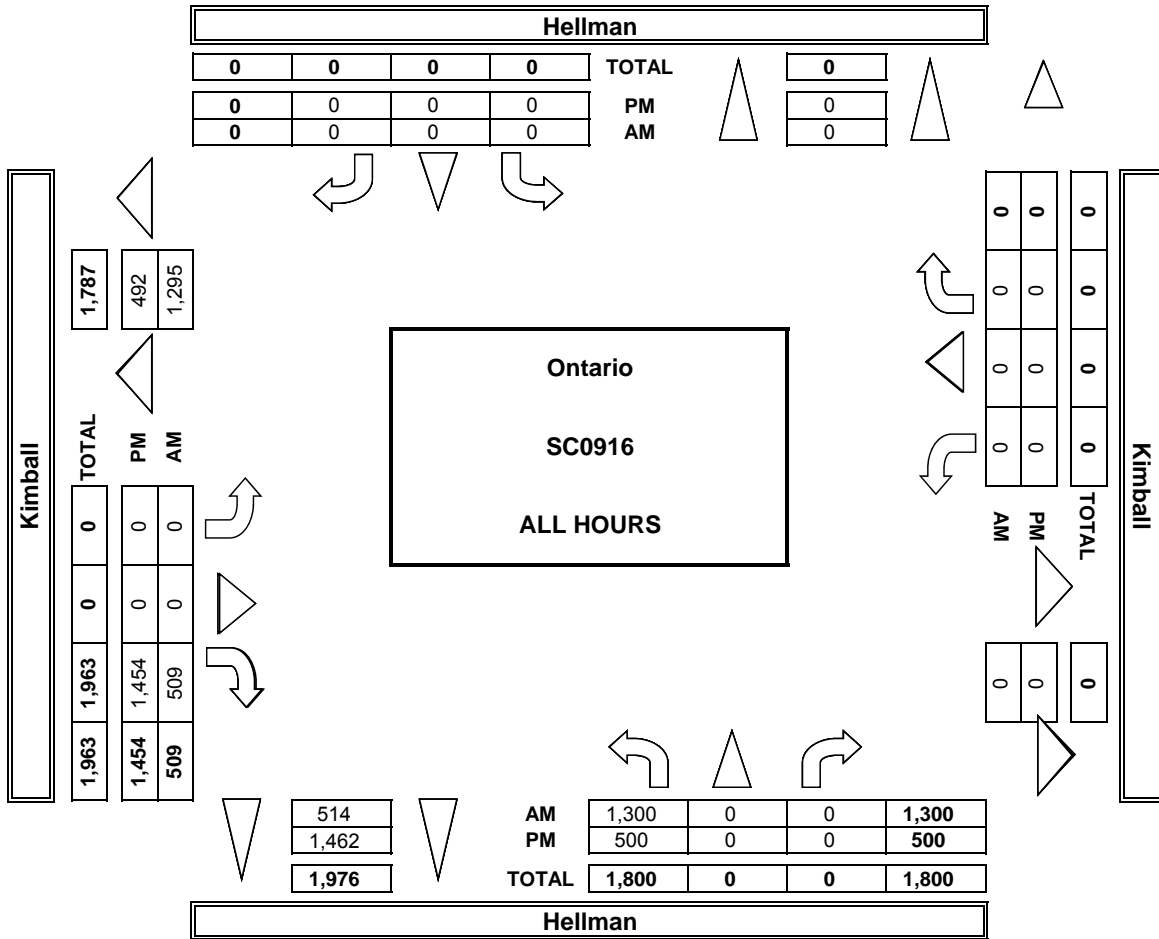
Time	E Side	W Side	S Side	N Side	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	1	0	1	0	2
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	2	0	1	0	3

Time	E Side	W Side	S Side	N Side	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	1	0	1	0	2
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	2	0	1	0	3

Time	E Side	W Side	S Side	N Side	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	1	0	1	0	2
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0

Time	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Kimball	PROJECT #: SC0916	LOCATION #: 26	CONTROL: STOP ALL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	184	0	0	0	0	0	0	0	56	0	0	0	240
7:15 AM	189	0	0	0	0	0	0	0	65	0	0	0	254
7:30 AM	193	0	0	0	0	0	0	-1	45	0	0	0	237
7:45 AM	147	0	0	0	-1	0	0	0	51	0	0	0	197
8:00 AM	156	0	0	0	0	0	0	0	62	0	0	0	218
8:15 AM	152	0	0	0	0	0	0	0	62	0	0	0	214
8:30 AM	138	0	0	0	0	0	0	0	63	0	0	0	201
8:45 AM	104	0	0	0	0	0	0	0	77	0	0	0	181
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	1,263	0	0	0	-1	0	0	-1	481	0	0	0	1,742
APPROACH %	100%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	
APP/DEPART	1,263	/	0	-1	/	483	480	/	-1	0	/	1,260	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	713	0	0	0	0	0	0	0	217	0	0	0	930
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR	0.924				0.000			0.835		0.000			0.915
APP/DEPART	713	/	0	0	/	217	217	/	0	0	/	713	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	65	0	0	0	0	0	0	0	138	0	0	0	203
4:15 PM	62	0	0	0	0	0	0	0	162	0	0	0	224
4:30 PM	61	0	0	0	0	0	0	0	170	0	0	0	231
4:45 PM	74	0	0	0	0	0	0	0	169	0	0	0	243
5:00 PM	59	0	0	0	0	0	0	0	181	0	0	0	240
5:15 PM	58	0	0	0	0	0	0	0	196	0	0	0	254
5:30 PM	51	0	0	0	0	0	0	0	222	0	0	0	273
5:45 PM	58	0	0	0	0	0	0	0	186	0	0	0	244
VOLUMES	488	0	0	0	0	0	0	0	1,424	0	0	0	1,912
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
APP/DEPART	488	/	0	0	/	1,432	1,424	/	0	0	/	480	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	224	0	0	0	0	0	0	0	785	0	0	0	1,011
APPROACH %	99%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR	0.958				0.000			0.884		0.000			0.926
APP/DEPART	224	/	0	0	/	787	785	/	0	0	/	224	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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3	0	0	0	3

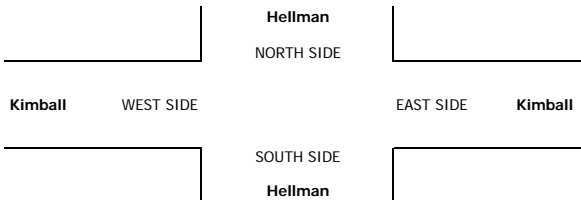
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0	0	0	0
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0	0	0	0
0	0	0	0

0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
3	0	0	0	3
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
8	0	0	0	8

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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Kimball	PROJECT #: SC0916	LOCATION #: 26
			CONTROL: STOP ALL	

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
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LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	2	0	0	0	0	0	0	0	2	0	0	0	2
	7:15 AM	1	0	0	0	0	0	0	2	0	0	0	0	3
	7:30 AM	2	0	0	0	0	0	0	1	0	0	0	0	3
	7:45 AM	3	0	0	0	0	0	0	2	0	0	0	0	5
	8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:15 AM	2	0	0	0	0	0	0	2	0	0	0	0	4
	8:30 AM	3	0	0	0	0	0	0	2	0	0	0	0	5
	8:45 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	14	0	0	0	0	0	0	11	0	0	0	25
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
APP/DEPART	14	/	0	0	/	12	11	/	0	0	/	13
BEGIN PEAK HR	7:45 AM											
VOLUMES	7	0	0	0	0	0	0	0	7	0	0	15
APPROACH %	88%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
PEAK HR FACTOR	0.667			0.000			0.875			0.000		
APP/DEPART	8	/	0	0	/	8	7	/	0	0	/	7

0	0	0	0
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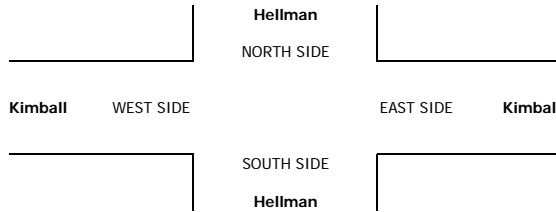
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	1	0	0	0	0	0	0	2	0	0	3
	4:15 PM	2	0	0	0	0	0	0	6	0	0	8
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	2	0	0	0	0	0	0	3	0	0	5
	5:00 PM	1	0	0	0	0	0	0	4	0	0	5
	5:15 PM	0	0	0	0	0	0	0	6	0	0	6
5:30 PM	0	0	0	0	0	0	0	3	0	0	3	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	6	0	0	0	0	0	0	24	0	0	0	30
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
APP/DEPART	6	/	0	0	/	24	24	/	0	0	/	6
BEGIN PEAK HR	4:45 PM											
VOLUMES	3	0	0	0	0	0	0	0	16	0	0	19
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
PEAK HR FACTOR	0.375			0.000			0.667			0.000		
APP/DEPART	3	/	0	0	/	16	16	/	0	0	/	3

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Kimball	PROJECT #: LOCATION #: CONTROL:	SC0916 26 STOP ALL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM		▲	
		PM		N	
		MD	◀ W		E ▶
		OTHER:		S	

LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Kimball			WESTBOUND Kimball			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	0	0	0	0	0	0	0	1	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	1	0	0	0	0	0	0	0	2	0	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	5	0	0	0	0	0	0	5	0	0	0	10
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
APP/DEPART	5	/	0	0	/	6	5	/	0	0	/	4
BEGIN PEAK HR	7:00 AM											
VOLUMES	2	0	0	0	0	0	0	0	3	0	0	5
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
PEAK HR FACTOR	0.250			0.000			0.375			0.000		
APP/DEPART	2	/	0	0	/	3	3	/	0	0	/	2

0	0	0	0
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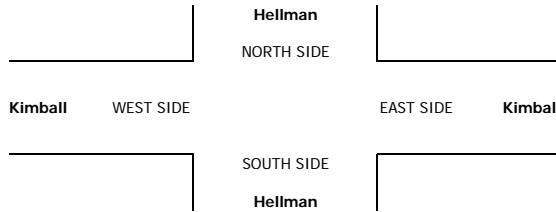
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

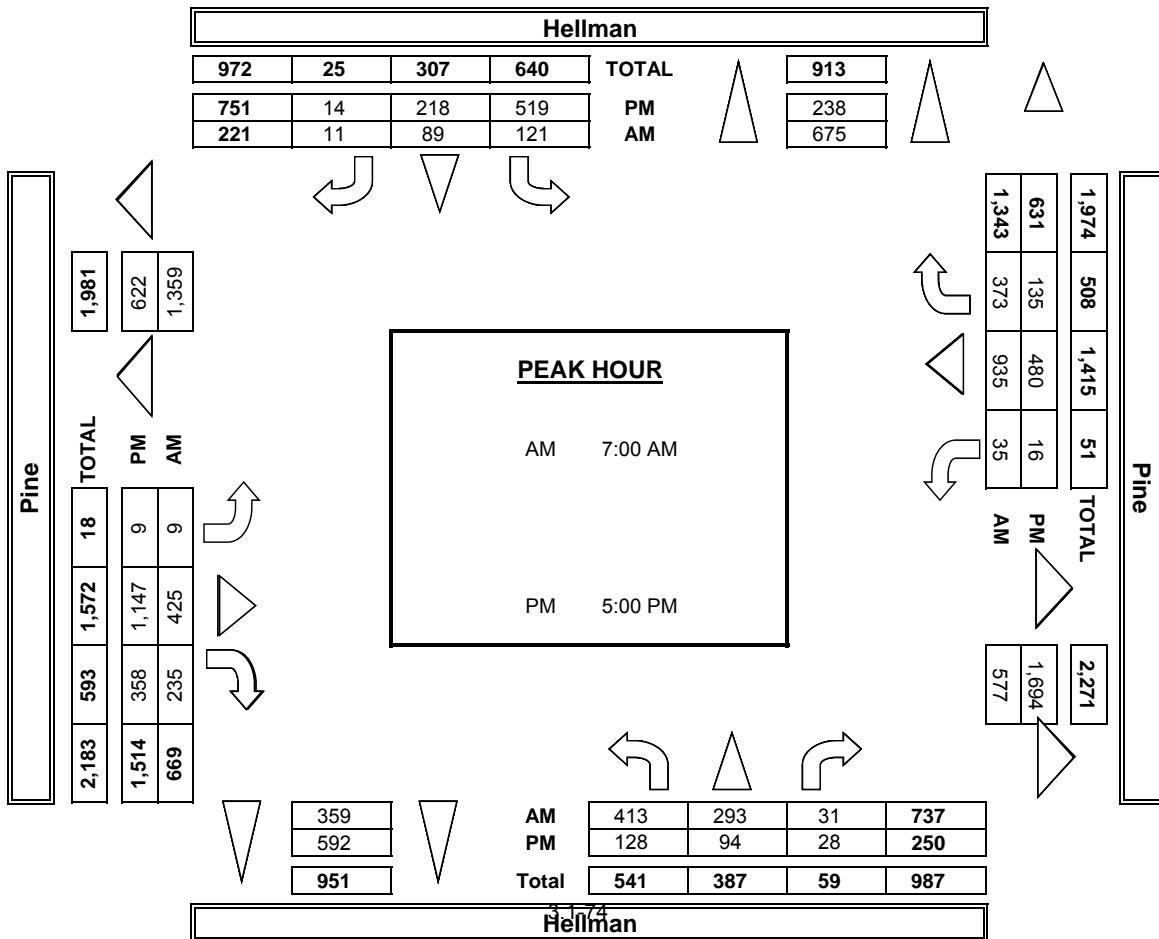
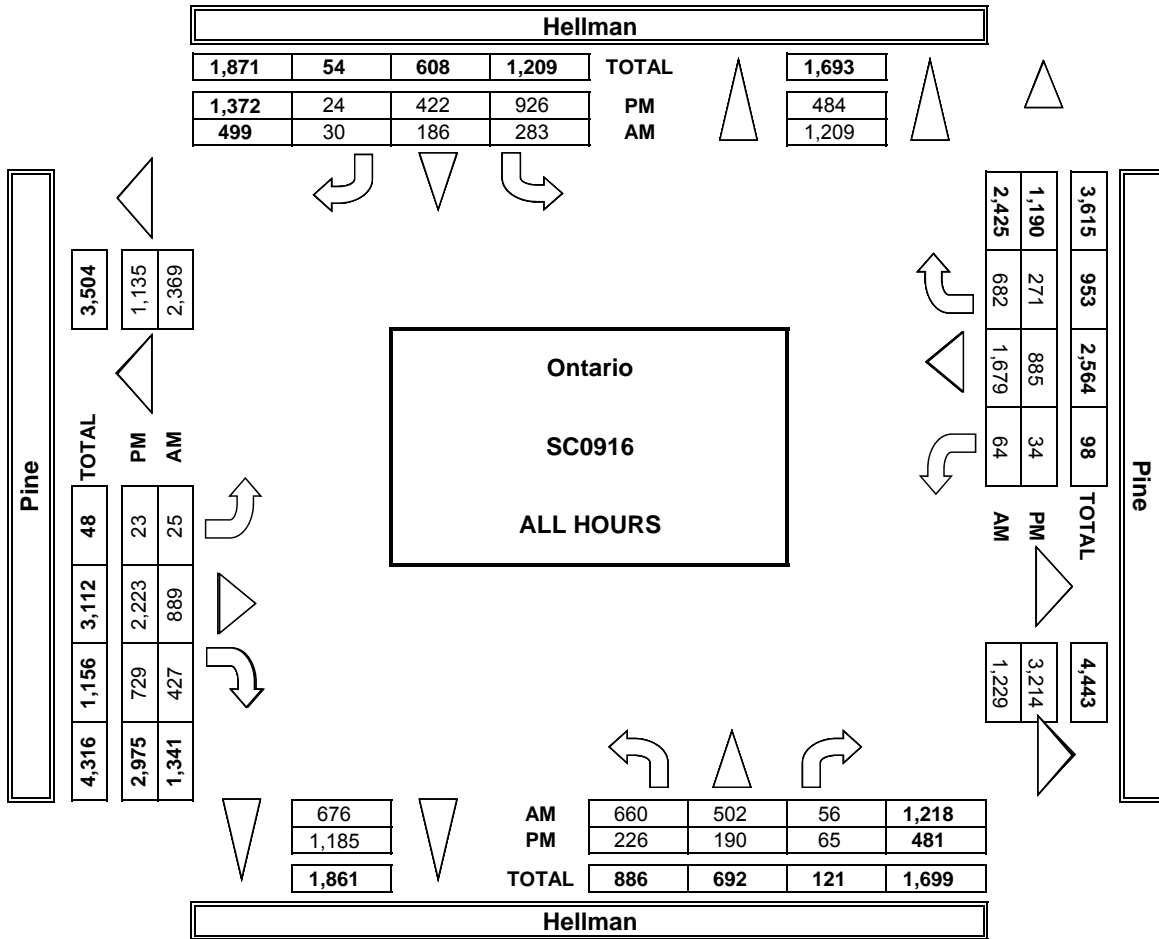
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	0	0	0	0	0	2	0	0	0	3
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
APP/DEPART	1	/	0	0	/	2	2	/	0	0	/	1
BEGIN PEAK HR	4:00 PM											
VOLUMES	1	0	0	0	0	0	0	0	2	0	0	3
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
PEAK HR FACTOR	0.250			0.000			0.500			0.000		
APP/DEPART	1	/	0	0	/	2	2	/	0	0	/	1

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Pine	PROJECT #: SC0916	LOCATION #: 27	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Pine			WESTBOUND Pine			TOTAL
	NL 2	NT 2	NR 1	SL 2	ST 2	SR 1	EL 2	ET 2	ER 1	WL 2	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	2	1	2	2	0	1	0	4	3	0	4	2	21
7:15 AM	3	1	0	4	2	1	0	1	2	0	2	1	17
7:30 AM	4	2	0	1	2	0	0	10	5	1	3	1	29
7:45 AM	2	4	0	2	1	2	0	7	7	1	4	1	31
8:00 AM	1	2	0	2	0	0	0	10	4	0	2	0	21
8:15 AM	2	5	0	3	0	0	0	9	5	0	8	3	35
8:30 AM	2	1	0	1	1	0	0	8	4	0	7	3	27
8:45 AM	2	0	0	2	1	0	1	1	6	0	5	3	21
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	1	0

VOLUMES	18	16	2	17	7	4	1	50	36	2	35	14	202
APPROACH %	50%	44%	6%	61%	25%	14%	1%	57%	41%	4%	69%	27%	
APP/DEPART	36	/	31	28	/	45	87	/	69	51	/	57	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	9	13	0	8	3	2	0	36	21	2	17	5	116
APPROACH %	41%	59%	0%	62%	23%	15%	0%	63%	37%	8%	71%	21%	
PEAK HR FACTOR	0.786			0.650			0.950			0.545			0.829
APP/DEPART	22	/	18	13	/	26	57	/	44	24	/	28	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

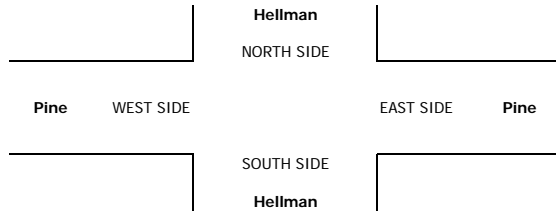
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0	0	0	0
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0	0	0	0
0	0	0	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	3	2	0	0	12	7	0	8	1	33
4:15 PM	1	0	1	3	4	0	0	14	5	0	1	1	30
4:30 PM	3	0	2	0	1	1	0	15	6	0	1	0	29
4:45 PM	4	0	0	1	0	0	0	10	4	0	1	1	21
5:00 PM	2	0	0	4	2	0	0	11	7	0	3	0	29
5:15 PM	0	1	0	4	1	0	0	11	4	0	3	0	24
5:30 PM	2	0	0	2	3	0	0	10	2	1	1	0	21
5:45 PM	0	0	0	2	0	0	0	9	2	0	0	0	13

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	1	1	0

VOLUMES	12	1	3	19	13	1	0	92	37	1	18	3	200
APPROACH %	75%	6%	19%	58%	39%	3%	0%	71%	29%	5%	82%	14%	
APP/DEPART	16	/	4	33	/	51	129	/	114	22	/	31	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	8	0	3	7	7	1	0	51	22	0	11	3	113
APPROACH %	73%	0%	27%	47%	47%	7%	0%	70%	30%	0%	79%	21%	
PEAK HR FACTOR	0.550			0.536			0.869			0.389			0.856
APP/DEPART	11	/	3	15	/	29	73	/	61	14	/	20	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Pine	PROJECT #: LOCATION #: CONTROL:	SC0916 27 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM	▲	
		PM	◀	W
		MD		E ▶
		OTHER		▼

LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Pine			WESTBOUND Pine			TOTAL
	NL 2	NT 2	NR 1	SL 2	ST 2	SR 1	EL 2	ET 2	ER 1	WL 2	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	2	0	0	1	0	4	0	1	2	0	10
7:30 AM	0	1	1	0	0	0	0	1	0	1	2	1	7
7:45 AM	0	0	0	1	0	0	0	6	1	3	2	1	14
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	1	0	0	0	1	0	0	1	2	0	1	0	6
8:30 AM	0	1	1	0	0	0	0	4	0	1	0	1	8
8:45 AM	1	0	0	0	2	0	0	2	0	2	0	0	7
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1

VOLUMES	2	2	5	1	3	1	0	18	3	8	7	3	53
APPROACH %	22%	22%	56%	20%	60%	20%	0%	86%	14%	44%	39%	17%	
APP/DEPART	9	/	5	5	/	14	21	/	24	18	/	10	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	1	4	1	0	1	0	11	1	5	6	2	32
APPROACH %	0%	20%	80%	50%	0%	50%	0%	92%	8%	38%	46%	15%	
PEAK HR FACTOR	0.625			0.500			0.429			0.542			0.571
APP/DEPART	5	/	3	2	/	6	12	/	16	13	/	7	0

0	0	0	1
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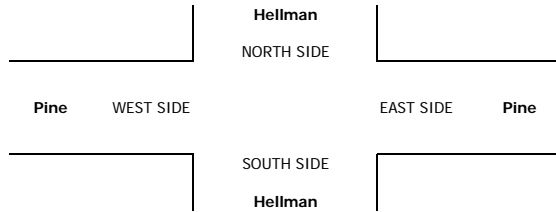
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	1	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	1	1	1	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	1	0	0	0	1	3	1	1	1	8
APPROACH %	0%	0%	0%	100%	0%	0%	0%	25%	75%	33%	33%	33%	
APP/DEPART	0	/	1	1	/	4	4	/	2	3	/	1	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	1	0	0	0	0	2	1	1	0	5
APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	100%	50%	50%	0%	
PEAK HR FACTOR	0.000			0.250			0.500			0.250			0.417
APP/DEPART	0	/	0	1	/	3	2	/	1	2	/	1	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/26/16 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hellman Pine	PROJECT #: SC0916	LOCATION #: 27	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Hellman			SOUTHBOUND Hellman			EASTBOUND Pine			WESTBOUND Pine			TOTAL
	NL 2	NT 2	NR 1	SL 2	ST 2	SR 1	EL 2	ET 2	ER 1	WL 2	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	1	0	0	1	2
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	
APP/DEPART	0	/	1	0	/	1	1	/	0	1	/	0	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	1	0	0	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.250			0.000			0.250
APP/DEPART	0	/	0	0	/	1	1	/	0	0	/	0	0

0	0	0	0
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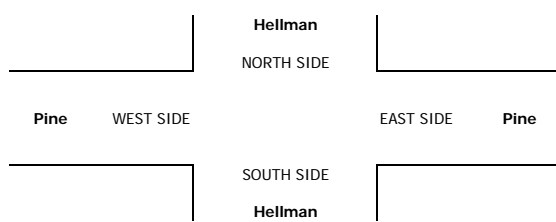
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	2	0	0	0	0	0	0	1	0	0	0	0	3
APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
APP/DEPART	2	/	0	0	/	0	1	/	1	0	/	2	0
BEGIN PEAK HR	3:15 PM												
VOLUMES	1	0	0	0	0	0	0	1	0	0	0	0	2
APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
PEAK HR FACTOR	0.250			0.000			0.250			0.000			0.250
APP/DEPART	1	/	0	0	/	0	1	/	1	0	/	1	0

0	0	0	0
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 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound						Archibald Avenue Northbound						SR-60 Westbound On Ramp Eastbound						
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	
07:00 AM	0	63	28	19	91	73	2	84	34	159	123	205	0	0	328	0	0	0	0
07:15 AM	0	78	43	27	121	60	2	85	40	147	143	231	0	0	374	0	0	0	0
07:30 AM	0	85	21	11	106	70	1	101	34	172	139	313	0	0	452	0	0	0	0
07:45 AM	0	88	32	15	120	72	0	149	50	221	124	344	0	0	468	0	0	0	0
Total	0	314	124	72	438	275	5	419	158	699	529	1093	0	0	1622	0	0	0	0
08:00 AM	0	92	39	16	131	77	0	112	44	189	140	278	0	0	418	0	0	0	0
08:15 AM	0	67	29	12	96	62	2	85	38	149	130	218	0	0	348	0	0	0	0
08:30 AM	0	58	27	8	85	66	1	88	42	155	105	237	0	0	342	0	0	0	0
08:45 AM	0	68	28	13	96	58	0	72	32	130	116	221	0	0	337	0	0	0	0
Total	0	285	123	49	408	263	3	357	156	623	491	954	0	0	1445	0	0	0	0
Grand Total	0	599	247	121	846	538	8	776	314	1322	1020	2047	0	0	3067	0	0	0	0
Approach %	0	70.8	29.2			40.7	0.6	58.7			33.3	66.7	0	0		0	0	0	0
Total %	0	11.4	4.7		16.2	10.3	0.2	14.8		25.3	19.5	39.1	0	0	58.6	0	0	0	7.7
Passenger Vehicles	0	502	176	77	771	474	6	714	1490	1490	986	1906	0	0	2892	0	0	0	0
% Large 2 Axle Vehicles	0	83.8	71.3	76.9	79.7	88.1	75	92	94.3	91.1	96.7	93.1	0	0	94.3	0	0	0	0
% Large 3 Axle Vehicles	0	37	18	5.8	62	26	2	18	53	53	19	42	0	0	61	0	0	0	0
% 3 Axle Vehicles	0	6.2	7.3	5.8	6.4	4.8	25	2.3	2.2	3.2	1.9	2.1	0	0	2	0	0	0	0
% 4+ Axle Trucks	0	2.3	3.2	2.5	2.6	2.6	0	0.8	0.6	1.3	0.3	0.5	0	0	0.4	0	0	0	0
% 4+ Axle Trucks	0	46	45		109	24	0	38	71	71	12	89	0	0	101	0	0	0	0
% 4+ Axle Trucks	0	7.7	18.2	14.9	11.3	4.5	0	4.9	2.9	4.3	1.2	4.3	0	0	3.3	0	0	0	0

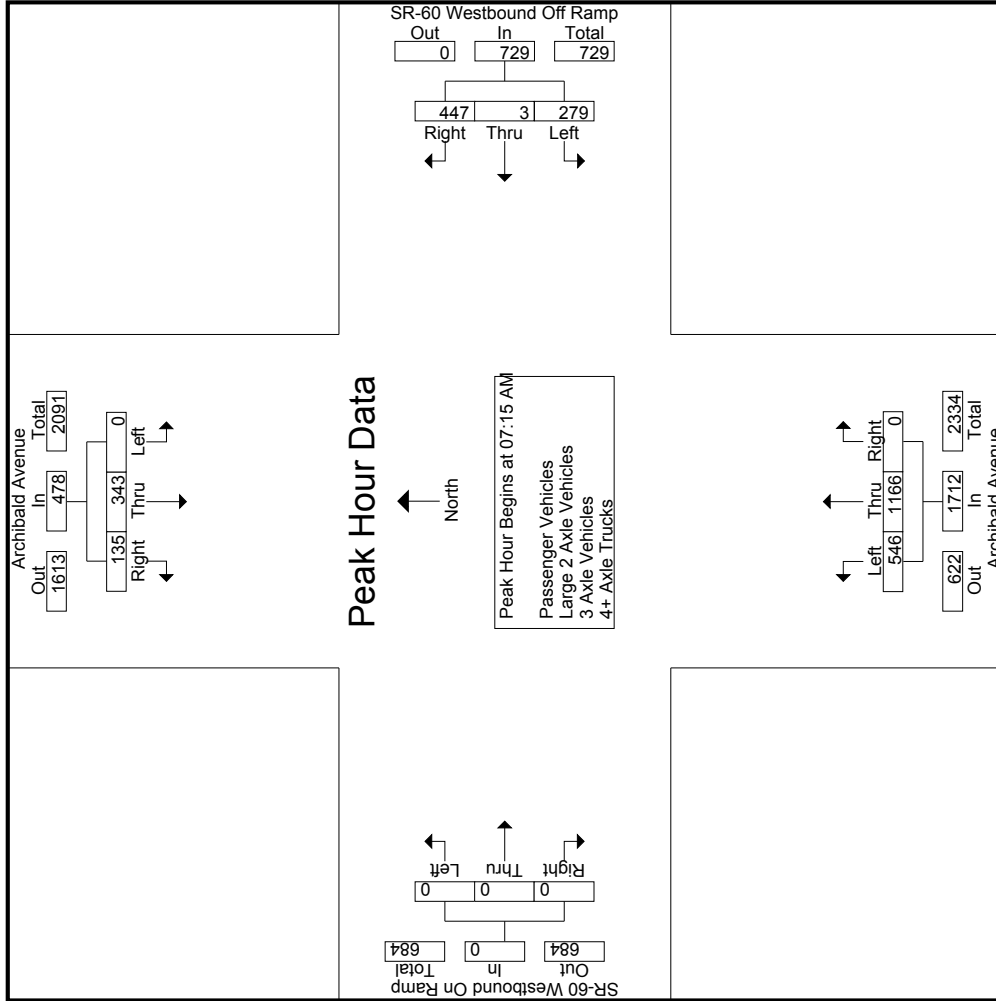
Start Time	Archibald Avenue Southbound						Archibald Avenue Northbound						SR-60 Westbound On Ramp Eastbound						
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	
07:15 AM	0	78	43		121	60	2	85			147	231	0	0	374	0	0	0	642
07:30 AM	0	85	21		106	70	1	101			172	313	0	0	452	0	0	0	730
07:45 AM	0	88	32		120	72	0	149			221	344	0	0	468	0	0	0	809
08:00 AM	0	92	39		131	77	0	112			189	278	0	0	418	0	0	0	738
Total Volume	0	343	135		478	279	3	447			729	1166	0	0	1712	0	0	0	2919
% App. Total	0	71.8	28.2		28.2	38.3	0.4	61.3			31.9	68.1	0	0		0	0	0	
PHF	.000	.932	.785		.912	.906	.375	.750			.825	.847	.000	.000	.915	.000	.000	.000	.902

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
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File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM			07:30 AM			07:15 AM			07:00 AM					
+0 mins.	0	78	43	121	70	101	172	143	231	0	0	0	374	0	0
+15 mins.	0	85	21	106	72	0	221	139	313	0	0	0	452	0	0
+30 mins.	0	88	32	120	77	0	189	124	344	0	0	0	468	0	0
+45 mins.	0	92	39	131	62	2	149	140	278	0	0	0	418	0	0
Total Volume	0	343	135	478	281	3	731	546	1166	0	0	0	1712	0	0
% App. Total	0	71.8	28.2		38.4	0.4	61.1	31.9	68.1	0	0	0		0	0
PHF	.000	.932	.785	.912	.912	.375	.827	.955	.847	.000	.000	.000	.915	.000	.000

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City of Ontario
 N/S: Archibald Avenue
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 Site Code : 05116658
 Start Date : 12/13/2016
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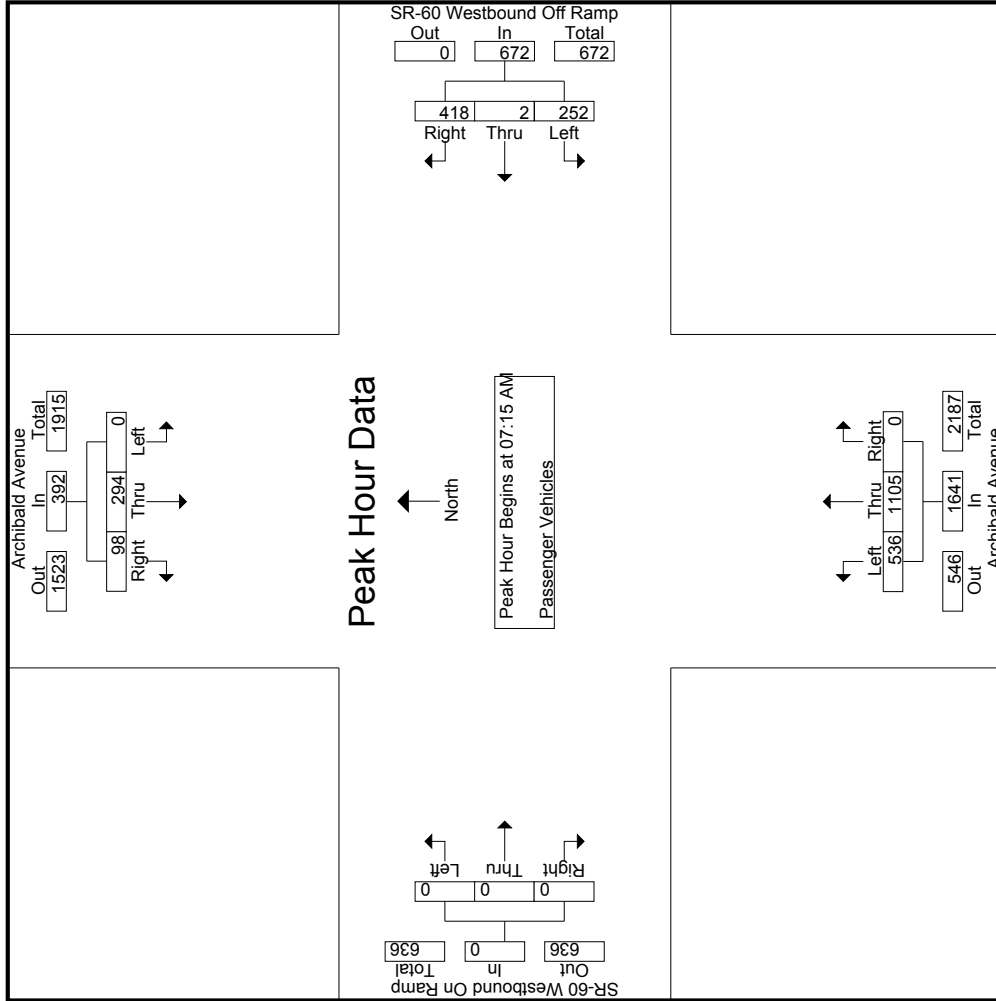
Groups Printed- Passenger Vehicles

Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total						
07:00 AM	0	52	25	16	77	61	2	79	33	142	120	187	0	0	307	0	0	0	0	0	49	526	575			
07:15 AM	0	63	35	25	98	52	1	79	38	132	140	218	0	0	358	0	0	0	0	0	63	588	651			
07:30 AM	0	69	13	7	82	66	1	94	30	161	138	296	0	0	434	0	0	0	0	0	37	677	714			
07:45 AM	0	78	23	10	101	66	0	142	48	208	121	330	0	0	451	0	0	0	0	0	58	760	818			
Total	0	262	96	58	358	245	4	394	149	643	519	1031	0	0	1550	0	0	0	0	0	207	2551	2758			
08:00 AM	0	84	27	11	111	68	0	103	43	171	137	261	0	0	398	0	0	0	0	0	54	680	734			
08:15 AM	0	55	16	9	71	58	2	77	37	137	123	199	0	0	322	0	0	0	0	0	46	530	576			
08:30 AM	0	48	17	6	65	54	0	79	39	133	97	219	0	0	316	0	0	0	0	0	45	514	559			
08:45 AM	0	53	20	9	73	49	0	61	28	110	110	196	0	0	306	0	0	0	0	0	37	489	526			
Total	0	240	80	35	320	229	2	320	147	551	467	875	0	0	1342	0	0	0	0	0	182	2213	2395			
Grand Total	0	502	176	93	678	474	6	714	296	1194	986	1906	0	0	2892	0	0	0	0	0	389	4764	5153			
Approach %	0	74	26		14.2	39.7	0.5	59.8		25.1	34.1	65.9	0	0	60.7	0	0	0	0	0	7.5	92.5				
Total %	0	10.5	3.7			9.9	0.1	15			20.7	40														
Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound										
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Peak Hour for Entire Intersection Begins at 07:15 AM	0	63	35		98	52	1	79		132	140	218	0	0	358	0	0	0	0	0	0	0	0	0	0	588
07:15 AM	0	69	13	7	82	66	1	94	30	161	138	296	0	0	434	0	0	0	0	0	0	0	0	0	0	677
07:30 AM	0	78	23	10	101	66	0	142	48	208	121	330	0	0	451	0	0	0	0	0	0	0	0	0	0	760
07:45 AM	0	84	27	11	111	68	0	103	43	171	137	261	0	0	398	0	0	0	0	0	0	0	0	0	0	680
08:00 AM	0	294	98		392	252	2	418		672	536	1105	0	0	1641	0	0	0	0	0	0	0	0	0	0	2705
Total Volume	0	75	25		25	37.5	0.3	62.2		32.7	67.3					0	0	0	0	0	0	0	0	0	0	2705
% App. Total	0.000	.875	.700		.883	.926	.500	.736		.808	.957	.837	.000	.000	.910	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.890

Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
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File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	63	35	98	52	1	79	132	140	218	0	358	0	0	0	0
+15 mins.	0	69	13	82	66	1	94	161	138	296	0	434	0	0	0	0
+30 mins.	0	78	23	101	66	0	142	208	121	330	0	451	0	0	0	0
+45 mins.	0	84	27	111	68	0	103	171	137	261	0	398	0	0	0	0
Total Volume	0	294	98	392	252	2	418	672	536	1105	0	1641	0	0	0	0
% App. Total	0	.875	.700	.883	.375	0.3	.622	.808	32.7	67.3	0	.910	0	0	0	0
PHF	.000	.875	.700	.883	.926	.500	.736	.808	.957	.837	.000	.910	.000	.000	.000	.000

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City of Ontario
 N/S: Archibald Avenue
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File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	0	2	1	1	3	6	0	1	0	7	2	5	0	0	7	0	0	0	0	0	1	17	18
07:15 AM	0	6	2	0	8	3	1	2	0	6	2	2	0	0	4	0	0	0	0	0	0	18	18
07:30 AM	0	6	3	2	9	2	0	1	1	3	1	6	0	0	7	0	0	0	0	0	3	19	22
07:45 AM	0	2	0	0	2	2	0	3	1	5	3	6	0	0	9	0	0	0	0	0	1	16	17
Total	0	16	6	3	22	13	1	7	2	21	8	19	0	0	27	0	0	0	0	0	5	70	75
08:00 AM	0	1	6	3	7	2	0	4	1	6	2	9	0	0	11	0	0	0	0	0	4	24	28
08:15 AM	0	7	1	0	8	2	0	1	0	3	5	5	0	0	10	0	0	0	0	0	0	21	21
08:30 AM	0	5	3	1	8	4	1	2	1	7	1	3	0	0	4	0	0	0	0	0	2	19	21
08:45 AM	0	8	2	0	10	5	0	4	3	9	3	6	0	0	9	0	0	0	0	0	3	28	31
Total	0	21	12	4	33	13	1	11	5	25	11	23	0	0	34	0	0	0	0	0	9	92	101
Grand Total	0	37	18	7	55	26	2	18	7	46	19	42	0	0	61	0	0	0	0	0	14	162	176
Approach %	0	67.3	32.7		56.5	4.3	39.1			31.1	68.9	0			37.7	0	0	0	0	0	8	92	
Total %	0	22.8	11.1		34	16	1.2	11.1		28.4	11.7	25.9	0			0	0	0	0	0	0	8	92

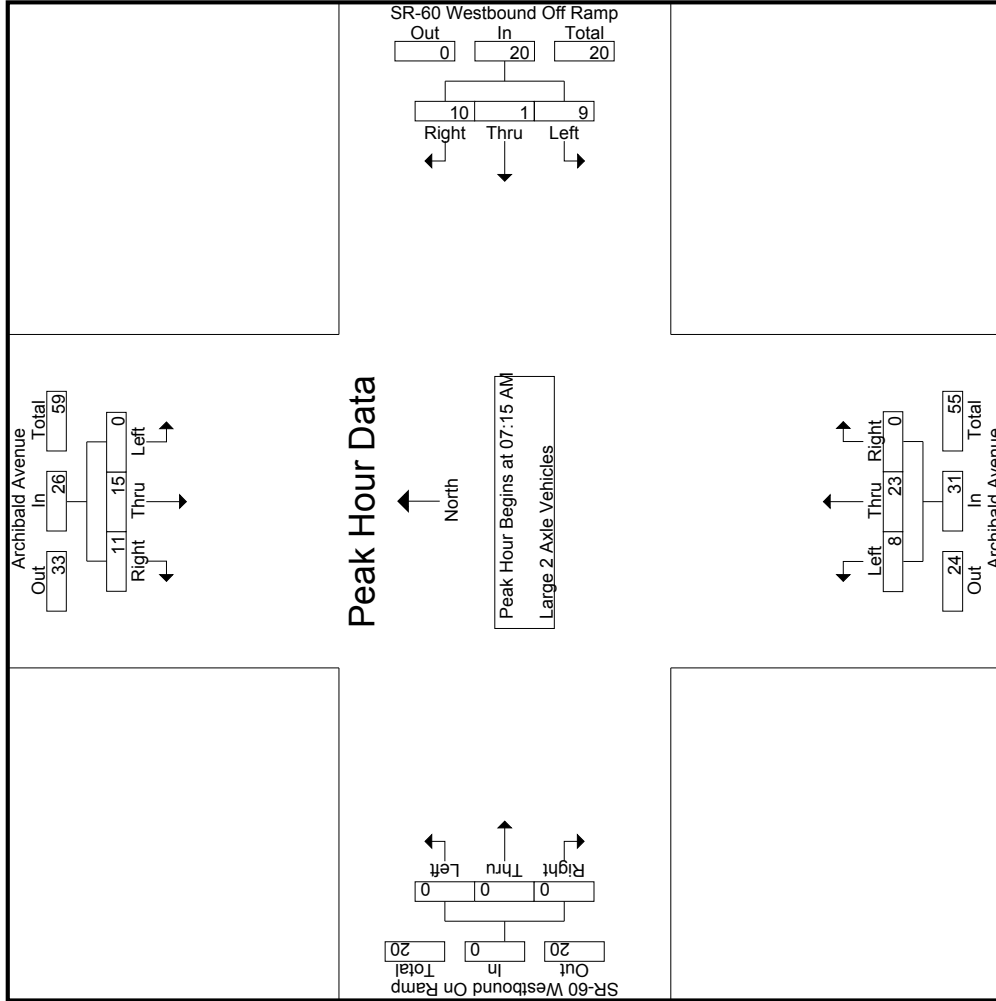
Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:15 AM	0	6	2		8	3	1	2		6	2	2	0		0	0	0	0		4	0	0	18
07:30 AM	0	6	3		9	2	0	1		3	1	6	0		0	0	0	0		7	0	0	19
07:45 AM	0	2	0		2	2	0	3		5	3	6	0		0	0	0	0		9	0	0	16
08:00 AM	0	1	6		7	2	0	4		6	2	9	0		0	0	0	0		11	0	0	24
Total Volume	0	15	11		26	9	1	10		20	8	23	0		0	0	0	0		31	0	0	77
% App. Total	0	57.7	42.3		45	5	50			25.8	74.2	0			0	0	0	0		0	0	0	0
PHF	.000	.625	.458		.722	.750	.250	.625		.833	.667	.639	.000		.705	.000	.000	.000		.000	.000	.000	.802

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	07:15 AM													
+0 mins.	0	6	2	3	1	2	2	2	0	0	0	0	0	0
+15 mins.	0	6	3	2	0	1	3	6	0	0	0	0	0	0
+30 mins.	0	2	0	2	0	3	5	6	0	0	0	0	0	0
+45 mins.	0	1	6	2	0	4	6	9	0	0	0	0	0	0
Total Volume	0	15	11	9	1	10	20	8	23	0	0	0	0	0
% App. Total	0	57.7	42.3	45	5	50	25.8	74.2	0	0	0	0	0	0
PHF	.000	.625	.458	.722	.750	.625	.833	.667	.639	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
07:00 AM	0	2	0	0	2	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	7
07:15 AM	0	2	1	0	3	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	5
07:30 AM	0	5	1	1	6	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	7
07:45 AM	0	1	2	1	3	1	0	2	1	3	0	2	0	0	2	0	0	0	0	0	2	8
Total	0	10	4	2	14	6	0	2	1	8	1	4	0	0	5	0	0	0	0	0	3	27
08:00 AM	0	2	0	0	2	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	5
08:15 AM	0	0	2	0	2	1	0	1	0	2	1	2	0	0	3	0	0	0	0	0	0	7
08:30 AM	0	0	1	0	1	3	0	0	0	3	1	1	0	0	2	0	0	0	0	0	0	6
08:45 AM	0	2	1	1	3	2	0	2	1	4	0	3	0	0	3	0	0	0	0	0	2	10
Total	0	4	4	1	8	8	0	4	1	12	2	6	0	0	8	0	0	0	0	0	2	28
Grand Total	0	14	8	3	22	14	0	6	2	20	3	10	0	0	13	0	0	0	0	0	5	55
Approach %	0	63.6	36.4		40	70	0	30		36.4	23.1	76.9	0		23.6	0	0	0	0	0	8.3	91.7
Total %	0	25.5	14.5		40	25.5	0	10.9		36.4	5.5	18.2	0		23.6	0	0	0	0	0	8.3	91.7

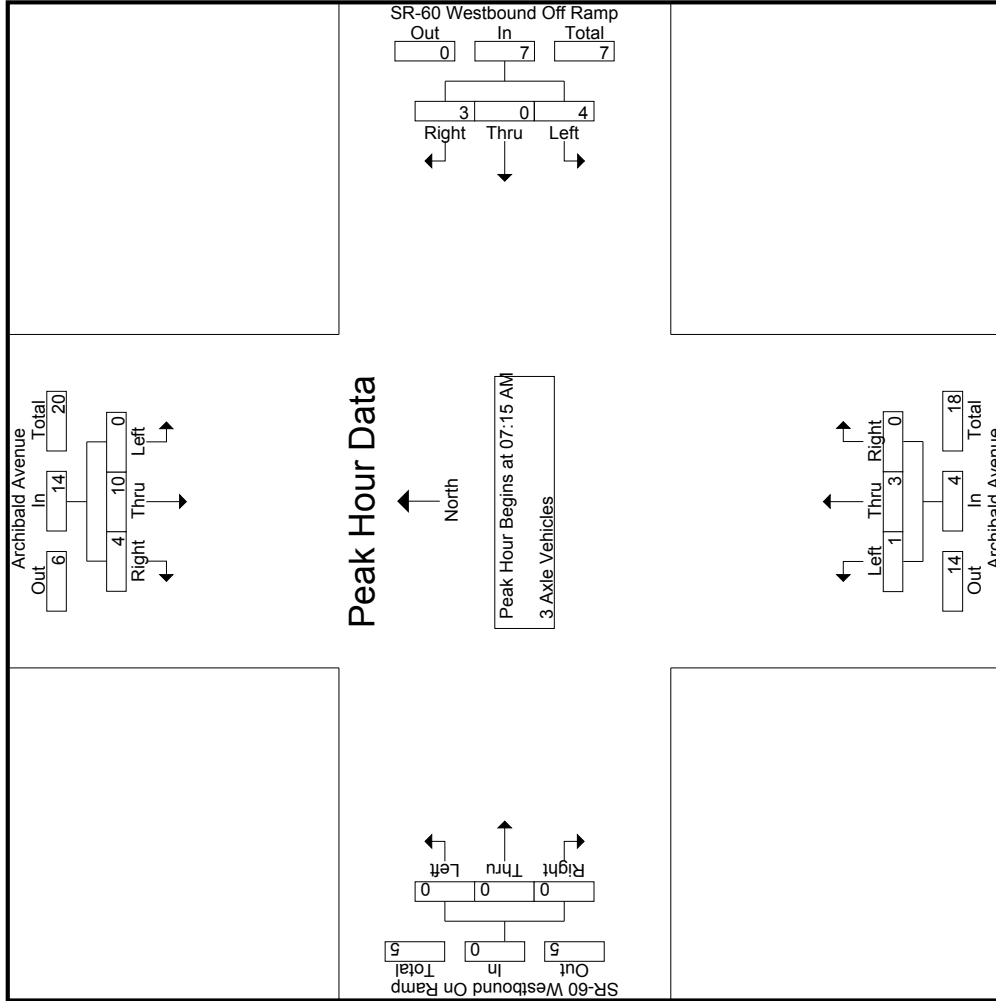
Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
07:15 AM	0	2	1		3	1	0	0		1	1	0	0		1	0	0	0		0	0	5
07:30 AM	0	5	1		6	0	0	0		0	0	1	0		1	0	0	0		0	0	7
07:45 AM	0	1	2		3	1	0	0		2	3	0	2		2	0	0	0		0	0	8
08:00 AM	0	2	0		2	2	0	1		1	3	0	0		0	0	0	0		0	0	5
Total Volume	0	10	4		14	4	0	3		7	1	3	0		4	0	0	0		0	0	25
% App. Total	0	71.4	28.6		40	57.1	0	42.9		36.4	25	75	0		23.6	0	0	0		0	0	83.3
PHF	.000	.500	.500		.583	.500	.000	.375		.583	.250	.375	.000		.500	.000	.000	.000		.000	.000	.781

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:15 AM														
+0 mins.	0	2	1	3	0	0	0	1	0	0	0	0	0	0	0
+15 mins.	0	5	1	6	0	0	0	0	1	0	0	0	0	0	0
+30 mins.	0	1	2	3	1	0	2	3	0	2	0	0	0	0	0
+45 mins.	0	2	0	2	2	0	1	3	0	0	0	0	0	0	0
Total Volume	0	10	4	14	4	0	3	7	1	3	0	0	0	0	0
% App. Total	0	71.4	28.6	57.1	0	42.9	0	25	75	0	0	0	0	0	0
PHF	.000	.500	.500	.583	.500	.000	.375	.583	.250	.375	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	7	2	2	9	2	0	4	1	6	1	12	0	0	13	0	0	0	0	0	3	28	31
07:15 AM	0	7	5	2	12	4	0	4	2	8	0	11	0	0	11	0	0	0	0	0	4	31	35
07:30 AM	0	5	4	1	9	2	0	6	3	8	0	10	0	0	10	0	0	0	0	0	4	27	31
07:45 AM	0	7	7	4	14	3	0	2	0	5	0	6	0	0	6	0	0	0	0	0	4	25	29
Total	0	26	18	9	44	11	0	16	6	27	1	39	0	0	40	0	0	0	0	0	15	111	126
08:00 AM	0	5	6	2	11	5	0	4	0	9	1	8	0	0	9	0	0	0	0	0	2	29	31
08:15 AM	0	5	10	3	15	1	0	6	1	7	1	12	0	0	13	0	0	0	0	0	4	35	39
08:30 AM	0	5	6	1	11	5	0	7	2	12	6	14	0	0	20	0	0	0	0	0	3	43	46
08:45 AM	0	5	5	3	10	2	0	5	0	7	3	16	0	0	19	0	0	0	0	0	3	36	39
Total	0	20	27	9	47	13	0	22	3	35	11	50	0	0	61	0	0	0	0	0	12	143	155
Grand Total	0	46	45	18	91	24	0	38	9	62	12	89	0	0	101	0	0	0	0	0	27	254	281
Approach %	0	50.5	49.5		38.7	0	61.3			11.9	88.1	0	0	0	39.8	0	0	0	0	0	9.6	90.4	
Total %	0	18.1	17.7		9.4	0	15			24.4	4.7	35	0	0		0	0	0	0	0			

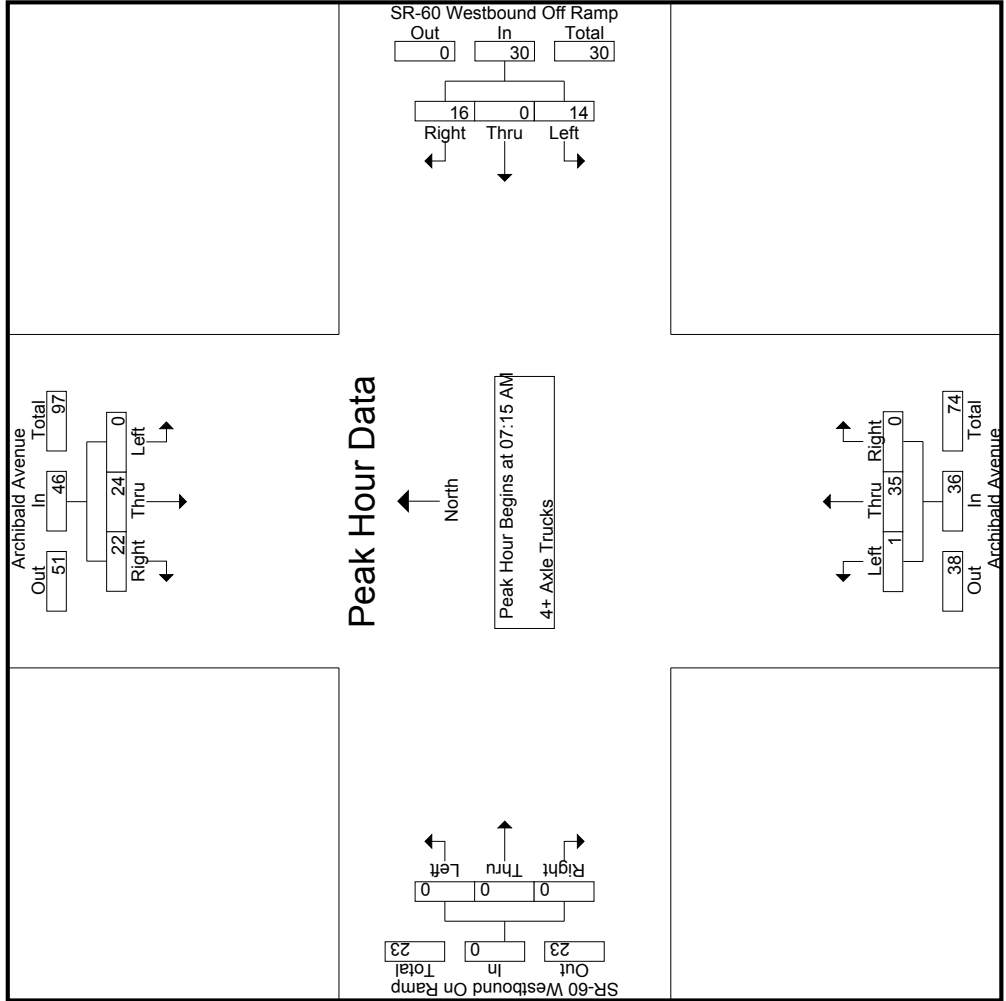
Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	
07:15 AM	0	7	5		12	4	0	0		4	8	0	11		0	0	0	0		0	0	0	0	0	0	31
07:30 AM	0	5	4		9	2	0	0		6	8	0	10		0	0	0	0		0	0	0	0	0	0	27
07:45 AM	0	7	7		14	3	0	0		2	5	0	6		0	0	0	0		0	0	0	0	0	0	25
08:00 AM	0	5	6		11	5	0	0		4	9	1	8		0	0	0	0		0	0	0	0	0	0	29
Total Volume	0	24	22		46	14	0	16		30	30	1	35		0	0	0	0		0	0	0	0	0	0	112
% App. Total	0	52.2	47.8		46.7	0	53.3			53.3	2.8	97.2			0	0	0	0		0	0	0	0	0	0	112
PHF	.000	.857	.786		.821	.700	.000	.667		.833	.250	.795	.000	.818	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.903

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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 PO Box 1178
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 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	216	68	44	284	77	1	46	27	124	96	121	0	0	217	0	0	0	0	0	71	625	696
04:15 PM	0	192	79	28	271	88	1	56	31	145	103	108	0	0	211	0	0	0	0	0	59	627	686
04:30 PM	0	226	90	37	316	71	0	34	16	105	86	106	0	0	192	0	0	0	0	0	53	613	666
04:45 PM	0	233	78	31	311	74	0	46	33	120	101	116	0	0	217	0	0	0	0	0	64	648	712
Total	0	867	315	140	1182	310	2	182	107	494	386	451	0	0	837	0	0	0	0	0	247	2513	2760
05:00 PM	0	276	106	38	382	90	3	39	29	132	93	115	0	0	208	0	0	0	0	0	67	722	789
05:15 PM	0	277	77	27	354	66	3	28	15	97	82	96	0	0	178	0	0	0	0	0	42	629	671
05:30 PM	0	251	84	42	335	84	0	40	22	124	92	94	0	0	186	0	0	0	0	0	64	645	709
05:45 PM	0	168	54	22	222	86	0	42	22	128	83	115	0	0	198	0	0	0	0	0	44	548	592
Total	0	972	321	129	1293	326	6	149	88	481	350	420	0	0	770	0	0	0	0	0	217	2544	2761
Grand Total	0	1839	636	269	2475	636	8	331	195	975	736	871	0	0	1607	0	0	0	0	0	464	5057	5521
Approach %	0	74.3	25.7			65.2	0.8	33.9			45.8	54.2	0	0		0	0	0	0				
Total %	0	36.4	12.6			12.6	0.2	6.5			19.3	14.6	17.2	0		0	0	0	0		8.4	91.6	
Passenger Vehicles	0	1790	591	94.4	2635	606	8	282	84.6	907	718	777	0	0	1495	0	0	0	0	0	0	0	5191
% Large 2 Axle Vehicles	0	17	8	0.7	27	5	0	16	7.7	36	10	33	0	0	43	0	0	0	0	0	0	0	106
% Large 3 Axle Vehicles	0	0.9	1.3	0.7	1	0.8	0	4.8	7.7	3.1	1.4	3.8	0	0	2.7	0	0	0	0	0	0	0	1.9
3 Axle Vehicles	0	13	4	0	17	4	0	6	2.1	14	3	9	0	0	12	0	0	0	0	0	0	0	43
% 3 Axle Vehicles	0	0.7	0.6	0	0.6	0.6	0	1.8	2.1	1.2	0.4	1	0	0	0.7	0	0	0	0	0	0	0	0.8
4+ Axle Trucks	0	19	33	22	65	21	0	27	5.6	59	5	52	0	0	57	0	0	0	0	0	0	0	181
% 4+ Axle Trucks	0	1	5.2	4.8	2.4	3.3	0	8.2	5.6	5	0.7	6	0	0	3.5	0	0	0	0	0	0	0	3.3

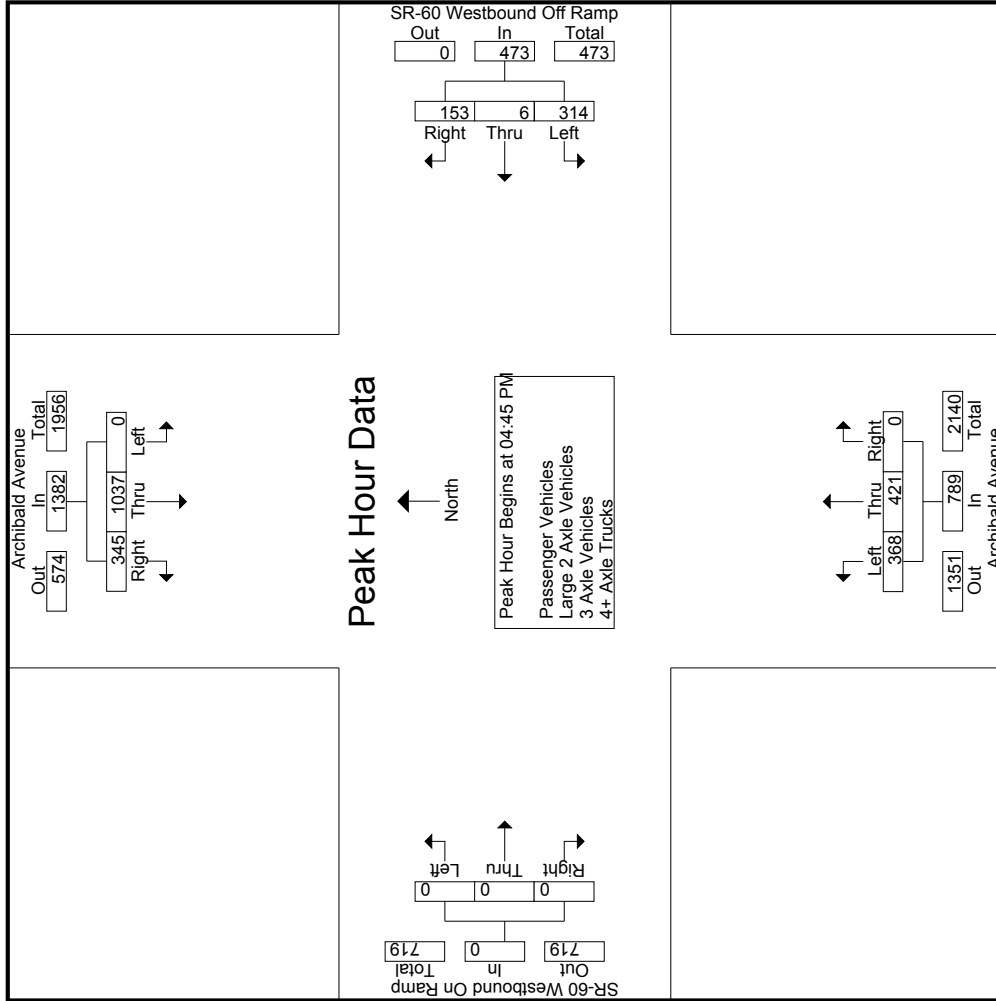
Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	233	78		311	74	0	46		120	101	116	0		217	0	0	0					648
05:00 PM	0	276	106		382	90	3	39		132	93	115	0		208	0	0	0					722
05:15 PM	0	277	77		354	66	3	28		97	82	96	0		178	0	0	0					629
05:30 PM	0	251	84		335	84	0	40		124	92	94	0		186	0	0	0					645
Total Volume	0	1037	345		1382	314	6	153		473	368	421	0		789	0	0	0					2644
% App. Total	0	75	25		25	66.4	1.3	32.3		32.3	46.6	53.4	0		0	0	0	0					.916
PHF	.000	.936	.814		.904	.872	.500	.832		.896	.911	.907	.000		.909	.000	.000	.000			.000	.000	.916

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	0	233	78	311	88	1	56	145	96	121	0	217	0	0	0	0
+15 mins.	0	276	106	382	71	0	34	105	103	108	0	211	0	0	0	0
+30 mins.	0	277	77	354	74	0	46	120	86	106	0	192	0	0	0	0
+45 mins.	0	251	84	335	90	3	39	132	101	116	0	217	0	0	0	0
Total Volume	0	1037	345	1382	323	4	175	502	386	451	0	837	0	0	0	0
% App. Total	0	.936	.814	.904	.897	.333	.781	.866	.937	.932	.000	.964	.000	.000	.000	.000
PHF																

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

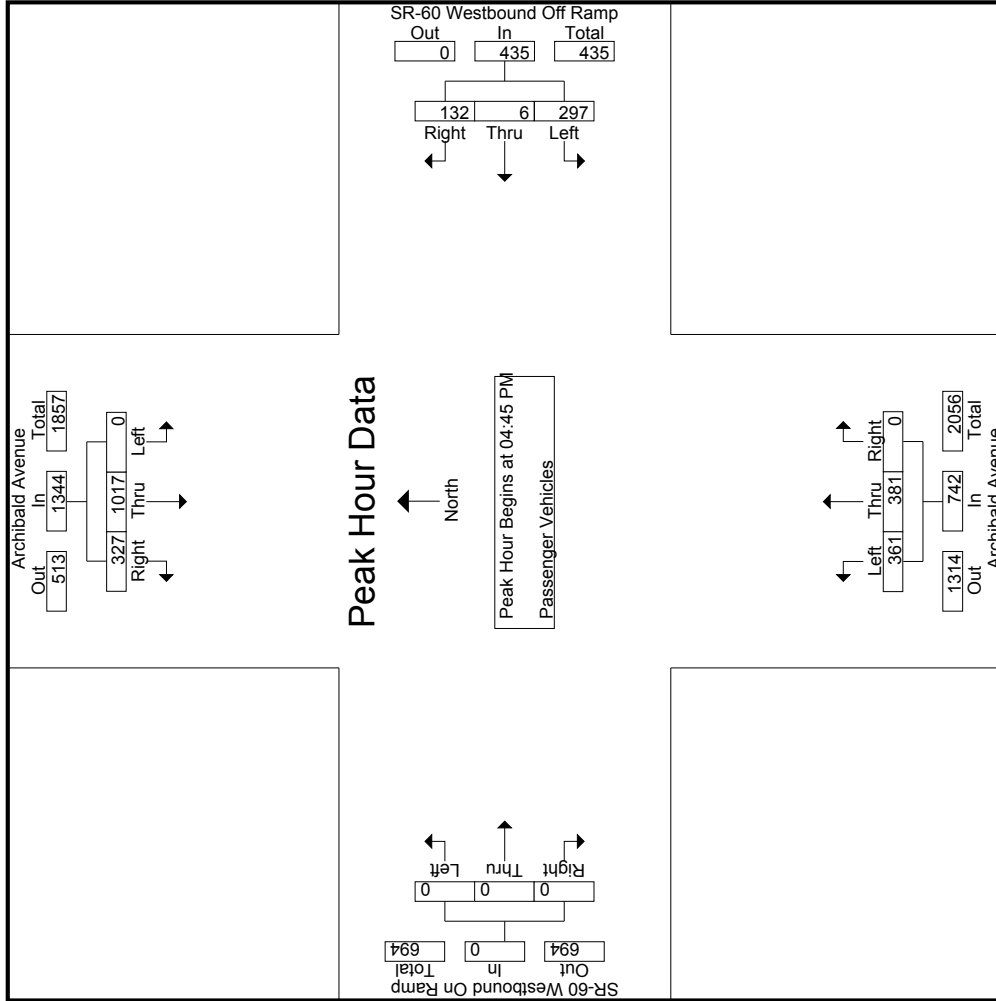
Groups Printed- Passenger Vehicles

Start Time	Archibald Avenue Southbound						SR-60 Westbound Off Ramp Westbound						Archibald Avenue Northbound						SR-60 Westbound On Ramp Eastbound						Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total						
04:00 PM	0	209	62	40	271		71	1	37	19	109		93	111	0	0	204		0	0	0	0	0		59	584	643		
04:15 PM	0	183	68	26	251		82	1	48	27	131		101	96	0	0	197		0	0	0	0	0		53	579	632		
04:30 PM	0	223	86	36	309		70	0	29	12	99		83	93	0	0	176		0	0	0	0	0		48	584	632		
04:45 PM	0	227	70	28	297		70	0	40	31	110		99	107	0	0	206		0	0	0	0	0		59	613	672		
Total	0	842	286	130	1128		293	2	154	89	449		376	407	0	0	783		0	0	0	0	0		219	2360	2579		
05:00 PM	0	271	102	36	373		84	3	37	27	124		92	100	0	0	192		0	0	0	0	0		63	689	752		
05:15 PM	0	273	74	27	347		62	3	20	9	85		78	87	0	0	165		0	0	0	0	0		36	597	633		
05:30 PM	0	246	81	41	327		81	0	35	20	116		92	87	0	0	179		0	0	0	0	0		61	622	683		
05:45 PM	0	158	48	20	206		86	0	36	20	122		80	96	0	0	176		0	0	0	0	0		40	504	544		
Total	0	948	305	124	1253		313	6	128	76	447		342	370	0	0	712		0	0	0	0	0		200	2412	2612		
Grand Total	0	1790	591	254	2381		606	8	282	165	896		718	777	0	0	1495		0	0	0	0	0		419	4772	5191		
Approach %	0	75.2	24.8				67.6	0.9	31.5		18.8		48	52	0	0	31.3		0	0	0	0	0		8.1	91.9			
Total %	0	37.5	12.4		49.9		12.7	0.2	5.9				15	16.3	0	0			0	0	0	0	0						
Start Time	Archibald Avenue Southbound						SR-60 Westbound Off Ramp Westbound						Archibald Avenue Northbound						SR-60 Westbound On Ramp Eastbound										
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total						
Peak Hour for Entire Intersection Begins at 04:45 PM	0	227	70		297		70	0	40		110		99	107	0		206		0	0	0		0		0	0	0		613
04:45 PM	0	271	102		373		84	3	37		124		92	100	0		192		0	0	0		0		0	0	0		689
05:00 PM	0	273	74		347		62	3	20		85		78	87	0		165		0	0	0		0		0	0	0		597
05:15 PM	0	246	81		327		81	0	35		116		92	87	0		179		0	0	0		0		0	0	0		622
05:30 PM	0	158	48		206		86	0	36		122		80	96	0		176		0	0	0		0		40	504	544		
Total Volume	0	1017	327		1344		297	6	132		435		361	381	0		742		0	0	0		0		0	0	0		2521
% App. Total	0	75.7	24.3		49.9		68.3	1.4	30.3		18.8		48.7	51.3	0		31.3		0	0	0		0		0	0	0		.915
PHF	.000	.931	.801		.901		.884	.500	.825		.877		.912	.890	.000		.900		.000	.000	.000		.000		.000	.000	.915		

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
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 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:	04:45 PM															
+0 mins.	0	227	70	297	70	0	40	110	99	107	0	206	0	0	0	0
+15 mins.	0	271	102	373	84	3	37	124	92	100	0	192	0	0	0	0
+30 mins.	0	273	74	347	62	3	20	85	78	87	0	165	0	0	0	0
+45 mins.	0	246	81	327	81	0	35	116	92	87	0	179	0	0	0	0
Total Volume	0	1017	327	1344	297	6	132	435	361	381	0	742	0	0	0	0
% App. Total	0	75.7	24.3		68.3	1.4	30.3		48.7	51.3	0		0	0	0	0
PHF	.000	.931	.801	.901	.884	.500	.825	.877	.912	.890	.000	.900	.000	.000	.000	.000

Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

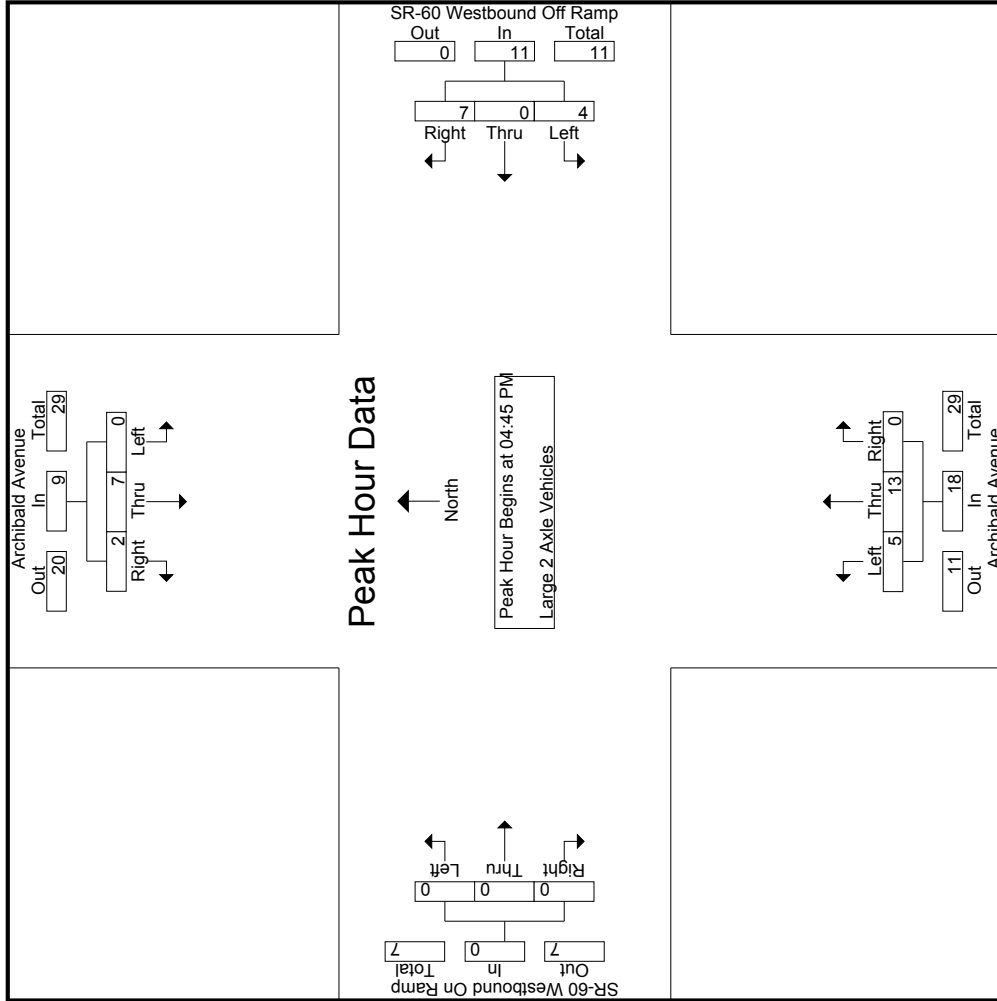
Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	0	3	0	0	3	1	0	4	4	5	0	3	0	0	3	0	0	0	0	0	4	11	15
04:15 PM	0	2	4	0	6	0	0	3	3	3	1	4	0	0	5	0	0	0	0	0	3	14	17
04:30 PM	0	0	1	1	1	0	0	2	1	2	3	4	0	0	7	0	0	0	0	0	2	10	12
04:45 PM	0	2	1	1	3	0	0	1	1	1	1	3	0	0	4	0	0	0	0	0	2	8	10
Total	0	7	6	2	13	1	0	10	9	11	5	14	0	0	19	0	0	0	0	0	11	43	54
05:00 PM	0	2	0	0	2	3	0	2	2	5	0	5	0	0	5	0	0	0	0	0	2	12	14
05:15 PM	0	0	0	0	0	0	0	2	2	2	4	2	0	0	6	0	0	0	0	0	2	8	10
05:30 PM	0	3	1	0	4	1	0	2	2	3	0	3	0	0	3	0	0	0	0	0	2	10	12
05:45 PM	0	5	1	0	6	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	16	16
Total	0	10	2	0	12	4	0	6	6	10	5	19	0	0	24	0	0	0	0	0	6	46	52
Grand Total	0	17	8	2	25	5	0	16	15	21	10	33	0	0	43	0	0	0	0	0	17	89	106
Approach %	0	68	32		23.8	0	76.2			23.6	23.3	76.7	0	0	48.3	0	0	0	0	0	16	84	
Total %	0	19.1	9		28.1	5.6	0	18			11.2	37.1	0	0		0	0	0	0	0			

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:45 PM	0	2	1		3	0	0	0	1	1	1	3	0	0	4	0	0	0	0	0	0	0	8
05:00 PM	0	2	0		2	3	0	0	2	5	0	5	0	0	5	0	0	0	0	0	0	0	12
05:15 PM	0	0	0		0	0	0	0	2	2	4	2	0	0	6	0	0	0	0	0	0	0	8
05:30 PM	0	3	1		4	1	0	0	2	3	0	3	0	0	3	0	0	0	0	0	0	0	10
Total Volume	0	7	2		9	4	0	0	7	11	5	13	0	0	18	0	0	0	0	0	0	0	38
% App. Total	0	77.8	22.2		36.4	0	63.6				27.8	72.2	0	0		0	0	0	0	0	0	0	
PHF	.000	.583	.500		.333	.000	.875			.550	.313	.650	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.792

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	04:45 PM													
+0 mins.	0	2	1	0	0	1	1	3	0	0	0	0	0	0
+15 mins.	0	2	0	3	0	2	5	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	2	2	4	2	0	0	0	0	0
+45 mins.	0	3	1	1	0	2	3	0	3	0	0	0	0	0
Total Volume	0	7	2	4	0	7	11	5	13	0	0	0	0	0
% App. Total	0	77.8	22.2	36.4	0	63.6	27.8	72.2	0	0	0	0	0	0
PHF	.000	.583	.500	.333	.000	.875	.550	.313	.650	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right
04:00 PM	0	1	1	0	2	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	7
04:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
04:30 PM	0	2	0	0	2	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	8
04:45 PM	0	2	1	0	3	1	0	0	1	1	1	0	0	0	1	0	0	0	0	0	5
Total	0	8	2	0	10	2	0	3	3	5	2	4	0	0	6	0	0	0	0	0	24
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
05:15 PM	0	1	1	0	2	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	6
05:30 PM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
05:45 PM	0	3	1	0	4	0	0	3	1	3	1	0	0	0	1	0	0	0	0	0	9
Total	0	5	2	0	7	2	0	3	1	5	1	5	0	0	6	0	0	0	0	0	19
Grand Total	0	13	4	0	17	4	0	6	4	10	3	9	0	0	12	0	0	0	0	0	43
Approch %	0	76.5	23.5		43.6	40	0	60		25.6	7.7	75	0		30.8	0	0	0	0	0	90.7
Total %	0	33.3	10.3			10.3	0	15.4			7.7	23.1	0			0	0	0	0	0	

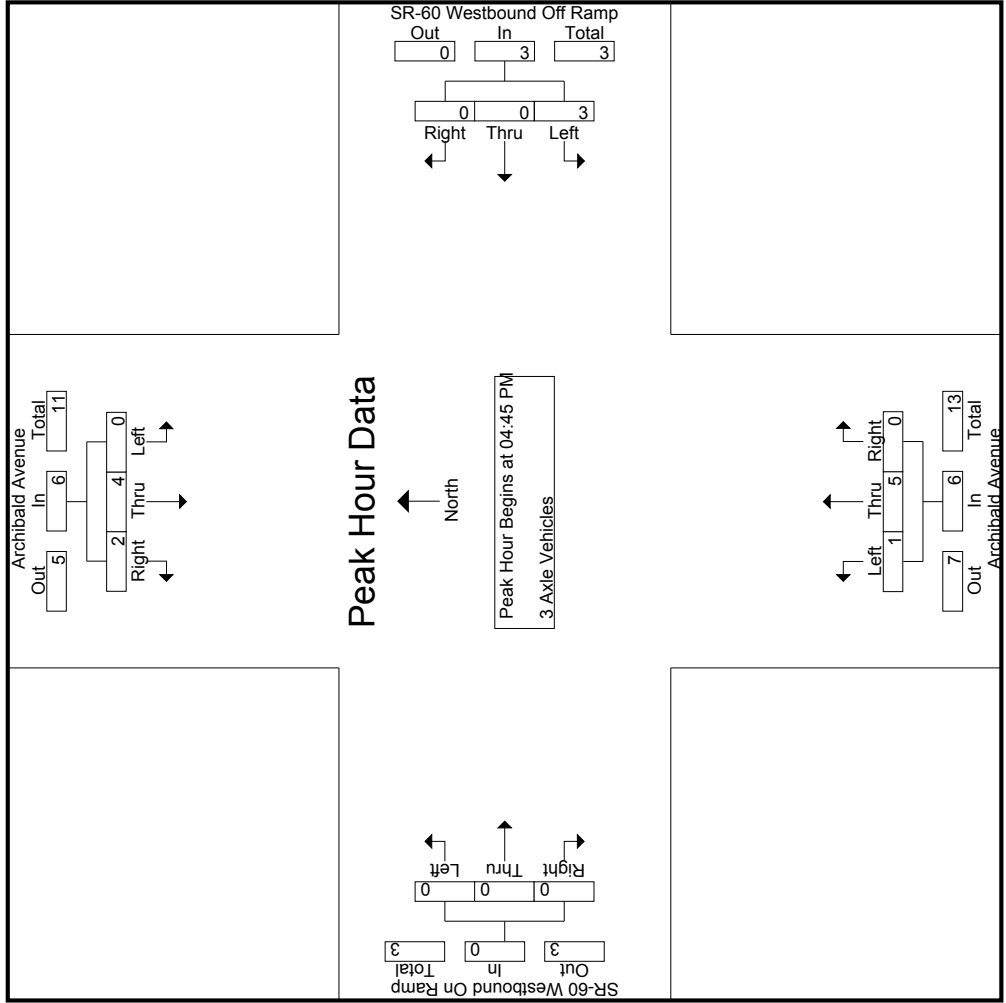
Start Time	Archibald Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Archibald Avenue Northbound				SR-60 Westbound On Ramp Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right
04:45 PM	0	2	1		3	1	0	0		1	1	0	0		1	0	0	0		0	5
05:00 PM	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0		0	1
05:15 PM	0	1	1		2	1	0	0		1	0	3	0		0	0	0	0		0	6
05:30 PM	0	1	0		1	1	0	0		1	0	1	0		0	0	0	0		0	3
Total Volume	0	4	2		6	3	0	0		3	1	5	0		6	0	0	0		0	15
% App. Total	0	66.7	33.3		33.3	100	0	0		75	16.7	83.3	0		0	0	0	0		0	
PHF	.000	.500	.500		.500	.750	.000	.000		.750	.250	.417	.000		.500	.000	.000	.000		.000	.625

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM														
+0 mins.	0	2	1	3	0	0	0	1	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
+30 mins.	0	1	1	2	0	0	0	0	3	0	0	0	0	0	0
+45 mins.	0	1	0	1	1	0	0	1	0	1	0	0	0	0	0
Total Volume	0	4	2	6	3	0	0	3	1	5	0	0	0	0	0
% App. Total	0	66.7	33.3		100	0	0		16.7	83.3	0	0	0	0	0
PHF	.000	.500	.500	.500	.750	.000	.000	.750	.250	.417	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	3	5	4	8	4	0	5	4	9	2	4	0	0	6	0	0	0	0	0	8	23	31
04:15 PM	0	4	7	2	11	6	0	5	1	11	1	7	0	0	8	0	0	0	0	0	3	30	33
04:30 PM	0	1	3	0	4	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	14	14
04:45 PM	0	2	6	2	8	3	0	5	1	8	0	6	0	0	6	0	0	0	0	0	3	22	25
Total	0	10	21	8	31	14	0	15	6	29	3	26	0	0	29	0	0	0	0	0	14	89	103
05:00 PM	0	3	4	2	7	3	0	0	0	3	1	9	0	0	10	0	0	0	0	0	2	20	22
05:15 PM	0	3	2	0	5	3	0	6	4	9	0	4	0	0	4	0	0	0	0	0	4	18	22
05:30 PM	0	1	2	1	3	1	0	3	0	4	0	3	0	0	3	0	0	0	0	0	1	10	11
05:45 PM	0	2	4	2	6	0	0	3	1	3	1	10	0	0	11	0	0	0	0	0	3	20	23
Total	0	9	12	5	21	7	0	12	5	19	2	26	0	0	28	0	0	0	0	0	10	68	78
Grand Total	0	19	33	13	52	21	0	27	11	48	5	52	0	0	57	0	0	0	0	0	24	157	181
Approach %	0	36.5	63.5		43.8	0	56.2			30.6	8.8	91.2	0	0	36.3	0	0	0	0	0	13.3	86.7	
Total %	0	12.1	21		33.1	0	17.2			30.6	3.2	33.1	0	0	36.3	0	0	0	0	0	13.3	86.7	

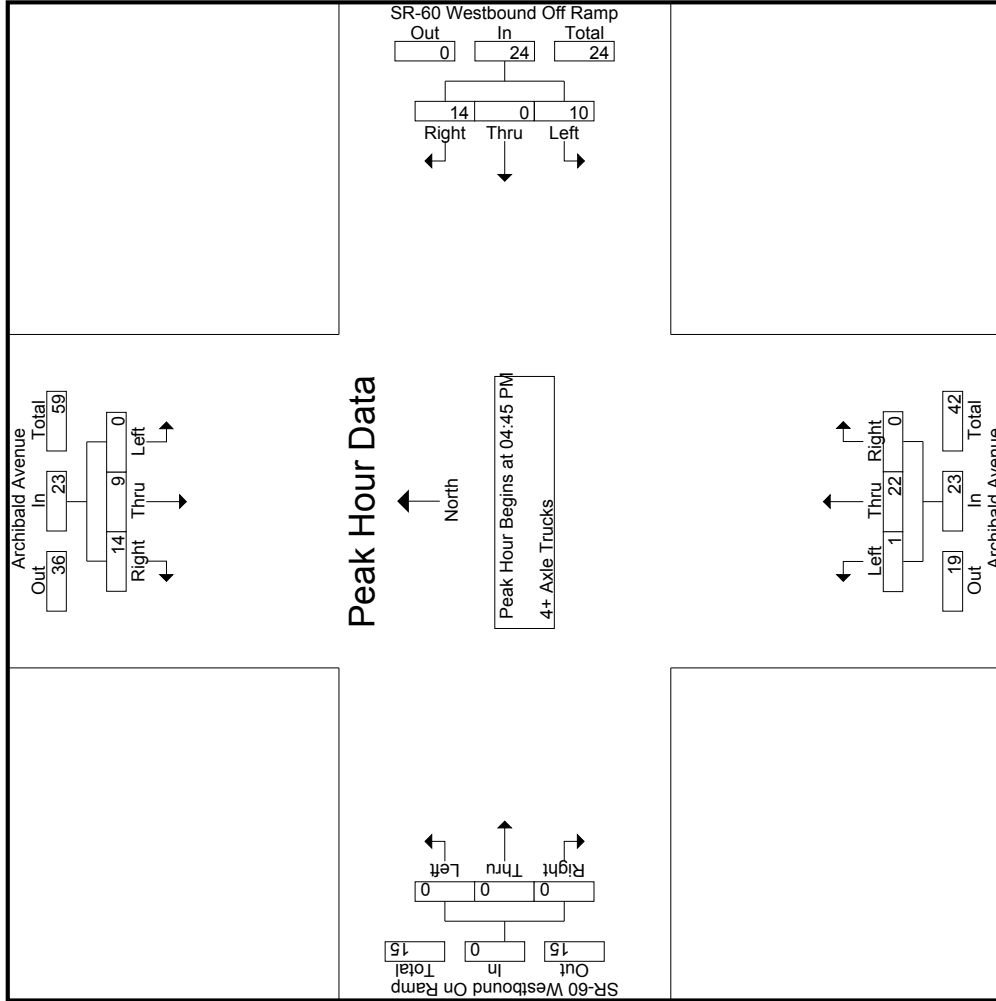
Start Time	Archibald Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Archibald Avenue Northbound					SR-60 Westbound On Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:45 PM	0	2	6	2	8	3	0	5	1	8	0	6	0	0	6	0	0	0	0	0	0	0	22
05:00 PM	0	3	4	2	7	3	0	0	0	3	1	9	0	0	10	0	0	0	0	0	0	0	20
05:15 PM	0	3	2	0	5	3	0	6	4	9	0	4	0	0	4	0	0	0	0	0	0	0	18
05:30 PM	0	1	2	1	3	1	0	3	0	4	0	3	0	0	3	0	0	0	0	0	0	0	10
Total Volume	0	9	14	5	24	10	0	14	5	24	1	22	0	0	23	0	0	0	0	0	0	0	70
% App. Total	0	39.1	60.9		41.7	0	58.3			58.3	4.3	95.7	0	0	58.3	0	0	0	0	0	0	0	795
PHF	.000	.750	.583		.719	.833	.000	.583		.667	.250	.611	.000	.000	.575	.000	.000	.000	.000	.000	.000	.000	.795

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Westbound Ramps
 Weather: Clear

File Name : ONTAR60WPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Westbound Off Ramp Westbound			Archibald Avenue Northbound			SR-60 Westbound On Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	04:45 PM														
Peak Hour for Each Approach Begins at:	04:45 PM														
+0 mins.	0	2	6	3	0	5	8	0	6	0	0	0	0	0	0
+15 mins.	0	3	4	3	0	0	3	1	9	0	0	0	0	0	0
+30 mins.	0	3	2	3	0	6	9	0	4	0	0	0	0	0	0
+45 mins.	0	1	2	1	0	3	4	0	3	0	0	0	0	0	0
Total Volume	0	9	14	10	0	14	24	1	22	0	0	0	0	0	0
% App. Total	0	39.1	60.9	41.7	0	58.3	66.7	4.3	95.7	0	0	0	0	0	0
PHF	.000	.750	.583	.833	.000	.583	.667	.250	.611	.000	.000	.000	.000	.000	.000

Location: Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg SR-60 Westbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Westbound Ramps	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	2	0	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	1	4

	North Leg Archibald Avenue	East Leg SR-60 Westbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Westbound Ramps	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	2

Location: Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Westbound Ramps



Date: 12/13/2016
 Day: Tuesday

BICYCLES

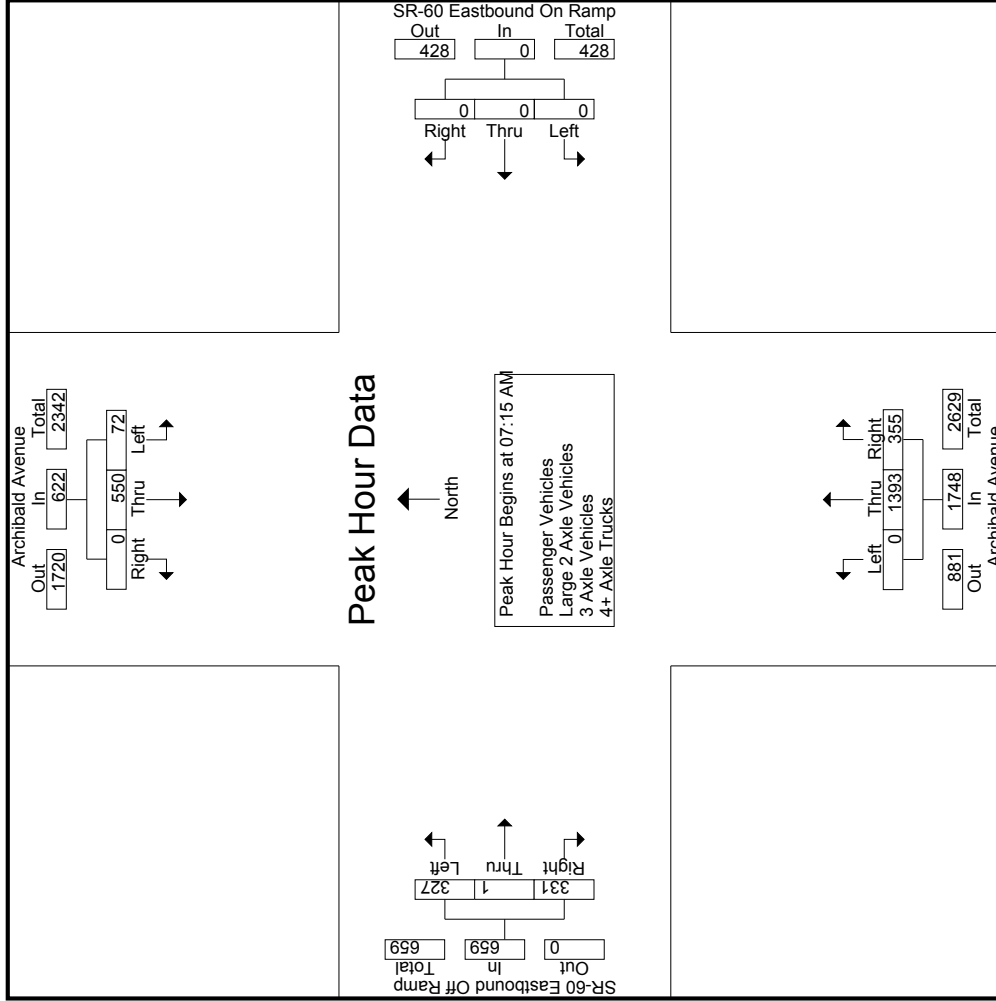
	North Leg Archibald Avenue	East Leg SR-60 Westbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Westbound Ramps	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	3	0	3

	North Leg Archibald Avenue	East Leg SR-60 Westbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Westbound Ramps	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	1	0	0	0	1
4:30 PM	0	0	1	0	1
4:45 PM	2	0	0	0	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	4	0	1	0	5

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:15 AM														
+0 mins.	19	120	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	21	137	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	17	139	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	15	154	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	72	550	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	11.6	88.4	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.857	.893	.000	.920	.000	.000	.000	.000	.000	.000	.000	.000	.914	.500	.918
	07:00 AM														
	07:15 AM														
	07:45 AM														
	113	327	92	419	113	327	92	419	113	327	92	419	113	327	92
	81	377	101	478	81	377	101	478	81	377	101	478	81	377	101
	60	361	85	446	60	361	85	446	60	361	85	446	60	361	85
	74	328	77	405	74	328	77	405	74	328	77	405	74	328	77
	328	1393	355	1748	328	1393	355	1748	328	1393	355	1748	328	1393	355
	47.8	79.7	20.3	91.4	47.8	79.7	20.3	91.4	47.8	79.7	20.3	91.4	47.8	79.7	20.3
	.726	.924	.879	.914	.726	.924	.879	.914	.726	.924	.879	.914	.726	.924	.879

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

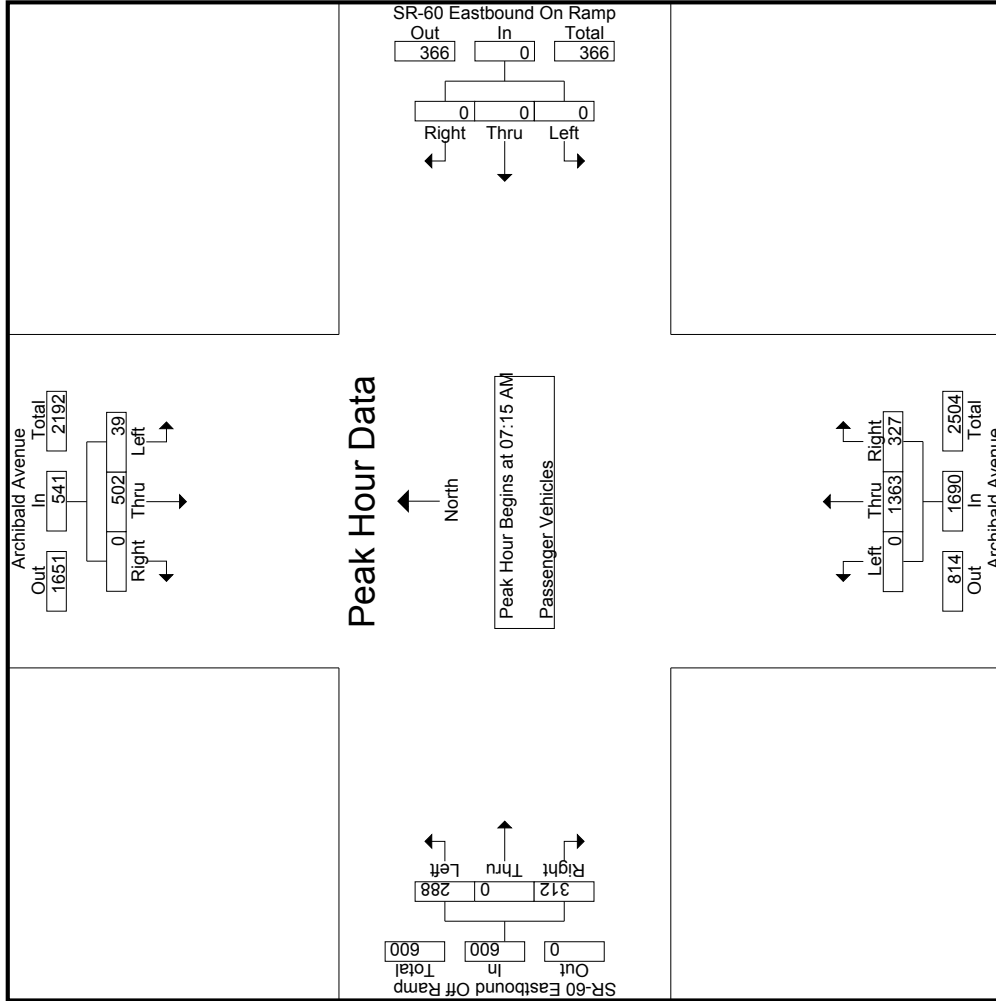
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	10	95	0	0	105	0	0	0	0	0	0	267	46	23	313	35	1	71	39	107	62	525	587
07:15 AM	11	103	0	0	114	0	0	0	0	0	323	83	26	406	42	0	76	47	118	73	638	711	
07:30 AM	10	127	0	0	137	0	0	0	0	0	371	95	33	466	67	0	77	48	144	81	747	828	
07:45 AM	10	130	0	0	140	0	0	0	0	0	350	79	22	429	107	0	88	48	195	70	764	834	
Total	41	455	0	0	496	0	0	0	0	0	1311	303	104	1614	251	1	312	182	564	286	2674	2960	
08:00 AM	8	142	0	0	150	0	0	0	0	0	319	70	30	389	72	0	71	37	143	67	682	749	
08:15 AM	12	104	0	0	116	0	0	0	0	0	272	71	22	343	47	0	85	55	132	77	591	668	
08:30 AM	18	78	0	0	96	0	0	0	0	0	251	57	19	308	59	0	90	55	149	74	553	627	
08:45 AM	7	94	0	0	101	0	0	0	0	0	237	55	27	292	60	0	71	32	131	59	524	583	
Total	45	418	0	0	463	0	0	0	0	0	1079	253	98	1332	238	0	317	179	555	277	2350	2627	
Grand Total	86	873	0	0	959	0	0	0	0	0	2390	556	202	2946	489	1	629	361	1119	563	5024	5587	
Approach %	9	91	0	0	19.1	0	0	0	0	0	81.1	18.9		58.6	43.7	0.1	56.2		22.3				
Total %	1.7	17.4	0	0		0	0	0	0	0	47.6	11.1			9.7	0	12.5			10.1	89.9		

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:15 AM																										
07:15 AM	11	103	0	0	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	10	127	0	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	10	130	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	8	142	0	0	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	39	502	0	0	541	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	7.2	92.8	0	0		0	0	0	0	0	80.7	19.3			48	0	52									
PHF	.886	.884	.000	.000	.902	.000	.000	.000	.000	.000	.000	.918	.861	.907	.673	.000	.886	.769	.926							

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:	07:15 AM															
+0 mins.	11	103	0	0	0	0	0	0	0	0	0	0	42	0	76	118
+15 mins.	10	127	0	0	0	0	0	0	0	323	83	406	67	0	77	144
+30 mins.	10	130	0	0	0	0	0	0	0	371	95	466	107	0	88	195
+45 mins.	8	142	0	0	0	0	0	0	0	350	79	429	72	0	71	143
Total Volume	39	502	0	0	0	0	0	0	0	1363	327	1690	288	0	312	600
% App. Total	7.2	92.8	0	0	0	0	0	0	0	80.7	19.3	90.7	48	0	52	100
PHF	.886	.884	.000	.902	.000	.000	.000	.000	.000	.918	.861	.907	.673	.000	.886	.769

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

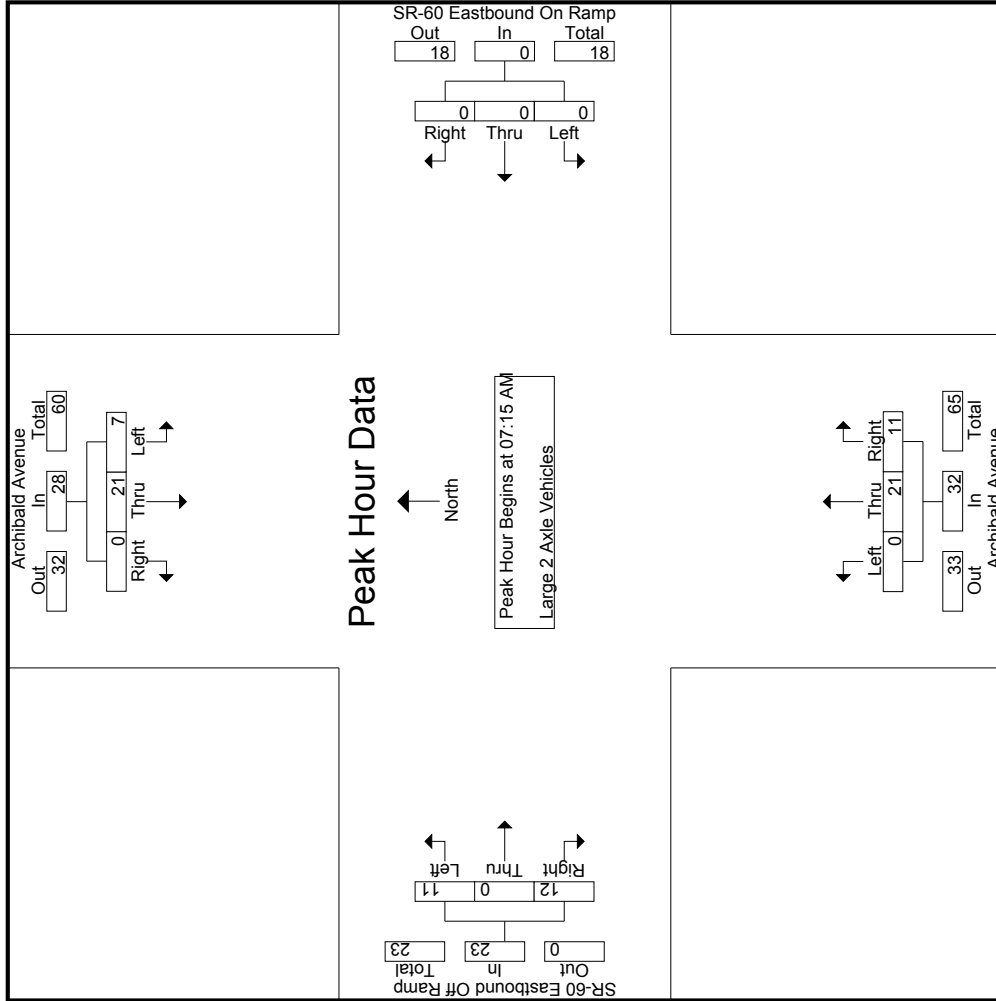
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	9	0	0	9	0	0	0	0	0	0	2	1	0	3	5	0	6	4	11	4	23	27
07:15 AM	2	9	0	0	11	0	0	0	0	0	0	2	3	1	5	2	0	3	2	5	3	21	24
07:30 AM	2	6	0	0	8	0	0	0	0	0	0	4	3	1	7	3	0	2	2	5	3	20	23
07:45 AM	1	3	0	0	4	0	0	0	0	0	0	7	2	0	9	2	0	4	3	6	3	19	22
Total	5	27	0	0	32	0	0	0	0	0	15	9	2	2	24	12	0	15	11	27	13	83	96
08:00 AM	2	3	0	0	5	0	0	0	0	0	0	8	3	1	11	4	0	3	3	7	4	23	27
08:15 AM	4	5	0	0	9	0	0	0	0	0	0	7	3	1	10	1	1	4	4	6	5	25	30
08:30 AM	3	4	0	0	7	0	0	0	0	0	0	1	2	2	3	3	0	2	1	5	3	15	18
08:45 AM	3	7	0	0	10	0	0	0	0	0	3	1	0	0	4	5	0	5	2	10	2	24	26
Total	12	19	0	0	31	0	0	0	0	0	19	9	4	4	28	13	1	14	10	28	14	87	101
Grand Total	17	46	0	0	63	0	0	0	0	0	34	18	6	6	52	25	1	29	21	55	27	170	197
Approach %	27	73	0	0		0	0	0	0		65.4	34.6			30.6	45.5	1.8	52.7		32.4			
Total %	10	27.1	0	0	37.1	0	0	0	0	0	20	10.6				14.7	0.6	17.1			13.7	86.3	

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	2	9	0	0	11	0	0	0	0	0	0	0	2	3	5	2	0	3	0	5	3	5	21
07:30 AM	2	6	0	0	8	0	0	0	0	0	0	4	3	1	7	3	0	2	0	5	3	20	23
07:45 AM	1	3	0	0	4	0	0	0	0	0	0	7	2	0	9	2	0	4	0	6	3	19	22
08:00 AM	2	3	0	0	5	0	0	0	0	0	0	8	3	0	11	4	0	3	0	7	4	23	27
Total Volume	7	21	0	0	28	0	0	0	0	0	21	11	6	6	38	11	0	12	0	23	12	83	95
% App. Total	25	75	0	0		0	0	0	0	0	65.6	34.4			30.6	47.8	0	52.2		32.4			
PHF	.875	.583	.000	.636		.000	.000	.000	.000	.000	.000	.656	.917	.727		.688	.000	.750		.821	.821	.902	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM															
+0 mins.	2	9	0	0	0	0	0	0	0	2	3	3	0	0	3	5
+15 mins.	2	6	0	0	0	0	0	0	0	4	3	3	0	0	2	5
+30 mins.	1	3	0	0	0	0	0	0	0	7	2	9	2	0	4	6
+45 mins.	2	3	0	0	0	0	0	0	0	8	3	11	4	0	3	7
Total Volume	7	21	0	0	0	0	0	0	0	21	11	32	11	0	12	23
% App. Total	25	75	0	0	0	0	0	0	0	65.6	34.4	47.8	47.8	0	52.2	
PHF	.875	.583	.000	.000	.000	.000	.000	.000	.000	.656	.917	.727	.688	.000	.750	.821

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total					
07:00 AM	1	5	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	7	7	
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	3	2	5	0	0	0	0	0	0	0	2	8	10
07:30 AM	4	3	0	0	7	0	0	0	0	0	0	0	2	1	2	1	0	0	0	0	0	1	1	10	11
07:45 AM	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	4	4
Total	5	12	0	0	17	0	0	0	0	0	5	6	3	11	11	1	0	0	0	1	3	29	3	29	32
08:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
08:15 AM	0	1	0	0	1	0	0	0	0	0	3	5	3	8	8	0	0	0	0	0	0	3	9	12	12
08:30 AM	0	3	0	0	3	0	0	0	0	0	3	5	3	8	8	0	0	1	1	1	1	4	12	16	16
08:45 AM	2	3	0	0	5	0	0	0	0	0	2	4	0	6	6	0	0	0	0	0	0	0	0	11	11
Total	2	11	0	0	13	0	0	0	0	0	8	14	6	22	22	0	0	1	1	1	7	36	7	36	43
Grand Total	7	23	0	0	30	0	0	0	0	0	13	20	9	33	33	1	0	1	1	2	10	65	10	65	75
Approach %	23.3	76.7	0	0	46.2	0	0	0	0	0	39.4	60.6	50.8	50.8	50.8	50	0	50	3.1	13.3	86.7	13.3	86.7	86.7	
Total %	10.8	35.4	0	0	46.2	0	0	0	0	0	20	30.8	50.8	50.8	50.8	1.5	0	1.5	3.1	13.3	86.7	13.3	86.7	86.7	

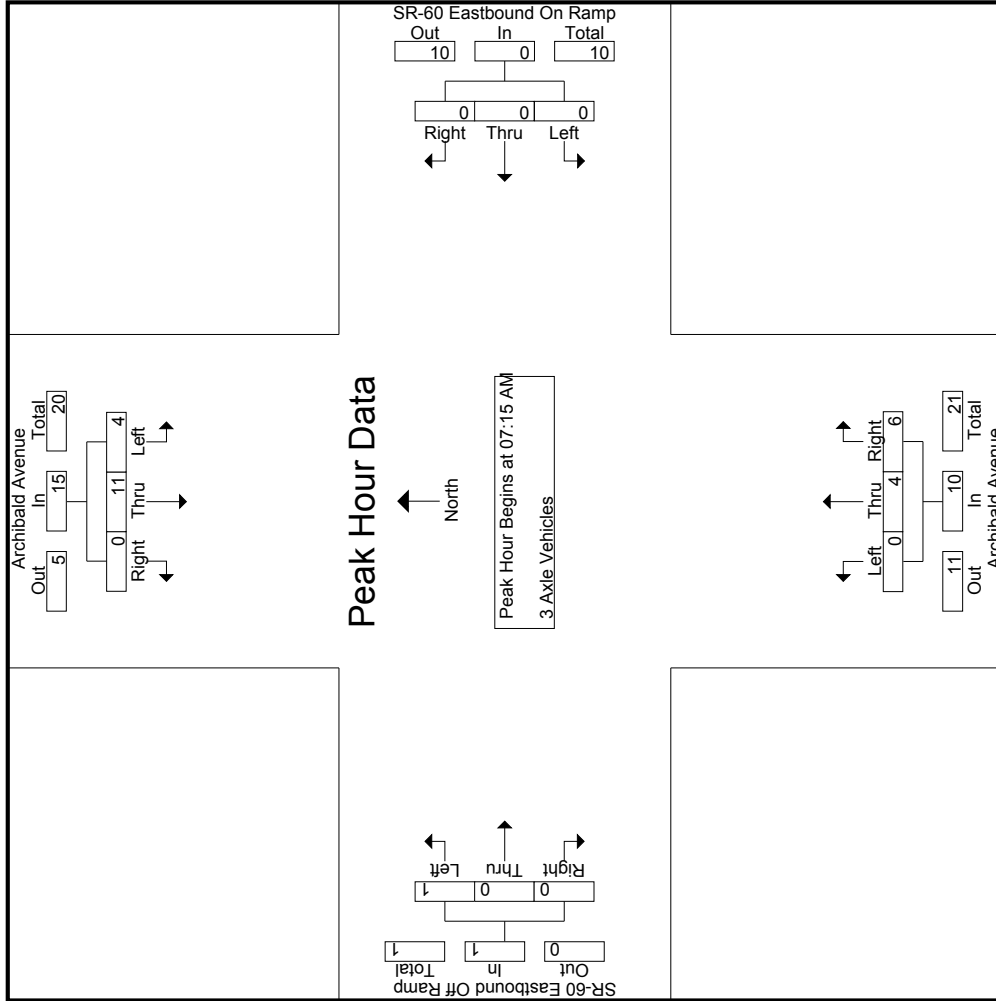
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total						
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
07:30 AM	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10	
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
08:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Total Volume	4	11	0	0	15	0	0	0	0	0	0	4	6	10	10	1	0	0	0	1	0	0	0	1	26	
% App. Total	26.7	73.3	0	0	46.2	0	0	0	0	0	40	60	60	60	60	100	0	0	0	0	0	0	0	0	26	
PHF	.250	.688	.000	.000	.536	.000	.000	.000	.000	.000	.000	.500	.500	.500	.500	.250	.000	.000	.000	.250	.000	.250	.000	.650	.650	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	4	3	0	0	0	0	0	0	0	0	0	0	1	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	4	11	0	0	0	0	0	0	0	0	4	6	10	1
% App. Total	26.7	73.3	0	0	0	0	0	0	0	0	40	60	100	0
PHF	.250	.688	.000	.536	.000	.000	.000	.000	.000	.000	.500	.500	.250	.000

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City of Ontario
 N/S: Archibald Avenue
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 Weather: Clear

File Name : ONTAR60EAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	5	3	0	0	8	0	0	0	0	0	0	1	0	0	1	13	0	0	0	13	0	22	22
07:15 AM	6	5	0	0	11	0	0	0	0	0	0	3	1	1	3	11	0	1	1	12	2	26	28
07:30 AM	5	1	0	0	6	0	0	0	0	0	0	2	1	0	3	7	0	0	0	7	0	16	16
07:45 AM	6	5	0	0	11	0	0	0	0	0	2	3	0	0	5	4	1	5	1	10	1	26	27
Total	22	14	0	0	36	0	0	0	0	0	5	7	1	1	12	35	1	6	2	42	3	90	93
08:00 AM	5	5	0	0	10	0	0	0	0	0	1	4	2	2	5	5	0	1	0	6	2	21	23
08:15 AM	5	2	0	0	7	0	0	0	0	0	2	1	1	1	3	12	0	0	0	12	1	22	23
08:30 AM	3	8	0	0	11	0	0	0	0	0	12	7	2	19	12	0	2	1	14	3	44	47	
08:45 AM	4	2	0	0	6	0	0	0	0	0	4	5	3	9	12	0	4	2	16	5	31	36	
Total	17	17	0	0	34	0	0	0	0	0	19	17	8	36	41	0	7	3	48	11	118	129	
Grand Total	39	31	0	0	70	0	0	0	0	0	24	24	9	48	76	1	13	5	90	14	208	222	
Approach %	55.7	44.3	0	0	33.7	0	0	0	0	0	50	50		23.1	84.4	1.1	14.4		43.3	6.3	93.7		
Total %	18.8	14.9	0	0		0	0	0	0	0	11.5	11.5			36.5	0.5	6.2						

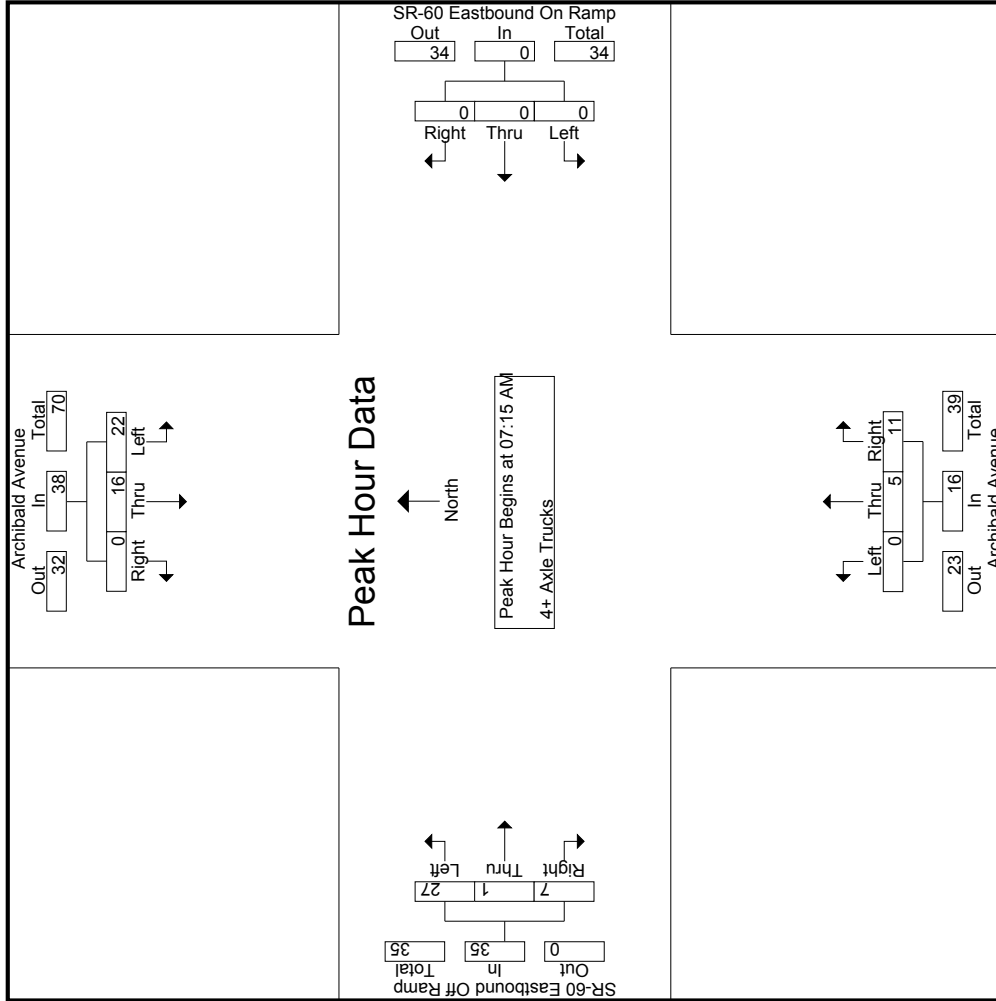
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:15 AM	6	5	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	5	1	0	0	6	0	0	0	0	0	0	2	1	1	3	0	0	0	0	0	0	0	0
07:45 AM	6	5	0	0	11	0	0	0	0	0	0	2	3	3	5	4	1	5	0	1	5	10	26
08:00 AM	5	5	0	0	10	0	0	0	0	0	0	1	4	4	5	5	0	1	1	0	1	6	21
Total Volume	22	16	0	0	38	0	0	0	0	0	0	5	11	16	27	1	7	35	89				
% App. Total	57.9	42.1	0	0	33.7	0	0	0	0	0	31.2	68.8		23.1	84.4	1.1	14.4		43.3	6.3	93.7		
PHF	.917	.800	.000	.864	.864	.000	.000	.000	.000	.000	.000	.625	.688	.800	.614	.250	.350	.729					.856

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Ontario
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Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM			07:15 AM			07:15 AM			07:15 AM					
+0 mins.	6	5	0	0	0	0	0	0	0	0	0	0	11	12	
+15 mins.	5	1	0	0	0	0	0	2	1	3	7	0	3	7	
+30 mins.	6	5	0	0	0	0	0	2	3	5	4	1	5	10	
+45 mins.	5	5	0	0	0	0	0	1	4	5	5	0	5	6	
Total Volume	22	16	0	0	0	0	0	5	11	16	27	1	16	35	
% App. Total	57.9	42.1	0	0	0	0	0	31.2	68.8	77.1	2.9	20	800	729	
PHF	.917	.800	.000	.000	.000	.000	.000	.625	.688	.614	.250	.350	.800	.729	

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City of Ontario
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File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound						Archibald Avenue Northbound						SR-60 Eastbound Off Ramp Eastbound											
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
04:00 PM	61	234	0	0	0	295	0	0	0	0	0	0	191	69	0	260	23	0	101	45	124	45	679	724
04:15 PM	67	217	0	0	0	284	0	0	0	0	0	190	115	47	305	23	0	111	58	134	105	723	828	
04:30 PM	78	220	0	0	0	298	0	0	0	0	0	168	97	37	265	28	2	105	51	135	88	698	786	
04:45 PM	59	248	0	0	0	307	0	0	0	0	0	205	126	64	331	12	2	80	42	94	106	732	838	
Total	265	919	0	0	0	1184	0	0	0	0	0	754	407	148	1161	86	4	397	196	487	344	2832	3176	
05:00 PM	67	299	0	0	0	366	0	0	0	0	0	181	121	50	302	27	2	108	40	137	90	805	895	
05:15 PM	64	283	0	0	0	347	0	0	0	0	0	165	111	37	276	13	1	103	39	117	76	740	816	
05:30 PM	62	271	0	0	0	333	0	0	0	0	0	175	74	40	249	15	0	109	47	124	87	706	793	
05:45 PM	40	215	0	0	0	255	0	0	0	0	0	167	69	32	236	26	1	138	61	165	93	656	749	
Total	233	1068	0	0	0	1301	0	0	0	0	0	688	375	159	1063	81	4	458	187	543	346	2907	3253	
Grand Total	498	1987	0	0	0	2485	0	0	0	0	0	1442	782	307	2224	167	8	855	383	1030	690	5739	6429	
Approach %	20	80	0	0	0	43.3	0	0	0	0	0	64.8	35.2	0	38.8	16.2	0.8	83	0	17.9	10.7	89.3	0	
Total %	8.7	34.6	0	0	0	43.3	0	0	0	0	0	25.1	13.6	0	38.8	2.9	0.1	14.9	0	17.9	10.7	89.3	0	
Passenger Vehicles	471	1935	0	0	0	2406	0	0	0	0	0	1389	750	94.5	2429	101	8	847	1337	1337	0	0	6172	
% Passenger Vehicles	94.6	97.4	0	0	0	96.8	0	0	0	0	0	96.3	95.9	94.5	96	60.5	100	99.1	99.5	94.6	0	0	96	
Large 2 Axle Vehicles	4	19	0	0	0	23	0	0	0	0	0	36	14	2.6	58	13	0	4	18	18	0	0	99	
% Large 2 Axle Vehicles	0.8	1	0	0	0	0.9	0	0	0	0	0	2.5	1.8	2.6	2.3	7.8	0	0.5	0.3	1.3	0	0	1.5	
3 Axle Vehicles	7	7	0	0	0	14	0	0	0	0	0	6	5	1.3	15	6	0	1	7	7	0	0	36	
% 3 Axle Vehicles	1.4	0.4	0	0	0	0.6	0	0	0	0	0	0.4	0.6	1.3	0.6	3.6	0	0.1	0	0.5	0	0	0.6	
4+ Axle Trucks	16	26	0	0	0	42	0	0	0	0	0	11	13	29	29	47	0	3	51	51	0	0	122	
% 4+ Axle Trucks	3.2	1.3	0	0	0	1.7	0	0	0	0	0	0.8	1.7	1.6	1.1	28.1	0	0.4	0.3	3.6	0	0	1.9	

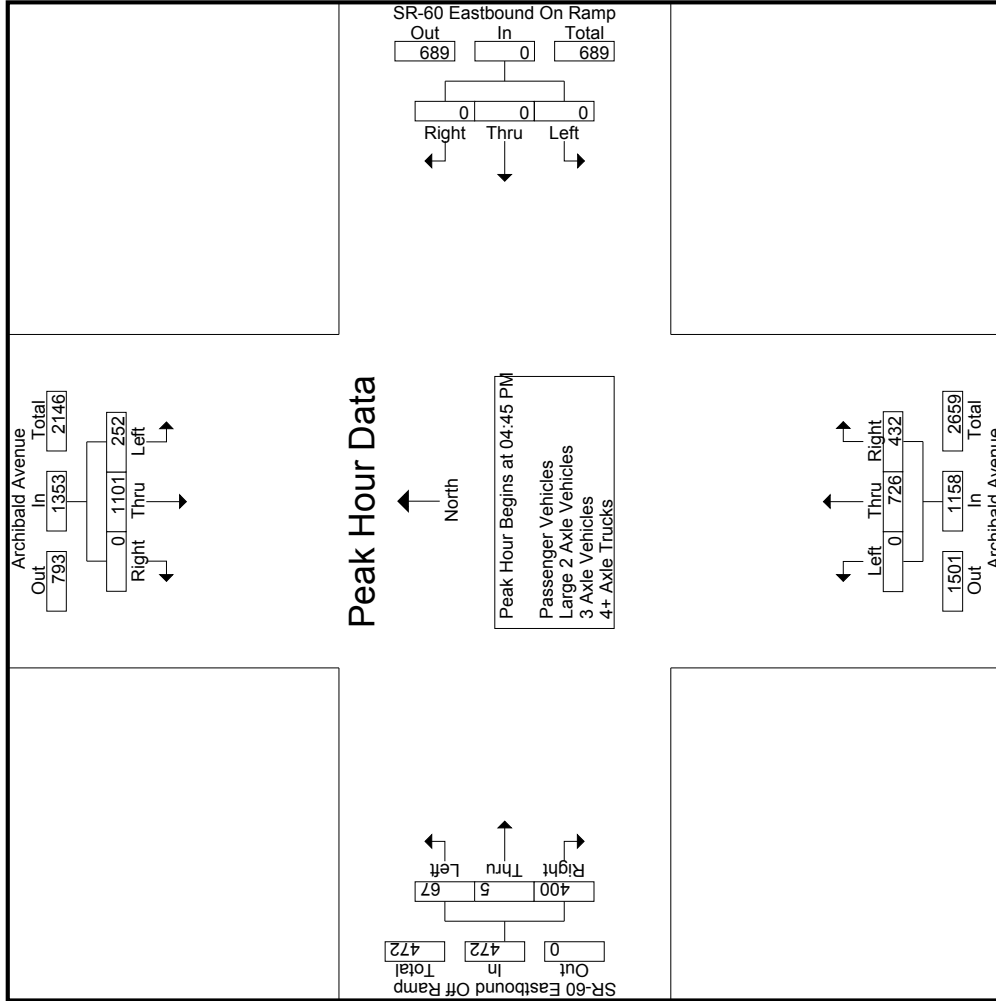
Start Time	Archibald Avenue Southbound						Archibald Avenue Northbound						SR-60 Eastbound Off Ramp Eastbound											
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
04:45 PM	59	248	0	0	0	307	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94
05:00 PM	67	299	0	0	0	366	0	0	0	0	0	181	121	50	302	27	2	108	40	137	90	805	895	
05:15 PM	64	283	0	0	0	347	0	0	0	0	0	165	111	37	276	13	1	103	39	117	76	740	816	
05:30 PM	62	271	0	0	0	333	0	0	0	0	0	175	74	40	249	15	0	109	47	124	87	706	793	
05:45 PM	40	215	0	0	0	255	0	0	0	0	0	167	69	32	236	26	1	138	61	165	93	656	749	
Total	252	1101	0	0	0	1353	0	0	0	0	0	726	432	158	1158	67	5	400	179	543	346	2907	3253	
% App. Total	18.6	81.4	0	0	0	91.4	0	0	0	0	0	62.7	37.3	0	62.7	14.2	1.1	84.7	0	122	0	0	96	
PHF	.940	.921	.000	.924	.000	.924	.000	.000	.000	.000	.000	.885	.857	.875	.875	.620	.625	.917	.861	.926				

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

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Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	04:45 PM														
+0 mins.	59	248	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	67	299	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	64	283	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	62	271	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	252	1101	0	0	0	0	0	0	0	744	459	1203	81	4	458
% App. Total	18.6	81.4	0	0	0	0	0	0	0	61.8	38.2	14.9	0.7	0.7	84.3
PHF	.940	.921	.000	.000	.000	.000	.000	.000	.000	.907	.911	.750	.500	.830	.823
	04:00 PM														
	04:15 PM														
	05:00 PM														
	0	0	0	0	0	0	0	0	0	190	115	305	27	2	108
	0	0	0	0	0	0	0	0	0	168	97	265	13	1	103
	0	0	0	0	0	0	0	0	0	205	126	331	15	0	109
	0	0	0	0	0	0	0	0	0	181	121	302	26	1	138
	0	0	0	0	0	0	0	0	0	744	459	1203	81	4	458
	0	0	0	0	0	0	0	0	0	61.8	38.2	14.9	0.7	0.7	84.3
	0	0	0	0	0	0	0	0	0	.907	.911	.750	.500	.830	.823

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Groups Printed- Passenger Vehicles

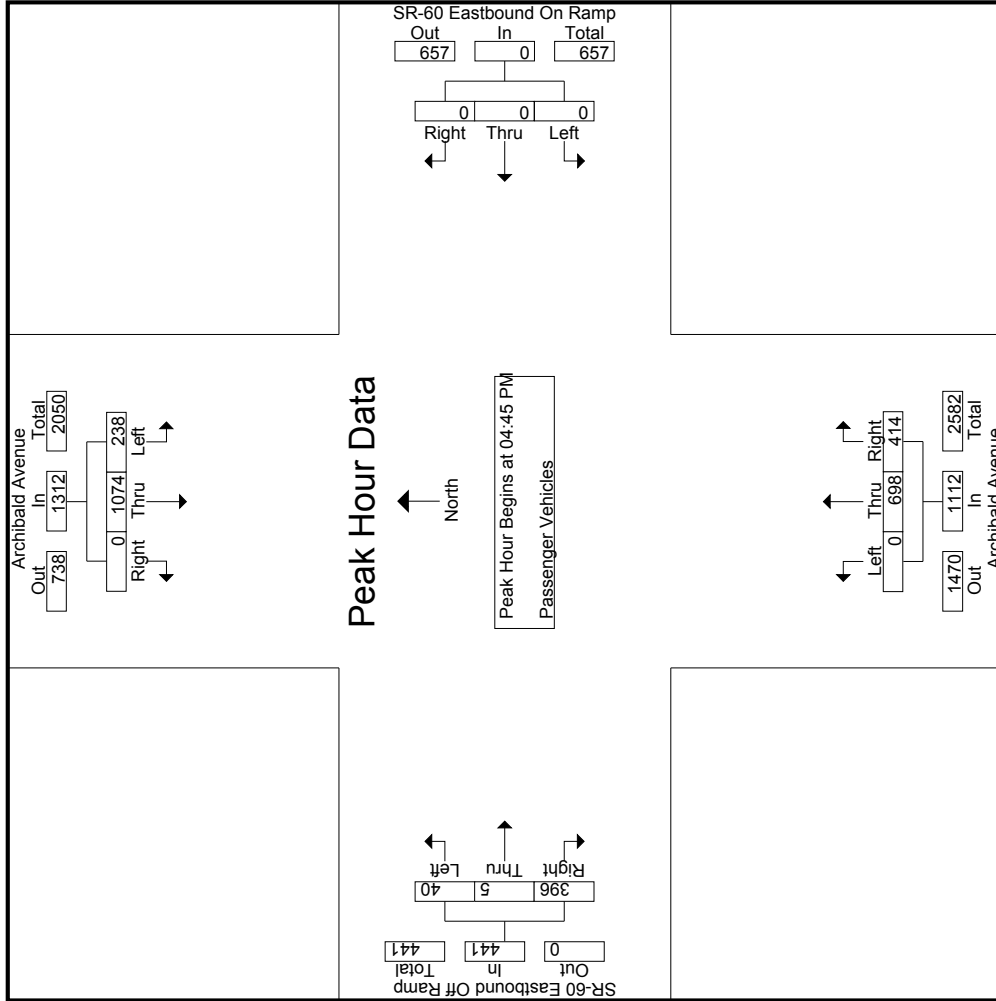
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	59	223	0	0	282	0	0	0	0	0	0	184	68	0	252	18	0	100	45	118	45	652	697
04:15 PM	64	206	0	0	270	0	0	0	0	0	183	109	42	292	13	0	110	57	123	99	685	784	
04:30 PM	75	219	0	0	294	0	0	0	0	0	164	92	33	256	18	2	104	51	124	84	674	758	
04:45 PM	54	242	0	0	296	0	0	0	0	0	199	121	63	320	7	2	79	41	88	104	704	808	
Total	252	890	0	0	1142	0	0	0	0	0	730	390	138	1120	56	4	393	194	453	332	2715	3047	
05:00 PM	63	291	0	0	354	0	0	0	0	0	172	116	48	288	16	2	107	40	125	88	767	855	
05:15 PM	61	278	0	0	339	0	0	0	0	0	155	105	34	260	6	1	102	39	109	73	708	781	
05:30 PM	60	263	0	0	323	0	0	0	0	0	172	72	38	244	11	0	108	47	119	85	686	771	
05:45 PM	35	213	0	0	248	0	0	0	0	0	160	67	32	227	12	1	137	61	150	93	625	718	
Total	219	1045	0	0	1264	0	0	0	0	0	659	360	152	1019	45	4	454	187	503	339	2786	3125	
Grand Total	471	1935	0	0	2406	0	0	0	0	0	1389	750	290	2139	101	8	847	381	956	671	5501	6172	
Approch %	19.6	80.4	0	0	43.7	0	0	0	0	0	64.9	35.1	38.9	38.9	10.6	0.8	88.6	17.4	17.4	10.9	89.1		
Total %	8.6	35.2	0	0	43.7	0	0	0	0	0	25.2	13.6	13.6	13.6	1.8	0.1	15.4	15.4	17.4	10.9	89.1		

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total		
04:45 PM	54	242	0	0	296	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	63	291	0	0	354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	61	278	0	0	339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	60	263	0	0	323	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	238	1074	0	0	1312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	18.1	81.9	0	0	43.7	0	0	0	0	0	62.8	37.2	37.2	37.2	9.1	1.1	89.8	17.4	17.4	10.9	89.1	
PHF	.944	.923	.000	.000	.927	.000	.000	.000	.000	.000	.000	.877	.855	.869	.625	.625	.917	.882	.882	.882	.882	.934

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Start Time	Archibald Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Archibald Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	54	242	0	296	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	63	291	0	354	0	0	0	0	0	0	0	0	0	2	79	88
+30 mins.	61	278	0	339	0	0	0	0	0	0	0	0	0	2	107	125
+45 mins.	60	263	0	323	0	0	0	0	0	0	0	0	0	1	102	109
Total Volume	238	1074	0	1312	0	0	0	0	0	0	0	0	0	5	396	441
% App. Total	18.1	81.9	0	.927	0	0	0	.000	0	0	0	0	0	1.1	89.8	441
PHF	.944	.923	.000	.927	.000	.000	.000	.000	.000	.000	.000	.877	.855	.625	.917	.882

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File Name : ONTAR60EPM
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 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	3	0	0	4	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	0	10	10
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	5	4	3	9	1	0	1	1	2	4	13	17
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	2	2	6	2	0	1	0	3	2	9	11
04:45 PM	1	2	0	0	3	0	0	0	0	0	0	4	1	1	5	1	0	0	0	1	1	9	10
Total	2	7	0	0	9	0	0	0	0	0	17	8	6	6	25	5	0	2	1	7	7	41	48
05:00 PM	1	4	0	0	5	0	0	0	0	0	0	4	2	1	6	3	0	1	0	4	1	15	16
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	7	1	0	8	1	0	0	0	1	0	10	10
05:30 PM	0	5	0	0	5	0	0	0	0	0	0	3	1	1	4	0	0	0	1	0	1	10	11
05:45 PM	1	2	0	0	3	0	0	0	0	0	0	5	2	0	7	4	0	0	0	4	0	14	14
Total	2	12	0	0	14	0	0	0	0	0	19	6	2	2	25	8	0	2	0	10	2	49	51
Grand Total	4	19	0	0	23	0	0	0	0	0	36	14	8	8	50	13	0	4	1	17	9	90	99
Approach %	17.4	82.6	0	0		0	0	0	0		72	28			55.6	76.5	0	23.5		18.9	9.1	90.9	
Total %	4.4	21.1	0	0	25.6	0	0	0	0	0	40	15.6				14.4	0	4.4					

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	1	2	0	0	3	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	0	10	10
05:00 PM	1	4	0	0	5	0	0	0	0	0	0	4	2	0	6	3	0	1	0	4	1	15	15
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	7	1	0	8	1	0	0	0	1	0	10	10
05:30 PM	0	5	0	0	5	0	0	0	0	0	0	3	1	1	4	0	0	0	1	0	1	10	11
05:45 PM	1	2	0	0	3	0	0	0	0	0	0	5	2	0	7	4	0	0	0	4	0	14	14
Total	2	12	0	0	14	0	0	0	0	0	19	6	2	2	25	8	0	2	0	10	2	49	51
Grand Total	4	19	0	0	23	0	0	0	0	0	36	14	8	8	50	13	0	4	1	17	9	90	99
Approach %	17.4	82.6	0	0		0	0	0	0		72	28			55.6	76.5	0	23.5		18.9	9.1	90.9	
Total %	4.4	21.1	0	0	25.6	0	0	0	0	0	40	15.6				14.4	0	4.4					

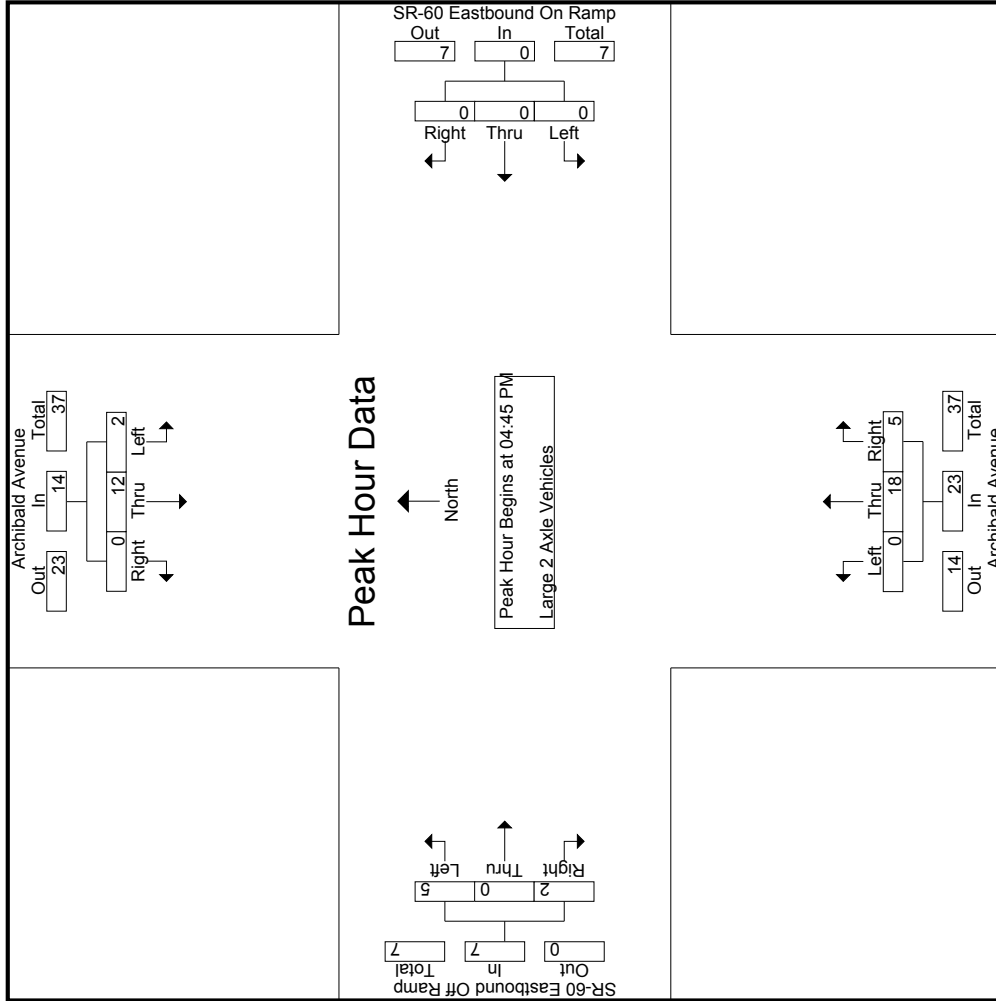
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	1	2	0	0	3	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	0	10	10
05:00 PM	1	4	0	0	5	0	0	0	0	0	0	4	2	0	6	3	0	1	0	4	1	15	15
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	7	1	0	8	1	0	0	0	1	0	10	10
05:30 PM	0	5	0	0	5	0	0	0	0	0	0	3	1	1	4	0	0	0	1	0	1	10	11
Total Volume	2	12	0	0	14	0	0	0	0	0	18	5	2	2	23	5	0	2	0	7	2	44	44
% App. Total	14.3	85.7	0	0		0	0	0	0		78.3	21.7				71.4	0	28.6					
PHF	.500	.600	.000	.000	.700	.000	.000	.000	.000	.000	.000	.643	.625	.719	.438	.417	.500	.438		.733			

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM															
+0 mins.	1	2	0	0	0	0	0	0	0	4	1	1	0	0	0	1
+15 mins.	1	4	0	0	0	0	0	0	0	4	2	2	0	0	1	4
+30 mins.	0	1	0	0	0	0	0	0	0	7	1	1	0	0	0	1
+45 mins.	0	5	0	0	0	0	0	0	0	3	1	1	0	0	1	1
Total Volume	2	12	0	0	0	0	0	0	0	18	5	5	0	0	2	7
% App. Total	14.3	85.7	0	0	0	0	0	0	0	78.3	21.7	28.6	0	0	28.6	
PHF	.500	.600	.000	.000	.000	.000	.000	.000	.000	.643	.625	.500	.000	.000	.438	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	5	5
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3
04:30 PM	1	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	2	3
04:45 PM	2	0	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	4	4
Total	3	4	0	0	7	0	0	0	0	0	4	2	1	6	1	0	0	0	1	1	14	15	15
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	1	1	2	0	0	0	2	1	4	5
05:15 PM	1	1	0	0	2	0	0	0	0	0	1	1	1	2	2	0	0	0	2	1	6	7	7
05:30 PM	1	1	0	0	2	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	4	5	5
05:45 PM	2	0	0	0	2	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	4	4
Total	4	3	0	0	7	0	0	0	0	0	2	3	3	5	5	0	1	0	6	3	18	21	21
Grand Total	7	7	0	0	14	0	0	0	0	0	6	5	4	11	6	0	1	0	7	4	32	36	36
Approach %	50	50	0	0	43.8	0	0	0	0	0	54.5	45.5	0	34.4	85.7	0	14.3	0	21.9	11.1	88.9	88.9	88.9
Total %	21.9	21.9	0	0	43.8	0	0	0	0	0	18.8	15.6	0	34.4	18.8	0	3.1	0	21.9	11.1	88.9	88.9	88.9

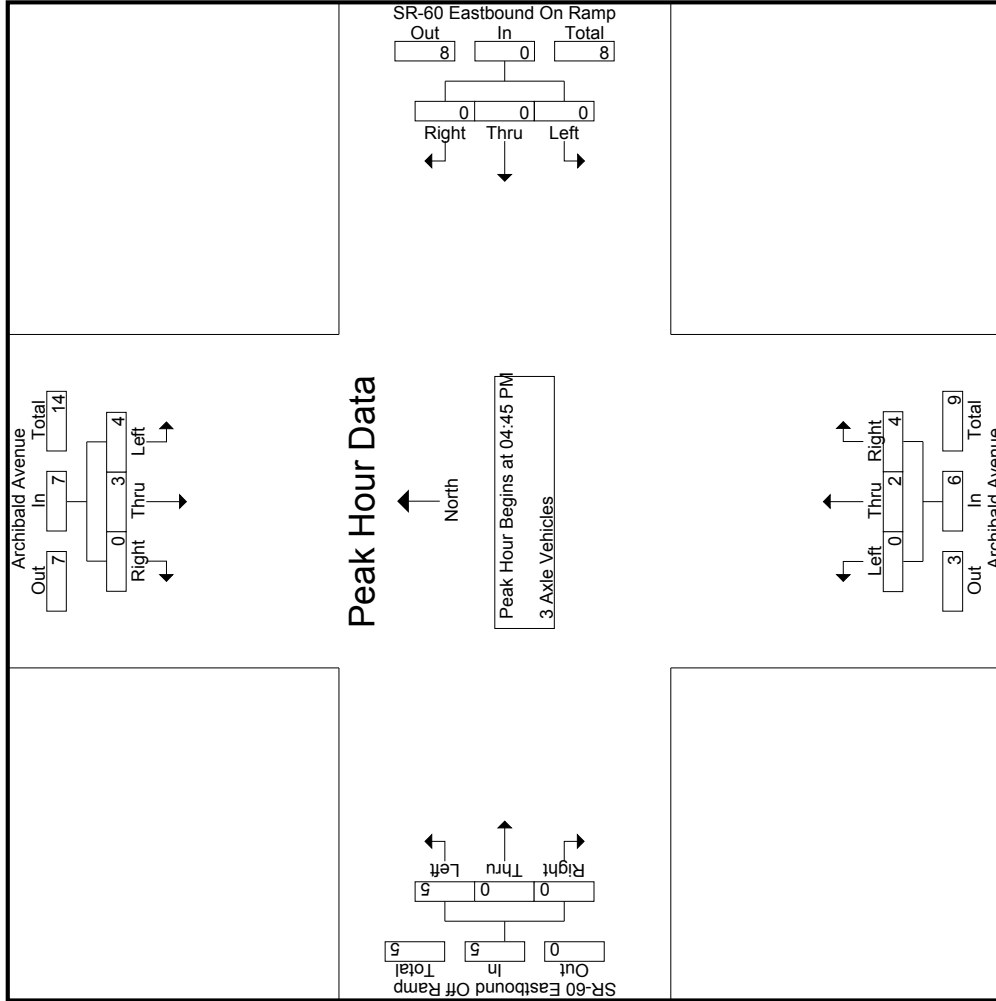
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:45 PM	2	0	0	0	2	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4	4
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	4
05:15 PM	1	1	0	0	2	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	2	6
05:30 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	4
Total Volume	4	3	0	0	7	0	0	0	0	0	0	2	4	6	6	0	0	0	5	0	0	5	18
% App. Total	57.1	42.9	0	0	43.8	0	0	0	0	0	33.3	66.7	0	66.7	100	0	0	0	0	0	0	5	18
PHF	.500	.750	.000	.000	.875	.000	.000	.000	.000	.000	.000	1.00	.750	.625	.625	.000	.000	.000	.000	.000	.625	.750	.750

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
+0 mins.	2	0	0	0	0	0	0	0	0	1	1	1	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	1	2	0	2
+30 mins.	1	1	0	0	0	0	0	0	0	1	1	1	2	0	2
+45 mins.	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1
Total Volume	4	3	0	0	0	0	0	0	0	2	4	4	5	0	5
% App. Total	57.1	42.9	0	0	0	0	0	0	0	33.3	66.7	66.7	100	0	0
PHF	.500	.750	.000	.875	.000	.000	.000	.000	.000	.500	1.000	1.000	.625	.000	.625

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	1	6	0	0	7	0	0	0	0	0	0	1	0	0	1	3	0	1	0	4	0	12	12
04:15 PM	3	7	0	0	10	0	0	0	0	0	0	1	2	2	3	9	0	0	0	9	2	22	24
04:30 PM	2	1	0	0	3	0	0	0	0	0	0	2	1	2	2	8	0	0	0	8	1	13	14
04:45 PM	2	4	0	0	6	0	0	0	0	0	0	1	3	0	4	4	0	1	5	5	1	15	16
Total	8	18	0	0	26	0	0	0	0	0	0	3	7	3	10	24	0	2	1	26	4	62	66
05:00 PM	3	3	0	0	6	0	0	0	0	0	0	5	2	0	7	6	0	0	0	6	0	19	19
05:15 PM	2	3	0	0	5	0	0	0	0	0	2	4	2	6	4	4	0	1	0	5	2	16	18
05:30 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	6
05:45 PM	2	0	0	0	2	0	0	0	0	0	1	0	0	1	10	0	0	0	10	0	0	13	13
Total	8	8	0	0	16	0	0	0	0	0	8	6	2	14	23	0	1	0	24	2	54	56	
Grand Total	16	26	0	0	42	0	0	0	0	0	11	13	5	24	47	0	3	1	50	6	116	122	
Approach %	38.1	61.9	0	0		0	0	0	0	0	45.8	54.2		20.7	94	0	6		43.1	4.9	95.1		
Total %	13.8	22.4	0	0	36.2	0	0	0	0	0	9.5	11.2			40.5	0	2.6						

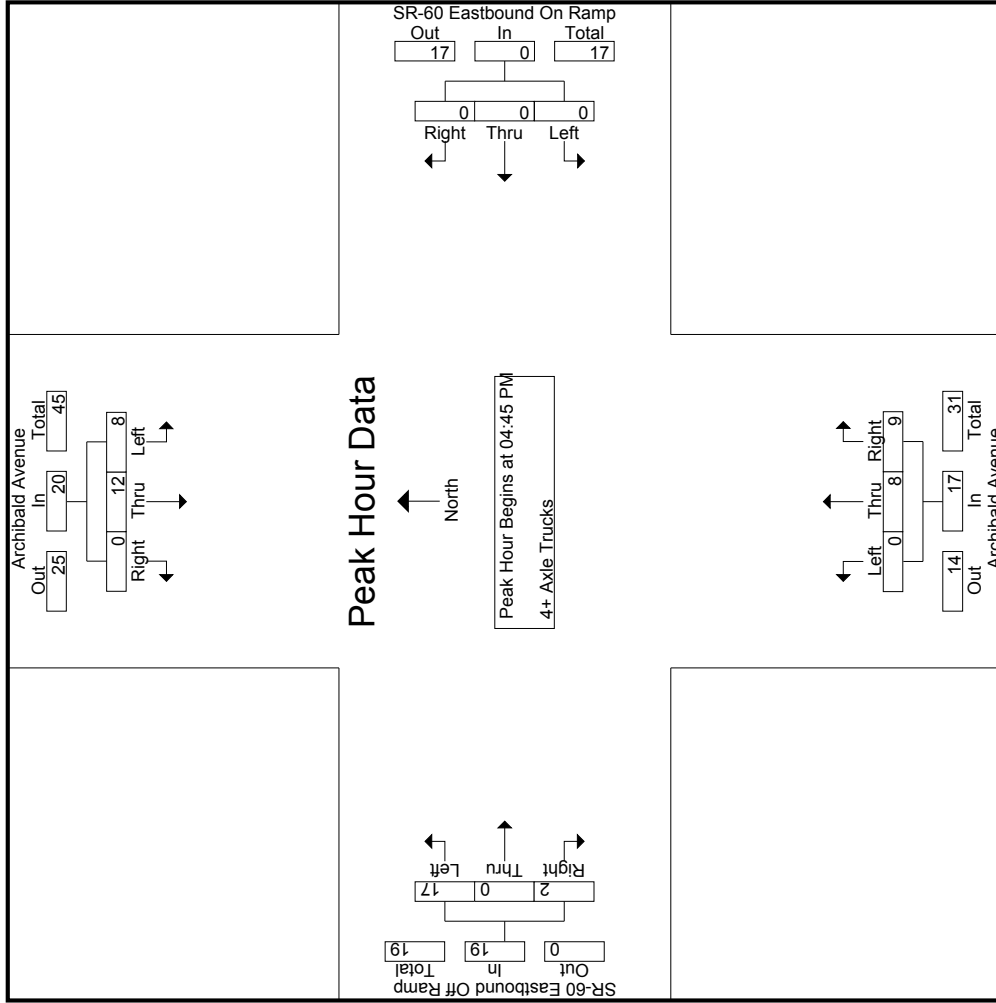
Start Time	Archibald Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Archibald Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
04:45 PM	2	4	0	0	6	0	0	0	0	0	0	1	3	4	4	4	0	1	5	15
05:00 PM	3	3	0	0	6	0	0	0	0	0	0	5	2	7	6	0	0	0	6	19
05:15 PM	2	3	0	0	5	0	0	0	0	0	0	2	4	6	4	0	1	5	16	
05:30 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	3	6	
Total Volume	8	12	0	0	20	0	0	0	0	0	0	8	9	17	17	0	2	19	56	
% App. Total	40	60	0	0		0	0	0	0	0	47.1	52.9		89.5	0	10.5				
PHF	.667	.750	.000	.833		.000	.000	.000	.000	.000	.000	.400	.563	.607	.708	.500	.792			.737

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps
 Weather: Clear

File Name : ONTAR60EPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			SR-60 Eastbound On Ramp Westbound			Archibald Avenue Northbound			SR-60 Eastbound Off Ramp Eastbound			App. Total	Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right					
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:	04:45 PM																
+0 mins.	2	4	0	0	0	0	0	0	0	1	3	3	4	4	0	1	5
+15 mins.	3	3	0	0	0	0	0	0	0	5	2	7	6	7	0	0	6
+30 mins.	2	3	0	0	0	0	0	0	0	2	4	6	4	6	0	1	5
+45 mins.	1	2	0	0	0	0	0	0	0	0	0	0	3	3	0	0	3
Total Volume	8	12	0	0	0	0	0	0	0	8	9	17	17	17	0	2	19
% App. Total	40	60	0	0	0	0	0	0	0	47.1	52.9	89.5	89.5	89.5	0	10.5	19
PHF	.667	.750	.000	.000	.000	.000	.000	.000	.000	.400	.563	.708	.708	.708	.000	.500	.792

Location: Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg SR-60 Eastbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Eastbound Ramps	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	2	0	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	1	3

	North Leg Archibald Avenue	East Leg SR-60 Eastbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Eastbound Ramps	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	2	3

Location: Ontario
 N/S: Archibald Avenue
 E/W: SR-60 Eastbound Ramps



Date: 12/13/2016
 Day: Tuesday

BICYCLES

	North Leg Archibald Avenue	East Leg SR-60 Eastbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Eastbound Ramps	TOTAL
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	3	0	3
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	4	0	4

	North Leg Archibald Avenue	East Leg SR-60 Eastbound Ramps	South Leg Archibald Avenue	West Leg SR-60 Eastbound Ramps	TOTAL
4:00 PM	2	0	0	0	2
4:15 PM	1	0	0	0	1
4:30 PM	0	0	1	0	1
4:45 PM	2	0	0	0	2
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	6	0	1	0	7

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	128	6	0	144	3	1	33	28	37	15	311	5	0	331	4	1	5	3	10	31	522	553
07:15 AM	29	108	2	0	139	8	4	50	44	62	12	331	8	0	351	7	3	3	0	13	44	565	609
07:30 AM	27	131	4	0	162	24	6	70	30	100	8	341	17	1	366	7	2	1	1	10	32	638	670
07:45 AM	40	117	3	1	160	58	9	71	20	138	22	341	19	0	382	12	3	6	4	21	25	701	726
Total	106	484	15	1	605	93	20	224	122	337	57	1324	49	1	1430	30	9	15	8	54	132	2426	2558
08:00 AM	17	136	4	0	157	32	9	41	21	82	23	318	8	0	349	5	1	10	7	16	28	604	632
08:15 AM	12	130	4	0	146	6	3	29	17	38	13	256	6	0	275	2	0	4	4	6	21	465	486
08:30 AM	5	123	3	0	131	4	3	19	11	26	24	226	3	1	253	6	0	4	3	10	15	420	435
08:45 AM	6	121	5	1	132	4	5	16	14	25	11	230	2	1	243	5	0	6	5	11	21	411	432
Total	40	510	16	1	566	46	20	105	63	171	71	1030	19	2	1120	18	1	24	19	43	85	1900	1985
Grand Total	146	994	31	2	1171	139	40	329	185	508	128	2354	68	3	2550	48	10	39	27	97	217	4326	4543
Approach %	12.5	84.9	2.6			27.4	7.9	64.8			5	92.3	2.7			49.5	10.3	40.2					
Total %	3.4	23	0.7			3.2	0.9	7.6			3	54.4	1.6			1.1	0.2	0.9			4.8	95.2	
Passenger Vehicles	141	906	21		1068	134	40	325	681	681	125	2253	68		2449	38	9	37		110	0	0	4308
% Large 2 Axle Vehicles	96.6	91.1	67.7	0	91	96.4	100	98.8	98.4	98.3	97.7	95.7	100	100	95.9	79.2	90	94.9	96.3	88.7	0	0	94.8
Large 2 Axle Vehicles	5	37	5		49	4	0	2	0	7	2	28	0	0	30	5	0	1		6	0	0	92
% Large 2 Axle Vehicles	3.4	3.7	16.1	100	4.2	2.9	0	0.6	0.5	1	1.6	1.2	0	0	1.2	10.4	0	2.6	0	4.8	0	0	2
3 Axle Vehicles	0	19	5		24	1	0	2	0	5	0	23	0	0	23	4	1	1		7	0	0	59
% 3 Axle Vehicles	0	1.9	16.1	0	2	0.7	0	0.6	1.1	0.7	0	1	0	0	0.9	8.3	10	2.6	3.7	5.6	0	0	1.3
4+ Axle Trucks	0	32	0		32	0	0	0	0	0	1	50	0	0	51	1	0	0		1	0	0	84
% 4+ Axle Trucks	0	3.2	0		2.7	0	0	0	0	0	0.8	2.1	0	0	2	2.1	0	0		0.8	0	0	1.8

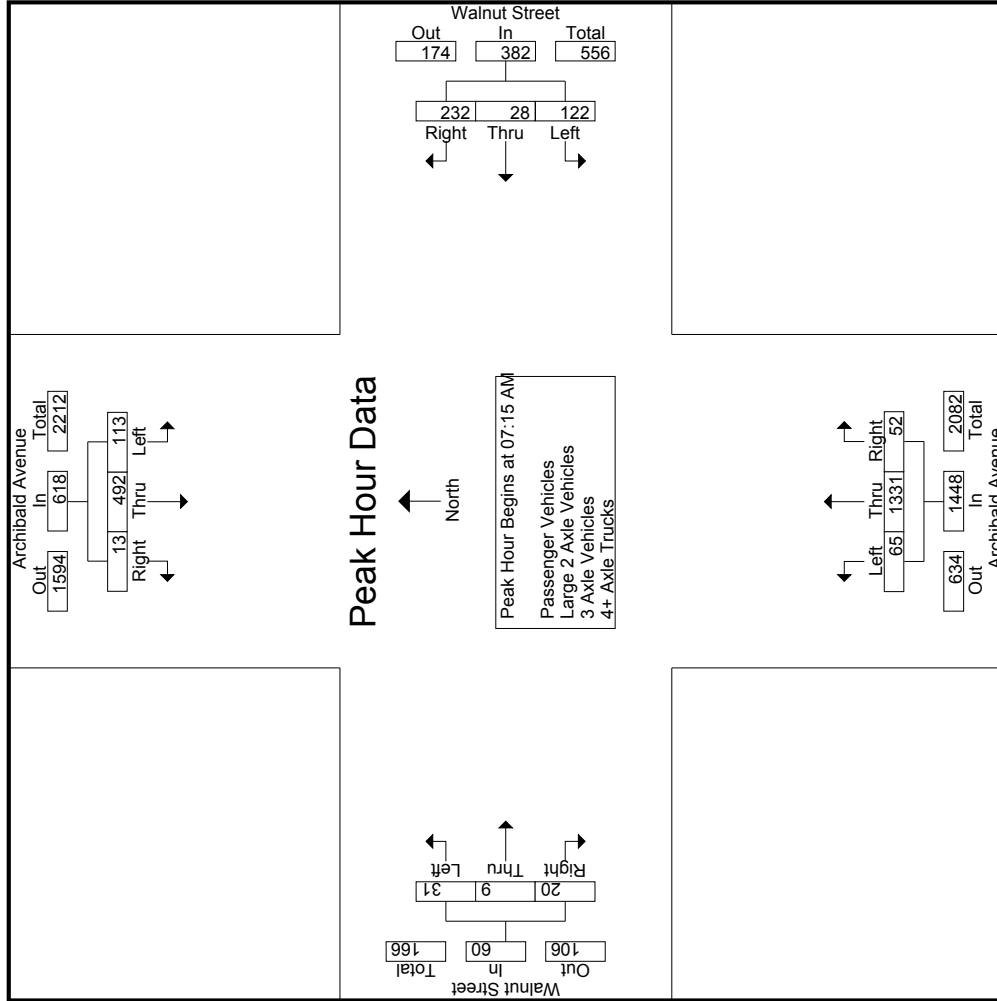
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	29	108	2		139	8	4	50			12	331	8			7	3	3						565
07:30 AM	27	131	4		162	24	6	70			8	341	17			7	2	1						638
07:45 AM	40	117	3		160	58	9	71			22	341	19			12	3	6						701
08:00 AM	17	136	4		157	32	9	41			23	318	8			5	1	10						604
Total Volume	113	492	13		618	122	28	232			65	1331	52			31	9	20						2508
% App. Total	18.3	79.6	2.1		2.1	31.9	7.3	60.7			4.5	91.9	3.6			51.7	15	33.3						
PHF	.706	.904	.813		.954	.526	.778	.817			.707	.976	.684			.646	.750	.500						.894

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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 PO Box 1178
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 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:30 AM														
+0 mins.	27	131	4	162	8	4	50	62	12	331	8	351	7	3	13
+15 mins.	40	117	3	160	24	6	70	100	8	341	17	366	7	2	10
+30 mins.	17	136	4	157	58	9	71	138	22	341	19	382	12	3	21
+45 mins.	12	130	4	146	32	9	41	82	23	318	8	349	5	1	16
Total Volume	96	514	15	625	122	28	232	382	65	1331	52	1448	31	9	20
% App. Total	15.4	82.2	2.4		31.9	7.3	60.7		4.5	91.9	3.6		51.7	15	33.3
PHF	.600	.945	.938	.965	.526	.778	.817	.692	.707	.976	.684	.948	.646	.750	.500

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	109	3	0	122	3	1	33	28	37	13	301	5	0	319	4	1	5	3	10	31	488	519
07:15 AM	28	95	1	0	124	5	4	49	43	58	12	319	8	0	339	4	2	3	0	9	43	530	573
07:30 AM	25	123	3	0	151	24	6	68	29	98	8	330	17	1	355	6	2	1	1	9	31	613	644
07:45 AM	40	108	2	0	150	58	9	71	20	138	22	327	19	0	368	10	3	5	3	18	23	674	697
Total	103	435	9	0	547	90	20	221	120	331	55	1277	49	1	1381	24	8	14	7	46	128	2305	2433
08:00 AM	16	131	3	0	150	31	9	41	21	81	23	299	8	0	330	4	1	9	7	14	28	575	603
08:15 AM	12	115	3	0	130	5	3	28	16	36	12	244	6	0	262	1	0	4	4	5	20	433	453
08:30 AM	4	112	3	0	119	4	3	19	11	26	24	211	3	1	238	5	0	4	3	9	15	392	407
08:45 AM	6	113	3	0	122	4	5	16	14	25	11	222	2	1	235	4	0	6	5	10	20	392	412
Total	38	471	12	0	521	44	20	104	62	168	70	976	19	2	1065	14	1	23	19	38	83	1792	1875
Grand Total	141	906	21	0	1068	134	40	325	182	499	125	2253	68	3	2446	38	9	37	26	84	211	4097	4308
Approch %	13.2	84.8	2		26.1	26.9	8	65.1		12.2	5.1	92.1	2.8		59.7	45.2	10.7	44		2.1	4.9	95.1	
Total %	3.4	22.1	0.5		26.1	3.3	1	7.9		12.2	3.1	55	1.7		59.7	0.9	0.2	0.9		2.1	4.9	95.1	

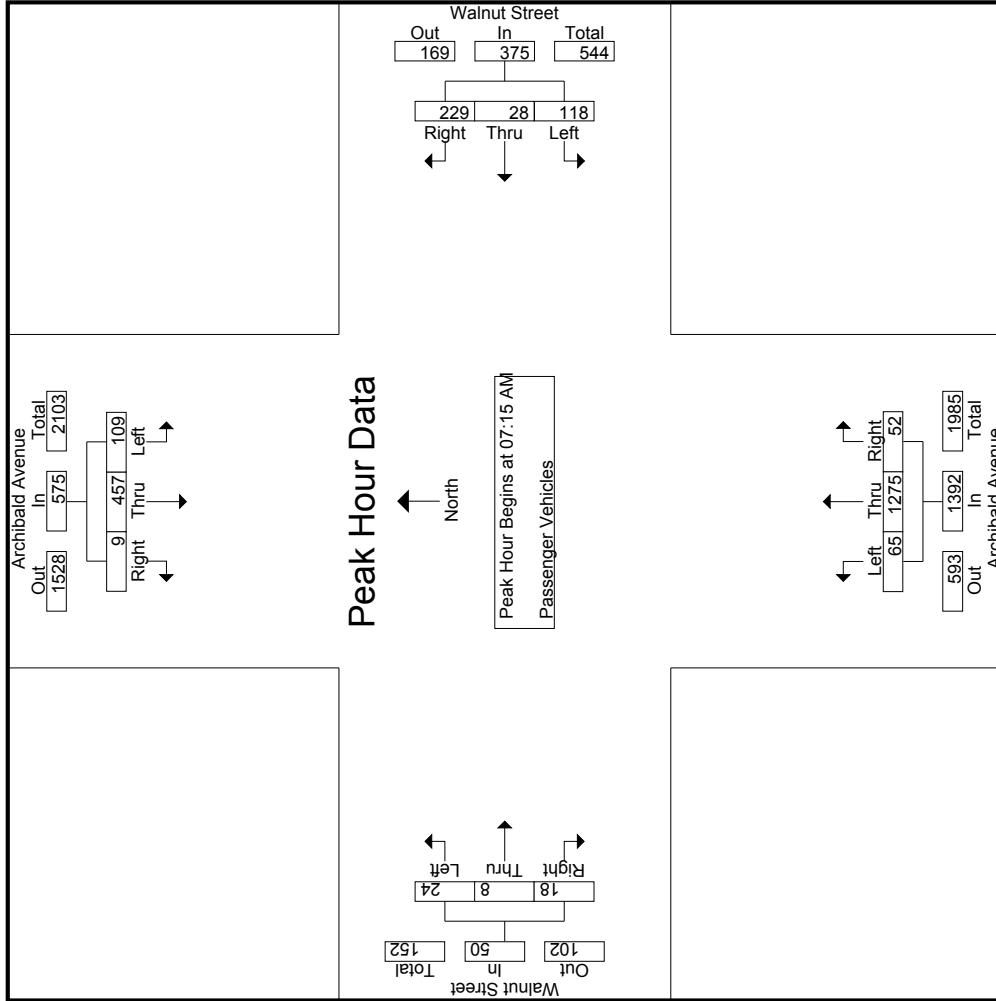
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	28	95	1		124	5	4	49		58	12	319	8		339	4	2	3		9			530
07:30 AM	25	123	3		151	24	6	68		98	8	330	17		355	6	2	1		9			613
07:45 AM	40	108	2		150	58	9	71		138	22	327	19		368	10	3	5		18			674
08:00 AM	16	131	3		150	31	9	41		81	23	299	8		330	4	1	9		14			575
Total Volume	109	457	9		575	118	28	229		375	65	1275	52		1392	24	8	18		50			2392
% App. Total	19	79.5	1.6		26.1	31.5	7.5	61.1		12.2	4.7	91.6	3.7		59.7	48	16	36		2.1			95.1
PHF	.681	.872	.750		.952	.509	.778	.806		.679	.707	.966	.684		.946	.600	.667	.500		.694			.887

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	28	95	1	5	4	49	58	12	319	8	339	4	2	3	9
+15 mins.	25	123	3	24	6	68	98	8	330	17	355	6	2	1	9
+30 mins.	40	108	2	58	9	71	138	22	327	19	368	10	3	5	18
+45 mins.	16	131	3	31	9	41	81	23	299	8	330	4	1	9	14
Total Volume	109	457	9	118	28	229	375	65	1275	52	1392	24	8	18	50
% App. Total	19	79.5	1.6	31.5	7.5	61.1	67.9	4.7	91.6	3.7	94.6	48	16	36	69.4
PHF	.681	.872	.750	.509	.778	.806	.679	.707	.966	.684	.946	.600	.667	.500	.694

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	9	2	0	11	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	15	15
07:15 AM	1	4	0	0	5	2	0	1	1	3	0	2	0	0	2	1	0	0	0	1	1	11	12	12
07:30 AM	2	4	0	0	6	0	0	1	0	1	0	4	0	0	4	1	0	0	0	1	0	12	12	12
07:45 AM	0	3	1	1	4	0	0	0	0	0	0	2	0	0	2	2	0	0	0	2	1	8	9	9
Total	3	20	3	1	26	2	0	2	1	4	1	11	0	0	12	4	0	0	0	4	2	46	48	48
08:00 AM	1	3	0	0	4	1	0	0	0	1	0	6	0	0	6	0	0	1	0	1	0	12	12	12
08:15 AM	0	5	0	0	5	1	0	0	0	1	1	6	0	0	7	1	0	0	0	1	0	14	14	14
08:30 AM	1	6	0	0	7	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	12	12	12
08:45 AM	0	3	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6	6
Total	2	17	2	1	21	2	0	0	0	2	1	17	0	0	18	1	0	1	0	2	1	43	44	44
Grand Total	5	37	5	2	47	4	0	2	1	6	2	28	0	0	30	5	0	1	0	6	3	89	92	92
Approach %	10.6	78.7	10.6		66.7	0	33.3			6.7	93.3	0			83.3	0	16.7			6.7	3.3	96.7		
Total %	5.6	41.6	5.6		52.8	4.5	2.2			6.7	31.5	0			5.6	0	1.1			6.7	3.3	96.7		

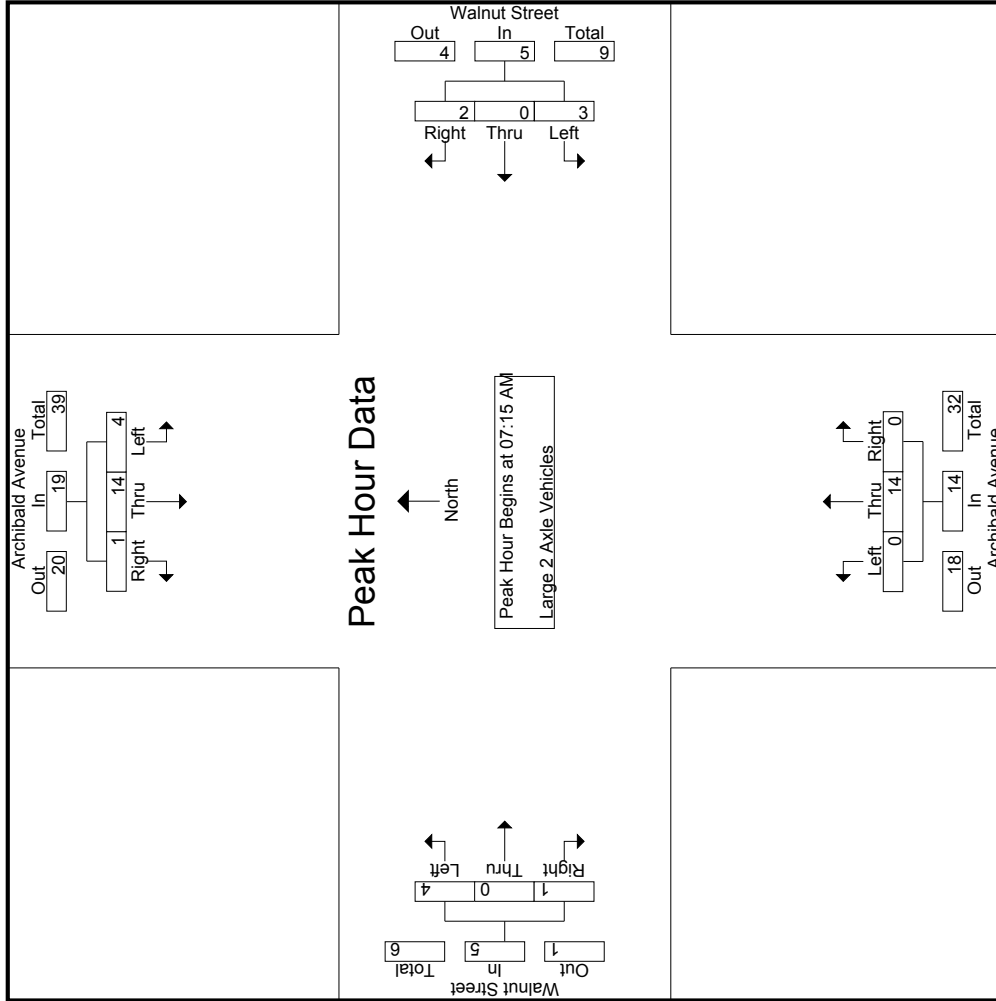
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	1	4	0	0	5	2	0	0	0	1	3	0	0	0	2	1	0	0	0	2	0	0	1	11
07:30 AM	2	4	0	0	6	0	0	0	0	0	0	4	0	0	4	1	0	0	0	0	0	0	1	12
07:45 AM	0	3	1	1	4	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	2	8
08:00 AM	1	3	0	0	4	1	0	0	0	1	0	6	0	0	6	0	0	1	0	1	1	1	1	12
Total Volume	4	14	1	1	19	3	0	2	0	5	0	14	0	0	14	4	0	1	0	1	5	5	43	43
% App. Total	21.1	73.7	5.3		60	0	40			40	0	100	0		20	80	0	20		20	0	.625	.896	.896
PHF	.500	.875	.250		.792	.375	.000	.500		.417	.000	.583	.000		.583	.500	.000	.250		.625	.250	.625	.896	.896

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
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City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM													
+0 mins.	1	4	0	2	0	1	3	0	2	0	1	0	0	1
+15 mins.	2	4	0	0	0	1	1	0	4	0	1	0	0	1
+30 mins.	0	3	1	0	0	0	0	0	2	0	2	0	0	2
+45 mins.	1	3	0	1	0	0	1	0	6	0	0	0	1	1
Total Volume	4	14	1	3	0	2	5	0	14	0	14	0	1	5
% App. Total	21.1	73.7	5.3	60	0	40		0	100	0	80	0	20	
PHF	.500	.875	.250	.375	.000	.500	.417	.000	.583	.000	.500	.000	.250	.625

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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	5	0	5	5
07:15 AM	0	4	1	0	5	0	0	0	0	1	0	5	0	0	5	1	1	0	0	2	0	0	13	0	13	13
07:30 AM	0	2	1	0	3	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	0	0	6	0	6	6
07:45 AM	0	3	1	0	3	0	0	0	0	0	0	5	0	0	5	0	0	1	1	1	1	1	9	1	9	10
Total	0	10	3	0	13	1	0	1	1	2	0	15	0	0	15	1	1	1	1	3	2	33	35	2	33	35
08:00 AM	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	6	0	6	6
08:15 AM	0	5	1	0	6	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	1	8	1	8	9
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	4	0	4	4
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	0	5	0	5	5
Total	0	9	2	0	11	0	0	1	1	1	0	8	0	0	8	3	0	0	0	3	1	23	24	1	23	24
Grand Total	0	19	5	0	24	1	0	2	2	3	0	23	0	0	23	4	1	1	1	6	3	56	59	3	56	59
Approach %	0	79.2	20.8		33.3	0	66.7			5.4	0	100			41.1	66.7	16.7	16.7		10.7	5.1	94.9		5.1	94.9	
Total %	0	33.9	8.9		42.9	1.8	3.6			5.4	0	41.1			41.1	7.1	1.8	1.8		10.7	5.1	94.9		5.1	94.9	

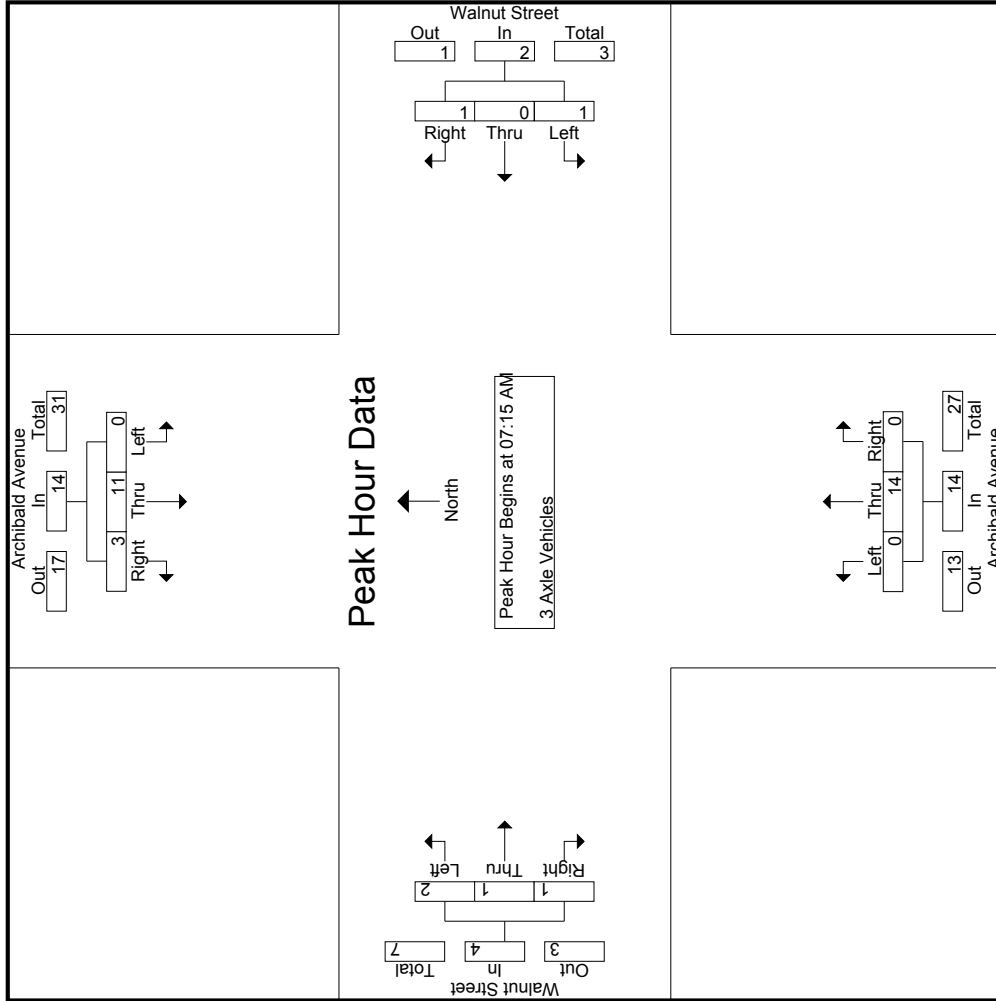
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:15 AM	0	4	1	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	5	0	5	5
07:30 AM	0	2	1	0	3	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	0	0	6	0	6	6
07:45 AM	0	3	1	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	6	0	6	6
08:00 AM	0	2	1	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	6	0	6	6
Total Volume	0	11	3		14	1	0	1		5.4	0	14			14	1	1	1		3	2	33	35	2	33	35
% App. Total	0	78.6	21.4		33.3	50	0	50		5.4	0	100			41.1	66.7	16.7	16.7		10.7	5.1	94.9		5.1	94.9	
PHF	.000	.688	.750		.700	.250	.000	.250		.250	.000	.700			.700	.500	.250	.250		.500	.500	.654		.500	.654	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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 PO Box 1178
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 (951) 268-6268

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
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City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total				
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM															
+0 mins.	0	4	1	5	1	0	0	0	1	0	5	0	1	0	2	
+15 mins.	0	2	1	3	0	0	1	1	0	2	0	0	0	0	0	
+30 mins.	0	3	0	3	0	0	0	0	0	5	0	0	0	1	1	
+45 mins.	0	2	1	3	0	0	0	0	0	2	0	0	1	0	1	
Total Volume	0	11	3	14	1	0	1	2	0	14	0	0	2	1	4	
% App. Total	0	78.6	21.4		50	0	50		0	100	0	0	50	25	25	
PHF	.000	.688	.750	.700	.250	.000	.250	.500	.000	.700	.000	.000	.500	.250	.250	.500

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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	0	9	0	0	9	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	14	0	14	14
07:15 AM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	0	0	11	0	11	11
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	7	0	7	7
07:45 AM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	10	0	10	10
Total	0	19	0	0	19	0	0	0	0	0	1	21	0	0	22	1	0	0	0	1	0	0	42	0	42	42
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	11	0	11	11
08:15 AM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	10	0	10	10
08:30 AM	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	12	0	12	12
08:45 AM	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	9	0	9	9
Total	0	13	0	0	13	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	0	42	0	42	42
Grand Total	0	32	0	0	32	0	0	0	0	0	1	50	0	0	51	1	0	0	0	1	0	0	84	0	84	84
Approach %	0	100	0	0	38.1	0	0	0	0	0	2	98	0	0	60.7	100	0	0	0	1.2	0	0	100	0	100	100
Total %	0	38.1	0	0	38.1	0	0	0	0	0	1.2	59.5	0	0	60.7	1.2	0	0	0	1.2	0	0	100	0	100	100

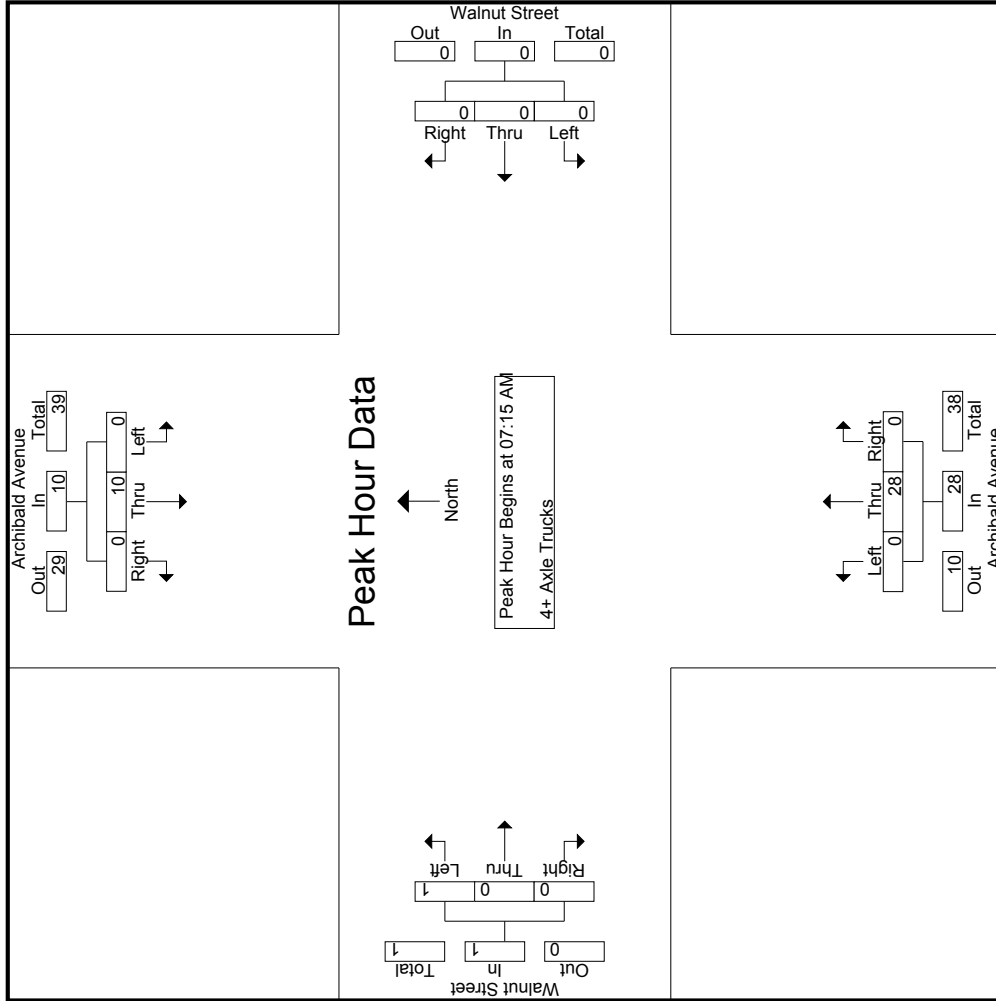
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:15 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	10	0	0	10	0	0	0	0	0	0	28	0	0	28	1	0	0	0	1	0	0	1	0	1	39
% App. Total	0	100	0	0	50	0	0	0	0	0	0	100	0	0	63.6	100	0	0	0	1	0	0	100	0	100	100
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.636	.000	.000	.636	.250	.000	.000	.000	.250	.000	.250	.886			

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAAM
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City of Ontario
 N/S: Archibald Avenue
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 Weather: Clear

File Name : ONTARWAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM													
+0 mins.	0	5	0	0	0	0	0	0	5	0	0	0	0	1
+15 mins.	0	2	0	0	0	0	0	0	5	0	0	0	0	0
+30 mins.	0	3	0	0	0	0	0	0	7	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	11	0	0	0	0	0
Total Volume	0	10	0	0	0	0	0	0	28	0	0	0	0	1
% App. Total	0	100	0	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.500	.000	.000	.000	.000	.000	.000	.636	.000	.000	.000	.000	.250

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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound						Walnut Street Westbound						Archibald Avenue Northbound						Walnut Street Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	
04:00 PM	27	225	1	0	253	40	27	30	4	188	7	0	208	11	2	19	15	32	42	533	575										
04:15 PM	23	229	5	0	257	31	22	24	5	180	11	0	201	3	2	7	7	12	29	501	530										
04:30 PM	20	212	2	0	234	8	15	8	6	200	5	1	217	19	1	10	9	30	18	510	528										
04:45 PM	28	264	4	0	296	12	6	14	4	209	8	0	231	2	2	13	10	17	14	576	590										
Total	98	930	12	0	1040	31	18	83	61	132	49	777	31	1	857	35	7	49	103	2120	2223										
05:00 PM	23	239	7	1	269	23	11	9	3	197	10	0	228	6	1	5	5	12	15	532	547										
05:15 PM	24	311	3	0	338	23	14	14	3	213	7	0	233	6	2	7	6	15	20	609	629										
05:30 PM	39	315	1	0	355	26	13	13	6	208	3	0	224	1	2	9	8	12	21	617	638										
05:45 PM	23	284	6	0	313	31	20	15	8	194	8	0	218	4	2	9	7	15	22	577	599										
Total	109	1149	17	1	1275	103	64	51	26	13	64	28	0	903	17	7	30	26	78	2335	2413										
Grand Total	207	2079	29	1	2315	235	112	147	112	1589	59	1	1760	52	14	79	67	145	181	4455	4636										
Approach %	8.9	89.8	1.3			24.3	13.2	62.6		6.4	90.3	3.4		35.9	9.7	54.5															
Total %	4.6	46.7	0.7			1.3	0.7	3.3		2.5	35.7	1.3		1.2	0.3	1.8															
Passenger Vehicles	206	2016	26		2249	343	31	145	57	1511	59		1683	51	13	78		208	0	0	4483										
% Passenger Vehicles	99.5	97	89.7	100	97.1	100	100	98.6	98.2	98.8	100	100	100	95.1	92.9	98.7	98.5	98.1	98.1	98.1	96.7										
Large 2 Axle Vehicles	0	28	3		31	4	2	2	0	46	0		46	1	1	1		4	0	0	85										
% Large 2 Axle Vehicles	0	1.3	10.3	0	1.3	1.2	0	1.4	1.8	1.2	0	0	2.6	1.9	7.1	1.3	1.5	1.9	0	0	1.8										
3 Axle Vehicles	1	11	0		12	0	0	0	0	8	0		8	0	0	0		0	0	0	20										
% 3 Axle Vehicles	0.5	0.5	0		0.5	0	0	0	0	0.5	0		0.5	0	0	0		0	0	0	0.4										
4+ Axle Trucks	0	24	0		24	0	0	0	0	24	0		24	0	0	0		0	0	0	48										
% 4+ Axle Trucks	0	1.2	0		1	0	0	0	0	1.5	0		1.4	0	0	0		0	0	0	1										

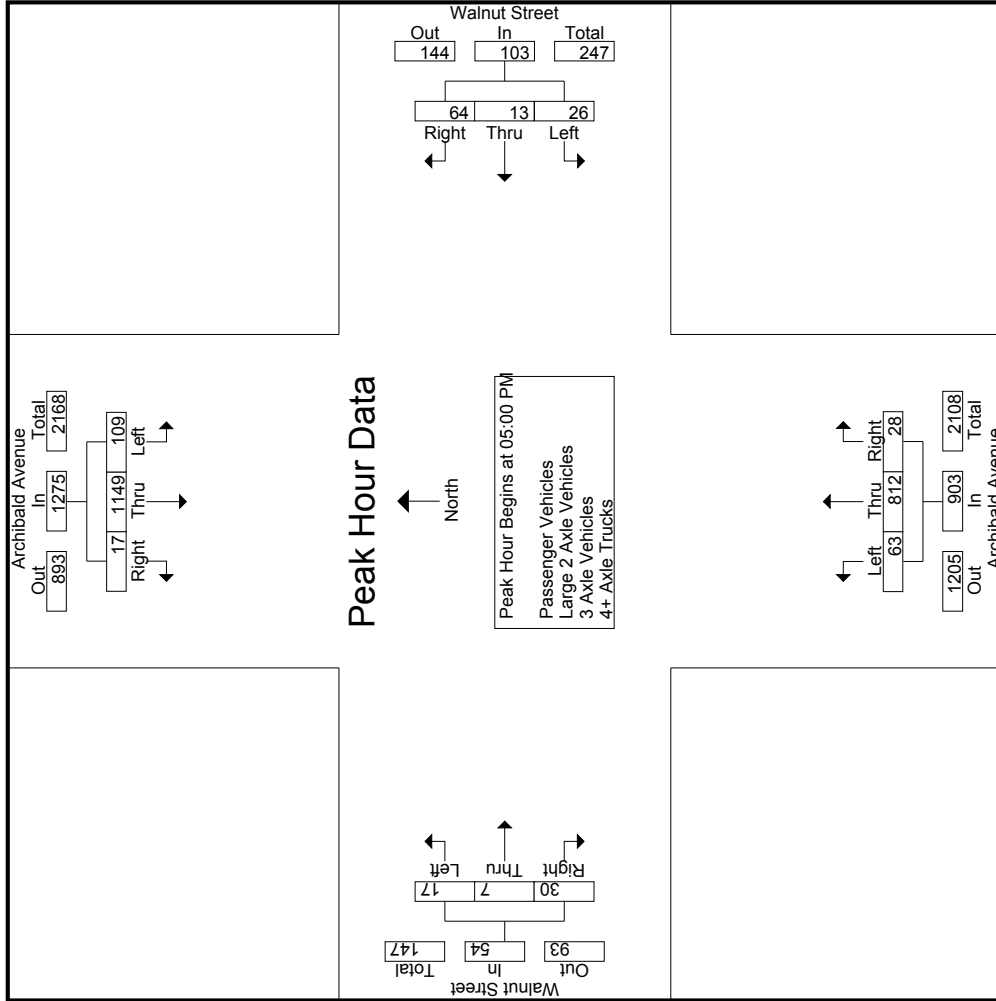
Start Time	Archibald Avenue Southbound						Walnut Street Westbound						Archibald Avenue Northbound						Walnut Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total	Exclu. Total	Inclu. Total
05:00 PM	23	239	7		269	11	3	3	9	23	21	197	10	228	6	1	5	12	15	532	547									
05:15 PM	24	311	3		338	16	4	3	3	213	7	0	233	6	2	7	6	15	20	609	629									
05:30 PM	39	315	1		355	17	6	3	6	208	3	0	224	1	2	9	8	12	21	617	638									
05:45 PM	23	284	6		313	20	8	3	8	194	8	0	218	4	2	9	7	15	22	577	599									
Total	109	1149	17		1275	64	26	13	26	13	64	28	0	903	17	7	30	26	78	2335	2413									
% App. Total	8.5	90.1	1.3			12.6	62.1		7	89.9	3.1		31.5	13	55.6															
PHF	.699	.912	.607			.813	.800		.722	.831	.750	.953	.700	.969	.833															

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
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City of Ontario
 N/S: Archibald Avenue
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Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	05:00 PM														
+0 mins.	23	239	7	6	4	30	40	14	209	8	231	11	2	19	32
+15 mins.	24	311	3	5	2	24	31	21	197	10	228	3	2	7	12
+30 mins.	39	315	1	8	6	15	29	13	213	7	233	19	1	10	30
+45 mins.	23	284	6	12	6	14	32	13	208	3	224	2	2	13	17
Total Volume	109	1149	17	31	18	83	132	61	827	28	916	35	7	49	91
% App. Total	8.5	90.1	1.3	23.5	13.6	62.9	82.5	6.7	90.3	3.1	98.3	38.5	7.7	53.8	91
PHF	.699	.912	.607	.646	.750	.692	.825	.726	.971	.700	.983	.461	.875	.645	.711

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Groups Printed- Passenger Vehicles

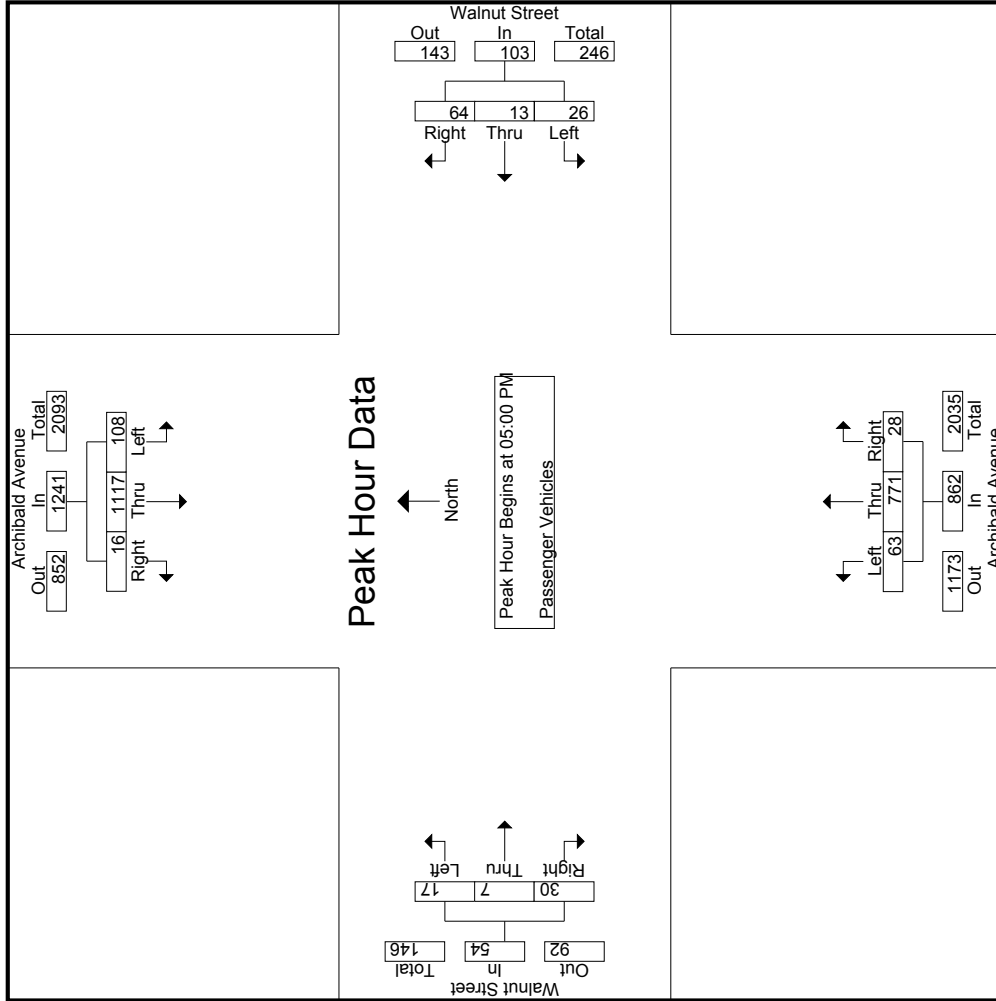
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	27	217	1	0	245	6	4	30	27	40	13	177	7	0	197	11	1	19	15	31	42	513	555
04:15 PM	23	221	3	0	247	5	2	22	20	29	10	170	11	0	191	2	2	7	7	11	27	478	505
04:30 PM	20	206	2	0	228	8	6	15	8	29	12	192	5	1	209	19	1	9	8	29	17	495	512
04:45 PM	28	255	4	0	287	12	6	14	4	32	14	201	8	0	223	2	2	13	10	17	14	559	573
Total	98	899	10	0	1007	31	18	81	59	130	49	740	31	1	820	34	6	48	40	88	100	2045	2145
05:00 PM	23	232	7	1	262	9	3	11	9	23	21	189	10	0	220	6	1	5	5	12	15	517	532
05:15 PM	23	301	2	0	326	3	4	16	14	23	13	203	7	0	223	6	2	7	6	15	20	587	607
05:30 PM	39	308	1	0	348	6	3	17	13	26	13	197	3	0	213	1	2	9	8	12	21	599	620
05:45 PM	23	276	6	0	305	8	3	20	15	31	16	182	8	0	206	4	2	9	7	15	22	557	579
Total	108	1117	16	1	1241	26	13	64	51	103	63	771	28	0	862	17	7	30	26	54	78	2260	2338
Grand Total	206	2016	26	1	2248	57	31	145	110	233	112	1511	59	1	1682	51	13	78	66	142	178	4305	4483
Approch %	9.2	89.7	1.2		52.2	24.5	13.3	62.2		5.4	6.7	89.8	3.5		39.1	35.9	9.2	54.9		3.3	4	96	
Total %	4.8	46.8	0.6			1.3	0.7	3.4			2.6	35.1	1.4			1.2	0.3	1.8					

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	23	232	7		262	9	3	11		23	21	189	10		220	6	1	5		12	15	517	532
05:15 PM	23	301	2		326	3	4	16		23	13	203	7		223	6	2	7		15	20	587	607
05:30 PM	39	308	1		348	6	3	17		26	13	197	3		213	1	2	9		12	21	599	620
05:45 PM	23	276	6		305	8	3	20		31	16	182	8		206	4	2	9		15	22	557	579
Total Volume	108	1117	16		1241	26	13	64		103	63	771	28		862	17	7	30		54	78	2260	2338
% App. Total	8.7	89.7	1.3		52.2	25.2	12.6	62.1		5.4	6.7	89.4	3.2		39.1	31.5	13	55.6		3.3	4	96	
PHF	.692	.907	.571		.892	.722	.813	.800		.831	.750	.950	.700		.966	.708	.875	.833		.900		.943	

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Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total				
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM			05:00 PM			05:00 PM			05:00 PM			05:00 PM			
+0 mins.	23	232	7	262	9	3	11	23	21	189	10	220	6	1	5	12
+15 mins.	23	301	2	326	3	4	16	23	13	203	7	223	6	2	7	15
+30 mins.	39	308	1	348	6	3	17	26	13	197	3	213	1	2	9	12
+45 mins.	23	276	6	305	8	3	20	31	16	182	8	206	4	2	9	15
Total Volume	108	1117	16	1241	26	13	64	103	63	771	28	862	17	7	30	54
% App. Total	8.7	90	1.3	.892	25.2	12.6	62.1	7.3	89.4	3.2	31.5	13	55.6	.875	.833	.900
PHF	.692	.907	.571	.892	.722	.813	.800	.831	.750	.950	.700	.966	.708	.875	.833	.900

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File Name : ONTARWAPM
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Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				Walnut Street Westbound				Archibald Avenue Northbound				Walnut Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	6	0	0	6	0	0	0	0	0	0	9	0	0	1	0	16	16
04:15 PM	0	5	2	0	7	0	0	2	2	2	0	6	0	0	1	2	16	18
04:30 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	1	1	1	8	9
04:45 PM	0	3	0	0	3	0	0	0	0	0	3	0	0	0	0	0	6	6
Total	0	16	2	0	18	0	0	2	2	2	0	23	0	1	3	3	46	49
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	5	0	0	0	0	8	8
05:15 PM	0	3	1	0	4	0	0	0	0	0	0	7	0	0	0	0	11	11
05:30 PM	0	2	0	0	2	0	0	0	0	0	6	0	0	0	0	0	8	8
05:45 PM	0	4	0	0	4	0	0	0	0	0	5	0	0	0	0	0	9	9
Total	0	12	1	0	13	0	0	0	0	0	23	0	0	0	0	0	36	36
Grand Total	0	28	3	0	31	0	0	2	2	2	0	46	0	0	3	3	82	85
Approach %	0	90.3	9.7		37.8	0	0	100			0	100	0		33.3	33.3	33.3	
Total %	0	34.1	3.7			0	0	2.4		2.4	0	56.1	0		1.2	1.2	1.2	96.5

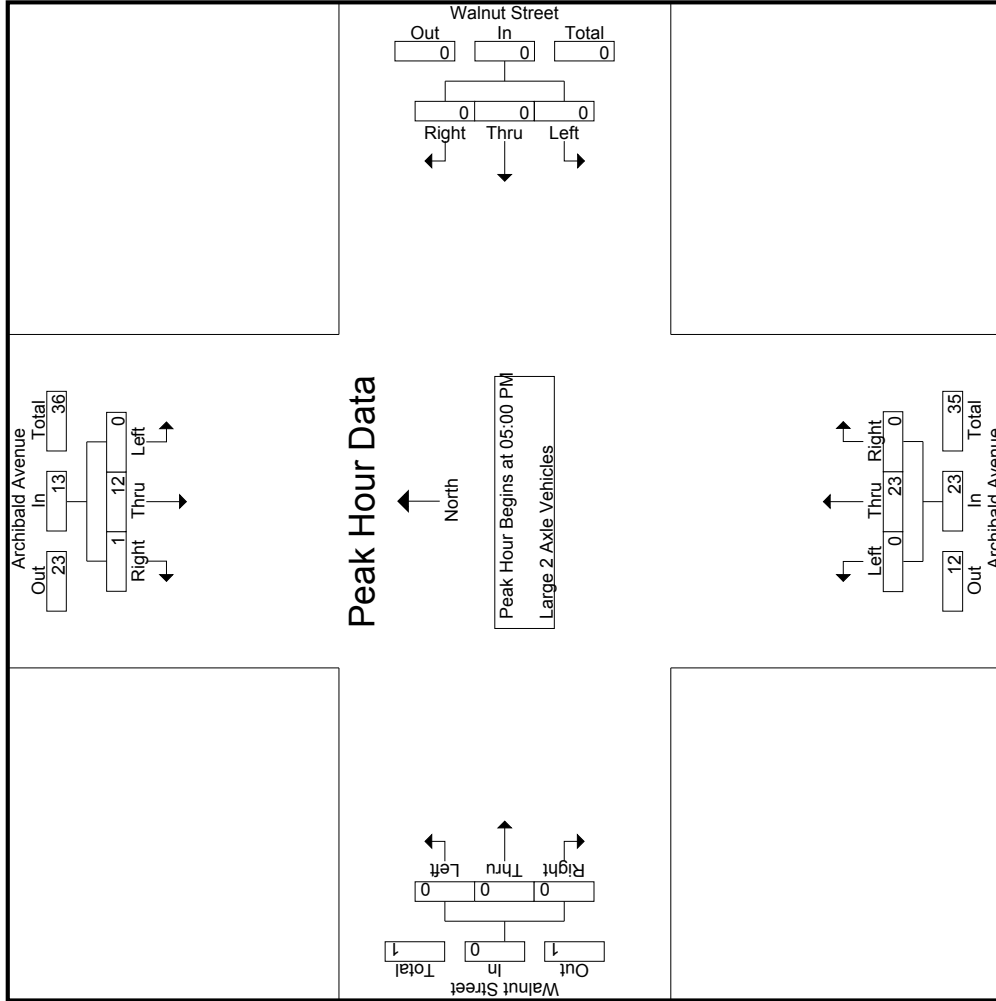
Start Time	Archibald Avenue Southbound				Walnut Street Westbound				Archibald Avenue Northbound				Walnut Street Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	5	0	0	0	0	0	0
05:15 PM	0	3	1	0	4	0	0	0	0	0	0	7	0	0	0	0	0	0
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	6	0	0	0	0	0	0
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	5	0	0	0	0	0	0
Total Volume	0	12	1		13	0	0	0		0	0	23	0	0	0	0	0	0
% App. Total	0	92.3	7.7			0	0	100			0	100	0		0	0	0	
PHF	.000	.750	.250		.813	.000	.000	.000		.000	.000	.821	.000	.000	.000	.000	.000	.818

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			05:00 PM			05:00 PM			05:00 PM				
+0 mins.	0	3	0	0	0	0	0	0	5	0	0	0	0	0
+15 mins.	0	3	1	0	0	0	0	0	7	0	0	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	6	0	0	0	0	0
+45 mins.	0	4	0	0	0	0	0	0	5	0	0	0	0	0
Total Volume	0	12	1	0	0	0	0	0	23	0	0	0	0	0
% App. Total	0	92.3	7.7	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.750	.250	.813	.000	.000	.000	.000	.821	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3	3
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3	3
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	6	0	0	6	0	0	0	0	0	2	2	0	0	2	0	0	0	0	0	0	8	8	8
05:00 PM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	3	3
05:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:45 PM	0	2	0	0	2	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	6	6	6
Total	1	5	0	0	6	0	0	0	0	0	6	6	0	0	6	0	0	0	0	0	0	12	12	12
Grand Total	1	11	0	0	12	0	0	0	0	0	8	8	0	0	8	0	0	0	0	0	0	20	20	20
Approach %	8.3	91.7	0			0	0	0			100	0	0		40	0	0	0			0	100	0	0
Total %	5	55	0			0	0	0			40	0	0		40	0	0	0			0	100	0	0

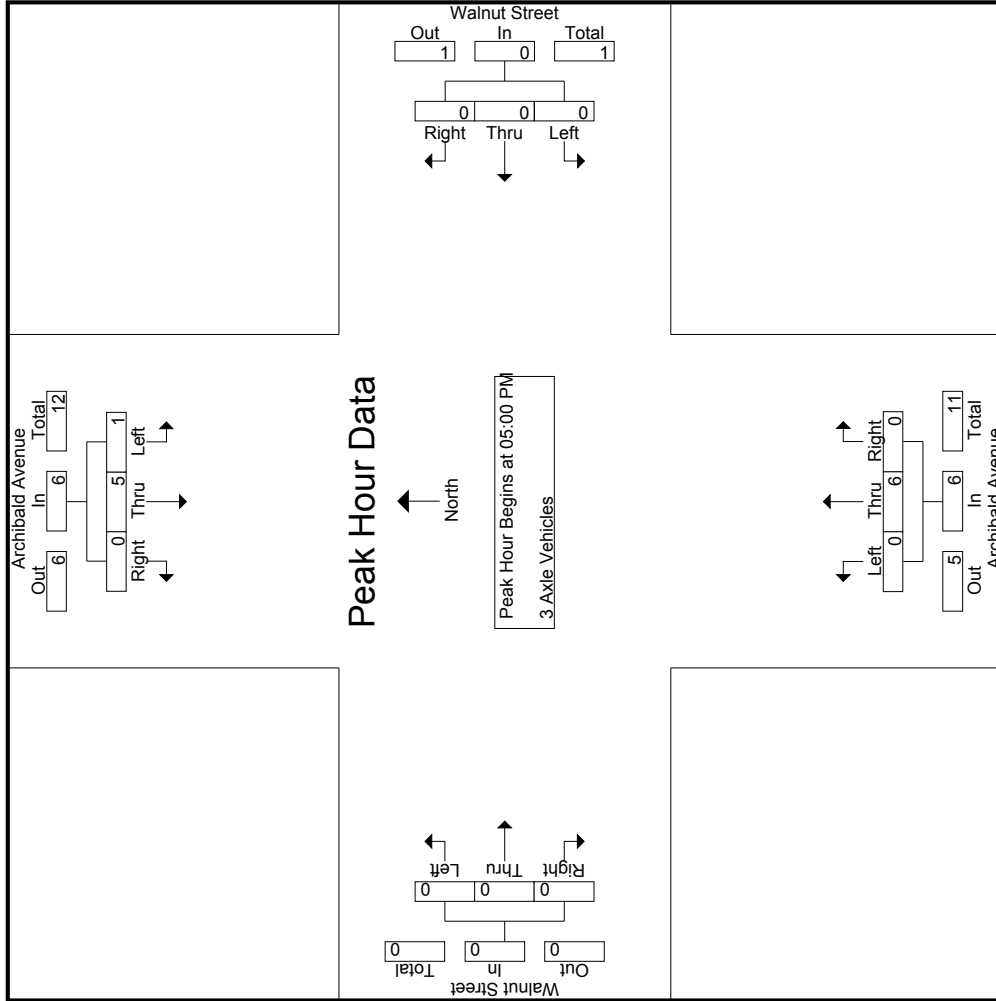
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	0	2	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	6	6	6
Total Volume	1	5	0	0	6	0	0	0	0	0	6	6	0	0	6	0	0	0	0	0	0	12	12	12
% App. Total	16.7	83.3	0			0	0	0			100	0	0		40	0	0	0			0	100	0	0
PHF	.250	.625	.000		.750	.000	.000	.000		.000	.375	.000	.375	.000	.375	.000	.000	.000		.000	.000	.500	.500	.500

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			05:00 PM			05:00 PM			05:00 PM				
+0 mins.	0	2	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	1	0	0	0	0	0	0	0	1	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	4	0	0	0	0	0
Total Volume	1	5	0	0	0	0	0	0	6	0	0	0	0	0
% App. Total	16.7	83.3	0	0	0	0	0	0	100	0	0	0	0	0
PHF	.250	.625	.000	.750	.000	.000	.000	.000	.375	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	4	4
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	6	6
04:45 PM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	10	10
Total	0	9	0	0	9	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	21	21
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	4
05:15 PM	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	9	9
05:30 PM	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	9	9
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	5	5
Total	0	15	0	0	15	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	27	27
Grand Total	0	24	0	0	24	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	48	48
Approach %	0	100	0	0	50	0	0	0	0	0	0	100	0	0	50	0	0	0	0	0	0	0	100	100
Total %	0	50	0	0	50	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	100	100

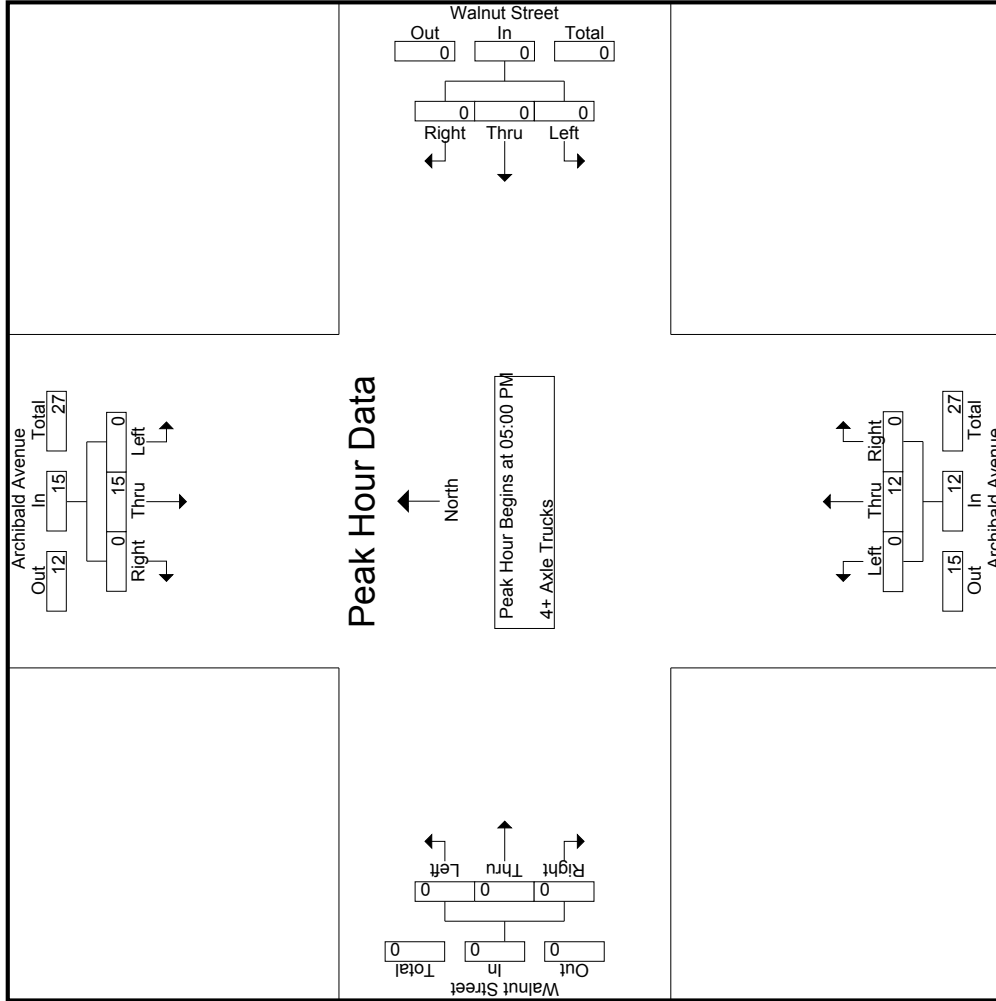
Start Time	Archibald Avenue Southbound					Walnut Street Westbound					Archibald Avenue Northbound					Walnut Street Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
05:15 PM	0	7	0	0	7	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0
05:30 PM	0	4	0	0	4	0	0	0	0	0	0	5	5	0	10	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	0	0	0	0
Total Volume	0	15	0	0	15	0	0	0	0	0	0	12	12	0	24	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	50	0	0	0	0	0	0	100	100	0	50	0	0	0	0	0	0	0	0	0
PHF	.000	.536	.000	.000	.536	.000	.000	.000	.000	.000	.000	.600	.600	.000	.600	.000	.000	.000	.000	.000	.000	.000	.750	.750

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street
 Weather: Clear

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARWAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 EW: Walnut Street
 Weather: Clear

Start Time	Archibald Avenue Southbound			Walnut Street Westbound			Archibald Avenue Northbound			Walnut Street Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			05:00 PM			05:00 PM			05:00 PM				
+0 mins.	0	2	0	0	0	0	0	0	2	0	0	0	0	0
+15 mins.	0	7	0	0	0	0	0	0	2	0	0	0	0	0
+30 mins.	0	4	0	0	0	0	0	0	5	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	3	0	0	0	0	0
Total Volume	0	15	0	0	0	0	0	0	12	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	100	0	0	0	0	0
PHF	.000	.536	.000	.000	.000	.000	.000	.000	.600	.000	.000	.000	.000	.000

Location: Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street



Date: 12/7/2016
 Day: Wednesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg Walnut Street	South Leg Archibald Avenue	West Leg Walnut Street	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1
7:30 AM	0	3	6	0	9
7:45 AM	0	7	4	0	11
8:00 AM	0	1	1	0	2
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	11	11	1	24

	North Leg Archibald Avenue	East Leg Walnut Street	South Leg Archibald Avenue	West Leg Walnut Street	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	5	5
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	3	3
5:15 PM	0	1	0	1	2
5:30 PM	4	0	0	0	4
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	5	1	0	10	16

Location: Ontario
 N/S: Archibald Avenue
 E/W: Walnut Street



Date: 12/7/2016
 Day: Wednesday

BICYCLES

	North Leg Archibald Avenue	East Leg Walnut Street	South Leg Archibald Avenue	West Leg Walnut Street	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	0	1	0	3	4

	North Leg Archibald Avenue	East Leg Walnut Street	South Leg Archibald Avenue	West Leg Walnut Street	TOTAL
4:00 PM	0	0	0	2	2
4:15 PM	0	0	0	1	1
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	4	6

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Thu, Apr 21, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST: Ontario
Archibald
Riverside

PROJECT #:
LOCATION #:
CONTROL: SC0916
31
SIGNAL

NOTES:

PM	▲ N
PM	← W
MD	→ E
OTHER	▼ S
OTHER	

Add U-Turns to Left Turns

LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	46	166	21	31	54	24	21	72	22	22	86	44	609
7:15 AM	43	186	30	41	67	22	29	69	17	32	90	59	685
7:30 AM	50	224	28	48	84	46	43	92	23	20	121	60	839
7:45 AM	66	210	33	42	64	58	59	69	30	34	108	55	828
8:00 AM	49	181	24	30	84	55	33	41	17	18	100	48	680
8:15 AM	55	171	19	30	68	36	31	53	27	21	64	27	602
8:30 AM	44	165	28	24	69	20	22	51	20	24	43	27	537
8:45 AM	43	137	15	32	48	16	28	39	24	31	73	43	529
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	396	1,440	198	278	538	277	266	486	180	202	685	363	5,309
APPROACH %	19%	71%	10%	25%	49%	25%	29%	52%	19%	16%	55%	29%	
APP/DEPART	2,034	/	2,072	1,093	/	947	932	/	959	1,250	/	1,331	0

U-TURNS				
NB	SB	EB	WB	TTL
5	0	0	0	5
5	0	0	0	5
3	0	0	0	3
1	1	0	0	2
5	0	0	0	5
2	0	0	0	2
4	0	0	0	4
2	2	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	3	0	0	30

RTOR			
NRR	SRR	ERR	WRR
4	7	9	17
0	7	8	24
1	20	3	21
4	23	11	24
4	16	8	15
0	12	12	16
4	12	9	14
0	10	13	16
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
17	107	73	147

LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	46	166	21	31	54	24	21	72	22	22	86	44	609
7:15 AM	43	186	30	41	67	22	29	69	17	32	90	59	685
7:30 AM	50	224	28	48	84	46	43	92	23	20	121	60	839
7:45 AM	66	210	33	42	64	58	59	69	30	34	108	55	828
8:00 AM	49	181	24	30	84	55	33	41	17	18	100	48	680
8:15 AM	55	171	19	30	68	36	31	53	27	21	64	27	602
8:30 AM	44	165	28	24	69	20	22	51	20	24	43	27	537
8:45 AM	43	137	15	32	48	16	28	39	24	31	73	43	529
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	396	1,440	198	278	538	277	266	486	180	202	685	363	5,309
APPROACH %	19%	71%	10%	25%	49%	25%	29%	52%	19%	16%	55%	29%	
APP/DEPART	2,034	/	2,072	1,093	/	947	932	/	959	1,250	/	1,331	0

U-TURNS				
NB	SB	EB	WB	TTL
5	0	0	0	5
5	0	0	0	5
3	0	0	0	3
1	1	0	0	2
5	0	0	0	5
2	0	0	0	2
4	0	0	0	4
2	2	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	3	0	0	30

RTOR			
NRR	SRR	ERR	WRR
4	7	9	17
0	7	8	24
1	20	3	21
4	23	11	24
4	16	8	15
0	12	12	16
4	12	9	14
0	10	13	16
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
17	107	73	147

LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	46	166	21	31	54	24	21	72	22	22	86	44	609
7:15 AM	43	186	30	41	67	22	29	69	17	32	90	59	685
7:30 AM	50	224	28	48	84	46	43	92	23	20	121	60	839
7:45 AM	66	210	33	42	64	58	59	69	30	34	108	55	828
8:00 AM	49	181	24	30	84	55	33	41	17	18	100	48	680
8:15 AM	55	171	19	30	68	36	31	53	27	21	64	27	602
8:30 AM	44	165	28	24	69	20	22	51	20	24	43	27	537
8:45 AM	43	137	15	32	48	16	28	39	24	31	73	43	529
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	396	1,440	198	278	538	277	266	486	180	202	685	363	5,309
APPROACH %	19%	71%	10%	25%	49%	25%	29%	52%	19%	16%	55%	29%	
APP/DEPART	2,034	/	2,072	1,093	/	947	932	/	959	1,250	/	1,331	0

U-TURNS				
NB	SB	EB	WB	TTL
5	0	0	0	5
5	0	0	0	5
3	0	0	0	3
1	1	0	0	2
5	0	0	0	5
2	0	0	0	2
4	0	0	0	4
2	2	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	3	0	0	30

RTOR			
NRR	SRR	ERR	WRR
4	7	9	17
0	7	8	24
1	20	3	21
4	23	11	24
4	16	8	15
0	12	12	16
4	12	9	14
0	10	13	16
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
17	107	73	147

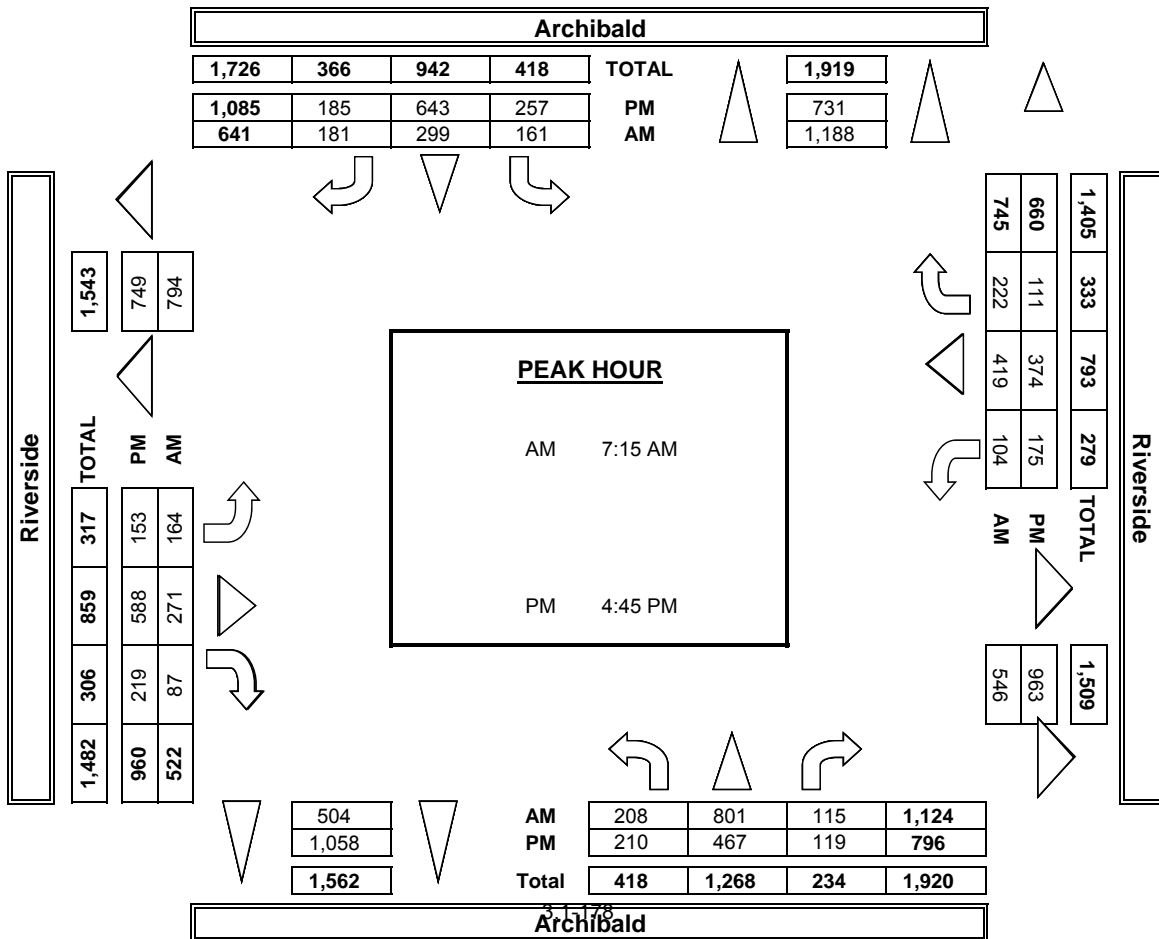
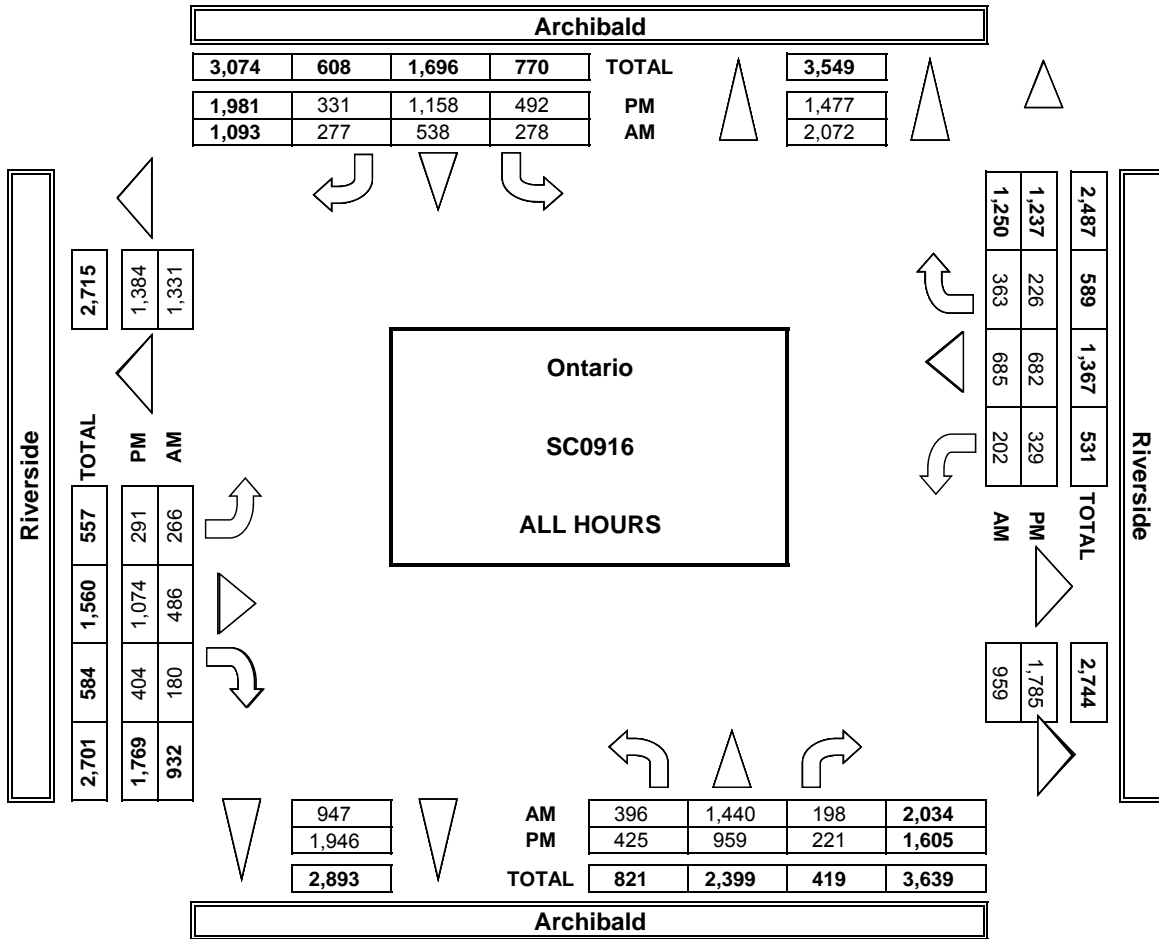
LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	46	166	21	31	54	24	21	72	22	22	86	44	609
7:15 AM	43	186	30	41	67	22	29	69	17	32	90	59	685
7:30 AM	50	224	28	48	84	46	43	92	23	20	121	60	839
7:45 AM	66	210	33	42	64	58	59	69	30	34	108	55	828
8:00 AM	49	181	24	30	84	55	33	41	17	18	100	48	680
8:15 AM	55	171	19	30	68	36	31	53	27	21	64	27	602
8:30 AM	44	165	28	24	69	20	22	51	20	24	43	27	537
8:45 AM	43	137	15	32	48	16	28	39	24	31	73	43	529
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	396	1,440	198	278	538	277	266	486	180	202	685	363	5,309
APPROACH %	19%	71%	10%	25%	49%	25%	29%	52%	19%	16%	55%	29%	
APP/DEPART	2,034	/	2,072	1,093	/	947	932	/	959	1,250	/	1,331	0

U-TURNS				
NB	SB	EB	WB	TTL
5	0	0	0	5
5	0	0	0	5
3	0	0	0	3
1	1	0	0	2
5	0	0	0	5
2	0	0	0	2
4	0	0	0	4
2	2	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	3	0	0	30

RTOR			
NRR	SRR	ERR	WRR
4	7	9	17
0	7	8	24
1	20	3	21
4	23	11	24
4	16	8	15
0	12	12	16
4	12	9	14
0	10	13	16
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
17	107	73	147

LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST</								

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Riverside	PROJECT #: LOCATION #: CONTROL:	SC0916 31 SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	◀ W E ▶	▲ N S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Archibald			Archibald			Riverside			Riverside			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	3	0	1	2	0	1	2	0	

U-TURNS				
NB	SB	EB	WB	TTL
5	0	0	0	5
3	0	0	0	3
1	1	0	0	2
5	0	0	0	5
2	0	0	0	2
4	0	0	0	4
2	2	0	0	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	3	0	0	30

RTOR			
NRR	SRR	ERR	WRR
4	7	9	15
0	7	7	22
0	18	0	20
4	22	8	23
4	16	8	12
0	9	12	16
4	9	9	12
0	8	12	14
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
16	96	65	134

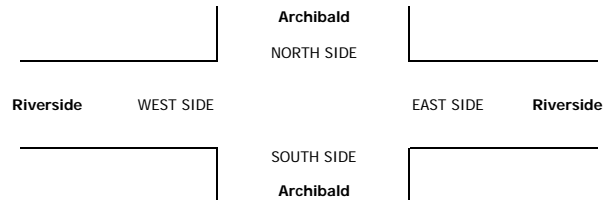
AM	7:00 AM	45	155	21	28	41	22	19	70	22	20	82	41	566
	7:15 AM	40	171	27	39	58	21	23	66	14	30	81	52	622
	7:30 AM	46	213	27	46	73	41	39	77	15	17	115	57	766
	7:45 AM	60	196	28	41	56	53	56	65	23	31	98	53	760
	8:00 AM	47	164	24	28	72	53	31	33	15	17	94	40	618
	8:15 AM	54	158	17	28	52	30	25	46	26	20	61	26	543
	8:30 AM	43	153	28	19	59	14	18	48	19	22	39	24	486
	8:45 AM	41	124	15	31	36	14	24	36	22	27	66	40	476
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	376	1,334	187	260	447	248	235	441	156	184	636	333	4,837	
APPROACH %	20%	70%	10%	27%	47%	26%	28%	53%	19%	16%	55%	29%		
APP/DEPART	1,897	/	1,905	955	/	814	832	/	885	1,153	/	1,233	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	179	744	106	153	259	168	149	241	67	95	388	202	2,766	
APPROACH %	17%	71%	10%	26%	45%	29%	33%	53%	15%	14%	57%	29%		
PEAK HR FACTOR	0.912			0.908			0.793			0.906			0.903	
APP/DEPART	1,043	/	1,096	581	/	435	457	/	500	685	/	735	0	
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	52	100	24	58	118	25	41	118	36	39	72	20	703
	4:15 PM	44	125	23	62	118	33	30	115	46	38	69	29	732
	4:30 PM	50	114	20	56	130	37	29	122	42	27	87	25	739
	4:45 PM	57	127	20	55	119	38	33	134	56	50	85	24	798
	5:00 PM	48	98	28	65	160	47	44	130	55	35	83	26	819
	5:15 PM	40	105	23	61	160	49	37	138	50	37	103	32	835
5:30 PM	60	98	36	68	174	50	33	148	51	50	89	29	886	
5:45 PM	62	94	25	53	115	46	29	110	52	43	68	35	732	
VOLUMES	413	861	199	478	1,094	325	276	1,015	388	319	656	220	6,244	
APPROACH %	28%	58%	14%	25%	58%	17%	16%	60%	23%	27%	55%	18%		
APP/DEPART	1,473	/	1,358	1,897	/	1,854	1,679	/	1,690	1,195	/	1,342	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	184	428	107	248	613	184	146	550	212	172	360	111	3,338	
APPROACH %	25%	58%	14%	24%	59%	18%	16%	61%	23%	27%	56%	17%		
PEAK HR FACTOR	0.907			0.896			0.980			0.935			0.942	
APP/DEPART	740	/	686	1,046	/	1,018	909	/	905	643	/	729	0	

8	63	23	77
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
11	0	0	0	11
5	0	0	0	5
6	1	0	0	7
4	0	0	0	4
7	0	1	0	8
4	0	0	0	4
6	1	0	0	7
10	0	0	0	10
53	2	1	0	56

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	14	22	9
3	13	23	17
1	11	12	17
3	19	17	12
4	14	14	15
3	18	12	14
5	16	24	12
5	22	9	16
24	127	133	112

15	67	67	53
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Riverside	PROJECT #: LOCATION #: CONTROL:	SC0916 31 SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM	▲	N	
		PM	◀	W	E ▶
		MD		S	
		OTHER	▼		

LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	2	0	2	2	1	0	0	0	0	0	1	8
7:15 AM	0	2	1	1	3	0	2	0	3	0	1	0	13
7:30 AM	1	2	0	0	2	0	0	2	1	0	1	0	9
7:45 AM	0	1	1	0	1	0	0	1	1	0	1	1	7
8:00 AM	0	1	0	0	2	0	1	0	0	0	0	3	7
8:15 AM	1	2	0	0	2	0	0	1	0	0	0	0	6
8:30 AM	0	2	0	1	1	0	0	1	0	0	0	1	6
8:45 AM	1	2	0	0	3	0	0	0	0	0	2	1	9
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	1
0	0	1	0
0	0	1	0
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	3	14	2	4	16	1	3	5	5	0	5	7	65
APPROACH %	16%	74%	11%	19%	76%	5%	23%	38%	38%	0%	42%	58%	
APP/DEPART	19	/	24	21	/	21	13	/	11	12	/	9	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	1	7	2	3	8	1	2	3	5	0	3	2	37
APPROACH %	10%	70%	20%	25%	67%	8%	20%	30%	50%	0%	60%	40%	
PEAK HR FACTOR	0.833			0.600			0.500			0.625			0.712
APP/DEPART	10	/	11	12	/	13	10	/	8	5	/	5	0

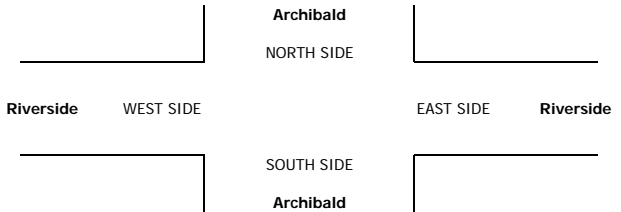
0	0	2	2
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03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	5	2	0	1	0	0	0	0	0	0	0	9
4:15 PM	0	3	0	0	1	0	0	1	1	0	0	0	6
4:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
4:45 PM	2	1	0	0	2	0	0	1	0	0	2	0	8
5:00 PM	0	1	2	0	0	0	0	5	0	0	0	0	8
5:15 PM	0	0	1	0	0	0	0	3	0	0	0	0	4
5:30 PM	0	1	0	2	2	0	0	0	0	0	1	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	3	12	5	2	8	0	0	10	1	0	3	0	44
APPROACH %	15%	60%	25%	20%	80%	0%	0%	91%	9%	0%	100%	0%	
APP/DEPART	20	/	12	10	/	9	11	/	17	3	/	6	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	2	3	3	2	4	0	0	9	0	0	3	0	26
APPROACH %	25%	38%	38%	33%	67%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR	0.250			0.375			0.450			0.375			0.722
APP/DEPART	8	/	3	6	/	4	9	/	14	3	/	5	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Riverside	PROJECT #: SC0916	LOCATION #: 31	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	1	0	0	5	1	0	0	0	0	2	0	9
7:15 AM	0	7	2	0	4	0	3	0	0	0	2	2	20
7:30 AM	0	3	0	0	5	1	0	2	0	1	0	2	14
7:45 AM	0	4	1	0	2	0	0	1	1	0	2	0	11
8:00 AM	0	5	0	0	3	0	1	3	0	1	3	0	16
8:15 AM	0	3	1	0	4	0	4	2	0	0	1	0	15
8:30 AM	0	6	0	1	5	1	0	0	0	1	2	0	16
8:45 AM	0	5	0	1	3	0	2	1	0	2	0	0	14
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0

VOLUMES	0	34	4	2	31	3	10	9	1	5	12	4	115
APPROACH %	0%	89%	11%	6%	86%	8%	50%	45%	5%	24%	57%	19%	
APP/DEPART	38	/	48	36	/	37	20	/	15	21	/	15	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

BEGIN PEAK HR	7:15 AM												
VOLUMES	0	19	1	2	15	1	7	6	0	4	6	0	61
APPROACH %	0%	95%	5%	11%	83%	6%	54%	46%	0%	40%	60%	0%	
PEAK HR FACTOR	0.556			0.643			0.542			0.625			0.763
APP/DEPART	20	/	26	18	/	19	13	/	9	10	/	7	0

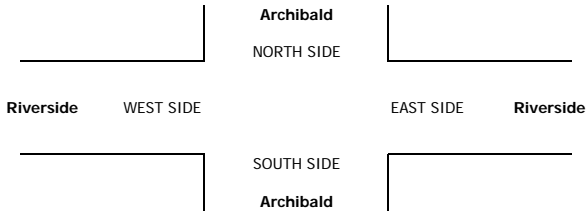
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

BEGIN PEAK HR	4:00 PM												
VOLUMES	0	16	2	0	14	0	2	5	2	1	2	2	46
APPROACH %	0%	89%	11%	0%	100%	0%	22%	56%	22%	20%	40%	40%	
PEAK HR FACTOR	0.900			0.700			0.563			0.417			0.821
APP/DEPART	18	/	20	14	/	17	9	/	7	5	/	2	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	112	11	1	132	4	16	28	16	48	14	231	4	0	249	5	11	3	1	19	18	448	466
07:15 AM	14	113	7	2	134	3	16	31	26	50	13	215	10	1	238	10	9	4	3	23	32	445	477
07:30 AM	26	103	6	2	135	3	22	47	31	72	15	254	15	3	284	5	12	4	3	21	39	512	551
07:45 AM	33	96	8	0	137	10	21	61	40	92	13	263	9	0	285	10	10	2	1	22	41	536	577
Total	82	424	32	5	538	20	75	167	113	262	55	963	38	4	1056	30	42	13	8	85	130	1941	2071
08:00 AM	12	102	12	0	126	8	16	47	34	71	13	211	3	1	227	8	6	3	2	17	37	441	478
08:15 AM	12	93	11	1	116	4	7	16	12	27	27	238	1	0	266	6	5	8	3	19	16	428	444
08:30 AM	5	97	3	0	105	4	13	5	5	22	15	230	1	0	246	8	7	7	5	22	10	395	405
08:45 AM	12	67	3	0	82	3	3	14	11	20	11	207	2	0	220	7	6	5	4	18	15	340	355
Total	41	359	29	1	429	19	39	82	62	140	66	886	7	1	959	29	24	23	14	76	78	1604	1682
Grand Total	123	783	61	6	967	39	114	249	175	402	121	1849	45	5	2015	59	66	36	22	161	208	3545	3753
Approach %	12.7	81	6.3			9.7	28.4	61.9			6	91.8	2.2			36.6	41	22.4					
Total %	3.5	22.1	1.7		27.3	1.1	3.2	7		11.3	3.4	52.2	1.3		56.8	1.7	1.9	1		4.5	5.5	94.5	
Passenger Vehicles	116	704	53		878	36	113	246		569	117	1774	44		1939	52	59	32		164	0	0	3550
% Passenger Vehicles	94.3	89.9	86.9		83.3	90.2	92.3	99.1		98.6	96.7	95.9	97.8		80	88.1	89.4	88.9		95.5	0	0	94.6
Large 2 Axle Vehicles	6	37	4		48	1	1	2		5	1	26	0		27	5	7	2		15	0	0	95
% Large 2 Axle Vehicles	4.9	4.7	6.6		16.7	4.9	2.6	0.9		0.9	0.8	1.4	0		0	8.5	10.6	5.6		4.5	0	0	2.5
3 Axle Vehicles	1	13	1		15	1	0	0		1	2	22	1		26	2	0	2		4	0	0	46
% 3 Axle Vehicles	0.8	1.7	1.6		0	1.5	2.6	0		0.2	1.7	1.2	2.2		20	3.4	0	5.6		0	0	0	1.2
4+ Axle Trucks	0	29	3		32	1	0	1		2	1	27	0		28	0	0	0		0	0	0	62
% 4+ Axle Trucks	0	3.7	4.9		0	3.3	2.6	0		0.3	0.8	1.5	0		1.4	0	0	0		0	0	0	1.7

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	112	11	1	132	4	16	28	16	48	14	231	4	0	249	5	11	3	1	19	18	448	466
07:15 AM	14	113	7	2	134	3	16	31	26	50	13	215	10	1	238	10	9	4	3	23	32	445	477
07:30 AM	26	103	6	2	135	3	22	47	31	72	15	254	15	3	284	5	12	4	3	21	39	512	551
07:45 AM	33	96	8	0	137	10	21	61	40	92	13	263	9	0	285	10	10	2	1	22	41	536	577
Total	82	424	32	5	538	20	75	167	113	262	55	963	38	4	1056	30	42	13	8	85	130	1941	2071
08:00 AM	12	102	12	0	126	8	16	47	34	71	13	211	3	1	227	8	6	3	2	17	37	441	478
08:15 AM	12	93	11	1	116	4	7	16	12	27	27	238	1	0	266	6	5	8	3	19	16	428	444
08:30 AM	5	97	3	0	105	4	13	5	5	22	15	230	1	0	246	8	7	7	5	22	10	395	405
08:45 AM	12	67	3	0	82	3	3	14	11	20	11	207	2	0	220	7	6	5	4	18	15	340	355
Total	41	359	29	1	429	19	39	82	62	140	66	886	7	1	959	29	24	23	14	76	78	1604	1682
Grand Total	123	783	61	6	967	39	114	249	175	402	121	1849	45	5	2015	59	66	36	22	161	208	3545	3753
Approach %	12.7	81	6.3			9.7	28.4	61.9			6	91.8	2.2			36.6	41	22.4					
Total %	3.5	22.1	1.7		27.3	1.1	3.2	7		11.3	3.4	52.2	1.3		56.8	1.7	1.9	1		4.5	5.5	94.5	
Passenger Vehicles	116	704	53		878	36	113	246		569	117	1774	44		1939	52	59	32		164	0	0	3550
% Passenger Vehicles	94.3	89.9	86.9		83.3	90.2	92.3	99.1		98.6	96.7	95.9	97.8		80	88.1	89.4	88.9		95.5	0	0	94.6
Large 2 Axle Vehicles	6	37	4		48	1	1	2		5	1	26	0		27	5	7	2		15	0	0	95
% Large 2 Axle Vehicles	4.9	4.7	6.6		16.7	4.9	2.6	0.9		0.9	0.8	1.4	0		0	8.5	10.6	5.6		4.5	0	0	2.5
3 Axle Vehicles	1	13	1		15	1	0	0		1	2	22	1		26	2	0	2		4	0	0	46
% 3 Axle Vehicles	0.8	1.7	1.6		0	1.5	2.6	0		0.2	1.7	1.2	2.2		20	3.4	0	5.6		0	0	0	1.2
4+ Axle Trucks	0	29	3		32	1	0	1		2	1	27	0		28	0	0	0		0	0	0	62
% 4+ Axle Trucks	0	3.7	4.9		0	3.3	2.6	0		0.3	0.8	1.5	0		1.4	0	0	0		0	0	0	1.7

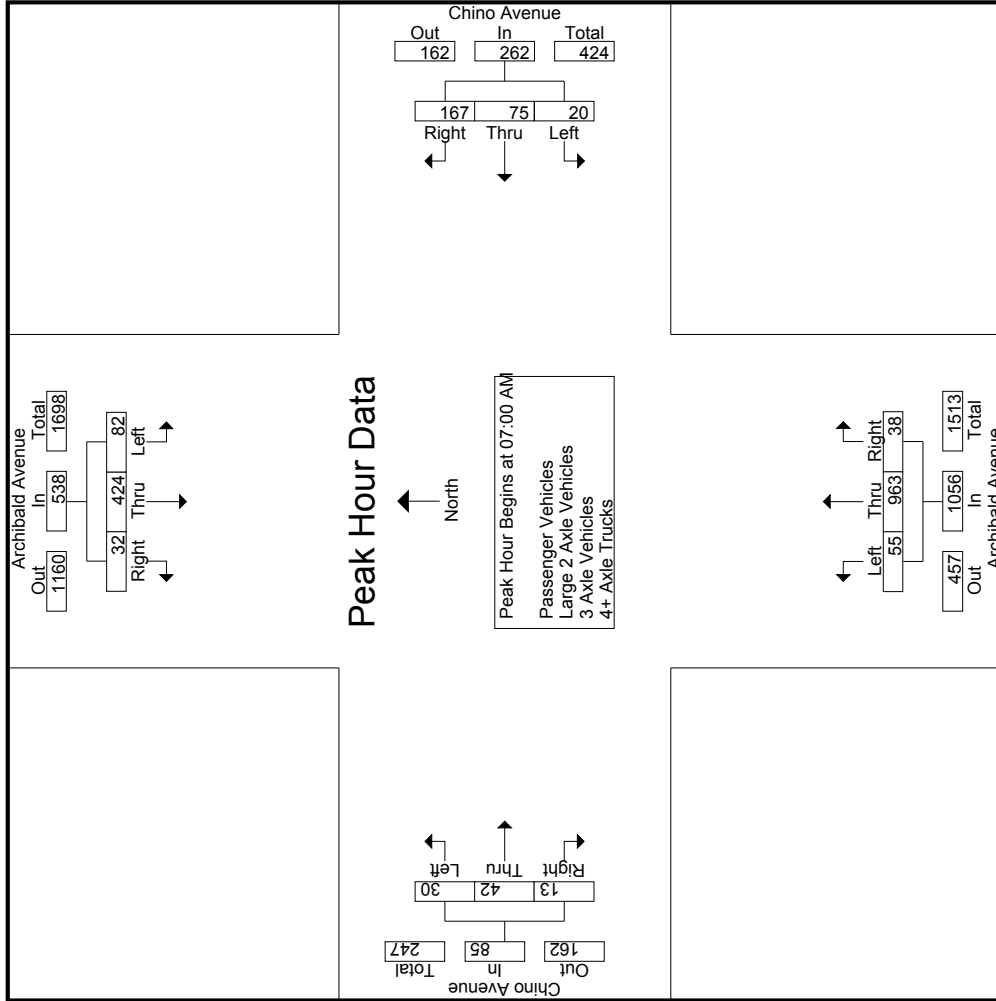
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	112	11	1	132	4	16	28	16	48	14	231	4	0	249	5	11	3	1	19	18	448	466
07:15 AM	14	113	7	2	134	3	16	31	26	50	13	215	10	1	238	10	9	4	3	23	32	445	477
07:30 AM	26	103	6	2	135	3	22	47	31	72	15	254	15	3	284	5	12	4	3	21	39	512	551
07:45 AM	33	96	8	0	137	10	21	61	40	92	13	263	9	0	285	10	10	2	1	22	41	536	577
Total	82	424	32	5	538	20	75	167	113	262	55	963	38	4	1056	30	42	13	8	85	130	1941	2071
% App. Total	15.2	78.8	5.9			7.6	28.6	63.7			5.2	91.2	3.6			35.3	49.4	15.3					
PHF	.621	.938	.727			.500	.852	.684		.712	.917	.915	.633		.926	.750	.875	.813			.924	.905	

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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
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 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:00 AM			07:15 AM			07:30 AM			07:00 AM				
+0 mins.	9	112	11	3	16	31	15	254	15	284	5	11	3	19
+15 mins.	14	113	7	3	22	47	13	263	9	285	10	9	4	23
+30 mins.	26	103	6	10	21	61	13	211	3	227	5	12	4	21
+45 mins.	33	96	8	8	16	47	27	238	1	266	10	10	2	22
Total Volume	82	424	32	24	75	186	68	966	28	1062	30	42	13	85
% App. Total	15.2	78.8	5.9	8.4	26.3	65.3	6.4	91	2.6	35.3	49.4	15.3		
PHF	.621	.938	.727	.600	.852	.762	.630	.918	.467	.932	.750	.875	.813	.924

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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
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File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

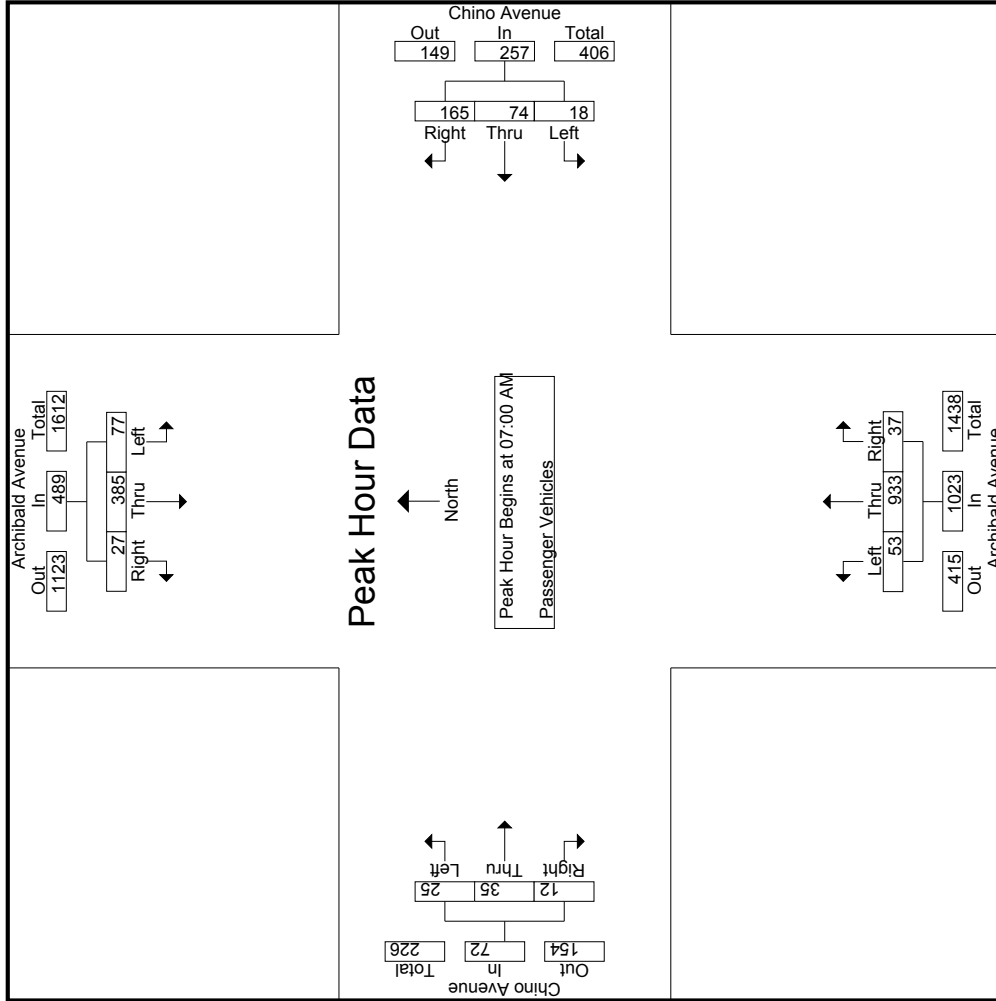
Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	7	99	10	1	116	4	16	27	16	47	14	223	4	0	241	4	6	3	1	13	18	417	435
07:15 AM	14	101	4	1	119	2	15	31	26	48	12	210	10	1	232	7	7	4	3	18	31	417	448
07:30 AM	24	96	5	2	125	3	22	47	31	72	14	243	14	2	271	4	12	4	3	20	38	488	526
07:45 AM	32	89	8	0	129	9	21	60	40	90	13	257	9	0	279	10	10	1	1	21	41	519	560
Total	77	385	27	4	489	18	74	165	113	257	53	933	37	3	1023	25	35	12	8	72	128	1841	1969
08:00 AM	11	89	10	0	110	8	16	47	34	71	13	202	3	1	218	7	6	2	2	15	37	414	451
08:15 AM	12	90	11	1	113	3	7	16	12	26	26	222	1	0	249	5	5	7	3	17	16	405	421
08:30 AM	5	83	2	0	90	4	13	4	4	21	14	220	1	0	235	8	7	7	5	22	9	368	377
08:45 AM	11	57	3	0	71	3	3	14	11	20	11	197	2	0	210	7	6	4	3	17	14	318	332
Total	39	319	26	1	384	18	39	81	61	138	64	841	7	1	912	27	24	20	13	71	76	1505	1581
Grand Total	116	704	53	5	873	36	113	246	174	395	117	1774	44	4	1935	52	59	32	21	143	204	3346	3550
Approach %	13.3	80.6	6.1		26.1	9.1	28.6	62.3		11.8	3.5	53	1.3		57.8	36.4	41.3	22.4		4.3	5.7	94.3	
Total %	3.5	21	1.6			1.1	3.4	7.4								1.6	1.8	1					

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:00 AM																							
07:00 AM	7	99	10		116	4	16	27		47	14	223	4		241	4	6	3		13	18	417	417
07:15 AM	14	101	4		119	2	15	31		48	12	210	10		232	7	7	4		18	31	417	417
07:30 AM	24	96	5		125	3	22	47		72	14	243	14		271	4	12	4		20	38	488	488
07:45 AM	32	89	8		129	9	21	60		90	13	257	9		279	10	10	1		21	41	519	519
Total Volume	77	385	27		489	18	74	165		257	53	933	37		1023	25	35	12		72	128	1841	1841
% App. Total	15.7	78.7	5.5		26.1	7	28.8	64.2		3.6	5.2	91.2	3.6		31.7	34.7	48.6	16.7		4.3	5.7	94.3	
PHF	.602	.953	.675		.948	.500	.841	.688		.714	.946	.908	.661		.917	.625	.729	.750		.857		.887	

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City of Ontario
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City of Ontario
 N/S: Archibald Avenue
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File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:00 AM			07:00 AM			07:00 AM			07:00 AM			07:00 AM		
+0 mins.	7	99	10	4	16	27	47	14	223	4	241	4	6	3	13
+15 mins.	14	101	4	2	15	31	48	12	210	10	232	7	7	4	18
+30 mins.	24	96	5	3	22	47	72	14	243	14	271	4	12	4	20
+45 mins.	32	89	8	9	21	60	90	13	257	9	279	10	10	1	21
Total Volume	77	385	27	18	74	165	257	53	933	37	1023	25	35	12	72
% App. Total	15.7	78.7	5.5	7	28.8	64.2	5.2	91.2	3.6	34.7	48.6	16.7	48.6	16.7	72
PHF	.602	.953	.675	.500	.841	.688	.714	.946	.908	.661	.917	.625	.729	.750	.857

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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	8	1	0	11	0	0	0	0	0	0	3	0	0	6	0	20	20
07:15 AM	0	5	2	1	7	0	1	0	0	1	0	1	0	0	4	1	13	14
07:30 AM	1	4	1	0	6	0	0	0	0	0	1	6	0	0	1	0	13	13
07:45 AM	1	1	0	0	2	0	0	1	0	1	0	3	0	0	0	0	6	6
Total	4	18	4	1	26	0	1	1	0	2	1	12	0	0	13	1	52	53
08:00 AM	1	5	0	0	6	0	0	0	0	0	4	0	0	0	1	0	11	11
08:15 AM	0	3	0	0	3	1	0	0	0	1	6	0	0	1	0	0	11	11
08:30 AM	0	6	0	0	6	0	0	1	1	1	0	0	0	0	0	1	7	8
08:45 AM	1	5	0	0	6	0	0	0	0	4	0	4	0	1	1	1	11	12
Total	2	19	0	0	21	1	0	1	1	2	0	14	0	0	14	2	40	42
Grand Total	6	37	4	1	47	1	1	2	1	4	1	26	0	0	14	3	92	95
Approach %	12.8	78.7	8.5		25	25	50			4.3	3.7	96.3	0	0	27	5	7	14
Total %	6.5	40.2	4.3		51.1	1.1	1.1	2.2		4.3	1.1	28.3	0	0	29.3	5.4	7.6	15.2
																3.2	96.8	

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	8	1	0	11	0	0	0	0	0	0	3	0	0	6	0	20	20
07:15 AM	0	5	2	1	7	0	1	0	0	1	0	1	0	0	4	1	13	14
07:30 AM	1	4	1	0	6	0	0	0	0	0	1	6	0	0	1	0	13	13
07:45 AM	1	1	0	0	2	0	0	1	0	1	0	3	0	0	0	0	6	6
Total	4	18	4	1	26	0	1	1	0	2	1	12	0	0	13	1	52	53
08:00 AM	1	5	0	0	6	0	0	0	0	0	4	0	0	0	1	0	11	11
08:15 AM	0	3	0	0	3	1	0	0	0	1	6	0	0	1	0	0	11	11
08:30 AM	0	6	0	0	6	0	0	1	1	1	0	0	0	0	0	1	7	8
08:45 AM	1	5	0	0	6	0	0	0	0	4	0	4	0	1	1	1	11	12
Total	2	19	0	0	21	1	0	1	1	2	0	14	0	0	14	2	40	42
Grand Total	6	37	4	1	47	1	1	2	1	4	1	26	0	0	14	3	92	95
Approach %	12.8	78.7	8.5		25	25	50			4.3	3.7	96.3	0	0	27	5	7	14
Total %	6.5	40.2	4.3		51.1	1.1	1.1	2.2		4.3	1.1	28.3	0	0	29.3	5.4	7.6	15.2
																3.2	96.8	

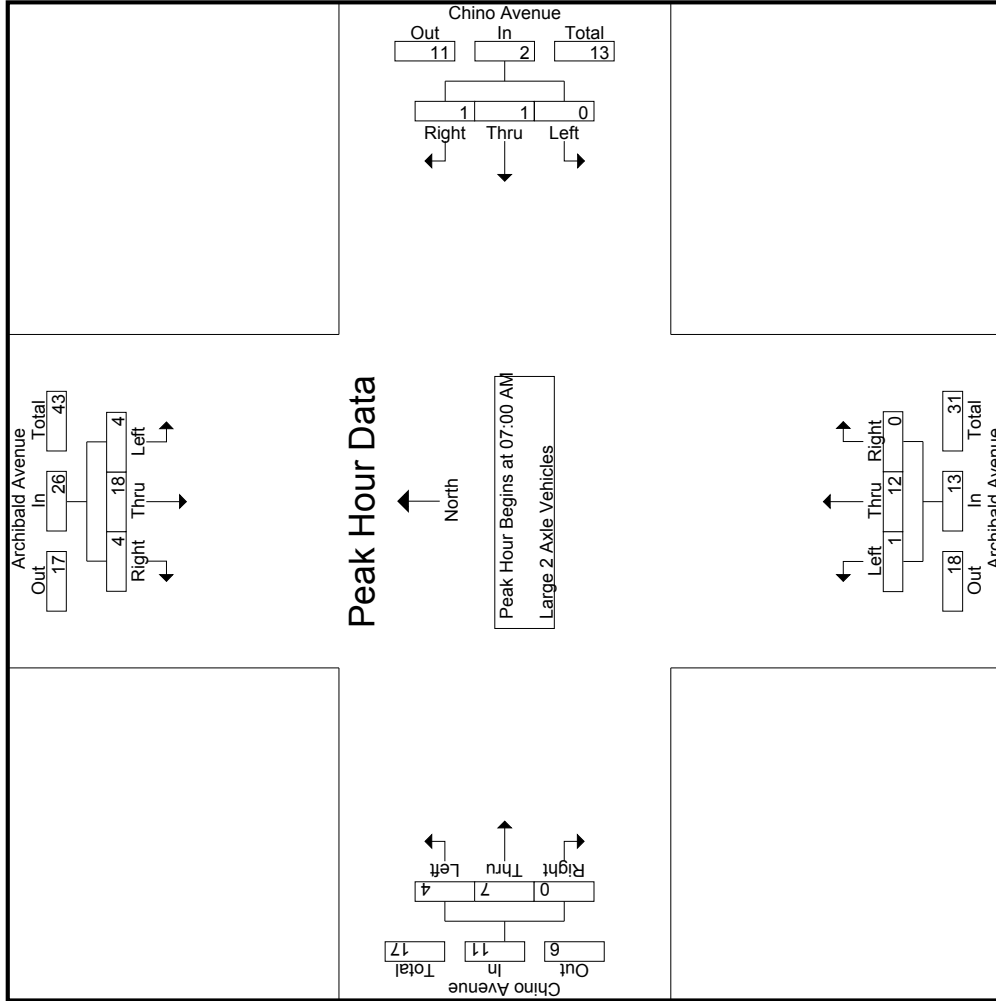
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	8	1	0	11	0	0	0	0	0	0	3	0	0	6	0	20	20
07:15 AM	0	5	2	1	7	0	1	0	0	1	0	1	0	0	4	1	13	14
07:30 AM	1	4	1	0	6	0	0	0	0	0	1	6	0	0	1	0	13	13
07:45 AM	1	1	0	0	2	0	0	1	0	1	0	3	0	0	0	0	6	6
Total	4	18	4	1	26	0	1	1	0	2	1	12	0	0	13	1	52	53
% App. Total	15.4	69.2	15.4		51.4	0	50	50		4.3	36.4	63.6	0	0	29.3	0	96.8	
PHF	.500	.563	.500		.591	.000	.250	.250		.500	.250	.600	.000	.500	.350	.000	.458	.650

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:00 AM				07:00 AM				07:00 AM				
+0 mins.	2	8	1	11	0	0	0	0	0	3	0	3	0
+15 mins.	0	5	2	7	0	1	0	1	0	1	0	1	0
+30 mins.	1	4	1	6	0	0	0	0	1	5	0	6	0
+45 mins.	1	1	0	2	0	0	1	1	0	3	0	3	0
Total Volume	4	18	4	26	0	1	1	2	1	12	0	13	7
% App. Total	15.4	69.2	15.4		0	50	50		7.7	92.3	0	36.4	63.6
PHF	.500	.563	.500	.591	.000	.250	.250	.500	.250	.600	.000	.542	.000
													.458

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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	6	6
07:15 AM	0	2	0	0	2	0	0	0	0	1	0	3	0	0	1	0	7	7
07:30 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	0	1	5	6
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	3
Total	1	7	0	0	8	1	0	0	0	1	9	1	1	1	10	1	21	22
08:00 AM	0	3	1	0	4	0	0	0	0	0	1	0	0	1	1	0	6	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	8	8
08:30 AM	0	2	0	0	2	0	0	0	0	0	1	4	0	0	5	0	7	7
08:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	3	3
Total	0	6	1	0	7	0	0	0	0	0	13	0	0	1	15	0	24	24
Grand Total	1	13	1	0	15	1	0	0	0	1	22	1	1	25	2	1	45	46
Approach %	6.7	86.7	6.7		100	0	0	0		2.2	8	88	4		50	0	97.8	
Total %	2.2	28.9	2.2		33.3	2.2	4.4	48.9	2.2	55.6	4.4	0	4.4	8.9	2.2	0	97.8	

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	6	6
07:15 AM	0	2	0	0	2	0	0	0	0	1	0	3	0	0	1	0	7	7
07:30 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	0	1	5	6
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	3
Total	1	7	0	0	8	1	0	0	0	1	9	1	1	1	10	1	21	22
08:00 AM	0	3	1	0	4	0	0	0	0	0	1	0	0	1	1	0	6	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	8	8
08:30 AM	0	2	0	0	2	0	0	0	0	0	1	4	0	0	5	0	7	7
08:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	3	3
Total	0	6	1	0	7	0	0	0	0	0	13	0	0	1	15	0	24	24
Grand Total	1	13	1	0	15	1	0	0	0	1	22	1	1	25	2	1	45	46
Approach %	6.7	86.7	6.7		100	0	0	0		2.2	8	88	4		50	0	97.8	
Total %	2.2	28.9	2.2		33.3	2.2	4.4	48.9	2.2	55.6	4.4	0	4.4	8.9	2.2	0	97.8	

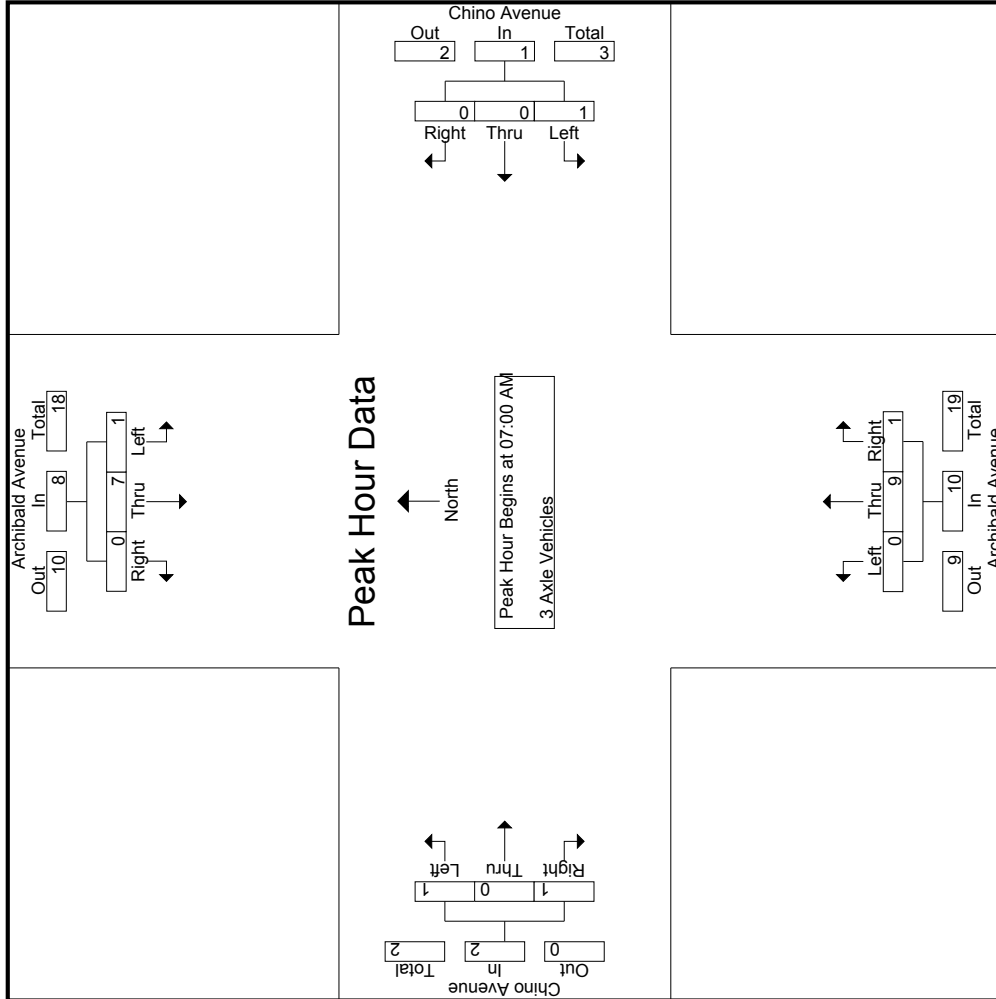
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	6	6
07:15 AM	0	2	0	0	2	0	0	0	0	1	0	3	0	0	1	0	7	7
07:30 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	0	1	5	6
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	3
Total	1	7	0	0	8	1	0	0	0	1	9	1	1	1	10	1	21	22
% App. Total	12.5	87.5	0		100	0	0	0		2.2	100	0	0	50	0	0	97.8	
PHF	.250	.583	.000		.667	.250	.000	.000		.250	.000	.750	.250	.833	.250	.500	.750	

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City of Ontario
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 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	07:00 AM													
+0 mins.	0	3	0	0	0	0	0	0	3	0	0	0	0	0
+15 mins.	0	2	0	1	0	0	0	0	3	0	0	0	0	1
+30 mins.	1	1	0	0	0	0	0	0	2	1	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	1	0	0	0	0	1
Total Volume	1	7	0	1	0	0	0	0	9	1	0	0	1	2
% App. Total	12.5	87.5	0	100	0	0	0	0	90	10	0	0	50	50
PHF	.250	.583	.000	.250	.000	.000	.000	.000	.750	.250	.000	.000	.250	.500

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City of Ontario
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 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	1	0	1	0	2	0	0	0	0	5	5
07:15 AM	0	5	1	0	6	0	0	0	0	0	1	1	0	0	2	0	8	8
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	6	6
07:45 AM	0	5	0	0	5	1	0	1	0	1	2	0	0	0	2	0	8	8
Total	0	14	1	0	15	1	0	2	0	2	1	9	0	0	10	0	27	27
08:00 AM	0	5	1	0	6	0	0	0	0	0	4	0	0	0	4	0	10	10
08:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	4	4
08:30 AM	0	6	1	0	7	0	0	0	0	0	6	0	0	0	6	0	13	13
08:45 AM	0	4	0	0	4	0	0	0	0	0	4	0	0	0	4	0	8	8
Total	0	15	2	0	17	0	0	0	0	0	18	0	0	0	18	0	35	35
Grand Total	0	29	3	0	32	1	0	2	0	2	1	27	0	0	28	0	62	62
Approach %	0	90.6	9.4		51.6	50	0	1.6		3.2	3.6	96.4	0	0	45.2	0	100	
Total %	0	46.8	4.8			1.6	0				1.6	43.5	0	0		0		

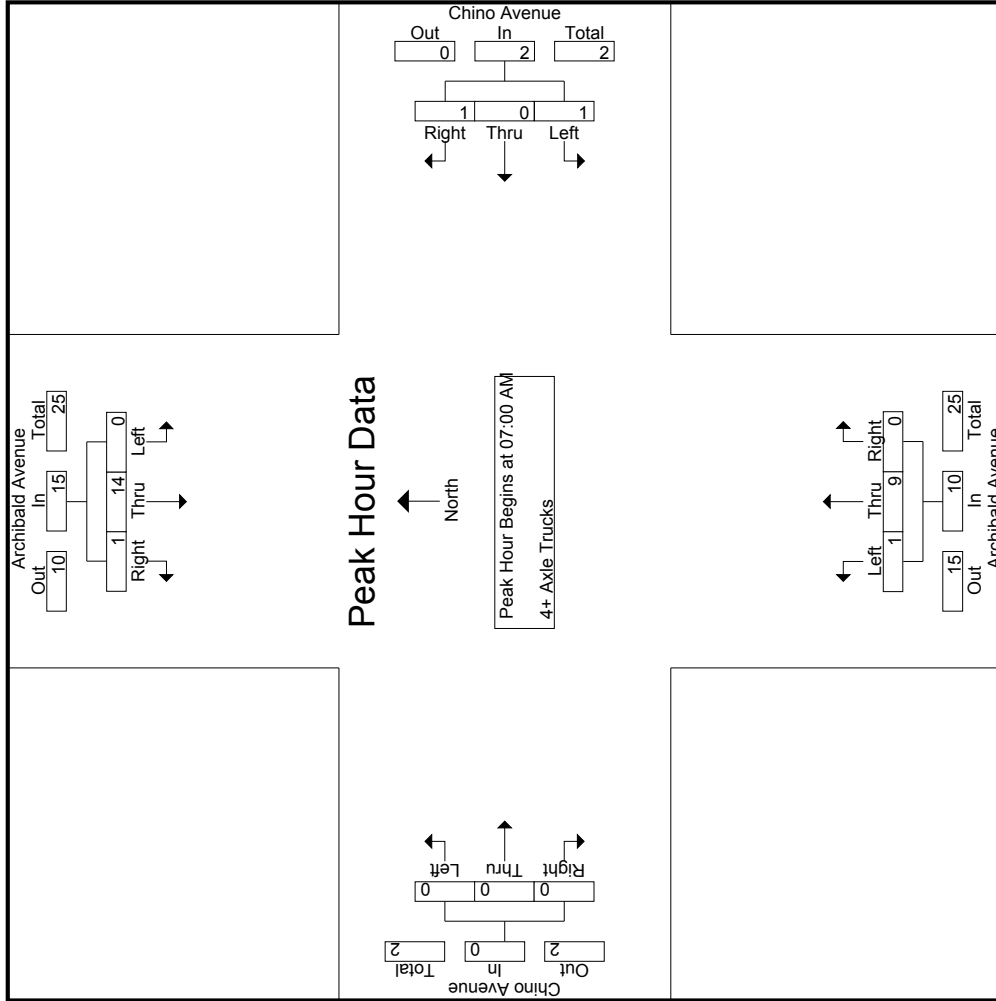
Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	1	0	1	0	2	0	0	0	0	5	5
07:15 AM	0	5	1	0	6	0	0	0	0	0	1	1	0	0	2	0	8	8
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	6	6
07:45 AM	0	5	0	0	5	1	0	1	0	1	2	0	0	0	2	0	8	8
Total Volume	0	14	1	0	15	1	0	2	0	2	1	9	0	0	10	0	27	27
% App. Total	0	93.3	6.7		62.5	50	0	50		3.2	10	90	0	0	62.5	0	100	
PHF	.000	.700	.250		.625	.250	.000	.250		.500	.250	.563	.000	.000	.625	.000	.844	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHAM
 Site Code : 05116658
 Start Date : 12/13/2016
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Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	07:00 AM													
+0 mins.	0	2	0	0	0	1	1	0	2	0	0	0	2	0
+15 mins.	0	5	1	0	0	0	0	1	1	0	0	0	2	0
+30 mins.	0	2	0	0	0	0	0	0	4	0	0	0	4	0
+45 mins.	0	5	0	1	0	0	1	0	2	0	0	0	2	0
Total Volume	0	14	1	1	0	1	2	1	9	0	0	0	10	0
% App. Total	0	93.3	6.7	50	0	50	10	90	563	0	0	0	625	0
PHF	.000	.700	.250	.250	.000	.250	.500	.250	.563	.000	.000	.000	.625	.000

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City of Ontario
 N/S: Archibald Avenue
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 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	20	186	7	0	213	6	3	16	12	25	4	155	5	0	164	15	31	2	0	48	12	450	462
04:15 PM	28	159	6	0	193	6	1	16	9	23	6	139	9	2	154	28	33	10	1	71	12	441	453
04:30 PM	16	185	7	0	208	4	2	25	22	31	8	164	7	2	179	28	29	8	0	65	24	483	507
04:45 PM	19	195	2	0	216	4	4	18	17	26	11	182	6	1	199	18	20	11	2	49	20	490	510
Total	83	725	22	0	830	20	10	75	60	105	29	640	27	5	696	89	113	31	3	233	68	1864	1932
05:00 PM	24	214	6	0	244	4	1	24	19	29	7	156	4	1	167	16	20	11	3	47	23	487	510
05:15 PM	27	219	5	1	251	3	8	11	8	22	3	150	11	0	164	26	25	11	6	62	15	499	514
05:30 PM	23	201	8	1	232	9	2	14	13	25	3	142	9	2	154	18	31	5	2	54	18	465	483
05:45 PM	40	202	7	2	249	3	1	20	17	24	3	124	13	1	140	11	32	9	2	52	22	465	487
Total	114	836	26	4	976	19	12	69	57	100	16	572	37	4	625	71	108	36	13	215	78	1916	1994
Grand Total	197	1561	48	4	1806	39	22	144	117	205	45	1212	64	9	1321	160	221	67	16	448	146	3780	3926
Approach %	10.9	86.4	2.7			19	10.7	70.2	4.8		3.4	91.7	4.8			35.7	49.3	15					
Total %	5.2	41.3	1.3		47.8	1	0.6	3.8	5.4		1.2	32.1	1.7		34.9	4.2	5.8	1.8		11.9	3.7	96.3	
Passenger Vehicles	197	1522	44		1767	39	22	143	320		44	1141	63		1256	148	213	65		442	0	0	3785
% Passenger Vehicles	100	97.5	91.7	100	97.6	100	100	99.3	99.1	99.4	97.8	94.1	98.4	88.9	94.4	92.5	96.4	97	100	95.3	0	0	96.4
Large 2 Axle Vehicles	0	11	2		13	0	0	1	2		1	33	1		36	9	8	2		19	0	0	70
% Large 2 Axle Vehicles	0	0.7	4.2	0	0.7	0	0	0.7	0.9	0.6	2.2	2.7	1.6	11.1	2.7	5.6	3.6	3	0	4.1	0	0	1.8
3 Axle Vehicles	0	5	2		7	0	0	0	0		0	13	0		13	1	0	0		1	0	0	21
% 3 Axle Vehicles	0	0.3	4.2	0	0.4	0	0	0	0	0	0	1.1	0	0	1	0.6	0	0	0	0.2	0	0	0.5
4+ Axle Trucks	0	23	0		23	0	0	0	0		0	25	0		25	2	0	0		2	0	0	50
% 4+ Axle Trucks	0	1.5	0	0	1.3	0	0	0	0	0	0	2.1	0	0	1.9	1.2	0	0	0	0.4	0	0	1.3

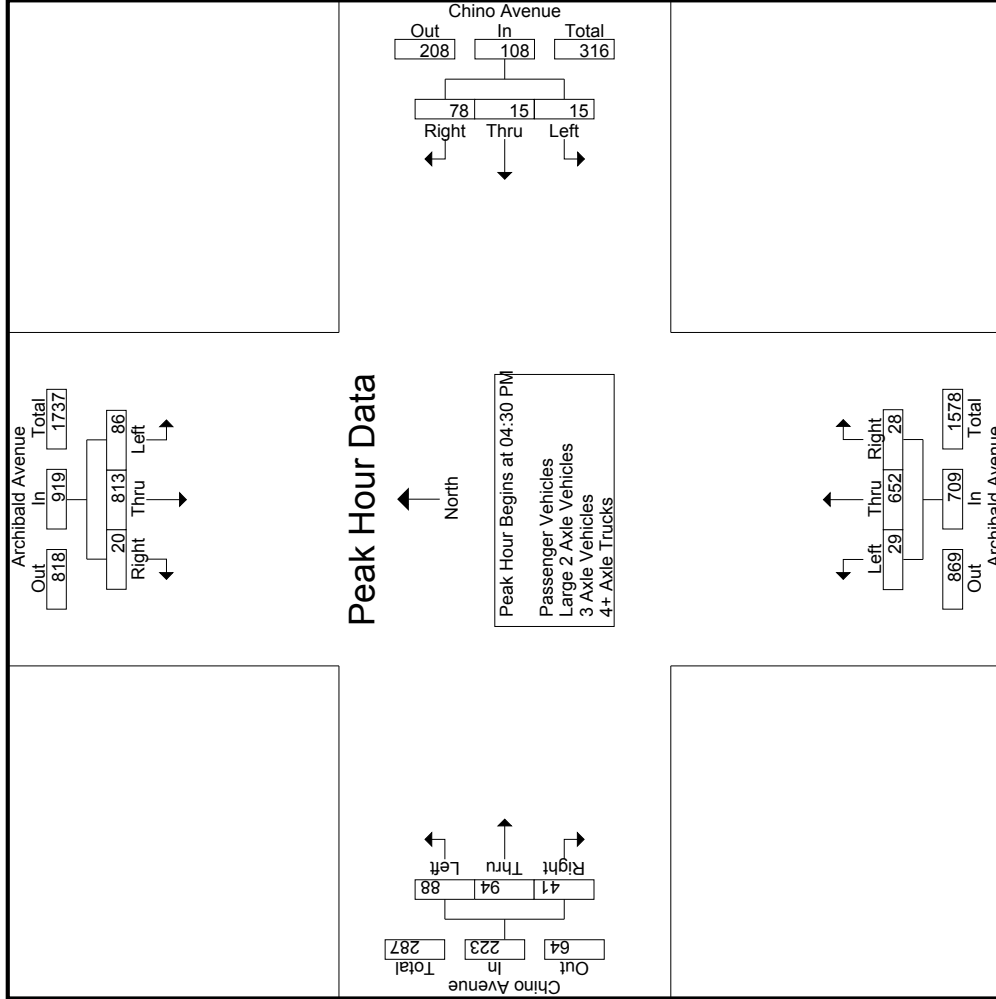
Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	16	185	7		208	4	2	25		31	8	164	7		179	28	29	8		65	8	65	483
04:45 PM	19	195	2		216	4	4	18		26	11	182	6		199	18	20	11		49	49	490	490
05:00 PM	24	214	6		244	4	1	24		29	7	156	4		167	16	20	11		47	47	487	487
05:15 PM	27	219	5		251	3	8	11		22	3	150	11		164	26	25	11		62	62	499	499
Total Volume	86	813	20		919	15	15	78		108	29	652	28		709	88	94	41		223	223	1959	1959
% App. Total	9.4	88.5	2.2		92.2	13.9	13.9	72.2		78.0	4.1	92	3.9		89.1	39.5	42.2	18.4		85.8	85.8	981	981
PHF	.796	.928	.714		.915	.938	.469	.780		.871	.659	.896	.636		.891	.786	.810	.932		.858	.858	.981	.981

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

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City of Ontario
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File Name : ONTARCHPM
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City of Ontario
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 Site Code : 05116658
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Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM			04:15 PM			04:30 PM			04:00 PM						
+0 mins.	24	214	6	6	244	1	16	23	8	164	7	179	15	31	2	48
+15 mins.	27	219	5	5	251	2	25	31	11	182	6	199	28	33	10	71
+30 mins.	23	201	8	4	232	4	18	26	7	156	4	167	28	29	8	65
+45 mins.	40	202	7	4	249	1	24	29	3	150	11	164	18	20	11	49
Total Volume	114	836	26	18	976	8	83	109	29	652	28	709	89	113	31	233
% App. Total	11.7	85.7	2.7	16.5	7.3	76.1	4.1	92	3.9	38.2	48.5	13.3	38.2	48.5	13.3	820
PHF	.713	.954	.813	.750	.500	.830	.659	.879	.636	.795	.856	.705	.795	.856	.705	.820

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

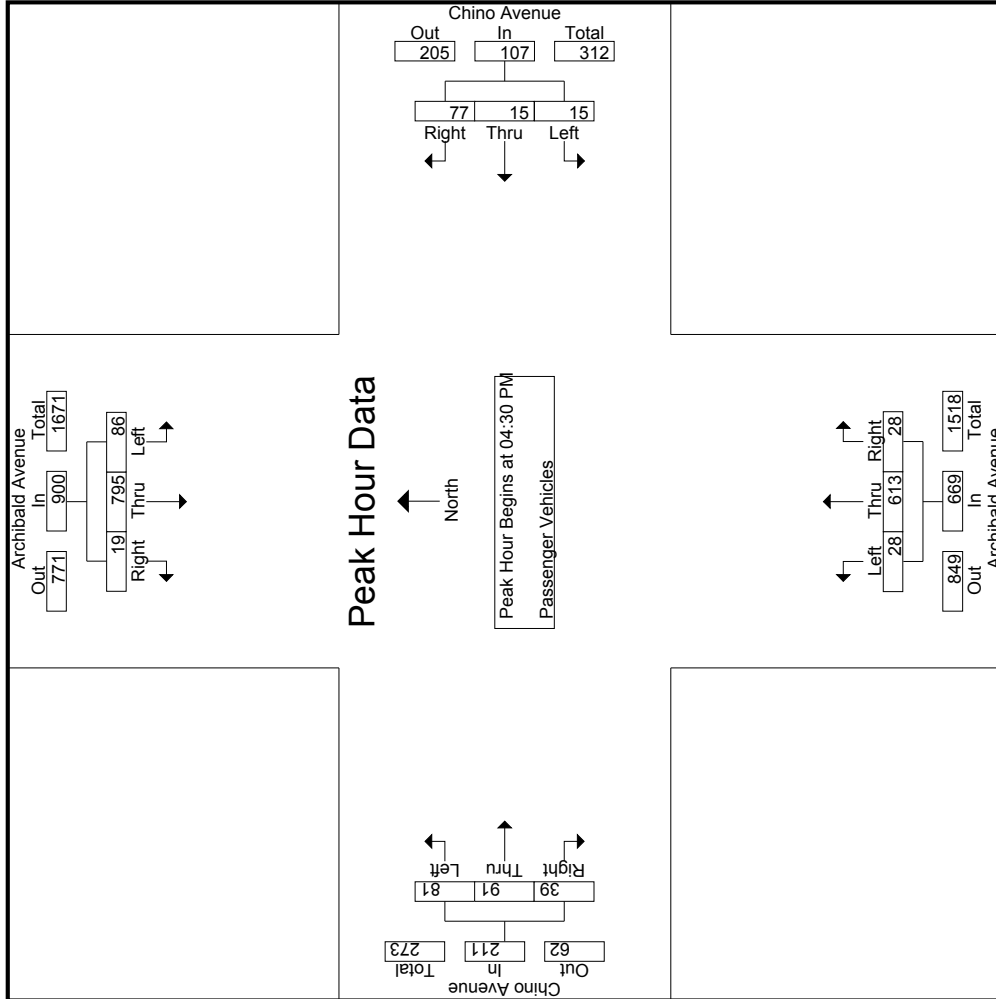
Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	20	179	6	0	205	6	3	16	12	25	4	147	5	0	156	15	29	2	0	46	12	432	444
04:15 PM	28	151	5	0	184	6	1	16	9	23	6	129	8	1	143	26	32	10	1	68	11	418	429
04:30 PM	16	180	7	0	203	4	2	25	22	31	7	160	7	2	174	24	29	7	0	60	24	468	492
04:45 PM	19	191	2	0	212	4	4	18	17	26	11	174	6	1	191	17	19	11	2	47	20	476	496
Total	83	701	20	0	804	20	10	75	60	105	28	610	26	4	664	82	109	30	3	221	67	1794	1861
05:00 PM	24	209	5	0	238	4	1	23	18	28	7	142	4	1	153	14	18	10	3	42	22	461	483
05:15 PM	27	215	5	1	247	3	8	11	8	22	3	137	11	0	151	26	25	11	6	62	15	482	497
05:30 PM	23	198	7	1	228	9	2	14	13	25	3	134	9	2	146	18	29	5	2	52	18	451	469
05:45 PM	40	199	7	2	246	3	1	20	17	24	3	118	13	1	134	8	32	9	2	49	22	453	475
Total	114	821	24	4	959	19	12	68	56	99	16	531	37	4	584	66	104	35	13	205	77	1847	1924
Grand Total	197	1522	44	4	1763	39	22	143	116	204	44	1141	63	8	1248	148	213	65	16	426	144	3641	3785
Approch %	11.2	86.3	2.5		48.4	19.1	10.8	70.1		5.6	3.5	91.4	5		34.3	34.7	50	15.3		11.7	3.8	96.2	
Total %	5.4	41.8	1.2			1.1	0.6	3.9			1.2	31.3	1.7			4.1	5.9	1.8					

Start Time	Archibald Avenue Southbound					Chino Avenue Westbound					Archibald Avenue Northbound					Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	16	180	7		203	4	2	25		31	7	160	7		174	24	29	7		60			468
04:45 PM	19	191	2		212	4	4	18		26	11	174	6		191	17	19	11		47			476
05:00 PM	24	209	5		238	4	1	23		28	7	142	4		153	14	18	10		42			461
05:15 PM	27	215	5		247	3	8	11		22	3	137	11		151	26	25	11		62			482
Total Volume	86	795	19		900	15	15	77		107	28	613	28		669	81	91	39		211			1887
% App. Total	9.6	88.3	2.1		72	14	14	72		4.2	4.2	91.6	4.2		43.1	38.4	43.1	18.5					
PHF	.796	.924	.679		.911	.938	.469	.770		.863	.636	.881	.636		.876	.779	.784	.886					

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1	04:30 PM													
Peak Hour for Each Approach Begins at:	04:30 PM													
+0 mins.	16	180	7	4	2	25	31	7	160	7	29	7	60	
+15 mins.	19	191	2	4	4	18	26	11	174	6	19	11	47	
+30 mins.	24	209	5	4	1	23	28	7	142	4	18	10	42	
+45 mins.	27	215	5	3	8	11	22	3	137	11	25	11	62	
Total Volume	86	795	19	15	15	77	107	28	613	28	91	39	211	
% App. Total	9.6	88.3	2.1	14	14	72	4.2	4.2	91.6	4.2	43.1	18.5		
PHF	.796	.924	.679	.938	.469	.770	.863	.636	.881	.636	.784	.886	.851	

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	1	0	0	0	0	0	0	4	0	0	4	0	2	0	2	0	9	9
04:15 PM	0	1	0	0	0	0	0	0	0	0	6	1	7	2	1	0	3	1	11	12
04:30 PM	0	1	0	0	0	0	0	0	0	1	3	0	4	3	0	1	4	0	9	9
04:45 PM	0	2	0	0	0	0	0	0	0	2	0	0	2	0	1	0	1	0	5	5
Total	0	6	1	0	0	0	0	0	0	1	15	1	17	5	4	1	10	1	34	35
05:00 PM	0	2	0	0	0	0	1	1	1	0	5	0	5	1	2	1	4	1	12	13
05:15 PM	0	2	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	8	8
05:30 PM	0	0	1	0	0	0	0	0	0	0	4	0	4	0	2	0	2	0	7	7
05:45 PM	0	1	0	0	0	0	0	0	0	0	3	0	3	3	0	0	3	0	7	7
Total	0	5	1	0	0	0	1	1	1	0	18	0	18	4	4	1	9	1	34	35
Grand Total	0	11	2	0	0	0	1	1	1	1	33	1	35	9	8	2	0	2	68	70
Approach %	0	84.6	15.4		0	0	100		0	2.9	94.3	2.9	51.5	47.4	42.1	10.5	27.9	2.9	97.1	
Total %	0	16.2	2.9		0	0	1.5		0	1.5	48.5	1.5		13.2	11.8	2.9				

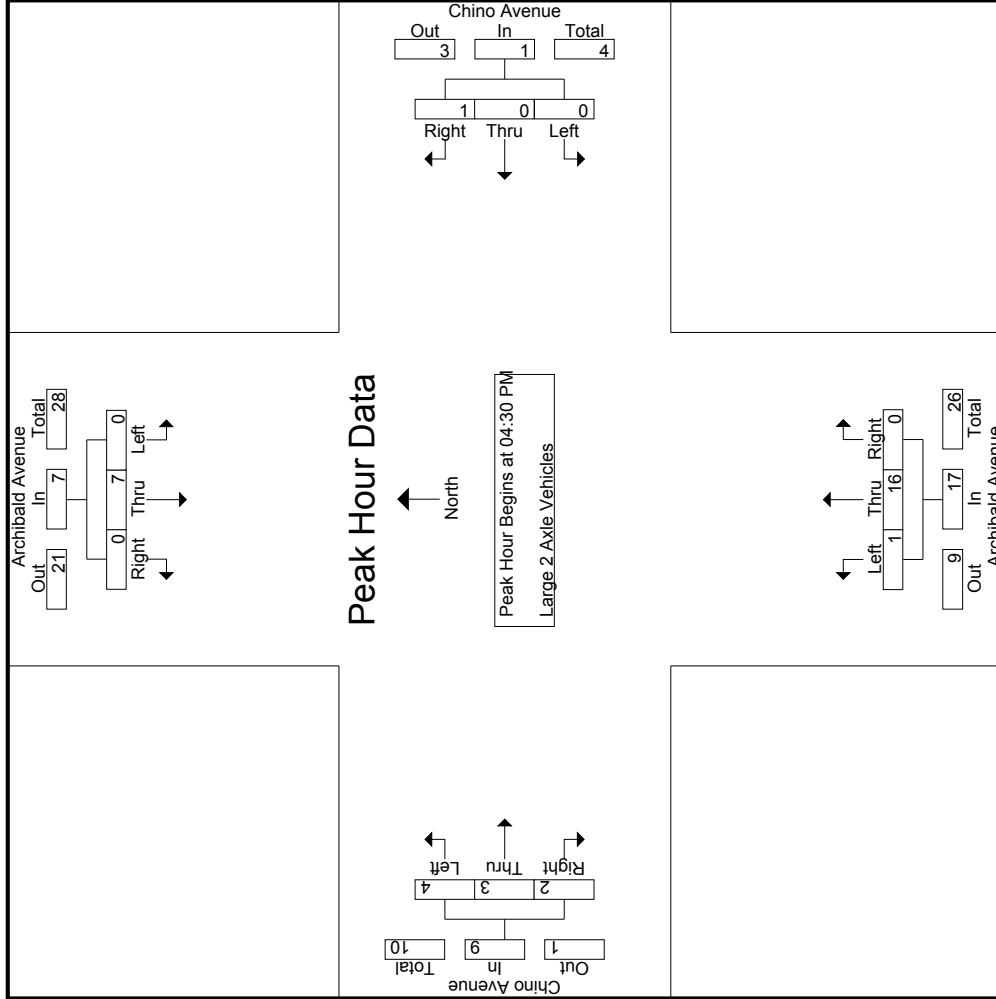
Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	0	1	1
05:00 PM	0	2	0	0	0	0	0	0	0	1	0	0	1	5	2	1	2	1	4	12
05:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	8
Total Volume	0	7	0	0	0	0	1	0	1	1	16	0	17	4	3	2	22.2	2	9	34
% App. Total	0	100	0	0	0	0	100	0	0	5.9	94.1	0	44.4	33.3	22.2					
PHF	.000	.875	.000		.000	.250		.000	.250	.250	.667	.000	.708	.333	.500		.563		.708	

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited
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 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	04:30 PM													
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	3	4
+15 mins.	0	2	0	0	0	0	0	0	2	0	1	0	0	1
+30 mins.	0	2	0	0	0	1	0	0	5	0	2	1	1	4
+45 mins.	0	2	0	0	0	0	0	0	6	0	0	0	0	0
Total Volume	0	7	0	0	0	1	1	1	16	0	3	2	4	9
% App. Total	0	100	0	0	0	100	5.9	94.1	0	0	33.3	22.2	44.4	56.3
PHF	.000	.875	.000	.000	.000	.250	.250	.667	.000	.000	.375	.500	.333	.563

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound						
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	4
04:15 PM	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4	4
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	2
Total	0	3	1	0	0	0	0	0	0	6	0	0	0	1	0	0	0	11	11
05:00 PM	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5	5
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	2
05:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	2	1	0	0	0	0	0	0	7	0	0	0	0	0	0	0	10	10
Grand Total	0	5	2	0	0	0	0	0	0	13	0	0	0	1	0	0	0	21	21
Approach %	0	71.4	28.6		0	0	0		0	100	0		0	100	0		0	21	21
Total %	0	23.8	9.5		0	0	0		0	61.9	0		0	4.8	0		0	100	100

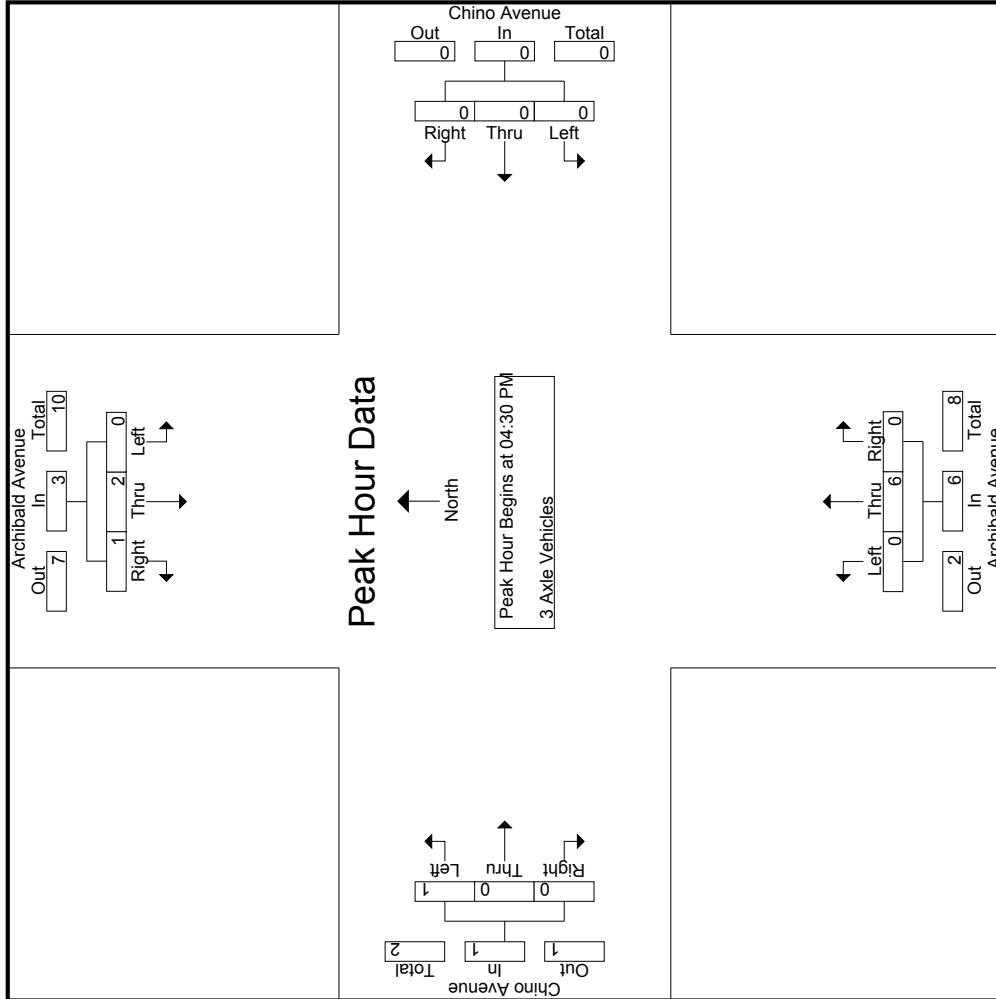
Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound						
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	2
05:00 PM	0	0	1	0	0	0	0	0	0	0	3	0	0	3	0	0	0	5	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	2	2
Total Volume	0	0	2	1	0	0	0	0	0	0	6	0	0	6	0	0	0	10	10
% App. Total	0	0	66.7	33.3	0	0	0	0	0	0	100	0	0	100	0	0	0	10	10
PHF	.000	.500	.250	.375	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.500	.500

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:30 PM			04:30 PM			04:30 PM			04:30 PM				
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	1	0	0	0	0	0	1
+30 mins.	0	1	1	0	0	0	0	3	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Total Volume	0	2	1	0	0	0	0	6	0	0	0	0	0	0
% App. Total	0	66.7	33.3	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.500	.250	.375	.000	.000	.000	.500	.000	.000	.000	.000	.250	.250

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	5
04:15 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	8	8
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	5	5
04:45 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	7	7
Total	0	15	0	0	15	0	0	0	0	0	0	9	0	0	9	1	0	0	0	1	0	0	25	25
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	0	0	9	9
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	7	7
05:30 PM	0	3	0	0	3	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	5	5
05:45 PM	0	1	0	0	1	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	4	4
Total	0	8	0	0	8	0	0	0	0	0	16	0	0	0	16	1	0	0	0	1	0	0	25	25
Grand Total	0	23	0	0	23	0	0	0	0	0	25	0	0	0	25	2	0	0	0	2	0	0	50	50
Approach %	0	100	0	0	46	0	0	0	0	0	100	0	0	0	50	4	0	0	0	4	0	0	100	100
Total %	0	46	0	0	46	0	0	0	0	0	50	0	0	0	50	4	0	0	0	4	0	0	100	100

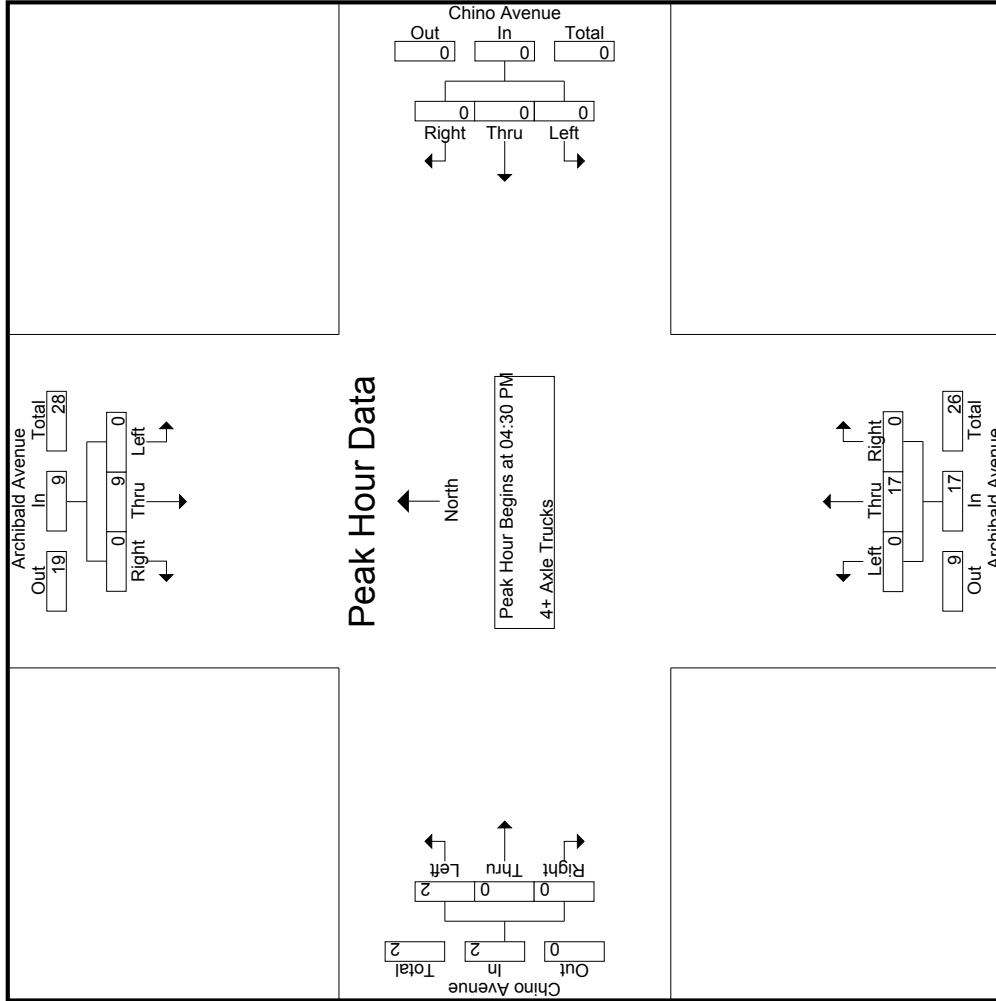
Start Time	Archibald Avenue Southbound				Chino Avenue Westbound				Archibald Avenue Northbound				Chino Avenue Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	1	5
04:45 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	7	7
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	0	0	9	9
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	7	7
Total Volume	0	9	0	0	9	0	0	0	0	0	17	0	0	0	17	2	0	0	0	2	0	0	28	28
% App. Total	0	100	0	0	750	0	0	0	0	0	100	0	0	0	100	100	0	0	0	0	0	0	778	778
PHF	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.708	.000	.000	.000	.708	.500	.000	.000	.000	.500	.000	.000	.778	.778

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue
 Weather: Clear

File Name : ONTARCHPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Chino Avenue Westbound			Archibald Avenue Northbound			Chino Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:30 PM			04:30 PM			04:30 PM			04:30 PM				
+0 mins.	0	3	0	0	0	0	0	0	1	0	0	0	1	1
+15 mins.	0	2	0	0	0	0	0	0	5	0	0	0	5	0
+30 mins.	0	2	0	0	0	0	0	0	6	0	0	0	6	1
+45 mins.	0	2	0	0	0	0	0	0	5	0	0	0	5	0
Total Volume	0	9	0	0	0	0	0	0	17	0	0	0	17	2
% App. Total	0	100	0	0	0	0	0	0	100	0	0	0	100	0
PHF	.000	.750	.000	.000	.000	.000	.000	.000	.708	.000	.000	.000	.708	.500
														.500

Location: Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg Chino Avenue	South Leg Archibald Avenue	West Leg Chino Avenue	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	0	3	0	0	3

	North Leg Archibald Avenue	East Leg Chino Avenue	South Leg Archibald Avenue	West Leg Chino Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	1	0	0	1
5:00 PM	0	1	0	0	1
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	4	0	1	5

Location: Ontario
 N/S: Archibald Avenue
 E/W: Chino Avenue



Date: 12/13/2016
 Day: Tuesday

BICYCLES

	North Leg Archibald Avenue	East Leg Chino Avenue	South Leg Archibald Avenue	West Leg Chino Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Archibald Avenue	East Leg Chino Avenue	South Leg Archibald Avenue	West Leg Chino Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound						
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	
07:00 AM	5	91	11	4	107	30	39	11	8	80	34	189	47	0	270	6	33	6	0	45	12	502	18	608	
07:15 AM	7	116	9	4	132	48	48	16	14	112	40	210	74	0	324	8	23	9	0	40	15	566	15	581	
07:30 AM	9	86	9	4	104	25	57	13	11	95	46	216	48	0	310	8	38	11	0	57	17	435	17	435	
07:45 AM	11	91	14	6	116	27	49	13	12	89	34	258	45	0	337	7	26	8	0	41	18	583	18	583	
Total	32	384	43	18	459	130	193	53	45	376	154	873	214	0	1241	29	120	34	0	183	63	2259	63	2259	
08:00 AM	3	78	12	2	93	47	69	9	7	125	46	191	39	0	276	4	25	10	0	39	9	533	9	533	
08:15 AM	8	100	10	4	118	30	53	10	6	93	29	245	40	0	314	2	22	5	0	29	10	554	10	554	
08:30 AM	6	77	13	9	96	19	47	15	6	81	41	193	36	0	270	7	26	9	0	42	15	489	15	489	
08:45 AM	10	63	7	3	80	27	32	19	14	78	20	195	25	0	240	6	18	13	0	37	17	435	17	435	
Total	27	318	42	18	387	123	201	53	33	377	136	824	140	0	1100	19	91	37	0	147	51	2011	51	2011	
Grand Total	59	702	85	36	846	253	394	106	78	753	290	1697	354	0	2341	48	211	71	0	330	114	4270	114	4270	
Approach %	7	83	10			33.6	52.3	14.1			12.4	72.5	15.1			14.5	63.9	21.5							
Total %	1.4	16.4	2			5.9	9.2	2.5			6.8	39.7	8.3			1.1	4.9	1.7			2.6	97.4			
Passenger Vehicles	46	640	77		798	195	350	90		704	281	1639	307		2227	40	170	52		262	0	0	0	0	3991
% Large 2 Axle Vehicles	78	91.2	90.6	97.2	90.5	77.1	88.8	84.9	88.5	84.7	96.9	96.6	86.7	0	95.1	83.3	80.6	73.2	0	79.4	0	0	0	0	91
% 3 Axle Vehicles	2	32	2		37	6	13	2		22	4	19	2		25	3	10	4		17	0	0	0	0	101
% 4+ Axle Trucks	3.4	4.6	2.4	2.8	4.2	2.4	3.3	1.9	1.3	2.6	1.4	1.1	0.6	0	1.1	6.2	4.7	5.6	0	5.2	0	0	0	0	2.3
3 Axle Vehicles	5	10	3		18	48	14	4		69	2	18	33		53	3	10	4		17	0	0	0	0	157
% 3 Axle Vehicles	8.5	1.4	3.5	0	2	19	3.6	3.8	3.8	8.3	0.7	1.1	9.3	0	2.3	6.2	4.7	5.6	0	5.2	0	0	0	0	3.6
4+ Axle Trucks	6	20	3		29	4	17	10		36	3	21	12		36	2	21	11		34	0	0	0	0	135
% 4+ Axle Trucks	10.2	2.8	3.5	0	3.3	1.6	4.3	9.4	6.4	4.3	1	1.2	3.4	0	1.5	4.2	10	15.5	0	10.3	0	0	0	0	3.1

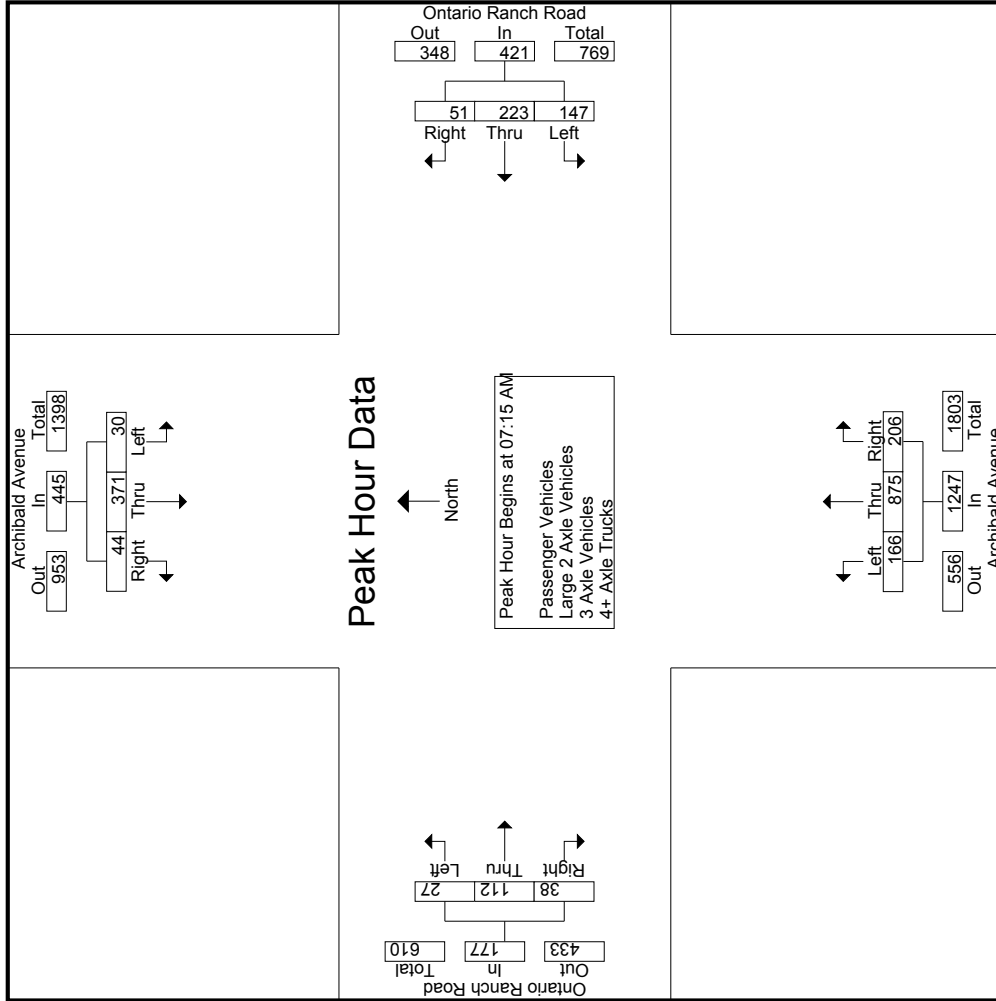
Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total	Exclu.	Total
07:15 AM	7	116	9			132	48	16		112	40	210	74		324	8	23	9		40	608			
07:30 AM	9	86	9		104	25	57	13		95	46	216	48		310	8	38	11		57	566			
07:45 AM	11	91	14		116	27	49	13		89	34	258	45		337	7	26	8		41	583			
08:00 AM	3	78	12		93	47	69	9		125	46	191	39		276	4	25	10		39	533			
Total Volume	30	371	44		445	147	223	51		421	166	875	206		1247	27	112	38		177	2290			
% App. Total	6.7	83.4	9.9		9.9	34.9	53	12.1		12.1	13.3	70.2	16.5		16.5	15.3	63.3	21.5		21.5	2290			
PHF	.682	.800	.786		.843	.766	.808	.797		.842	.902	.848	.696		.925	.844	.737	.864		.776	.942			

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
+0 mins.	5	91	11	48	16	112	40	210	74	6	33	6	45	
+15 mins.	7	116	9	57	13	95	46	216	48	8	23	9	40	
+30 mins.	9	86	9	49	13	89	34	258	45	8	38	11	57	
+45 mins.	11	91	14	69	9	125	46	191	39	7	26	8	41	
Total Volume	32	384	43	147	51	421	166	875	206	29	120	34	183	
% App. Total	7	83.7	9.4	34.9	12.1	84.2	13.3	70.2	16.5	15.8	65.6	18.6		
PHF	.727	.828	.768	.766	.797	.842	.902	.848	.696	.906	.789	.773	.803	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

07:00 AM 07:15 AM 07:15 AM 07:00 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

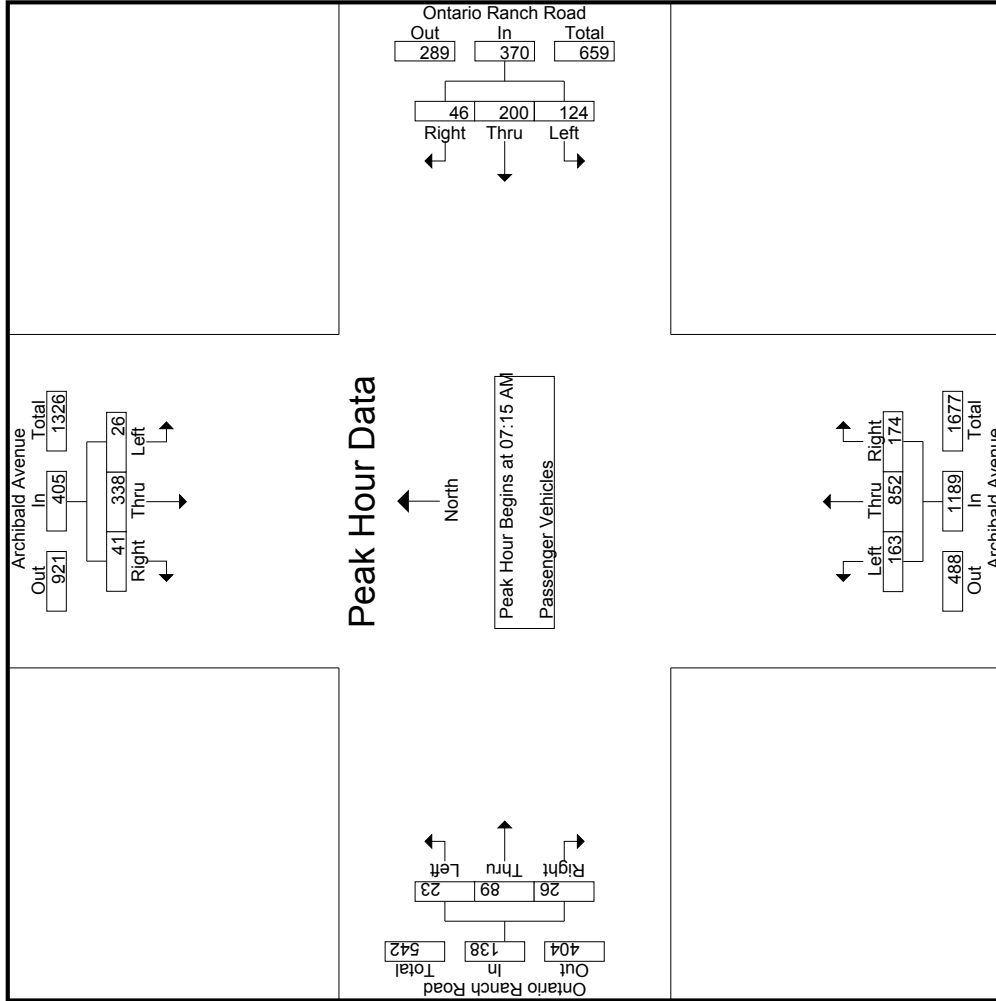
Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound						Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total				
07:00 AM	4	85	9	4	98		21	35	10	8	66		34	184	44	0	262		4	29	6	0	39		12	465	477
07:15 AM	7	103	8	4	118		35	45	16	14	96		38	206	65	0	309		8	19	9	0	36		18	559	577
07:30 AM	7	81	7	4	95		22	50	11	10	83		45	209	42	0	296		5	28	5	0	38		14	512	526
07:45 AM	9	84	14	6	107		23	47	12	11	82		34	252	36	0	322		6	23	5	0	34		17	545	562
Total	27	353	38	18	418		101	177	49	43	327		151	851	187	0	1189		23	99	25	0	147		61	2081	2142
08:00 AM	3	70	12	2	85		44	58	7	5	109		46	185	31	0	262		4	19	7	0	30		7	486	493
08:15 AM	6	94	8	4	108		21	50	8	5	79		24	231	34	0	289		2	18	3	0	23		9	499	508
08:30 AM	4	66	12	8	82		9	41	11	4	61		40	186	33	0	259		6	21	7	0	34		12	436	448
08:45 AM	6	57	7	3	70		20	24	15	12	59		20	186	22	0	228		5	13	10	0	28		15	385	400
Total	19	287	39	17	345		94	173	41	26	308		130	788	120	0	1038		17	71	27	0	115		43	1806	1849
Grand Total	46	640	77	35	763		195	350	90	69	635		281	1639	307	0	2227		40	170	52	0	262		104	3887	3991
Approach %	6	83.9	10.1		30.7		55.1	14.2			13.8		73.6	19.8			57.3		64.9	19.8			6.7		2.6	97.4	
Total %	1.2	16.5	2		19.6		9	2.3			7.9		42.2	7.9			16.3		4.4	1.3			6.7		2.6	97.4	

Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound								
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total				
07:15 AM	7	103	8		118		35	45	16		96		38	206	65		309		8	19	9		36		18	559	577
07:30 AM	7	81	7		95		22	50	11		83		45	209	42		296		5	28	5		38		14	512	526
07:45 AM	9	84	14		107		23	47	12		82		34	252	36		322		6	23	5		34		17	545	562
08:00 AM	3	70	12		85		9	24	15		59		20	186	22		228		5	13	10		28		15	385	400
Total Volume	26	338	41		405		124	200	46		370		163	852	174		1189		23	89	26		138		61	2081	2142
% App. Total	6.4	83.5	10.1		30.7		55.1	14.2			13.8		73.6	19.8			57.3		64.9	19.8			6.7		2.6	97.4	
PHF	.722	.820	.732		.858		.705	.862	.719		.849		.886	.845	.669		.923		.719	.722			.908		.940		

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound				Ontario Ranch Road Westbound				Archibald Avenue Northbound				Ontario Ranch Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	7	103	8	118	35	45	16	96	38	206	65	309	8	19	9	36
+15 mins.	7	81	7	95	22	50	11	83	45	209	42	296	5	28	5	38
+30 mins.	9	84	14	107	23	47	12	82	34	252	36	322	6	23	5	34
+45 mins.	3	70	12	85	44	58	7	109	46	185	31	262	4	19	7	30
Total Volume	26	338	41	405	124	200	46	370	163	852	174	1189	23	89	26	138
% App. Total	6.4	83.5	10.1		33.5	54.1	12.4		13.7	71.7	14.6		16.7	64.5	18.8	
PHF	.722	.820	.732	.858	.705	.862	.719	.849	.886	.845	.669	.923	.719	.795	.722	.908

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	3	0	0	4	1	0	0	0	1	0	0	0	0	0	1	2	0	0	3	0	8	8
07:15 AM	0	5	1	0	6	2	1	0	0	3	1	1	0	0	2	0	2	0	0	2	0	13	13
07:30 AM	0	5	0	0	5	1	4	1	0	6	1	1	0	0	2	1	0	2	0	3	0	16	16
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	1	1	1	0	3	0	8	8
Total	1	14	1	0	16	4	5	1	0	10	2	6	0	0	8	3	5	3	0	11	0	45	45
08:00 AM	0	4	0	0	4	0	4	0	0	4	0	3	1	0	4	0	1	0	0	1	0	13	13
08:15 AM	0	3	0	0	3	0	0	0	0	0	1	5	1	0	7	0	1	1	0	2	0	12	12
08:30 AM	1	6	1	1	8	1	1	0	0	2	1	1	0	0	2	0	1	0	0	1	1	13	14
08:45 AM	0	5	0	0	5	1	3	1	1	5	0	4	0	0	4	0	2	0	0	2	1	16	17
Total	1	18	1	1	20	2	8	1	1	11	2	13	2	0	17	0	5	1	0	6	2	54	56
Grand Total	2	32	2	1	36	6	13	2	1	21	4	19	2	0	25	3	10	4	0	17	2	99	101
Approach %	5.6	88.9	5.6		28.6	61.9	9.5			21.2	16	76	8		25.3	17.6	58.8	23.5		17.2	2	98	
Total %	2	32.3	2		36.4	6.1	13.1	2			4	19.2	2			3	10.1	4			2		

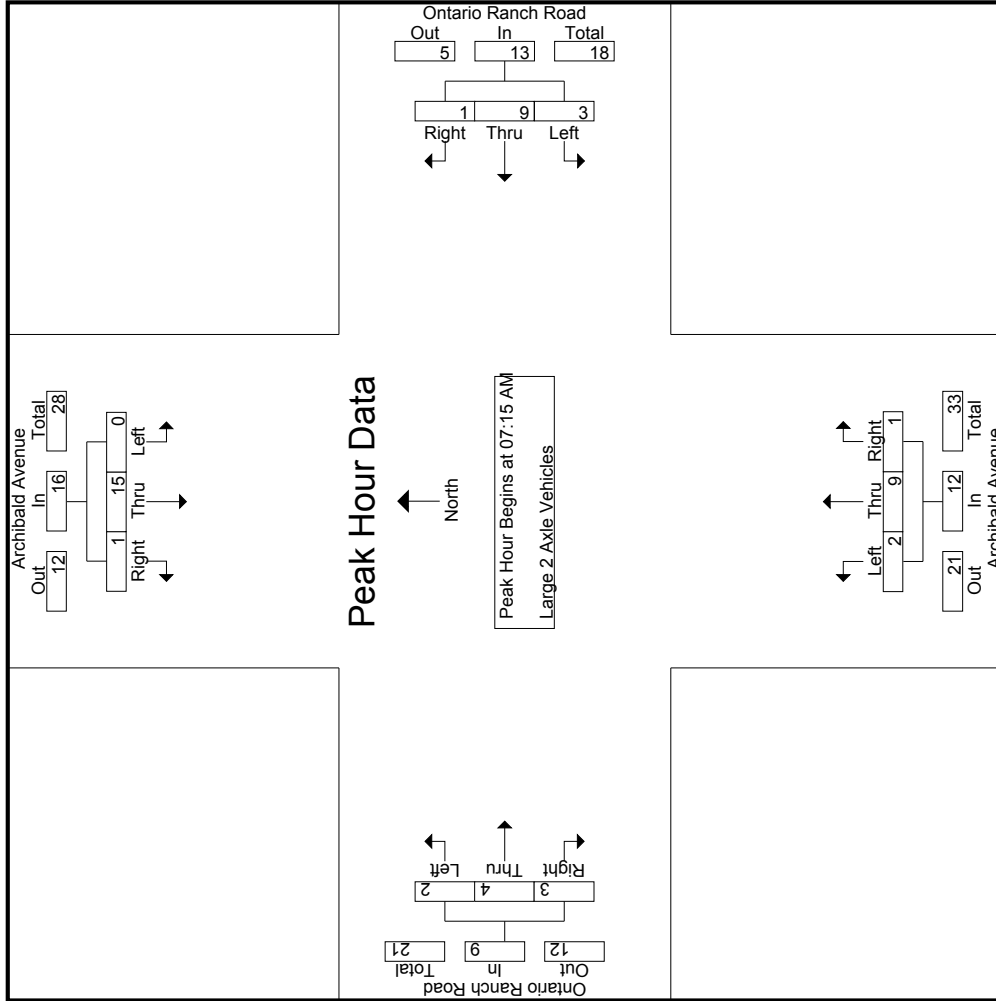
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	0	5	1	0	6	2	1	0	0	3	1	1	0	0	2	0	2	0	0	2	0	2	13	
07:30 AM	0	5	0	0	5	1	4	0	0	1	1	1	0	0	2	1	0	0	0	2	0	3	16	
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	1	1	1	0	1	0	3	8	
08:00 AM	0	4	0	0	4	0	4	0	0	4	0	3	1	0	4	0	1	0	0	1	0	1	13	
Total Volume	0	15	1	0	16	3	9	1	0	13	2	9	1	0	12	2	4	3	0	9	0	50	50	
% App. Total	0	93.8	6.2		23.1	69.2	7.7			8.3	16.7	75	8.3		22.2	44.4	33.3			33.3				
PHF	.000	.750	.250		.667	.375	.563	.250		.542	.500	.563	.250		.750	.500	.375	.750		.750				.781

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
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 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



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City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	07:15 AM													
Peak Hour for Each Approach Begins at:	07:15 AM													
+0 mins.	0	5	1	2	1	0	3	1	0	0	2	0	2	
+15 mins.	0	5	0	1	4	1	6	1	0	0	2	0	3	
+30 mins.	0	1	0	0	0	0	0	0	0	0	4	1	3	
+45 mins.	0	4	0	0	4	0	4	0	0	1	4	0	1	
Total Volume	0	15	1	3	9	1	13	2	9	1	12	4	9	
% App. Total	0	93.8	6.2	23.1	69.2	7.7	54.2	16.7	75	8.3	22.2	44.4	33.3	
PHF	.000	.750	.250	.375	.563	.250	.542	.500	.563	.250	.750	.500	.375	.750

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	1	2	0	3	8	1	0	0	9	0	2	1	0	3	1	2	0	0	3	0	18	18
07:15 AM	0	2	0	0	2	9	1	0	0	10	0	2	6	0	8	0	1	0	0	1	0	21	21
07:30 AM	0	0	1	0	1	2	1	0	0	3	0	3	4	0	7	1	1	1	0	3	0	14	14
07:45 AM	2	2	0	0	4	4	1	1	1	6	0	0	6	0	6	0	2	0	0	2	1	18	19
Total	2	5	3	0	10	23	4	1	1	28	0	7	17	0	24	2	6	1	0	9	1	71	72
08:00 AM	0	1	0	0	1	2	4	0	0	6	0	1	5	0	6	0	1	1	0	2	0	15	15
08:15 AM	1	3	0	0	4	9	2	1	1	12	2	6	5	0	13	0	0	0	0	0	1	29	30
08:30 AM	0	1	0	0	1	8	2	1	0	11	0	2	3	0	5	1	1	0	0	2	0	19	19
08:45 AM	2	0	0	0	2	6	2	1	1	9	0	2	3	0	5	0	2	2	0	4	1	20	21
Total	3	5	0	0	8	25	10	3	2	38	2	11	16	0	29	1	4	3	0	8	2	83	85
Grand Total	5	10	3	0	18	48	14	4	3	66	2	18	33	0	53	3	10	4	0	17	3	154	157
Approach %	27.8	55.6	16.7			72.7	21.2	6.1			3.8	34	62.3			17.6	58.8	23.5			1.9	98.1	
Total %	3.2	6.5	1.9		11.7	31.2	9.1	2.6		42.9	1.3	11.7	21.4		34.4	1.9	6.5	2.6		11	1.9	98.1	

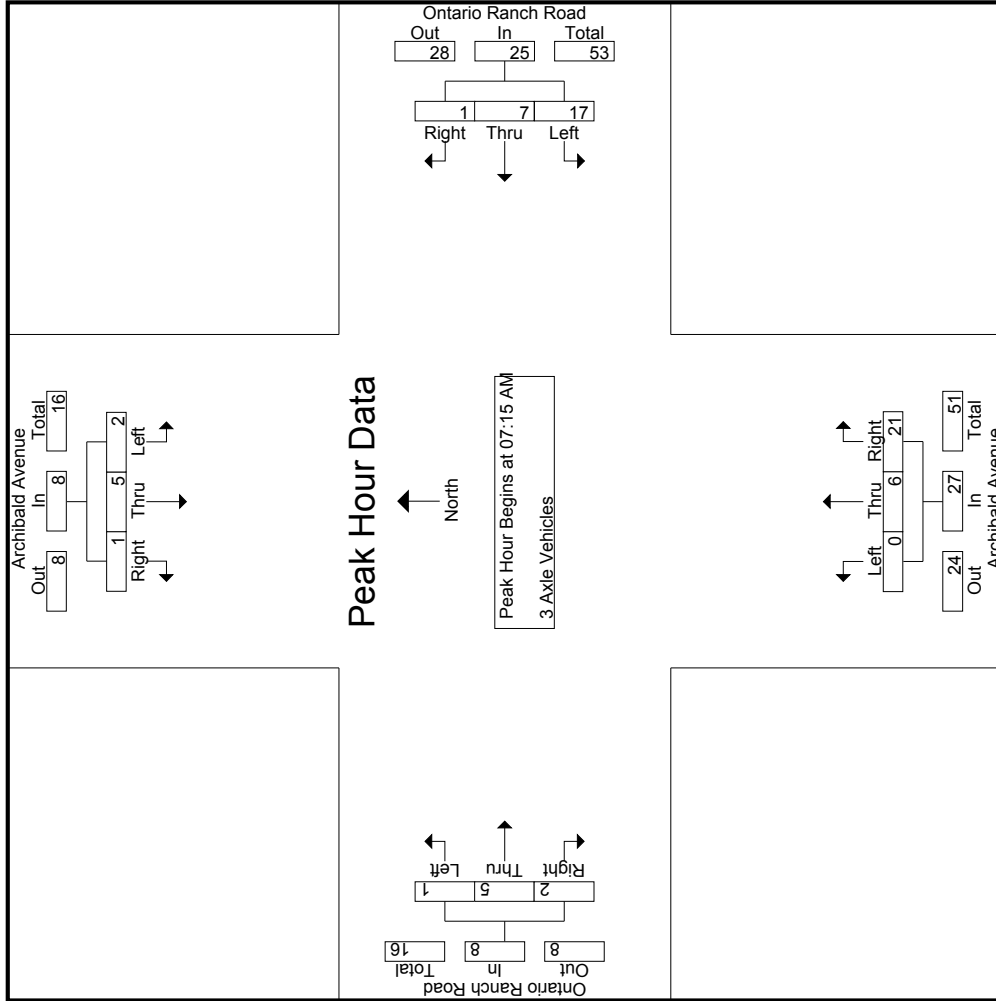
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:15 AM	0	2	0	0	2	9	1	0	0	10	0	2	2	0	4	0	1	0	0	1	0	1	1
07:30 AM	0	0	1	0	1	2	1	0	0	3	0	3	4	0	7	1	1	1	0	3	1	3	14
07:45 AM	2	2	0	0	4	4	1	1	1	6	0	6	6	0	12	0	2	0	0	2	0	2	18
08:00 AM	0	1	0	0	1	2	2	4	0	6	0	6	1	1	7	0	1	1	0	2	1	2	15
Total Volume	2	5	1	0	8	17	7	1	1	25	0	6	21	0	27	1	5	2	0	8	2	68	68
% App. Total	.25	.625	.125		.500	.68	.28	.4		.429	.0	.222	.778		.625	.125	.625	.25		.11	.625	.810	
PHF	.250	.625	.250		.500	.472	.438	.250		.625	.000	.500	.875		.844	.250	.625	.500		.667	.667	.810	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
+0 mins.	0	2	0	9	1	0	0	2	6	0	1	0	1	
+15 mins.	0	0	1	2	1	0	0	3	4	1	1	1	3	
+30 mins.	2	2	0	4	1	1	0	6	6	0	2	0	2	
+45 mins.	0	1	0	2	4	0	0	6	5	0	1	1	2	
Total Volume	2	5	1	17	7	1	0	25	21	1	5	2	8	
% App. Total	25	62.5	12.5	68	28	4	0	22.2	77.8	12.5	62.5	25		
PHF	.250	.625	.250	.472	.438	.250	.000	.500	.875	.250	.625	.500	.667	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

07:15 AM 07:15 AM 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	2	0	0	2	0	3	1	0	4	0	3	2	0	5	0	0	0	0	0	0	11	11
07:15 AM	0	6	0	0	6	2	1	0	0	3	1	1	3	0	5	0	1	0	0	1	0	15	15
07:30 AM	2	0	1	0	3	0	2	1	1	3	0	3	2	0	5	1	9	3	0	13	1	24	25
07:45 AM	0	4	0	0	4	0	1	0	0	1	0	2	3	0	5	0	0	2	0	2	0	12	12
Total	2	12	1	0	15	2	7	2	1	11	1	9	10	0	20	1	10	5	0	16	1	62	63
08:00 AM	0	3	0	0	3	1	3	2	2	6	0	2	2	0	4	0	4	2	0	6	2	19	21
08:15 AM	1	0	2	0	3	0	1	1	0	2	2	3	0	0	5	0	3	1	0	4	0	14	14
08:30 AM	1	4	0	0	5	1	3	3	2	7	0	4	0	0	4	0	3	2	0	5	2	21	23
08:45 AM	2	1	0	0	3	0	3	2	0	5	0	3	0	0	3	1	1	1	0	3	0	14	14
Total	4	8	2	0	14	2	10	8	4	20	2	12	2	0	16	1	11	6	0	18	4	68	72
Grand Total	6	20	3	0	29	4	17	10	5	31	3	21	12	0	36	2	21	11	0	34	5	130	135
Approach %	20.7	69	10.3		12.9	54.8	32.3			23.8	8.3	58.3	33.3		27.7	5.9	61.8	32.4		26.2	3.7	96.3	
Total %	4.6	15.4	2.3		22.3	3.1	13.1	7.7			2.3	16.2	9.2			1.5	16.2	8.5					

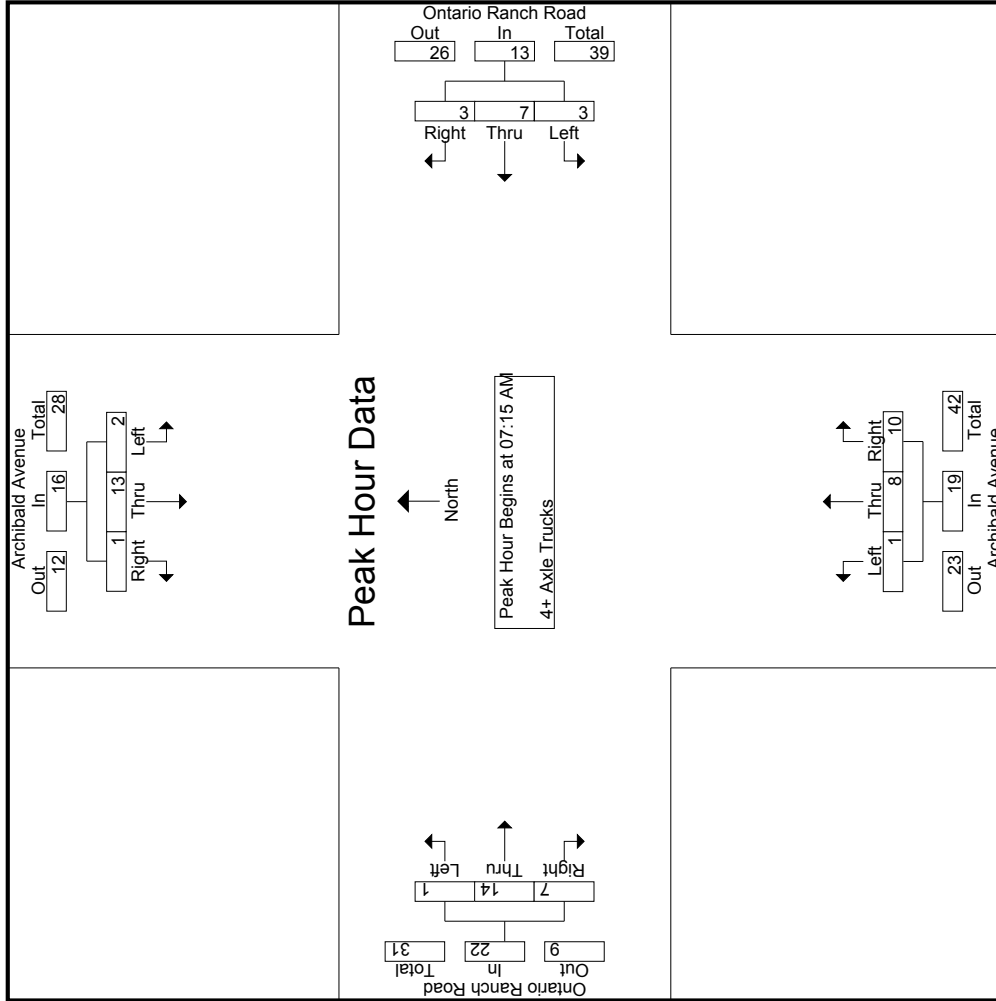
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:15 AM	0	6	0		6	2	1	1		3	1	1	1		3	0	1	0		1	0	1	15
07:30 AM	2	0	1		3	0	2	1		1	0	3	0		3	0	3	1		9	3	13	24
07:45 AM	0	4	0		4	0	1	1		0	0	2	2		3	0	0	0		0	2	2	12
08:00 AM	0	3	0		3	1	3	1		3	0	2	2		2	0	4	2		4	2	6	19
Total Volume	2	13	1		16	3	7	3		13	1	8	10		19	1	14	7		22	7	70	
% App. Total	12.5	81.2	6.2		23.1	53.8	23.1			52.6	5.3	42.1	52.6		31.8	4.5	63.6	31.8					
PHF	.250	.542	.250		.667	.375	.583	.375		.542	.250	.667	.833		.950	.250	.389	.583		.423			.729

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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 (951) 268-6268

File Name : ONTARONAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM			07:15 AM			07:15 AM			07:15 AM				
+0 mins.	0	6	0	2	1	0	1	3	3	1	0	1	5	1
+15 mins.	2	0	1	0	2	1	0	3	3	3	2	9	5	13
+30 mins.	0	4	0	0	1	0	0	1	1	0	3	0	5	2
+45 mins.	0	3	0	1	3	2	0	6	6	2	2	4	4	6
Total Volume	2	13	1	3	7	3	1	13	13	8	10	14	19	22
% App. Total	12.5	81.2	6.2	23.1	53.8	23.1	5.3	42.1	52.6	4.5	63.6	31.8	95.0	423
PHF	.250	.542	.250	.375	.583	.375	.250	.667	.833	.250	.389	.583	.950	.423

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
04:00 PM	17	158	12	6	187	0	38	22	10	7	70	0	12	146	36	0	194	0	19	63	17	0	99	0
04:15 PM	13	142	7	0	162	0	39	27	10	5	76	0	17	116	40	0	175	0	15	85	26	0	126	0
04:30 PM	7	180	16	8	203	0	34	27	8	6	69	0	17	163	41	0	221	0	18	68	23	0	109	0
04:45 PM	8	186	10	2	204	0	30	39	12	8	101	0	13	155	45	0	213	0	18	94	16	0	128	0
Total	45	666	45	16	756	0	161	115	40	26	316	0	61	580	162	0	803	0	70	310	82	0	462	0
05:00 PM	14	175	10	4	199	0	43	33	7	6	83	0	18	143	37	0	198	0	16	103	34	0	153	0
05:15 PM	7	211	8	1	226	0	56	28	6	4	90	0	18	123	37	0	178	0	30	72	24	0	126	0
05:30 PM	7	196	12	1	215	0	55	40	8	4	103	0	12	136	29	0	177	0	33	87	31	1	151	0
05:45 PM	12	178	14	3	204	0	52	32	10	6	94	0	16	121	31	0	168	0	21	85	24	0	130	0
Total	40	760	44	9	844	0	206	133	31	20	370	0	64	523	134	0	721	0	100	347	113	1	560	0
Grand Total	85	1426	89	25	1600	0	367	248	71	46	686	0	125	1103	296	0	1524	0	170	657	195	1	1022	0
Approach %	5.3	89.1	5.6		53.5	36.2	10.3		8.2	72.4	19.4		8.2	72.4	19.4		16.6	64.3	19.1		16.6	64.3	19.1	
Total %	1.8	29.5	1.8		33.1	7.6	5.1	1.5	14.2	2.6	22.8	6.1	31.5	3.5	13.6	4	21.2	0	0	0	21.2	0	0	0
Passenger Vehicles	81	1397	85		1585	352	229	67	690	123	1060	266	1449	158	625	192	976	0	0	0	976	0	0	0
% Passenger Vehicles	95.3	98	95.5	88	97.5	95.9	94.4	91.3	94.3	98.4	96.1	89.9	0	95.1	98.5	100	95.4	0	0	0	95.4	0	0	0
Large 2 Axle Vehicles	2	8	2		14	2	7	0	9	2	25	14	41	2	17	1	20	0	0	0	20	0	0	0
% Large 2 Axle Vehicles	2.4	0.6	2.2	8	0.9	0.5	2.8	0	1.2	1.6	2.3	4.7	0	2.7	0.5	0	2	0	0	0	2	0	0	0
3 Axle Vehicles	1	4	0		5	1	2	3	9	0	4	6	10	4	5	0	9	0	0	0	9	0	0	0
% 3 Axle Vehicles	1.2	0.3	0	0	0.3	0.3	0.8	4.2	1.2	0	0.4	2	0	0.7	0	0	0.9	0	0	0	0.9	0	0	0
4+ Axle Trucks	1	17	2		21	12	10	1	24	0	14	10	24	6	10	2	18	0	0	0	18	0	0	0
% 4+ Axle Trucks	1.2	1.2	2.2	4	1.3	3.3	4	1.4	3.3	0	1.3	3.4	0	1.6	1.5	1	1.8	0	0	0	1.8	0	0	0

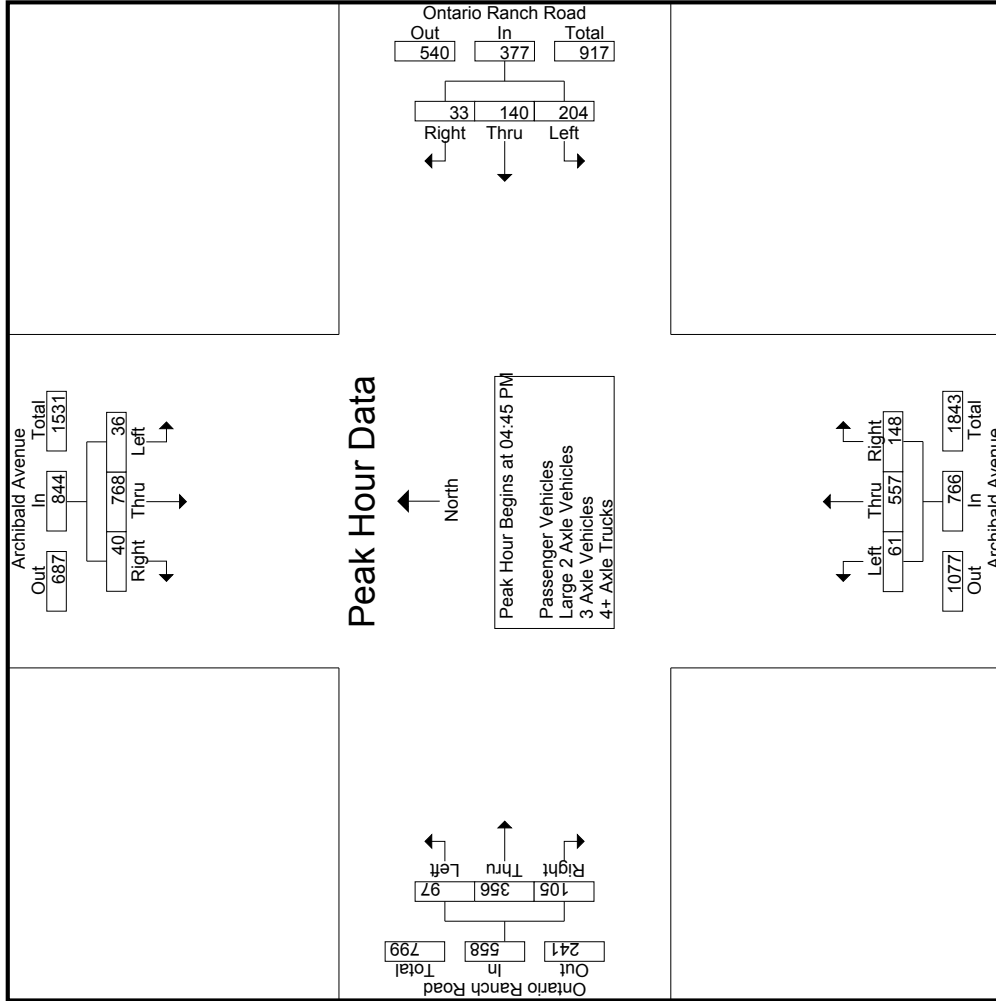
Start Time	Archibald Avenue Southbound						Ontario Ranch Road Westbound						Archibald Avenue Northbound						Ontario Ranch Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
04:45 PM	8	186	10		204	0	50	39	12		101	0	13	155	45		213	0	18	94	16		128	0
05:00 PM	14	175	10		199	0	43	33	7		83	0	18	143	37		198	0	16	103	34		153	0
05:15 PM	7	211	8		226	0	56	28	6		90	0	18	123	37		178	0	30	72	24		126	0
05:30 PM	7	196	12		215	0	55	40	8		103	0	12	136	29		177	0	33	87	31		151	0
Total Volume	36	768	40		844	0	204	140	33		377	0	61	557	148		766	0	97	356	105		558	0
% App. Total	4.3	91	4.7		4.7	0	54.1	37.1	8.8		8.8	0	8	72.7	19.3		19.3	0	17.4	63.8	18.8		18.8	0
PHF	.643	.910	.833		.934	0	.911	.875	.688		.915	0	.847	.898	.822		.899	0	.735	.864	.772		.912	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound				Ontario Ranch Road Westbound				Archibald Avenue Northbound				Ontario Ranch Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:30 PM				05:00 PM			
+0 mins.	8	186	10	204	50	39	12	101	17	163	41	221	16	103	34	153
+15 mins.	14	175	10	199	43	33	7	83	13	155	45	213	30	72	24	126
+30 mins.	7	211	8	226	56	28	6	90	18	143	37	198	33	87	31	151
+45 mins.	7	196	12	215	55	40	8	103	18	123	37	178	21	85	24	130
Total Volume	36	768	40	844	204	140	33	377	66	584	160	810	100	347	113	560
% App. Total	4.3	91	4.7	934	54.1	37.1	8.8	915	8.1	72.1	19.8	916	17.9	62	20.2	915
PHF	.643	.910	.833	.934	.911	.875	.688	.915	.917	.896	.889	.916	.758	.842	.831	.915

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

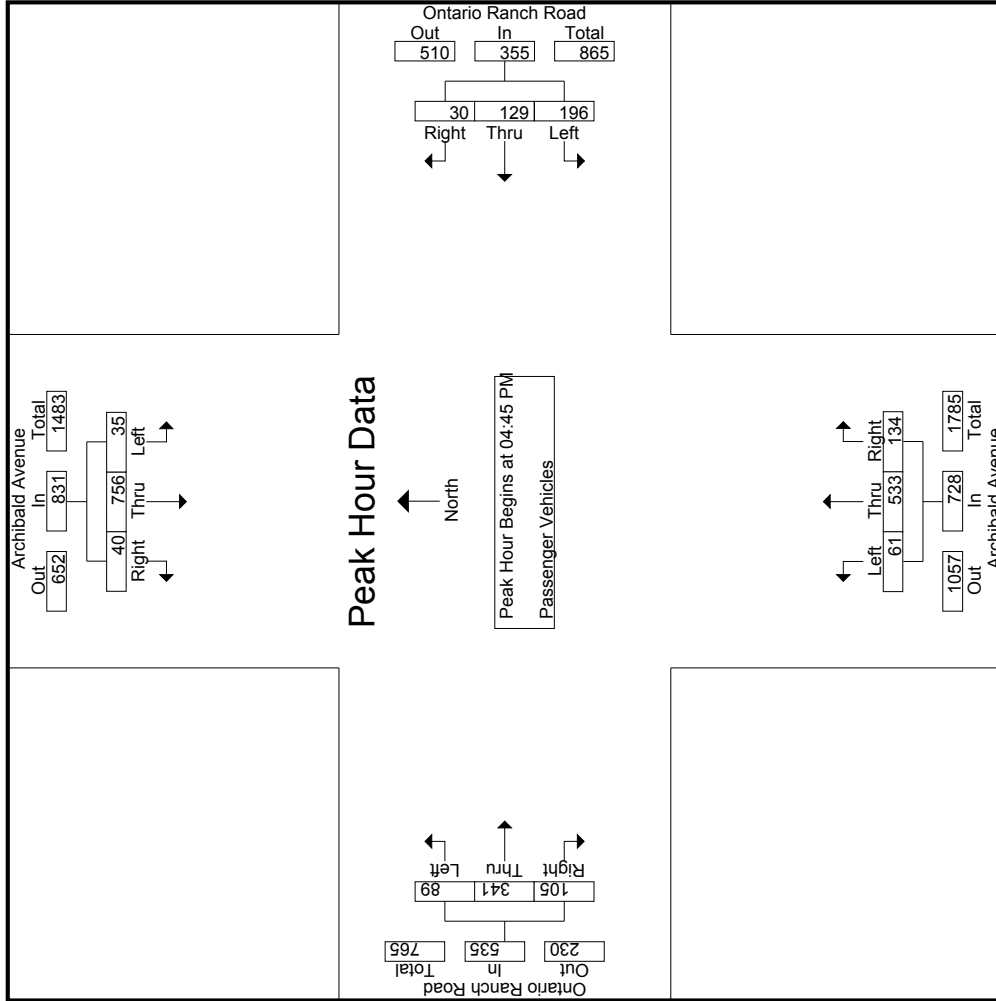
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	16	152	10	4	178	34	19	10	7	63	12	142	32	0	186	18	60	16	0	94	11	521	532
04:15 PM	12	135	7	0	154	37	26	10	5	73	18	108	34	0	160	15	81	24	0	120	5	507	512
04:30 PM	6	177	15	8	198	33	25	7	5	65	16	159	37	0	212	17	62	23	0	102	13	577	590
04:45 PM	8	184	10	2	202	48	32	12	8	92	13	148	40	0	201	18	90	16	0	124	10	619	629
Total	42	648	42	14	732	152	102	39	25	293	59	557	143	0	759	68	293	79	0	440	39	2224	2263
05:00 PM	13	173	10	4	196	40	31	5	4	76	18	134	33	0	185	13	100	34	0	147	8	604	612
05:15 PM	7	204	8	1	219	56	28	6	4	90	18	117	34	0	169	27	66	24	0	117	5	595	600
05:30 PM	7	195	12	1	214	52	38	7	3	97	12	134	27	0	173	31	85	31	1	147	5	631	636
05:45 PM	12	177	13	2	202	52	30	10	6	92	16	118	29	0	163	19	81	24	0	124	8	581	589
Total	39	749	43	8	831	200	127	28	17	355	64	503	123	0	690	90	332	113	1	535	26	2411	2437
Grand Total	81	1397	85	22	1563	352	229	67	42	648	123	1060	266	0	1449	158	625	192	1	975	65	4635	4700
Approch %	5.2	89.4	5.4		33.7	54.3	35.3	10.3		14	8.5	73.2	18.4		31.3	16.2	64.1	19.7		21	1.4	98.6	
Total %	1.7	30.1	1.8			7.6	4.9	1.4			2.7	22.9	5.7			3.4	13.5	4.1					
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
04:45 PM	8	184	10		202	48	32	12		92	13	148	40		201	18	90	16		124			619
05:00 PM	13	173	10		196	40	31	5		76	18	134	33		185	13	100	34		147			604
05:15 PM	7	204	8		219	56	28	6		90	18	117	34		169	27	66	24		117			595
05:30 PM	7	195	12		214	52	38	7		97	12	134	27		173	31	85	31		147			631
Total Volume	35	756	40		831	196	129	30		355	61	533	134		728	89	341	105		535			2449
% App. Total	4.2	91	4.8		4.8	55.2	36.3	8.5		18.4	8.4	73.2	18.4		19.6	16.6	63.7	19.6					
PHF	.673	.926	.833		.949	.875	.849	.625		.915	.847	.900	.838		.905	.718	.853	.772		.910			.970

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound				Ontario Ranch Road Westbound				Archibald Avenue Northbound				Ontario Ranch Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	8	184	10	202	48	32	12	92	13	148	40	201	18	90	16	124
+15 mins.	13	173	10	196	40	31	5	76	18	134	33	185	13	100	34	147
+30 mins.	7	204	8	219	56	28	6	90	18	117	34	169	27	66	24	117
+45 mins.	7	195	12	214	52	38	7	97	12	134	27	173	31	85	31	147
Total Volume	35	756	40	831	196	129	30	355	61	533	134	728	89	341	105	535
% App. Total	4.2	91	4.8	85.2	55.2	36.3	8.5	8.4	73.2	18.4	18.4	16.6	63.7	19.6	19.6	91.0
PHF	.673	.926	.833	.949	.875	.849	.625	.915	.847	.900	.838	.905	.718	.853	.772	.910

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	1	2	2	4	0	0	0	0	0	0	3	2	0	5	0	2	0	0	2	2	11	13
04:15 PM	0	1	0	0	1	0	0	0	0	0	1	5	4	0	10	0	0	1	0	1	0	12	12
04:30 PM	0	1	0	0	1	0	0	0	0	0	1	2	2	0	5	0	4	0	0	4	0	10	10
04:45 PM	0	1	0	0	1	1	4	0	0	5	4	4	2	0	6	0	3	0	0	3	0	15	15
Total	1	4	2	2	7	1	4	0	0	5	2	14	10	0	26	0	9	1	0	10	2	48	50
05:00 PM	1	0	0	0	1	0	2	0	0	2	0	5	0	0	5	0	2	0	0	2	0	10	10
05:15 PM	0	4	0	0	4	0	0	0	0	0	4	1	0	0	5	1	2	0	0	3	0	12	12
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	1	2	0	3	0	2	0	0	2	0	6	6
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	1	2	0	0	3	0	6	6
Total	1	4	0	0	5	1	3	0	0	4	0	11	4	0	15	2	8	0	0	10	0	34	34
Grand Total	2	8	2	2	12	2	7	0	0	9	2	25	14	0	41	2	17	1	0	20	2	82	84
Approch %	16.7	66.7	16.7		22.2	77.8	0			4.9	61	34.1			50	10	85	5		24.4	2.4	97.6	
Total %	2.4	9.8	2.4		14.6	8.5	0			2.4	30.5	17.1				2.4	20.7	1.2					

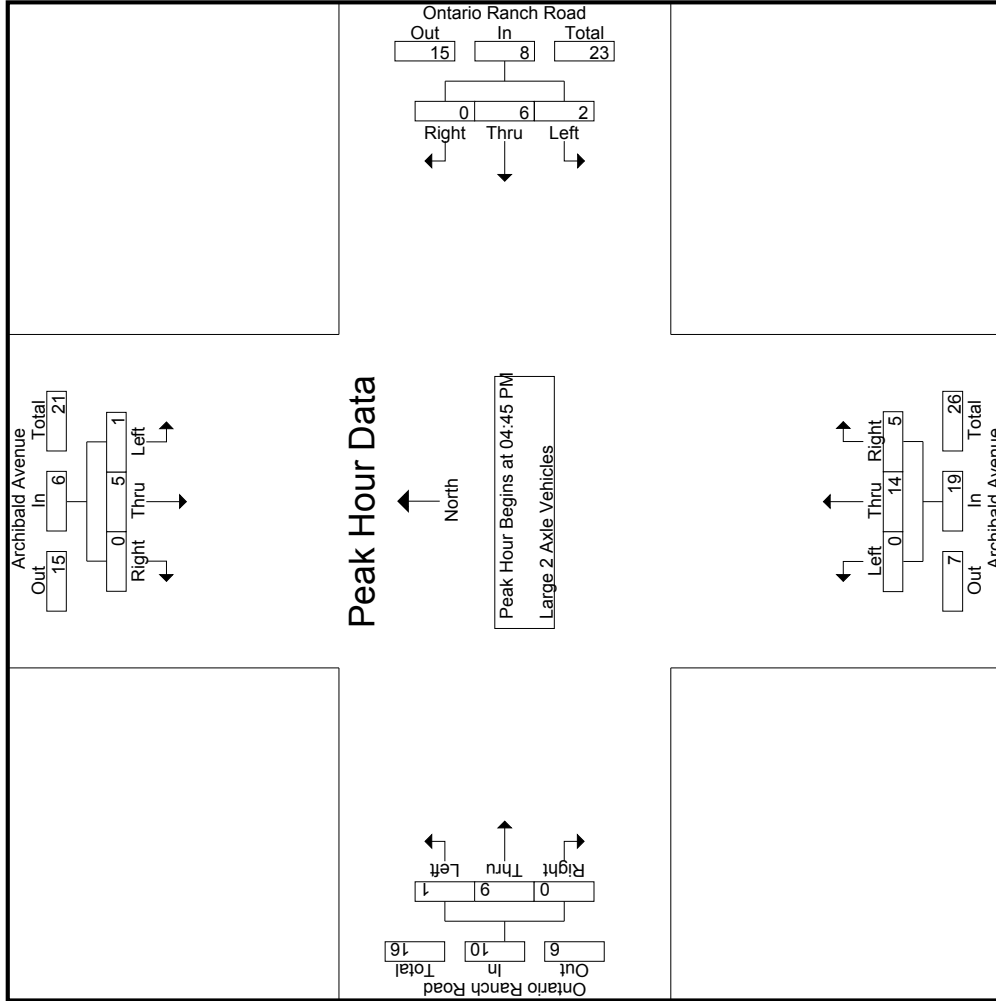
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	1	4	0	0	5	0	4	4	2	6	0	3	0	0	3	0	3	15
05:00 PM	1	0	0	0	1	0	2	0	0	2	0	5	5	0	5	0	2	0	0	2	0	2	10
05:15 PM	0	4	0	0	4	0	0	0	0	0	0	4	4	1	5	1	2	0	0	3	0	3	12
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	1	1	2	3	0	2	0	0	2	0	2	6
Total Volume	1	5	0	0	6	2	6	0	0	8	0	14	5	1	19	1	9	0	0	10	0	10	43
% App. Total	16.7	83.3	0		25	75	0			73.7	26.3				10	90	0						
PHF	.250	.313	.000		.375	.500	.375	.000		.400	.700	.625	.792	.250	.750	.000	.833	.000					.717

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM			04:45 PM			04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	1	0	1	4	0	0	0	4	0	0	0	3	0	3
+15 mins.	1	0	0	0	2	0	0	0	5	0	0	0	2	0	2
+30 mins.	0	4	0	4	0	0	0	0	4	1	1	1	5	0	3
+45 mins.	0	0	0	0	0	0	0	0	1	2	2	0	3	0	2
Total Volume	1	5	0	6	2	6	0	0	14	5	5	1	19	9	10
% App. Total	16.7	83.3	0	25	75	0	0	0	73.7	26.3	0	10	90	0	0
PHF	.250	.313	.000	.375	.375	.000	.000	.000	.700	.625	.792	.250	.750	.000	.833

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	1	0	0	1	1	1	0	0	2	0	1	2	0	3	1	0	0	0	1	0	7	7	7
04:15 PM	1	0	0	0	1	0	1	0	0	1	0	2	1	0	3	0	1	0	0	1	0	6	6	6
04:30 PM	0	1	0	0	1	0	0	1	1	1	0	0	1	0	1	0	0	0	0	0	1	3	4	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1
Total	1	2	0	0	3	1	2	1	1	4	0	3	5	0	8	1	1	0	0	2	1	17	18	18
05:00 PM	0	1	0	0	1	0	0	1	1	1	0	1	0	0	1	2	1	0	0	3	1	6	7	7
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	3	3	3
05:30 PM	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	1	2	3	3
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2	2
Total	0	2	0	0	2	0	0	2	2	2	0	1	1	0	2	3	4	0	0	7	2	13	15	15
Grand Total	1	4	0	0	5	1	2	3	3	6	0	4	6	0	10	4	5	0	0	9	3	30	33	33
Approach %	20	80	0	0	16.7	3.3	33.3	50	60	20	0	40	60	0	33.3	44.4	55.6	0	0	30	9.1	90.9	90.9	
Total %	3.3	13.3	0	0	16.7	3.3	6.7	10	20	20	0	13.3	20	0	33.3	13.3	16.7	0	0	30	9.1	90.9	90.9	

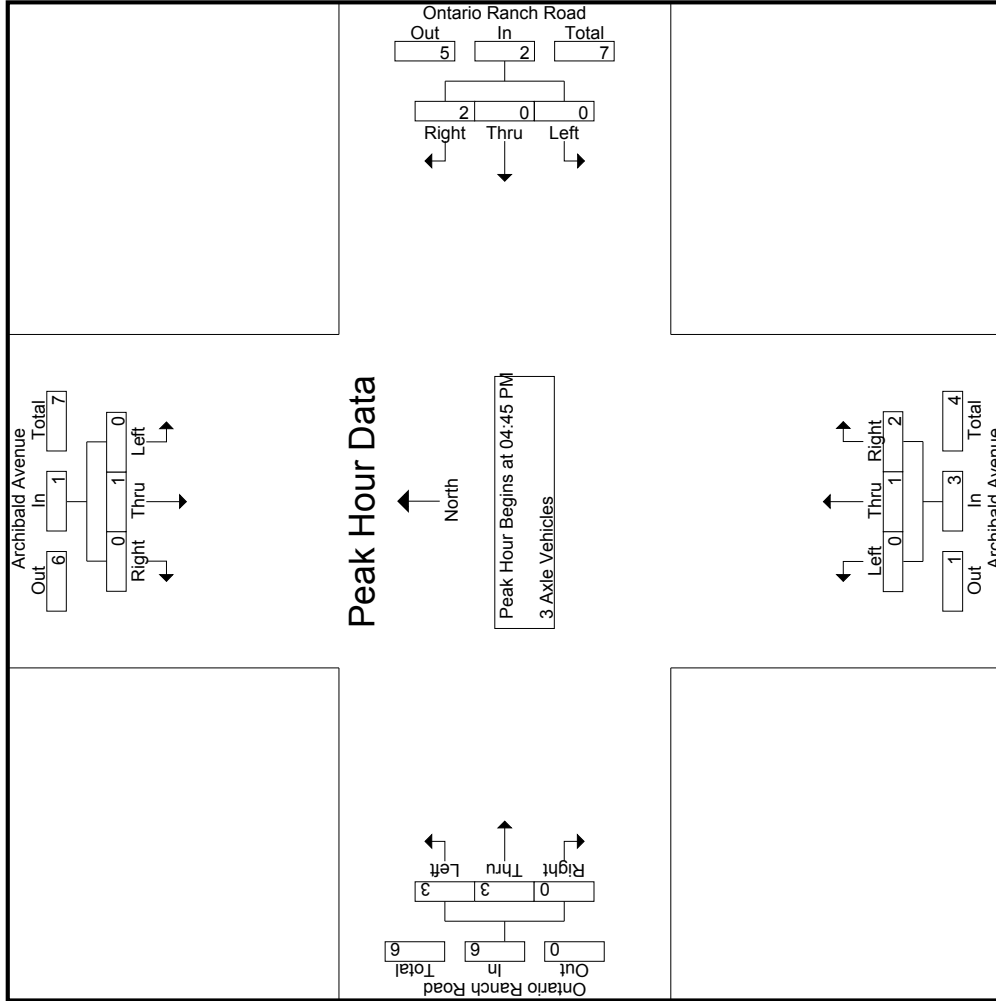
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	1	0	0	1	0	0	1	1	1	0	0	1	0	1	0	1	0	0	1	0	3	6	6
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
Total Volume	0	1	0	0	1	0	0	2	2	2	0	0	1	1	2	0	3	0	0	3	0	6	12	12
% App. Total	0	100	0	0	100	0	0	100	100	100	0	0	33.3	66.7	66.7	50	50	0	0	50	0	6	12	12
PHF	.000	.250	.000	.000	.250	.000	.000	.500	.500	.500	.000	.000	.250	.500	.750	.375	.375	.000	.000	.375	.500	.500	.500	.500

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Ontario Ranch Road Westbound			Archibald Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:45 PM													
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	1	0	0	1	0	0	1	0	3
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2
+45 mins.	0	0	0	0	0	1	0	0	0	0	1	0	0	1
Total Volume	0	1	0	0	0	2	0	1	2	3	3	0	0	6
% App. Total	0	100	0	0	0	100	0	33.3	66.7	50	50	0	0	
PHF	.000	.250	.000	.000	.000	.500	.000	.250	.500	.375	.375	.000	.000	.500

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	4	0	0	4	3	2	0	0	5	0	0	0	0	0	0	1	1	0	2	0	11	11
04:15 PM	0	6	0	0	6	2	0	0	0	2	0	1	1	0	2	0	3	1	0	4	0	14	14
04:30 PM	1	1	1	0	3	1	2	0	0	3	0	2	1	0	3	1	2	0	0	3	0	12	12
04:45 PM	0	1	0	0	1	1	3	0	0	4	0	3	2	0	5	0	1	0	0	1	0	11	11
Total	1	12	1	0	14	7	7	0	0	14	0	6	4	0	10	1	7	2	0	10	0	48	48
05:00 PM	0	1	0	0	1	3	0	1	1	4	0	3	4	0	7	1	0	0	0	1	1	13	14
05:15 PM	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	2	2	0	0	4	0	10	10
05:30 PM	0	1	0	0	1	2	2	0	0	4	0	1	0	0	1	1	0	0	0	1	0	7	7
05:45 PM	0	0	1	1	1	0	1	0	0	1	0	2	1	0	3	1	1	0	0	2	1	7	8
Total	0	5	1	1	6	5	3	1	1	9	0	8	6	0	14	5	3	0	0	8	2	37	39
Grand Total	1	17	2	1	20	12	10	1	1	23	0	14	10	0	24	6	10	2	0	18	2	85	87
Approch %	5	85	10		23.5	52.2	43.5	4.3		27.1	0	58.3	41.7		28.2	33.3	55.6	11.1		21.2	2.3	97.7	
Total %	1.2	20	2.4			14.1	11.8	1.2			0	16.5	11.8			7.1	11.8	2.4					

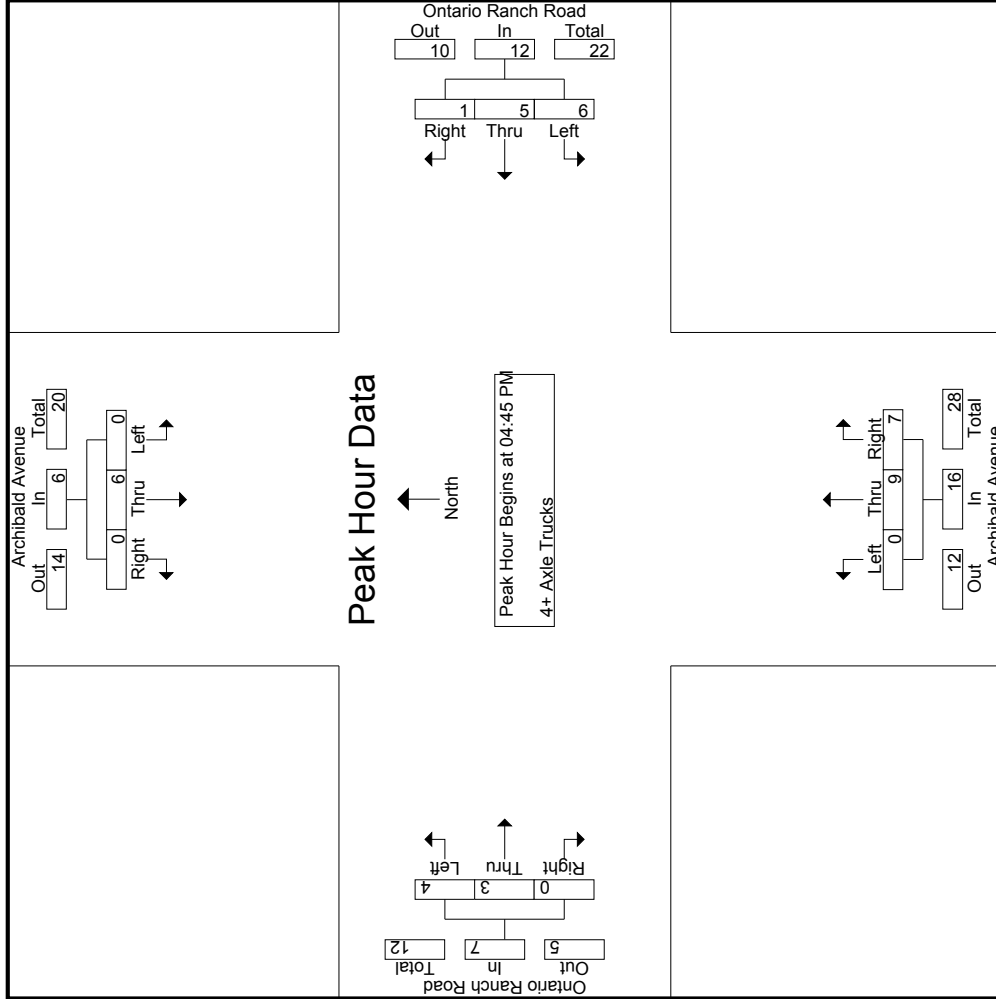
Start Time	Archibald Avenue Southbound					Ontario Ranch Road Westbound					Archibald Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	1	3	0	4	0	0	0	3	2	5	0	1	0	0	1	0	1	11
05:00 PM	0	1	0	0	1	3	0	0	4	1	4	0	3	4	7	1	0	0	0	1	0	1	13
05:15 PM	0	3	0	0	3	0	0	0	4	0	0	0	2	1	3	2	2	0	0	2	0	4	10
05:30 PM	0	1	0	0	1	2	2	0	4	0	4	0	1	0	1	1	0	0	0	1	0	1	7
Total Volume	0	6	0	0	6	6	5	1	12	1	12	0	9	7	16	4	3	0	0	7	0	41	41
% App. Total	0	100	0	0	100	50	41.7	8.3	100	8.3	50	56.2	43.8	0	43.8	57.1	42.9	0	0	43.8	0	788	788
PHF	.000	.500	.000		.500	.500	.417	.250	.750	.250	.750	.000	.438	.750	.571	.500	.375	.000		.438			

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road
 Weather: Clear

File Name : ONTARONPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Location: Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg Ontario Ranch Road	South Leg Archibald Avenue	West Leg Ontario Ranch Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Archibald Avenue	East Leg Ontario Ranch Road	South Leg Archibald Avenue	West Leg Ontario Ranch Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Ontario
 N/S: Archibald Avenue
 E/W: Ontario Ranch Road



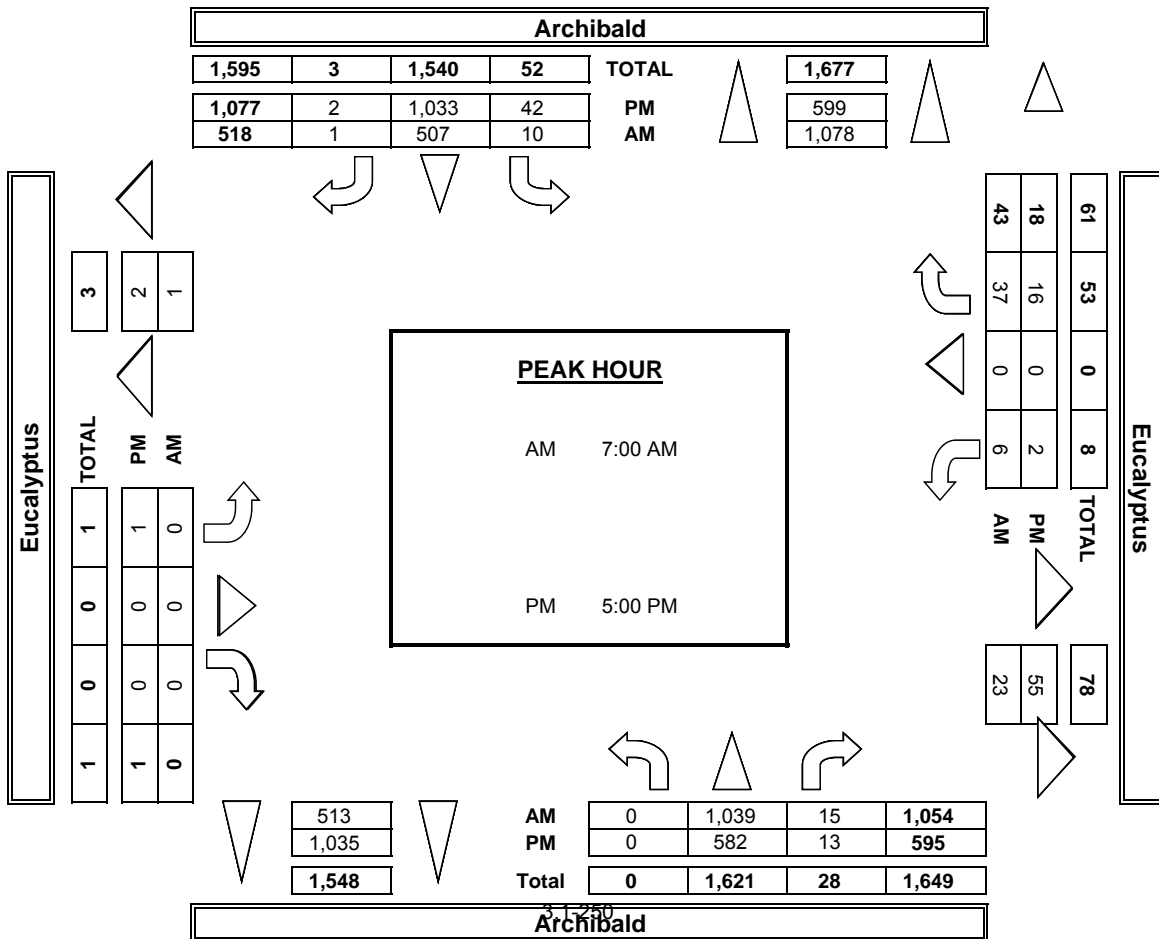
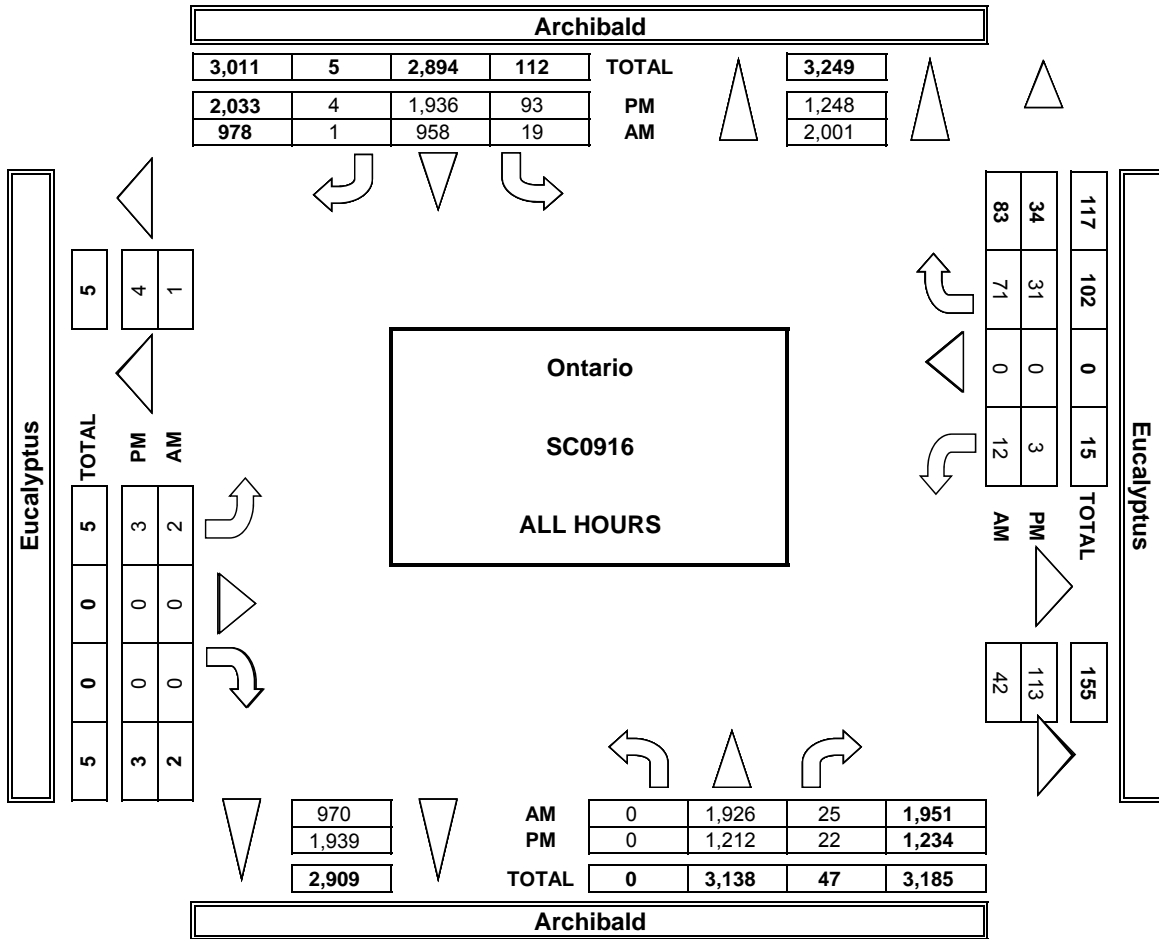
Date: 12/13/2016
 Day: Tuesday

BICYCLES

	North Leg Archibald Avenue	East Leg Ontario Ranch Road	South Leg Archibald Avenue	West Leg Ontario Ranch Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Archibald Avenue	East Leg Ontario Ranch Road	South Leg Archibald Avenue	West Leg Ontario Ranch Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Eucalyptus	PROJECT #: SC0916	LOCATION #: 34	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.250			0.000			0.000			0.000			0.250
APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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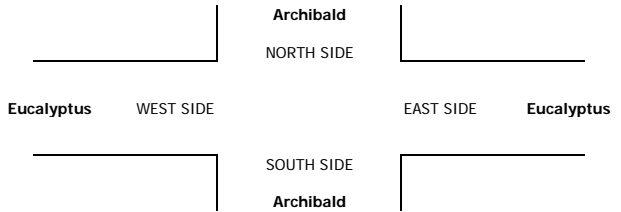
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	2	0	0	0	0	0	0	0	2
APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	2	/	2	0	/	0	0	/	0	0
BEGIN PEAK HR	3:15 PM												
VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.250			0.000			0.000			0.250
APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Eucalyptus	PROJECT #: SC0916	LOCATION #: 34	CONTROL: SIGNAL
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CLASS 6: BUSES	NOTES:	AM PM MD OTHER OTHER	◀ W	E ▶	▲ N S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	2	0	1	2	X	X	X	X	0	X	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	3	0	0	5	0	0	0	0	0	0	0	8
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	3	/	3	5	/	5	0	/	0	0	/	0	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	2	0	0	4	0	0	0	0	0	0	0	6
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.500			0.500			0.000			0.000			0.500
APP/DEPART	2	/	2	4	/	4	0	/	0	0	/	0	0

0	0	0	0
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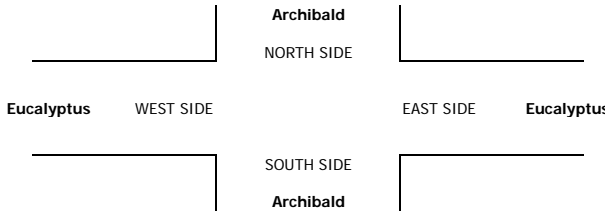
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	3	0	0	1	0	0	0	0	0	0	0	4
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	3	/	3	1	/	1	0	/	0	0	/	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	2	0	0	1	0	0	0	0	0	0	0	3
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.500			0.250			0.000			0.000			0.750
APP/DEPART	2	/	2	1	/	1	0	/	0	0	/	0	0

0	0	0	0
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Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	11	77	30	13	118	9	6	15	14	30	83	241	15	7	339	27	1	15	15	43	49	530	579	
07:15 AM	14	120	33	11	167	3	6	14	14	23	78	276	6	1	360	32	0	17	14	49	40	599	639	
07:30 AM	16	84	31	12	131	4	7	9	6	20	96	280	14	3	390	29	3	24	17	56	38	597	635	
07:45 AM	13	67	33	19	113	4	5	20	16	29	109	283	10	5	402	26	4	15	15	45	55	589	644	
Total	54	348	127	55	529	20	24	58	50	102	366	1080	45	16	1491	114	8	71	61	193	182	2315	2497	
08:00 AM	11	97	33	12	141	7	3	11	6	21	68	248	5	1	321	22	1	13	11	36	30	519	549	
08:15 AM	10	85	38	11	133	9	3	14	13	26	68	267	11	3	346	24	1	23	20	48	47	553	600	
08:30 AM	6	90	17	8	113	7	5	15	14	27	59	237	3	2	299	28	2	21	20	51	44	490	534	
08:45 AM	11	71	16	5	98	7	2	16	14	25	65	196	8	6	269	25	1	18	17	44	42	436	478	
Total	38	343	104	36	485	30	13	56	47	99	260	948	27	12	1235	99	5	75	68	179	163	1998	2161	
Grand Total	92	691	231	91	1014	50	37	114	97	201	626	2028	72	28	2726	213	13	146	129	372	345	4313	4658	
Approach %	9.1	68.1	22.8			24.9	18.4	56.7			23	74.4	2.6			57.3	3.5	39.2						
Total %	2.1	16	5.4			1.2	0.9	2.6			4.7	14.5	1.7			63.2	4.9	3.4			7.4	92.6		
Passenger Vehicles	79	641	173			47	35	102			599	1991	68			2686	149	12				0	0	4343
% Passenger Vehicles	85.9	92.8	74.9	84.6	87.8	94.6	89.5	92.8	91.9	95.7	98.2	94.4	100	100	97.5	70	92.3	91.1	92.2	82.4	0	0	93.2	
Large 2 Axle Vehicles	5	15	2			1	2	3			4	12	0			16	3	0				0	0	51
% Large 2 Axle Vehicles	5.4	2.2	0.9	1.1	2.1	2	5.4	2.6	2.1	2.7	0.6	0.6	0	0	0.6	1.4	0	0.7	0	0.8	0	0	1.1	
3 Axle Vehicles	3	14	38			1	0	5			10	9	1			20	38	1				0	0	145
% 3 Axle Vehicles	3.3	2	16.5	8.8	5.7	2	0	4.4	4.1	3.4	1.6	0.4	1.4	0	0.7	17.8	7.7	4.8	4.7	10.4	0	0	3.1	
4+ Axle Trucks	5	21	18			1	0	4			6	13	3			32	23	0				0	0	119
% 4+ Axle Trucks	5.4	3	7.8	5.5	4.4	2	0	3.5	1	2	2.1	0.8	4.2	0	1.2	10.8	0	3.4	3.1	6.4	0	0	2.6	

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	11	77	30	13	118	9	6	15	14	30	83	241	15	7	339	27	1	15	15	43	49	530	579	
07:15 AM	14	120	33	11	167	3	6	14	14	23	78	276	6	1	360	32	0	17	14	49	40	599	639	
07:30 AM	16	84	31	12	131	4	7	9	6	20	96	280	14	3	390	29	3	24	17	56	38	597	635	
07:45 AM	13	67	33	19	113	4	5	20	16	29	109	283	10	5	402	26	4	15	15	45	55	589	644	
Total	54	348	127	55	529	20	24	58	50	102	366	1080	45	16	1491	114	8	71	61	193	182	2315	2497	
08:00 AM	11	97	33	12	141	7	3	11	6	21	68	248	5	1	321	22	1	13	11	36	30	519	549	
08:15 AM	10	85	38	11	133	9	3	14	13	26	68	267	11	3	346	24	1	23	20	48	47	553	600	
08:30 AM	6	90	17	8	113	7	5	15	14	27	59	237	3	2	299	28	2	21	20	51	44	490	534	
08:45 AM	11	71	16	5	98	7	2	16	14	25	65	196	8	6	269	25	1	18	17	44	42	436	478	
Total	38	343	104	36	485	30	13	56	47	99	260	948	27	12	1235	99	5	75	68	179	163	1998	2161	
Grand Total	92	691	231	91	1014	50	37	114	97	201	626	2028	72	28	2726	213	13	146	129	372	345	4313	4658	
Approach %	9.1	68.1	22.8			24.9	18.4	56.7			23	74.4	2.6			57.3	3.5	39.2						
Total %	2.1	16	5.4			1.2	0.9	2.6			4.7	14.5	1.7			63.2	4.9	3.4			7.4	92.6		
Passenger Vehicles	79	641	173			47	35	102			599	1991	68			2686	149	12				0	0	4343
% Passenger Vehicles	85.9	92.8	74.9	84.6	87.8	94.6	89.5	92.8	91.9	95.7	98.2	94.4	100	100	97.5	70	92.3	91.1	92.2	82.4	0	0	93.2	
Large 2 Axle Vehicles	5	15	2			1	2	3			4	12	0			16	3	0				0	0	51
% Large 2 Axle Vehicles	5.4	2.2	0.9	1.1	2.1	2	5.4	2.6	2.1	2.7	0.6	0.6	0	0	0.6	1.4	0	0.7	0	0.8	0	0	1.1	
3 Axle Vehicles	3	14	38			1	0	5			10	9	1			20	38	1				0	0	145
% 3 Axle Vehicles	3.3	2	16.5	8.8	5.7	2	0	4.4	4.1	3.4	1.6	0.4	1.4	0	0.7	17.8	7.7	4.8	4.7	10.4	0	0	3.1	
4+ Axle Trucks	5	21	18			1	0	4			6	13	3			32	23	0				0	0	119
% 4+ Axle Trucks	5.4	3	7.8	5.5	4.4	2	0	3.5	1	2	2.1	0.8	4.2	0	1.2	10.8	0	3.4	3.1	6.4	0	0	2.6	

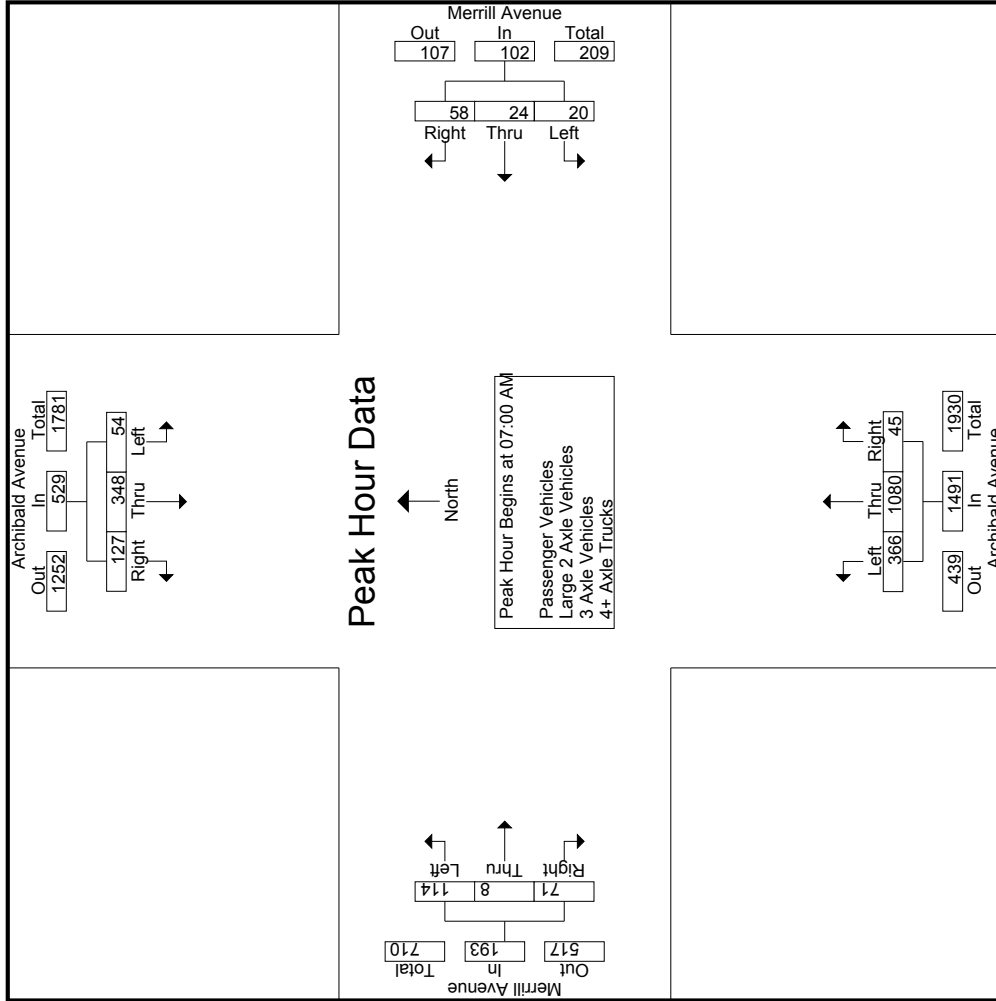
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	11	77	30	13	118	9	6	15	14	30	83	241	15	7	339	27	1	15	15	43	49	530	579
07:15 AM	14	120	33	11	167	3	6	14	14	23	78	276	6	1	360	32	0	17	14	49	40	599	639
07:30 AM	16	84	31	12	131	4	7	9	6	20	96	280	14	3	390	29	3	24	17	56	38	597	635
07:45 AM	13	67	33	19	113	4	5	20	16	29	109	283	10	5	402	26	4	15	15	45	55	589	644
Total	54	348	127	55	529	20	24	58	50	102	366	1080	45	16	1491	114	8	71	61	193	182	2315	2497
% App. Total	10.2	65.8	24			19.6	23.5	56.9			24.5	72.4	3			59.1	4.1	36.8					
PHF	.844	.725	.962			.556	.857	.725			.839	.954	.750			.891	.500	.740			.862		.966

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM														
+0 mins.	14	120	33	167	4	5	20	29	83	241	15	339	27	1	43
+15 mins.	16	84	31	131	7	3	11	21	78	276	6	360	32	0	49
+30 mins.	13	67	33	113	9	3	14	26	96	280	14	390	29	3	56
+45 mins.	11	97	33	141	7	5	15	27	109	283	10	402	26	4	45
Total Volume	54	368	130	552	27	16	60	103	366	1080	45	1491	114	8	193
% App. Total	9.8	66.7	23.6	82.6	26.2	15.5	58.3	88.8	24.5	72.4	3	92.7	59.1	4.1	36.8
PHF	.844	.767	.985	.826	.750	.800	.750	.888	.839	.954	.750	.927	.891	.500	.740

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	73	24	12	107	9	6	14	13	29	81	236	15	7	332	22	0	15	15	37	47	505	552
07:15 AM	11	115	21	10	147	2	6	14	14	22	77	272	6	1	355	22	0	15	12	37	37	561	598
07:30 AM	14	75	24	11	113	4	7	7	6	18	93	275	12	3	380	21	3	23	17	47	37	558	595
07:45 AM	11	64	28	17	103	4	5	18	14	27	105	279	9	5	393	18	4	13	13	35	49	558	607
Total	46	327	97	50	470	19	24	53	47	96	356	1062	42	16	1460	83	7	66	57	156	170	2182	2352
08:00 AM	11	88	27	8	126	7	3	9	5	19	61	245	5	1	311	14	1	13	11	28	25	484	509
08:15 AM	7	80	30	9	117	8	2	12	11	22	68	256	10	3	334	15	1	20	18	36	41	509	550
08:30 AM	5	81	9	6	95	7	5	14	14	26	56	233	3	2	292	21	2	18	17	41	39	454	493
08:45 AM	10	65	10	4	85	6	1	14	13	21	58	195	8	6	261	16	1	16	16	33	39	400	439
Total	33	314	76	27	423	28	11	49	43	88	243	929	26	12	1198	66	5	67	62	138	144	1847	1991
Grand Total	79	641	173	77	893	47	35	102	90	184	599	1991	68	28	2658	149	12	133	119	294	314	4029	4343
Approach %	8.8	71.8	19.4		25.5	19	55.4			4.6	22.5	74.9	2.6		66	50.7	4.1	45.2		7.3	7.2	92.8	
Total %	2	15.9	4.3		22.2	1.2	0.9	2.5			14.9	49.4	1.7			3.7	0.3	3.3					

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	73	24	12	107	9	6	14	13	29	81	236	15	7	332	22	0	15	15	37	47	505	552
07:15 AM	11	115	21	10	147	2	6	14	14	22	77	272	6	1	355	22	0	15	12	37	37	561	598
07:30 AM	14	75	24	11	113	4	7	7	6	18	93	275	12	3	380	21	3	23	17	47	37	558	595
07:45 AM	11	64	28	17	103	4	5	18	14	27	105	279	9	5	393	18	4	13	13	35	49	558	607
Total	46	327	97	50	470	19	24	53	47	96	356	1062	42	16	1460	83	7	66	57	156	170	2182	2352
08:00 AM	11	88	27	8	126	7	3	9	5	19	61	245	5	1	311	14	1	13	11	28	25	484	509
08:15 AM	7	80	30	9	117	8	2	12	11	22	68	256	10	3	334	15	1	20	18	36	41	509	550
08:30 AM	5	81	9	6	95	7	5	14	14	26	56	233	3	2	292	21	2	18	17	41	39	454	493
08:45 AM	10	65	10	4	85	6	1	14	13	21	58	195	8	6	261	16	1	16	16	33	39	400	439
Total	33	314	76	27	423	28	11	49	43	88	243	929	26	12	1198	66	5	67	62	138	144	1847	1991
Grand Total	79	641	173	77	893	47	35	102	90	184	599	1991	68	28	2658	149	12	133	119	294	314	4029	4343
Approach %	8.8	71.8	19.4		25.5	19	55.4			4.6	22.5	74.9	2.6		66	50.7	4.1	45.2		7.3	7.2	92.8	
Total %	2	15.9	4.3		22.2	1.2	0.9	2.5			14.9	49.4	1.7			3.7	0.3	3.3					

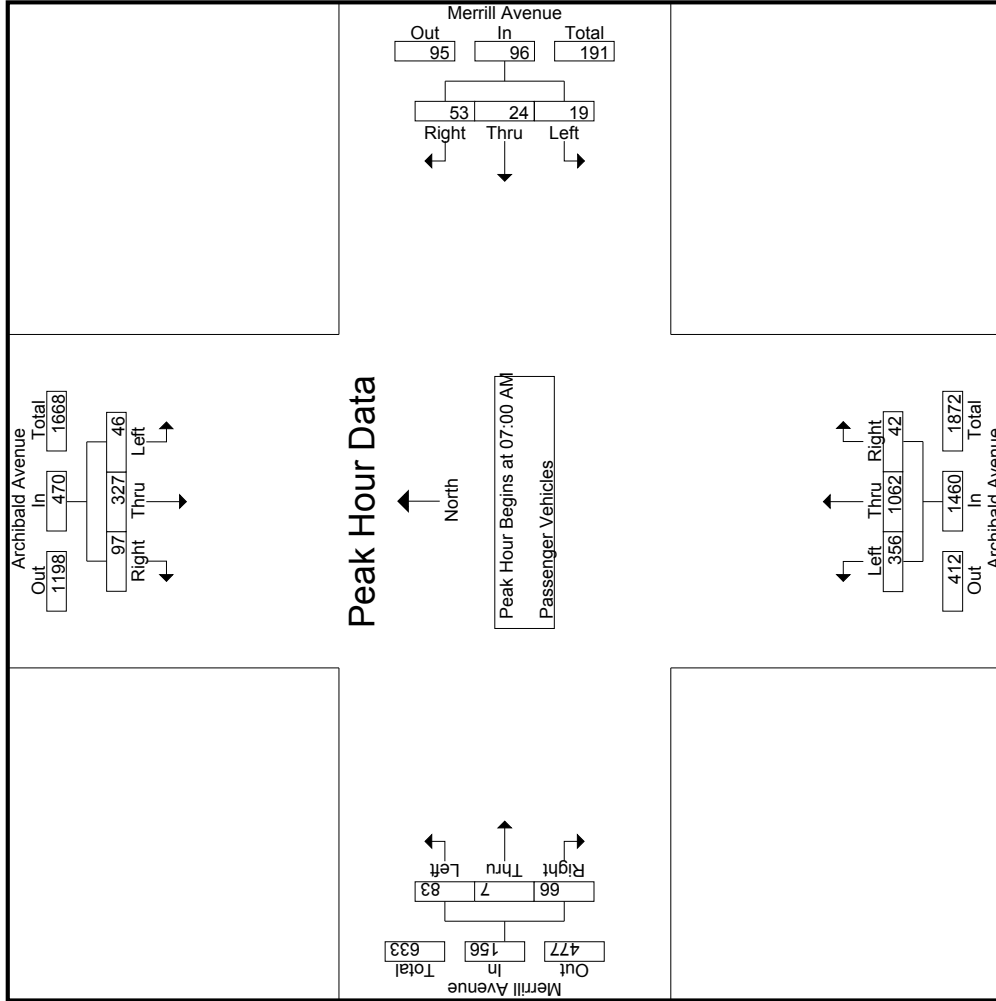
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	73	24	12	107	9	6	14	13	29	81	236	15	7	332	22	0	15	15	37	47	505	552
07:15 AM	11	115	21	10	147	2	6	14	14	22	77	272	6	1	355	22	0	15	12	37	37	561	598
07:30 AM	14	75	24	11	113	4	7	7	6	18	93	275	12	3	380	21	3	23	17	47	37	558	595
07:45 AM	11	64	28	17	103	4	5	18	14	27	105	279	9	5	393	18	4	13	13	35	49	558	607
Total	46	327	97	50	470	19	24	53	47	96	356	1062	42	16	1460	83	7	66	57	156	170	2182	2352
% App. Total	9.8	69.6	20.6		25.5	19.8	25	55.2		4.6	22.5	72.7	2.9		66	50.7	4.5	42.3		7.3	7.2	92.8	
PHF	.821	.711	.866		.799	.528	.857	.736		.828	.848	.952	.700		.929	.943	.717	.830		.972			

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total				
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:00 AM			07:00 AM			07:00 AM			07:00 AM			07:00 AM			
+0 mins.	10	73	24	107	9	6	14	29	81	236	15	332	22	0	15	37
+15 mins.	11	115	21	147	2	6	14	22	77	272	6	355	22	0	15	37
+30 mins.	14	75	24	113	4	7	7	18	93	275	12	380	21	3	23	47
+45 mins.	11	64	28	103	4	5	18	27	105	279	9	393	18	4	13	35
Total Volume	46	327	97	470	19	24	53	96	356	1062	42	1460	83	7	66	156
% App. Total	9.8	69.6	20.6		19.8	25	55.2		24.4	72.7	2.9		53.2	4.5	42.3	
PHF	.821	.711	.866	.799	.528	.857	.736	.828	.848	.952	.700	.929	.943	.438	.717	.830

Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound					Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total						
07:00 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	4	4	4
07:15 AM	1	1	0	0	2	0	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	5	5
07:30 AM	1	3	1	0	5	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	7	7	7
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3	3	3
Total	2	7	1	0	10	1	0	0	0	1	2	6	0	0	8	0	0	0	0	0	0	0	0	19	19	19
08:00 AM	0	2	1	1	3	0	0	1	1	1	0	1	0	0	1	2	0	0	0	0	2	0	2	7	7	9
08:15 AM	1	2	0	0	3	0	1	1	2	3	0	3	0	0	3	1	0	1	0	2	1	0	10	10	11	
08:30 AM	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	5	
08:45 AM	1	1	0	0	2	0	1	1	2	2	2	1	0	0	3	0	0	0	0	0	0	0	0	7	7	7
Total	3	8	1	1	12	0	2	3	5	6	4	12	0	0	16	3	0	1	0	4	3	29	32	32	32	
Grand Total	5	15	2	1	22	1	2	3	2	6	4	12	0	0	16	3	0	1	0	4	3	48	51	51	51	
Approach %	22.7	68.2	9.1		16.7	33.3	50				25	75	0		33.3	75	0	25		8.3	5.9	94.1	94.1	94.1	94.1	
Total %	10.4	31.2	4.2		45.8	2.1	4.2	6.2		12.5	8.3	25	0		33.3	6.2	0	2.1		8.3	5.9	94.1	94.1	94.1	94.1	

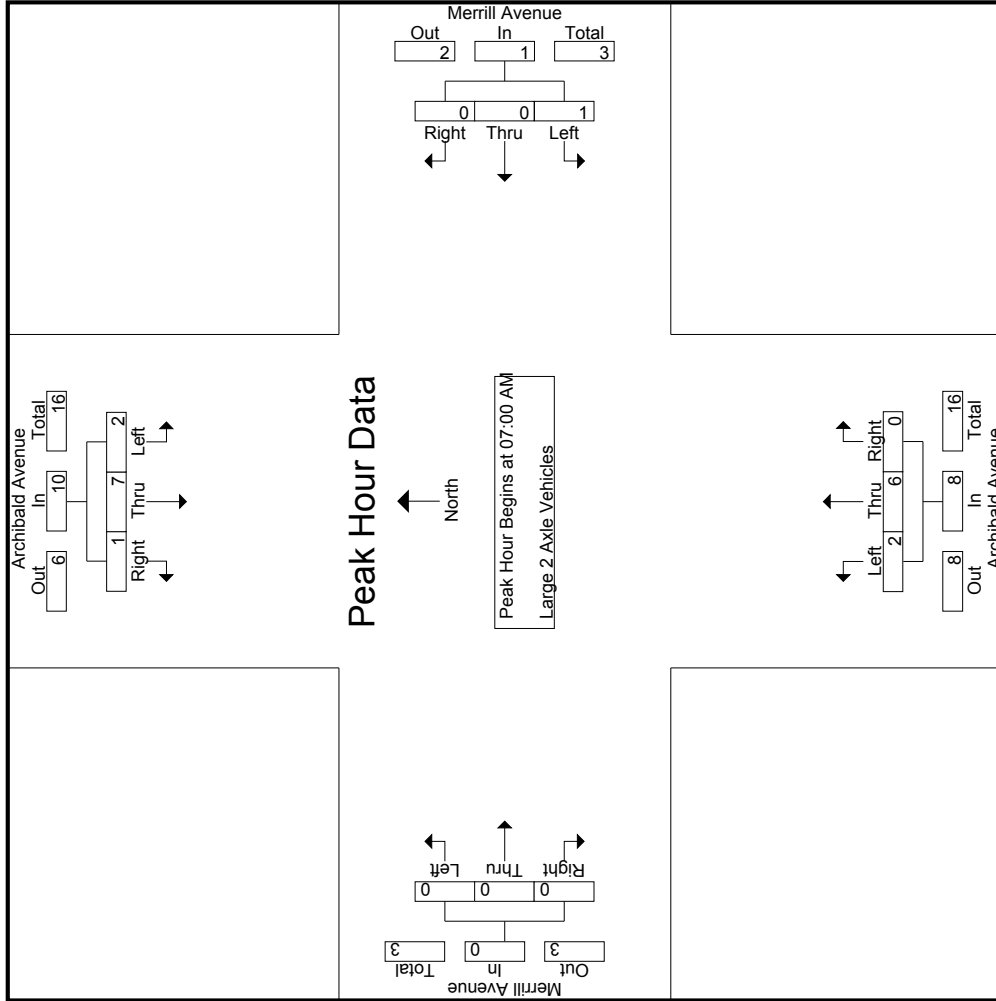
Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total					
07:00 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	4	4
07:15 AM	1	1	0	0	2	0	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	5	5
07:30 AM	1	3	1	0	5	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	7	7	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3	3	
Total Volume	2	7	1	0	10	1	0	0	0	1	2	6	0	0	8	0	0	0	0	0	0	0	19	19	
% App. Total	20	70	10		45.8	2.1	4.2	6.2		12.5	8.3	25	0		33.3	75	0	25		8.3	5.9	94.1	94.1	94.1	
PHF	.500	.583	.250		.500	.250	.000	.000		.250	.500	.000	.000		.667	.000	.000	.000		.000	.000	.679	.679	.679	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	3	0	3	0	0	0	0	1	0	0	1	0
+15 mins.	1	1	0	2	1	0	0	1	0	2	0	2	0
+30 mins.	1	3	1	5	0	0	0	0	1	1	0	2	0
+45 mins.	0	0	0	0	0	0	0	0	0	3	0	3	0
Total Volume	2	7	1	10	1	0	0	1	2	6	0	8	0
% App. Total	20	70	10	100	0	0	0	0	25	75	0	100	0
PHF	.500	.583	.250	.500	.250	.000	.000	.250	.500	.500	.000	.667	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

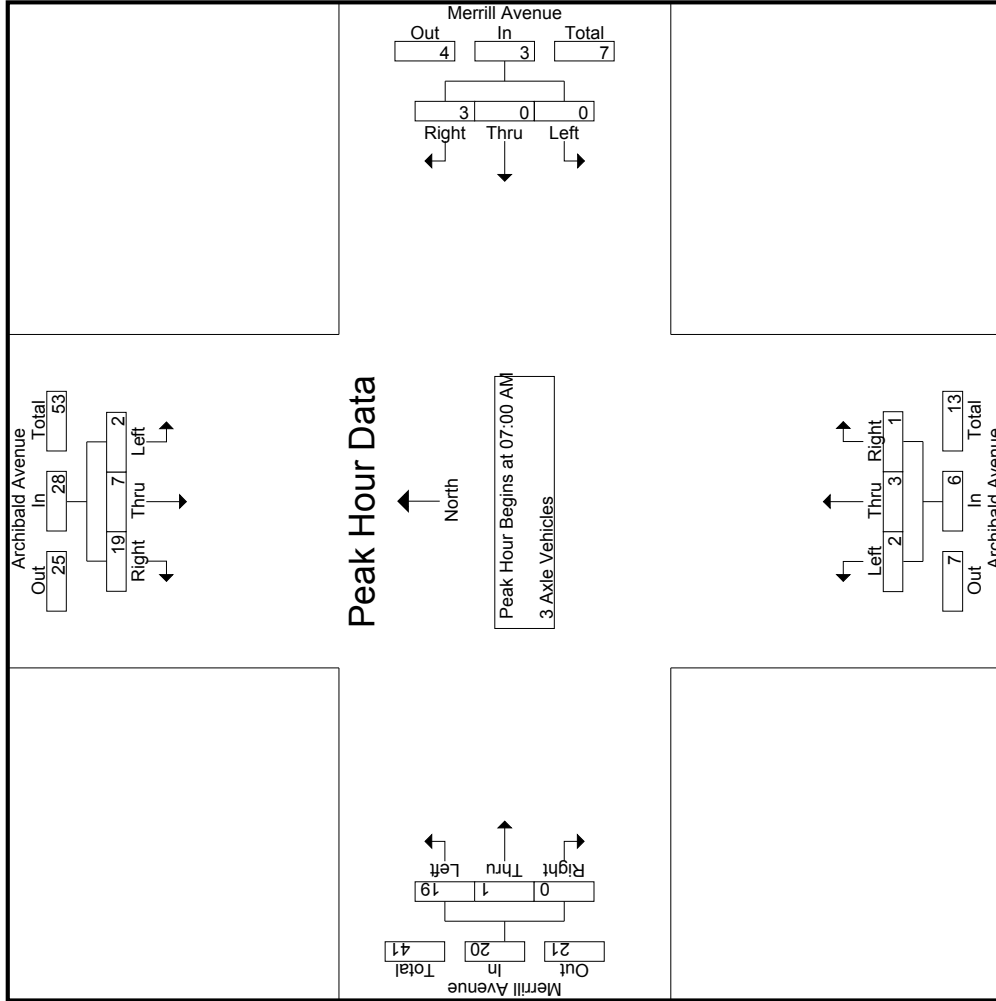
Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
07:00 AM	1	1	4	0	0	0	1	1	1	0	2	0	0	2	1	0	0	4	1	13	14
07:15 AM	1	4	7	0	0	0	0	0	0	0	1	0	0	1	6	0	0	6	0	19	19
07:30 AM	0	2	5	1	0	0	1	0	1	0	0	1	0	1	6	0	0	6	1	15	16
07:45 AM	0	0	3	1	0	0	1	1	1	2	0	0	0	2	4	0	0	4	2	10	12
Total	2	7	19	2	0	0	3	2	3	2	3	1	0	6	19	1	0	20	4	57	61
08:00 AM	0	1	4	3	0	0	0	0	0	4	0	0	0	4	4	0	0	4	3	13	16
08:15 AM	1	2	8	2	1	0	1	1	2	0	5	0	0	5	6	0	2	8	5	26	31
08:30 AM	0	2	2	0	0	0	0	0	0	2	1	0	0	3	4	0	3	7	3	14	17
08:45 AM	0	2	5	1	0	0	1	1	1	2	0	0	0	2	5	0	2	7	3	17	20
Total	1	7	19	6	1	0	2	2	3	8	6	0	0	14	19	0	7	26	14	70	84
Grand Total	3	14	38	8	1	0	5	4	6	10	9	1	0	20	38	1	7	6	18	127	145
Approach %	5.5	25.5	69.1		16.7	0	83.3		4.7	50	45	5		15.7	82.6	2.2	15.2		12.4	87.6	
Total %	2.4	11	29.9		0.8	0	3.9		4.7	7.9	7.1	0.8		15.7	29.9	0.8	5.5				

Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
07:00 AM	1	1	4	0	0	0	1	1	1	0	2	0	0	2	1	0	0	4	1	13	14
07:15 AM	1	4	7	0	0	0	0	0	0	0	1	0	0	1	6	0	0	6	0	19	19
07:30 AM	0	2	5	1	0	0	1	0	1	0	0	1	0	1	6	0	0	6	1	15	16
07:45 AM	0	0	3	1	0	0	1	1	1	2	0	0	0	2	4	0	0	4	2	10	12
Total	2	7	19	2	0	0	3	2	3	2	3	1	0	6	19	1	0	20	4	57	61
08:00 AM	0	1	4	3	0	0	0	0	0	4	0	0	0	4	4	0	0	4	3	13	16
08:15 AM	1	2	8	2	1	0	1	1	2	0	5	0	0	5	6	0	2	8	5	26	31
08:30 AM	0	2	2	0	0	0	0	0	0	2	1	0	0	3	4	0	3	7	3	14	17
08:45 AM	0	2	5	1	0	0	1	1	1	2	0	0	0	2	5	0	2	7	3	17	20
Total	1	7	19	6	1	0	2	2	3	8	6	0	0	14	19	0	7	26	14	70	84
Grand Total	3	14	38	8	1	0	5	4	6	10	9	1	0	20	38	1	7	6	18	127	145
Approach %	5.5	25.5	69.1		16.7	0	83.3		4.7	50	45	5		15.7	82.6	2.2	15.2		12.4	87.6	
Total %	2.4	11	29.9		0.8	0	3.9		4.7	7.9	7.1	0.8		15.7	29.9	0.8	5.5				

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total				
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:00 AM															
+0 mins.	1	1	4	6	0	0	1	1	0	0	2	0	3	1	0	4
+15 mins.	1	4	7	12	0	0	0	0	0	1	0	0	1	0	0	6
+30 mins.	0	2	5	7	0	0	1	1	0	0	1	1	6	0	0	6
+45 mins.	0	0	3	3	0	0	1	1	2	0	0	2	4	0	0	4
Total Volume	2	7	19	28	0	0	3	3	2	3	1	6	19	1	0	20
% App. Total	7.1	25	67.9		0	0	100		33.3	50	16.7		95	5	0	
PHF	.500	.438	.679	.583	.000	.000	.750	.750	.250	.375	.250	.750	.792	.250	.000	.833

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

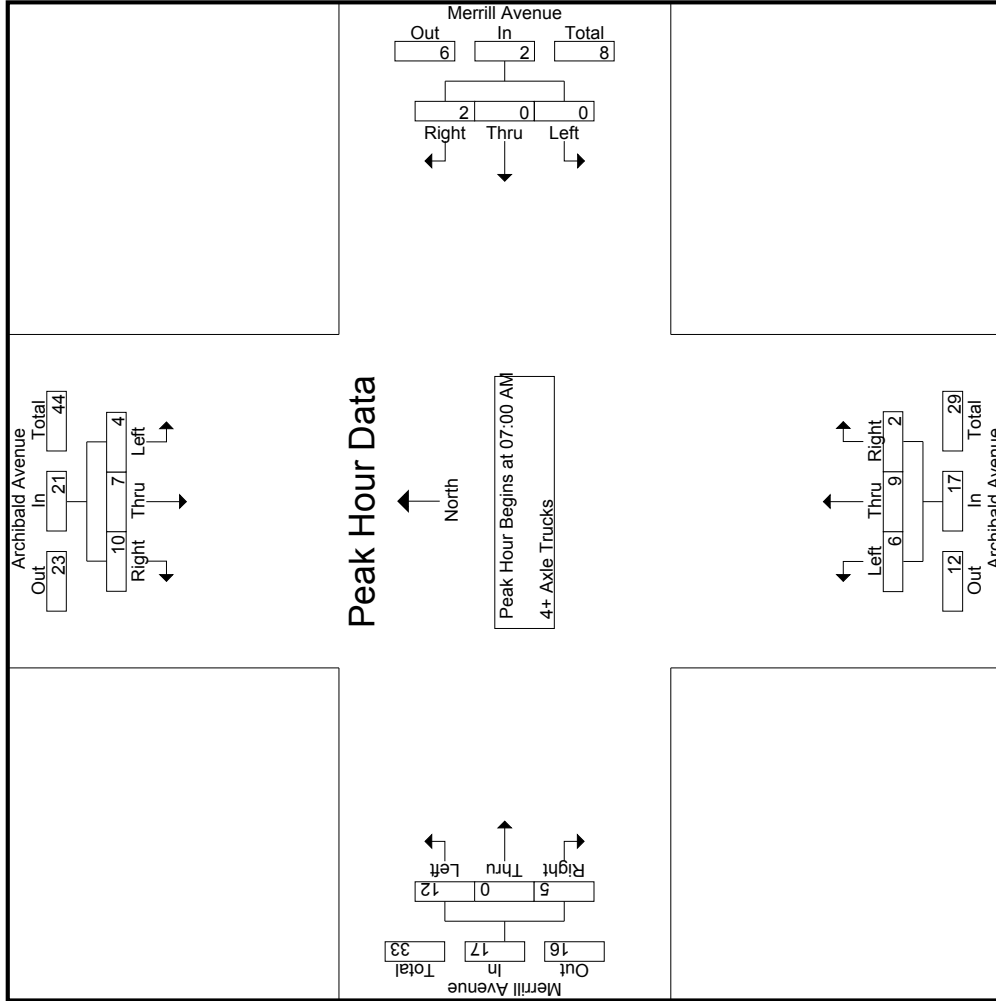
Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	2	1	0	0	0	0	1	3	0	0	4	2	0	0	2	1	8	9
07:15 AM	1	0	5	1	0	0	0	0	1	1	0	0	2	4	0	2	6	3	14	17
07:30 AM	1	4	1	0	0	0	1	0	2	4	1	0	7	2	0	1	3	0	17	17
07:45 AM	2	3	2	1	0	0	1	1	2	1	1	0	4	4	0	2	6	4	18	22
Total	4	7	10	3	0	0	2	1	6	9	2	0	17	12	0	5	17	8	57	65
08:00 AM	0	6	1	0	0	0	1	0	3	2	0	0	5	2	0	0	2	0	15	15
08:15 AM	1	1	0	0	0	0	0	0	0	3	1	0	4	2	0	0	2	0	8	8
08:30 AM	0	4	6	2	0	0	1	0	1	2	0	0	3	3	0	0	3	2	17	19
08:45 AM	0	3	1	0	1	0	0	0	3	0	0	0	3	4	0	0	4	0	12	12
Total	1	14	8	2	1	0	2	0	7	7	1	0	15	11	0	0	11	2	52	54
Grand Total	5	21	18	5	1	0	4	1	13	16	3	0	32	23	0	5	4	10	109	119
Approch %	11.4	47.7	40.9		20	0	80		40.6	50	9.4		82.1	0	17.9		8.4			
Total %	4.6	19.3	16.5		0.9	0	3.7		4.6	11.9	14.7	2.8	29.4	21.1	0	4.6	25.7			

Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	2	0	0	0	0	1	3	0	0	3	0	0	0	2	1	8	9
07:15 AM	1	0	5	1	0	0	0	0	1	1	0	0	2	4	0	2	6	3	14	17
07:30 AM	1	4	1	0	0	0	1	0	2	4	1	0	7	2	0	1	3	0	17	17
07:45 AM	2	3	2	1	0	0	1	1	2	1	1	0	4	4	0	2	6	4	18	22
Total	4	7	10	3	0	0	2	1	6	9	2	0	17	12	0	5	17	8	57	65
08:00 AM	0	6	1	0	0	0	1	0	3	2	0	0	5	2	0	0	2	0	15	15
08:15 AM	1	1	0	0	0	0	0	0	0	3	1	0	4	2	0	0	2	0	8	8
08:30 AM	0	4	6	2	0	0	1	0	1	2	0	0	3	3	0	0	3	2	17	19
08:45 AM	0	3	1	0	1	0	0	0	3	0	0	0	3	4	0	0	4	0	12	12
Total	1	14	8	2	1	0	2	0	7	7	1	0	15	11	0	0	11	2	52	54
Grand Total	5	21	18	5	1	0	4	1	13	16	3	0	32	23	0	5	4	10	109	119
Approch %	11.4	47.7	40.9		20	0	80		40.6	50	9.4		82.1	0	17.9		8.4			
Total %	4.6	19.3	16.5		0.9	0	3.7		4.6	11.9	14.7	2.8	29.4	21.1	0	4.6	25.7			

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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	2	2	0	0	0	0	1	3	0	2	0
+15 mins.	1	0	5	6	0	0	0	0	1	1	0	2	6
+30 mins.	1	4	1	6	0	0	1	1	2	4	1	7	3
+45 mins.	2	3	2	7	0	0	1	1	2	1	1	4	6
Total Volume	4	7	10	21	0	0	2	2	6	9	2	17	17
% App. Total	19	33.3	47.6	75.0	0	0	100	50.0	35.3	52.9	11.8	70.6	29.4
PHF	.500	.438	.500	.750	.000	.000	.500	.500	.750	.563	.500	.607	.625

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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	18	184	24	5	226	6	3	11	11	20	20	139	3	2	162	36	6	84	41	126	59	534	593
04:15 PM	6	191	12	1	209	14	3	13	9	30	30	116	9	7	150	38	3	86	40	127	57	516	573
04:30 PM	10	210	18	3	238	12	3	16	12	31	25	143	4	4	172	55	4	91	37	150	56	591	647
04:45 PM	13	216	21	2	250	13	0	10	10	23	21	134	5	0	160	59	4	86	40	149	52	582	634
Total	47	801	75	11	923	45	9	50	42	104	91	532	21	13	644	188	17	347	158	552	224	2223	2447
05:00 PM	12	231	19	8	262	8	1	14	14	23	15	145	6	3	166	41	8	76	34	125	59	576	635
05:15 PM	8	264	16	0	288	13	4	4	4	21	18	137	6	2	161	40	8	95	52	143	58	613	671
05:30 PM	10	248	31	5	289	9	1	16	15	26	22	136	6	4	164	27	10	69	36	106	60	585	645
05:45 PM	12	225	23	6	260	9	1	10	7	20	17	111	8	4	136	40	5	79	28	124	45	540	585
Total	42	968	89	19	1099	39	7	44	40	90	72	529	26	13	627	148	31	319	150	498	222	2314	2536
Grand Total	89	1769	164	30	2022	84	16	94	82	194	163	1061	47	26	1271	336	48	666	308	1050	446	4537	4983
Approach %	4.4	87.5	8.1		43.3	8.2	48.5			12.8	83.5	3.7			28	7.4	1.1	14.7		23.1	9	91	
Total %	2	39	3.6		44.6	1.9	0.4	2.1		4.3	3.6	23.4	1		28	7.4	1.1	14.7		23.1	9	91	
Passenger Vehicles	86	1755	136		2004	83	16	92		271	159	1030	47		1262	309	47	661		1324	0	0	4861
% Passenger Vehicles	96.6	99.2	82.9		97.7	98.8	100	97.9		97.6	97.5	97.1	100		100	92	97.9	99.2		99.7	0	0	97.6
Large 2 Axle Vehicles	0	6	2		8	0	0	1		2	3	23	0		26	5	0	1		7	0	0	43
% Large 2 Axle Vehicles	0	0.3	1.2		0.4	0	0	1.1		0.7	1.8	2.2	0		2	1.5	0	0.2		0.3	0	0	0.9
3 Axle Vehicles	1	4	1		6	1	0	0		1	1	0	0		1	6	1	1		8	0	0	16
% 3 Axle Vehicles	1.1	0.2	0.6		0.3	1.2	0	0		0.4	0.6	0	0		0.1	1.8	2.1	0.2		0.6	0	0	0.3
4+ Axle Trucks	2	4	25		34	0	0	1		2	0	8	0		8	16	0	3		19	0	0	63
% 4+ Axle Trucks	2.2	0.2	15.2		1.7	0	0	1.1		0.7	0	0.8	0		0.6	4.8	0	0.5		1.4	0	0	1.3

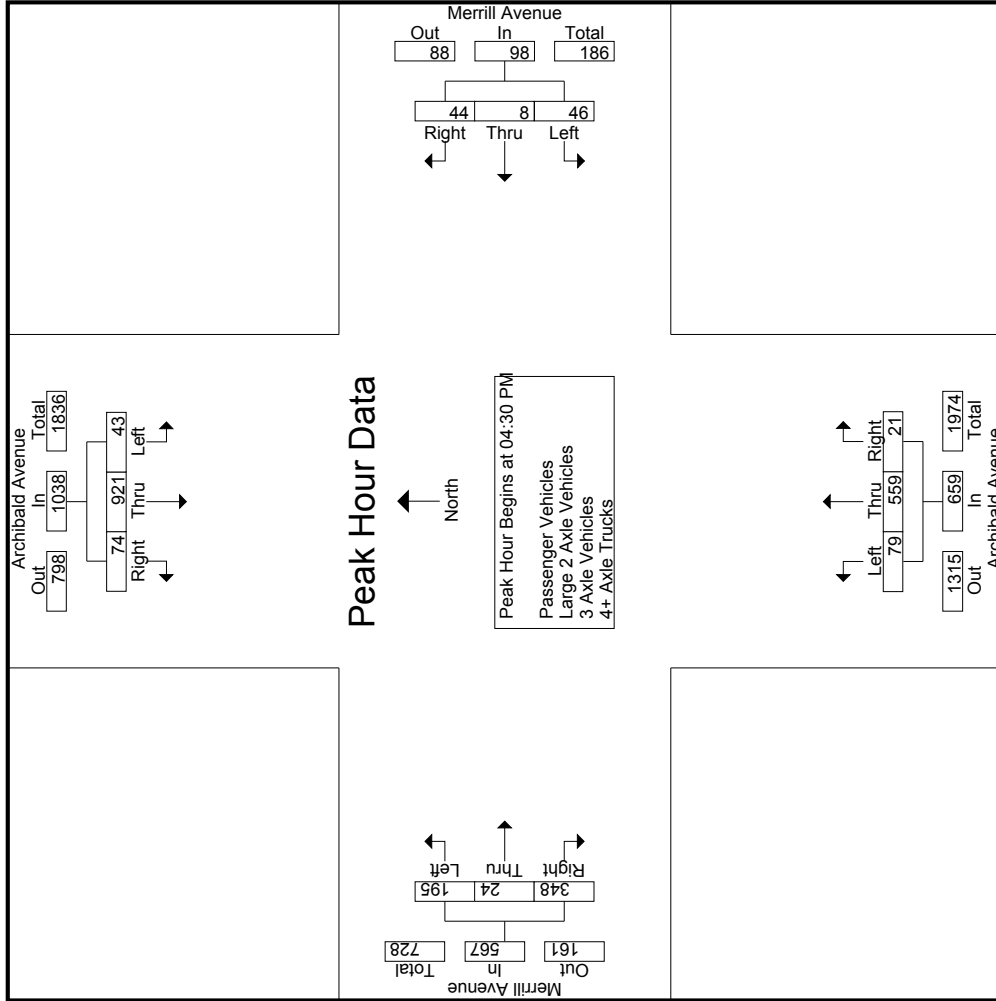
Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	10	210	18		238	12	3	16		31	25	143	4		172	55	4	91		150	59	591	
04:45 PM	13	216	21		250	13	0	10		23	21	134	5		160	59	4	86		149	57	582	
05:00 PM	12	231	19		262	8	1	14		23	15	145	6		166	41	8	76		125	58	576	
05:15 PM	8	264	16		288	13	4	4		21	18	137	6		161	40	8	95		143	60	613	
Total Volume	43	921	74		1038	46	8	44		98	79	559	21		659	195	24	348		567	224	2314	
% App. Total	4.1	88.7	7.1		43.3	46.9	8.2	44.9		12.8	83.5	3.7			28	7.4	1.1	14.7		23.1	9	91	
PHF	.827	.872	.881		.901	.885	.500	.688		.790	.790	.964	.875		.958	.826	.750	.916		.945	.963	.963	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

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City of Ontario
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 E/W: Merrill Avenue
 Weather: Clear

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City of Ontario
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File Name : ONTARMEPM
 Site Code : 05116658
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Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	05:00 PM														
+0 mins.	12	231	19	3	13	13	30	25	143	4	55	4	91	150	
+15 mins.	8	264	16	3	16	16	31	21	134	4	59	4	86	149	
+30 mins.	10	248	31	0	10	10	23	15	145	6	41	8	76	125	
+45 mins.	12	225	23	1	14	14	23	18	137	6	40	8	95	143	
Total Volume	42	968	89	7	53	53	107	79	559	21	195	24	348	567	
% App. Total	3.8	88.1	8.1	6.5	49.5	49.5	12	84.8	84.8	3.2	34.4	4.2	61.4		
PHF	.875	.917	.718	.583	.828	.828	.863	.790	.964	.875	.826	.750	.916	.945	

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City of Ontario
 N/S: Archibald Avenue
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 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
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Groups Printed- Passenger Vehicles

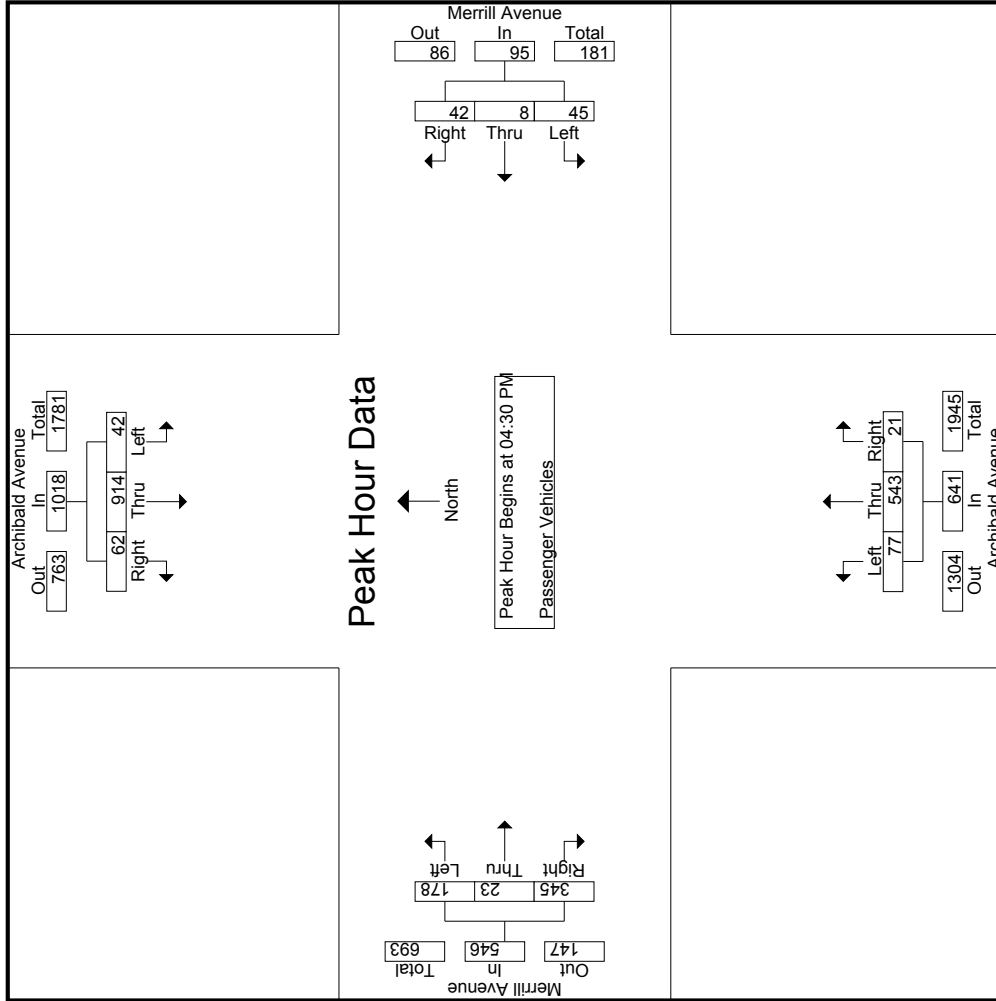
Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	17	181	18	4	216	6	3	11	11	20	20	138	3	2	161	35	6	83	40	124	57	521	578
04:15 PM	6	189	6	1	201	14	3	13	9	30	23	109	9	7	141	33	3	85	40	121	57	493	550
04:30 PM	10	207	14	3	231	12	3	15	11	30	24	142	4	4	170	51	4	89	37	144	55	575	630
04:45 PM	13	216	19	2	248	13	0	10	10	23	21	130	5	0	156	55	4	86	40	145	52	572	624
Total	46	793	57	10	896	45	9	49	41	103	88	519	21	13	628	174	17	343	157	534	221	2161	2382
05:00 PM	11	230	15	6	256	8	1	14	14	23	15	137	6	3	158	36	7	75	34	118	57	555	612
05:15 PM	8	261	14	0	283	12	4	3	3	19	17	134	6	2	157	36	8	95	52	139	57	598	655
05:30 PM	9	247	28	5	284	9	1	16	15	26	22	133	6	4	161	25	10	69	36	104	60	575	635
05:45 PM	12	224	22	6	258	9	1	10	7	20	17	107	8	4	132	38	5	79	28	122	45	532	577
Total	40	962	79	17	1081	38	7	43	39	88	71	511	26	13	608	135	30	318	150	483	219	2260	2479
Grand Total	86	1755	136	27	1977	83	16	92	80	191	159	1030	47	26	1236	309	47	661	307	1017	440	4421	4861
Approach %	4.4	88.8	6.9		44.7	43.5	8.4	48.2		4.3	12.9	83.3	3.8		28	30.4	4.6	65		23	9.1	90.9	
Total %	1.9	39.7	3.1			1.9	0.4	2.1			3.6	23.3	1.1		7	1.1	15						
Start Time	Archibald Avenue Southbound					Merrill Avenue Westbound					Archibald Avenue Northbound					Merrill Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	10	207	14		231	12	3	15		30	24	142	4		170	51	4	89		144			575
04:45 PM	13	216	19		248	13	0	10		23	21	130	5		156	36	7	75		118			555
05:00 PM	11	230	15		256	8	1	14		23	15	137	6		158	36	7	75		118			555
05:15 PM	12	224	22		258	9	1	10		20	17	107	8		132	38	5	79		122			577
Total Volume	42	914	62		1018	45	8	42		95	77	543	21		641	178	23	345		546			2300
% App. Total	4.1	89.8	6.1		44.7	47.4	8.4	44.2		4.3	12.9	84.7	3.3		30.4	32.6	4.2	63.2		23	9.1	90.9	
PHF	.808	.875	.816		.899	.865	.500	.700		.792	.802	.956	.875		.943	.809	.719	.908		.941			.962

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

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 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
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City of Ontario
 N/S: Archibald Avenue
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Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1	04:30 PM														
Peak Hour for Each Approach Begins at:	04:30 PM														
+0 mins.	10	207	14	12	3	15	30	24	142	4	51	4	89	144	
+15 mins.	13	216	19	13	0	10	23	21	130	5	55	4	86	145	
+30 mins.	11	230	15	8	1	14	23	15	137	6	36	7	75	118	
+45 mins.	8	261	14	12	4	3	19	17	134	6	36	8	95	139	
Total Volume	42	914	62	45	8	42	95	77	543	21	178	23	345	546	
% App. Total	4.1	89.8	6.1	47.4	8.4	44.2	12	84.7	84.7	3.3	32.6	4.2	63.2		
PHF	.808	.875	.816	.865	.500	.700	.792	.802	.956	.875	.809	.719	.908	.941	

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City of Ontario
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Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
04:00 PM	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	3	4
04:15 PM	0	1	0	0	0	0	0	0	0	2	6	0	8	1	0	0	10	10	
04:30 PM	0	1	0	0	0	0	0	0	0	1	1	0	2	1	0	0	4	4	
04:45 PM	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2	
Total	0	3	1	0	0	0	0	0	0	3	9	0	12	2	0	1	19	20	
05:00 PM	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	6	6	
05:15 PM	0	2	0	0	0	0	1	1	1	0	3	0	3	1	0	1	7	8	
05:30 PM	0	1	0	0	0	0	0	0	0	0	3	0	3	1	0	0	5	5	
05:45 PM	0	0	1	0	0	0	0	0	0	0	2	0	2	1	0	0	4	4	
Total	0	3	1	0	0	0	1	1	1	0	14	0	14	3	0	0	22	23	
Grand Total	0	6	2	0	0	0	1	1	1	3	23	0	26	5	0	1	41	43	
Approach %	0	75	25		0	0	100		0	11.5	88.5	0	63.4	83.3	0	16.7	4.7	95.3	
Total %	0	14.6	4.9		0	0	2.4		0	7.3	56.1	0	63.4	12.2	0	2.4	4.7	95.3	

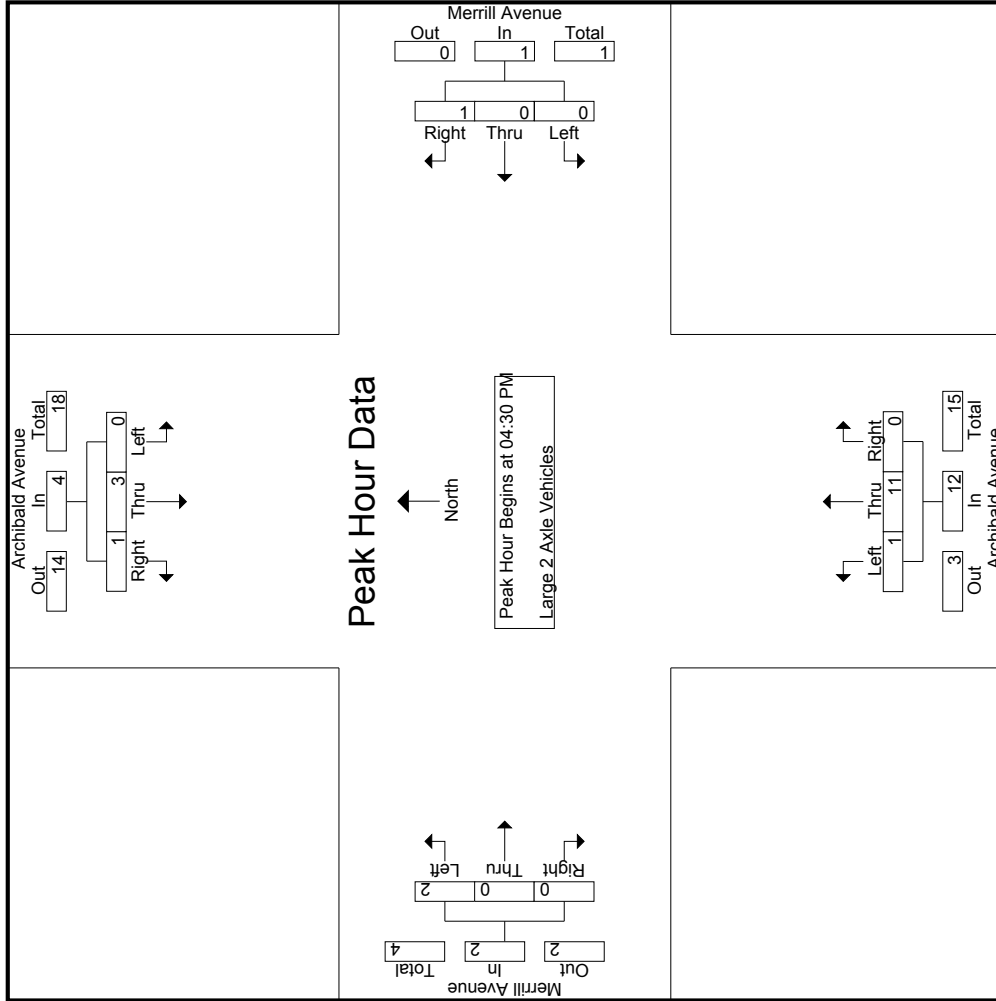
Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound					
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR		
04:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
04:45 PM	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	6
05:15 PM	0	2	0	0	0	0	1	1	0	1	0	3	0	3	1	0	0	7
Total Volume	0	3	1	0	0	0	1	1	1	1	11	0	12	2	0	0	2	19
% App. Total	0	.75	.25		0	0	100		0	8.3	91.7	0	100	0	0	0	0	19
PHF	.000	.375	.250		.000	.000	.250		.250	.250	.458	.000	.500	.500	.000	.000	.500	.679

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

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City of Ontario
 N/S: Archibald Avenue
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City of Ontario
 N/S: Archibald Avenue
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 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	0	1	0	0	0	0	1	0	0	1	1
+15 mins.	0	0	1	1	0	0	0	0	1	0	0	1	0
+30 mins.	0	0	0	0	0	0	0	0	6	0	0	6	0
+45 mins.	0	2	0	2	0	0	1	1	3	0	0	3	1
Total Volume	0	3	1	4	0	0	1	1	11	0	0	12	2
% App. Total	0	75	25	25	0	0	100	8.3	91.7	0	0	100	0
PHF	.000	.375	.250	.500	.000	.000	.250	.250	.458	.000	.000	.500	.500

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
04:00 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	5	0	1	0	6	0	9
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3
05:15 PM	0	1	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	2	0	0	3	1	0	0	1	1	0	0	0	0	1	1	1	0	0	2	0	7
Grand Total	1	4	1	0	6	1	0	0	1	1	0	0	0	0	1	6	1	1	0	8	0	16
Approach %	16.7	66.7	16.7		100	0	0	0	6.2	6.2	0	0	0	0	6.2	75	12.5	12.5	0	50	0	100
Total %	6.2	25	6.2		37.5	6.2	0	0	6.2	6.2	0	0	0	0	6.2	37.5	6.2	6.2	0	50	0	100

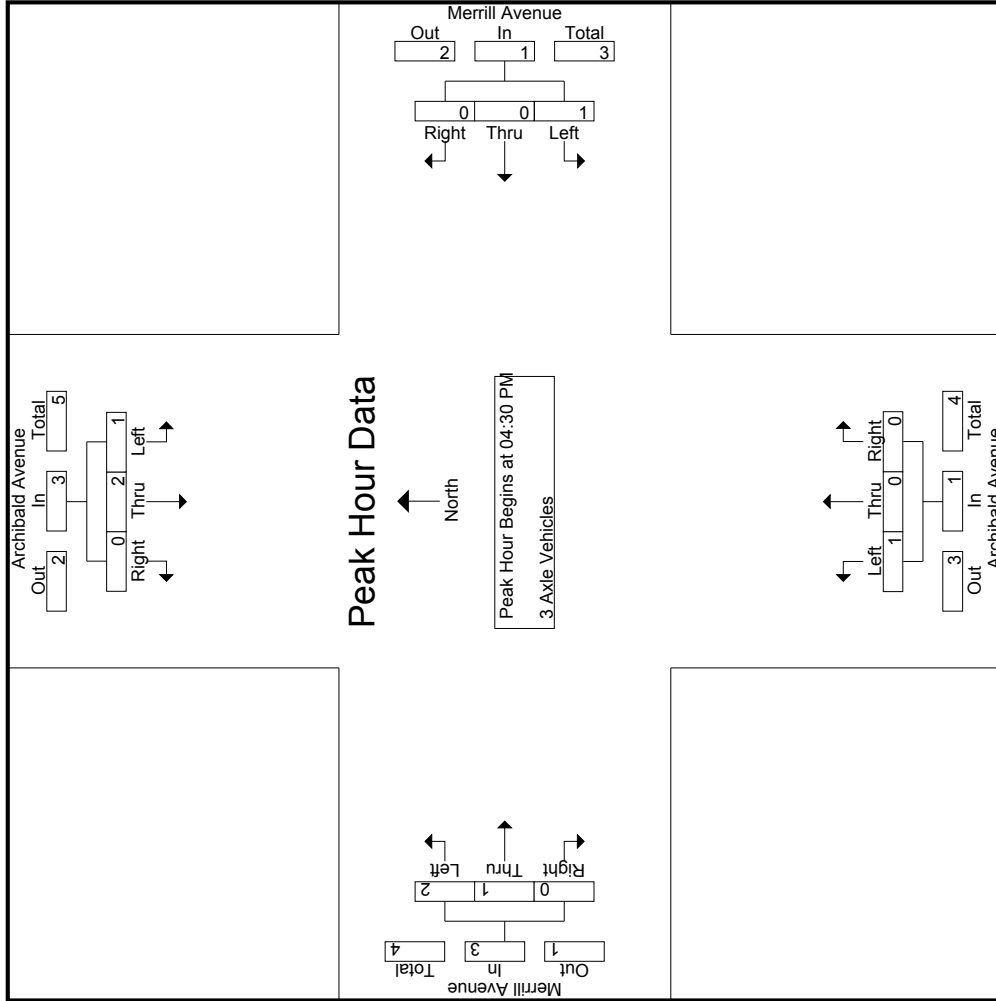
Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	1	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	3
Total Volume	1	2	0	0	3	1	0	0	1	1	0	0	0	0	1	2	1	0	0	3	0	8
% App. Total	33.3	66.7	0		100	0	0	0	66.7	33.3	0	0	0	0	66.7	33.3	0	0	0	0	0	3
PHF	.250	.500	.000		.750	.250	.000	.000	.250	.250	.000	.000	.000	.250	.500	.000	.000	.000	.375	.000	.000	.667

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:30 PM			04:30 PM			04:30 PM			04:30 PM				
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	0	0	0	0	0	0	0	0	0	0	1	2
+45 mins.	0	1	0	1	0	0	1	0	0	1	0	0	0	0
Total Volume	1	2	0	1	0	0	1	0	0	1	2	1	0	3
% App. Total	33.3	66.7	0	100	0	0	100	0	0	66.7	33.3	0	0	0
PHF	.250	.500	.000	.750	.250	.000	.250	.000	.000	.500	.250	.000	.000	.375

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
04:00 PM	1	1	5	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	8	
04:15 PM	0	1	6	0	7	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	9	9
04:30 PM	0	1	4	0	5	0	0	1	1	1	0	0	0	0	0	2	0	2	0	4	1	10	11	
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	4	0	0	0	4	0	0	8	8
Total	1	3	16	1	20	0	0	1	1	1	0	4	0	0	4	7	0	2	0	9	2	34	36	
05:00 PM	0	1	4	2	5	0	0	0	0	0	0	2	0	0	2	4	0	1	0	5	2	12	14	
05:15 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	5	5	
05:30 PM	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	5	5	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	3	3
Total	1	1	9	2	11	0	0	0	0	0	0	4	0	0	4	9	0	1	0	10	2	25	27	
Grand Total	2	4	25	3	31	0	0	1	1	1	0	8	0	0	8	16	0	3	0	19	4	59	63	
Approach %	6.5	12.9	80.6			0	0	100			0	100	0	0	84.2	0	15.8	0	32.2	6.3	93.7			
Total %	3.4	6.8	42.4		52.5	0	0	1.7		1.7	0	13.6	0	0	27.1	0	5.1	0						

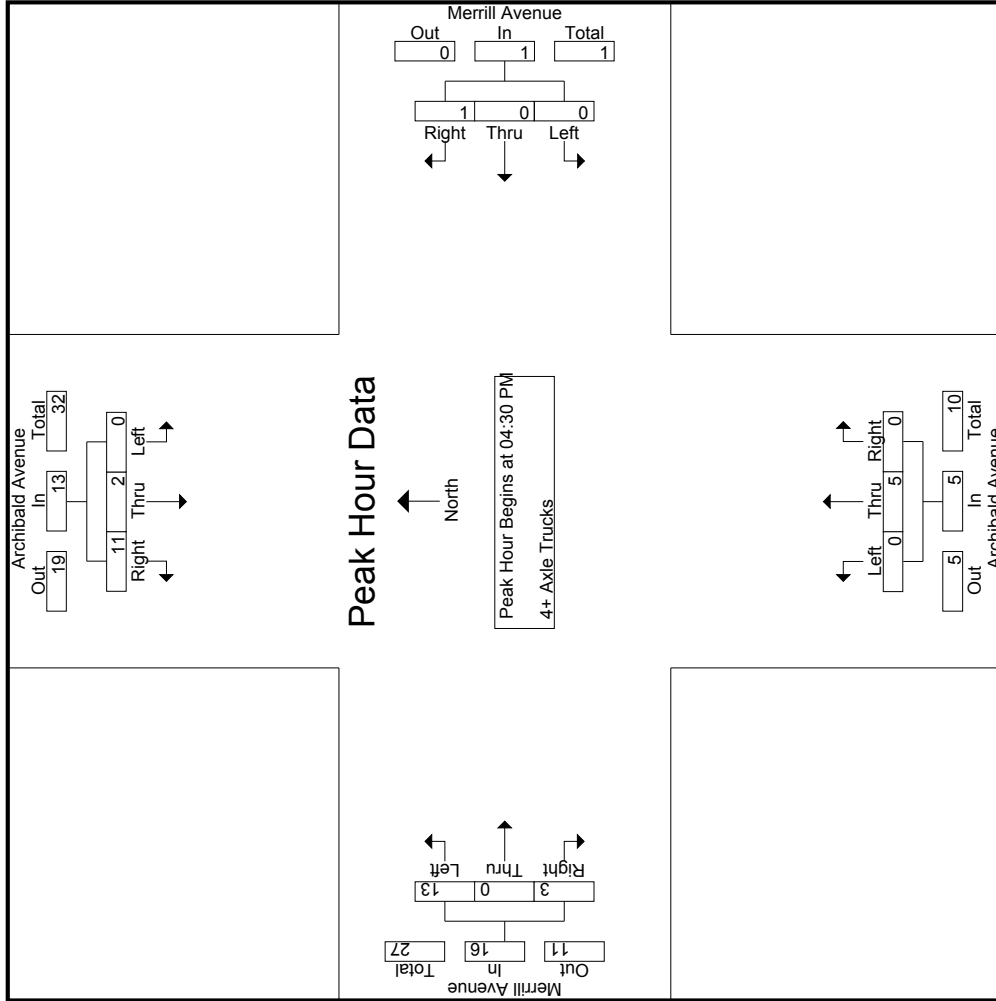
Start Time	Archibald Avenue Southbound				Merrill Avenue Westbound				Archibald Avenue Northbound				Merrill Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:30 PM	0	1	4		5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	10
04:45 PM	0	0	1		1	0	0	0	0	0	0	3	0	0	3	4	0	0	0	0	0	4	8
05:00 PM	0	1	4		5	0	0	0	0	0	0	2	0	0	2	4	0	1	0	0	1	5	12
05:15 PM	0	0	2		2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	5
Total Volume	0	2	11		13	0	0	0	0	0	0	5	0	0	5	13	0	3	0	16	0	35	35
% App. Total	0	15.4	84.6			0	0	100			0	100	0	0	81.2	0	18.8	0					
PHF	.000	.500	.688		.650	.000	.000	.250		.250	.000	.417	.000	.000	.417	.813	.000	.375	.800			.729	

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue
 Weather: Clear

File Name : ONTARMEPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			Merrill Avenue Westbound			Archibald Avenue Northbound			Merrill Avenue Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:	04:30 PM															
+0 mins.	0	1	4	0	0	1	0	0	0	0	0	0	2	0	2	4
+15 mins.	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	4
+30 mins.	0	1	4	0	0	0	0	0	0	0	2	0	4	0	0	5
+45 mins.	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	3
Total Volume	0	2	11	0	0	1	0	0	0	5	0	0	13	0	3	16
% App. Total	0	15.4	84.6	0	0	100	0	0	100	0	0	0	81.2	0	18.8	
PHF	.000	.500	.688	.000	.000	.250	.000	.000	.417	.000	.417	.000	.813	.000	.375	.800

Location: Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg Merrill Avenue	South Leg Archibald Avenue	West Leg Merrill Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Archibald Avenue	East Leg Merrill Avenue	South Leg Archibald Avenue	West Leg Merrill Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Ontario
 N/S: Archibald Avenue
 E/W: Merrill Avenue



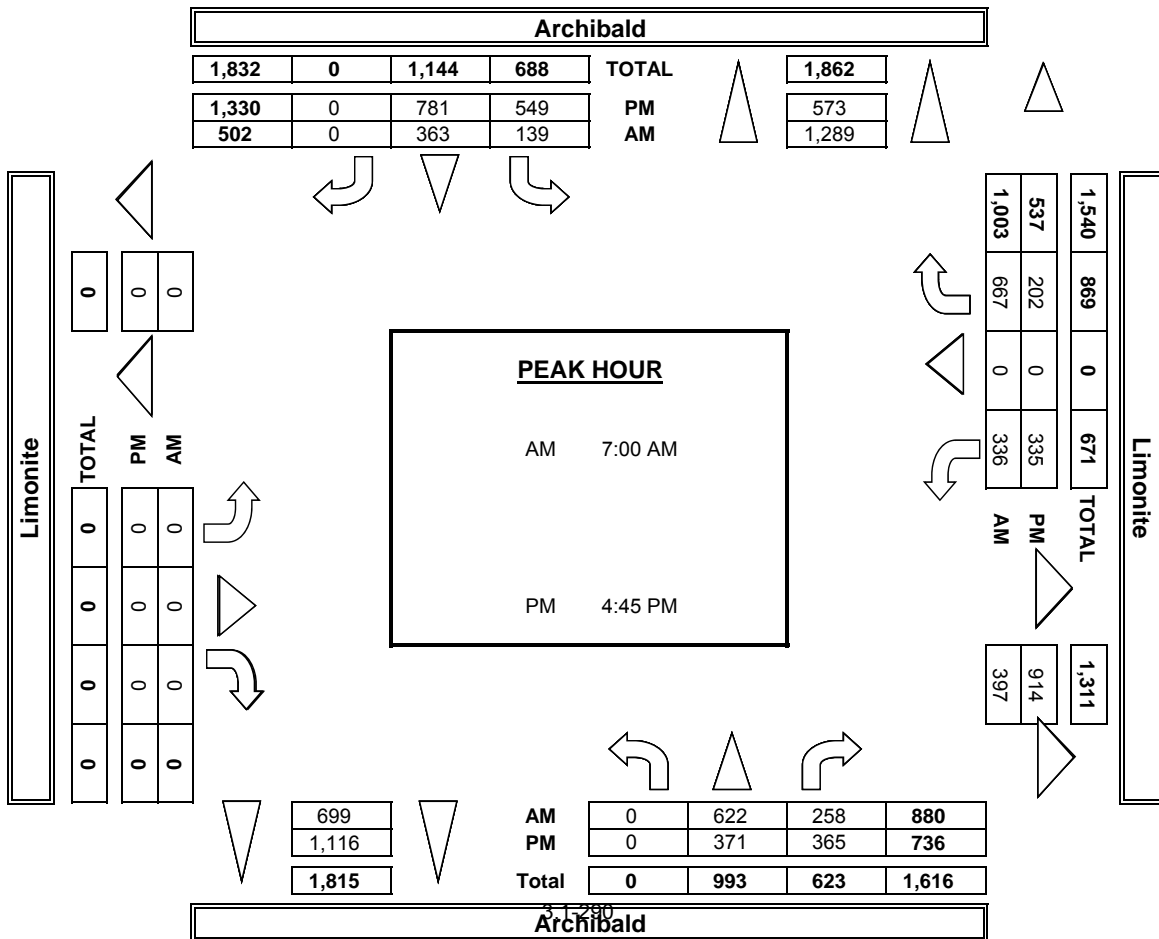
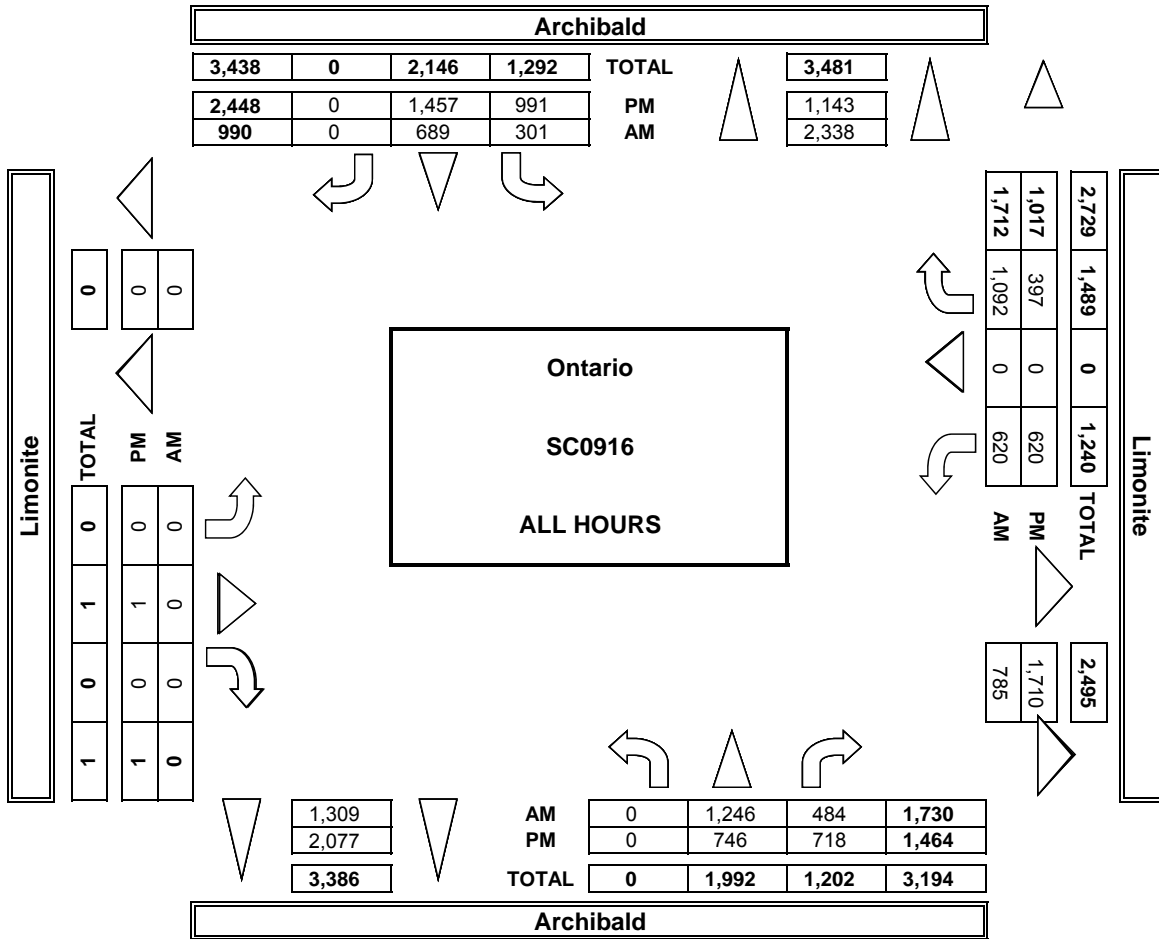
Date: 12/13/2016
 Day: Tuesday

BICYCLES

	North Leg Archibald Avenue	East Leg Merrill Avenue	South Leg Archibald Avenue	West Leg Merrill Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Archibald Avenue	East Leg Merrill Avenue	South Leg Archibald Avenue	West Leg Merrill Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Archibald Limonite	PROJECT #: SC0916	LOCATION #: 36	CONTROL: SIGNAL
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CLASS 6: BUSES	NOTES:	<table border="1"> <tr> <td>AM</td> <td></td> <td>▲</td> <td>N</td> <td></td> </tr> <tr> <td>PM</td> <td></td> <td>◀</td> <td>W</td> <td>▶</td> </tr> <tr> <td>MD</td> <td></td> <td></td> <td>S</td> <td></td> </tr> <tr> <td>OTHER</td> <td></td> <td></td> <td>▼</td> <td></td> </tr> </table>	AM		▲	N		PM		◀	W	▶	MD			S		OTHER			▼	
AM		▲	N																			
PM		◀	W	▶																		
MD			S																			
OTHER			▼																			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	1	1	1	1	X	X	X	X	1	X	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

AM	7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	1
	7:30 AM	0	1	0	1	0	0	0	0	0	0	0	2
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	1	1	1	0	0	0	0	0	0	3
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	2	1	2	2	0	0	0	0	1	0	0	8
APPROACH %	0%	67%	33%	50%	50%	0%	0%	0%	0%	100%	0%	0%	
APP/DEPART	3	/	2	4	/	3	0	/	3	1	/	0	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	2	1	2	1	0	0	0	0	0	0	0	6
APPROACH %	0%	67%	33%	67%	33%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.750			0.375			0.000			0.000			0.500
APP/DEPART	3	/	2	3	/	1	0	/	3	0	/	0	0

0	0	0	0
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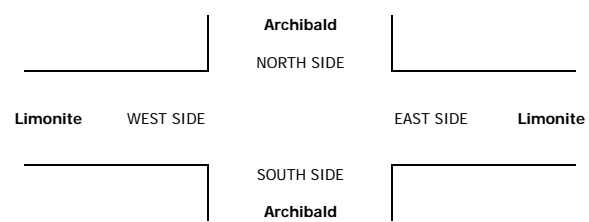
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	1
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	2	0	0	1	0	0	0	0	0	0	0	3
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	2	/	2	1	/	1	0	/	0	0	/	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	1	0	0	1	0	0	0	0	0	0	0	2
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.250			0.250			0.000			0.000			0.500
APP/DEPART	1	/	1	1	/	1	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Thu, Apr 21, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST:
Ontario
Harrison
Limonite

PROJECT #:
LOCATION #:
CONTROL:
SC0916
37
SIGNAL

NOTES:

PM	▲ N
PM	← W
MD	→ E
OTHER	▼ S
OTHER	

Add U-Turns to Left Turns

	NORTHBOUND Harrison			SOUTHBOUND Harrison			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	1	1	1	1	0	1	3	0	1	2	1	
7:00 AM	24	8	41	5	11	16	4	66	1	29	208	1	414
7:15 AM	31	15	57	5	24	20	3	105	4	35	200	1	500
7:30 AM	41	17	70	9	18	9	5	88	5	37	191	1	491
7:45 AM	24	17	53	3	17	5	4	95	3	30	186	2	439
8:00 AM	17	16	43	3	28	9	11	78	4	36	160	1	406
8:15 AM	13	11	20	0	10	20	7	89	3	31	150	1	355
8:30 AM	8	3	9	3	5	12	4	87	6	18	151	2	308
8:45 AM	7	2	8	1	4	11	8	76	2	20	136	1	276
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	165	89	301	29	117	102	46	684	28	236	1,382	10	3,189
APPROACH %	30%	16%	54%	12%	47%	41%	6%	90%	4%	14%	85%	1%	
APP/DEPART	555	/	145	248	/	375	758	/	1,020	1,628	/	1,649	0
BEGIN PEAK HR	7:00 AM			7:00 AM			7:00 AM			7:00 AM			
VOLUMES	120	57	221	22	70	50	16	354	13	131	785	5	1,844
APPROACH %	30%	14%	56%	15%	49%	35%	4%	92%	3%	14%	85%	1%	
PEAK HR FACTOR	0.777			0.724			0.855			0.967			0.922
APP/DEPART	398	/	78	142	/	211	383	/	600	921	/	955	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	6	6	15	1	4	5	20	183	10	45	113	3	411
4:15 PM	7	8	41	3	3	5	8	193	9	52	101	0	430
4:30 PM	8	9	44	5	11	8	16	141	9	49	105	0	405
4:45 PM	8	12	40	3	5	2	14	203	8	48	110	5	458
5:00 PM	8	8	31	1	9	5	21	178	10	41	114	1	427
5:15 PM	15	15	42	3	4	12	17	207	8	54	129	1	507
5:30 PM	5	9	33	4	7	4	19	179	14	55	110	2	441
5:45 PM	6	14	48	7	8	7	18	170	15	56	100	3	452
VOLUMES	63	81	294	27	51	48	133	1,454	83	400	882	15	3,531
APPROACH %	14%	18%	67%	21%	40%	38%	8%	87%	5%	31%	68%	1%	
APP/DEPART	438	/	229	126	/	514	1,670	/	1,795	1,297	/	993	0
BEGIN PEAK HR	4:45 PM			4:45 PM			4:45 PM			4:45 PM			
VOLUMES	36	44	146	11	25	23	71	767	40	198	463	9	1,833
APPROACH %	16%	19%	65%	19%	42%	39%	8%	87%	5%	30%	69%	1%	
PEAK HR FACTOR	0.785			0.776			0.946			0.910			0.904
APP/DEPART	226	/	124	59	/	251	878	/	936	670	/	522	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	3	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	6	6

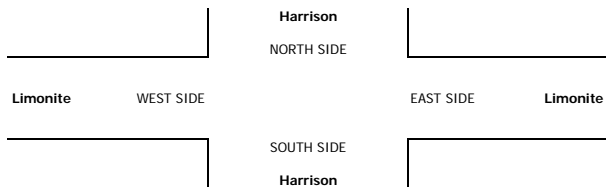
RTOR			
NRR	SRR	ERR	WRR
6	7	0	0
5	7	0	0
12	3	2	0
8	2	0	0
5	2	2	0
5	4	0	0
3	3	0	0
3	8	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
47	36	4	0

31	19	2	0
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NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3
0	0	0	1	1
0	0	0	4	4
0	0	0	1	1
0	0	0	4	4
0	0	0	3	3
0	0	0	4	4
0	0	0	20	20

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
3	1	0	0
10	2	0	0
8	3	0	0
5	0	0	0
2	1	0	0
9	5	0	0
10	0	1	0
5	0	1	0
52	12	2	0

26	6	1	0
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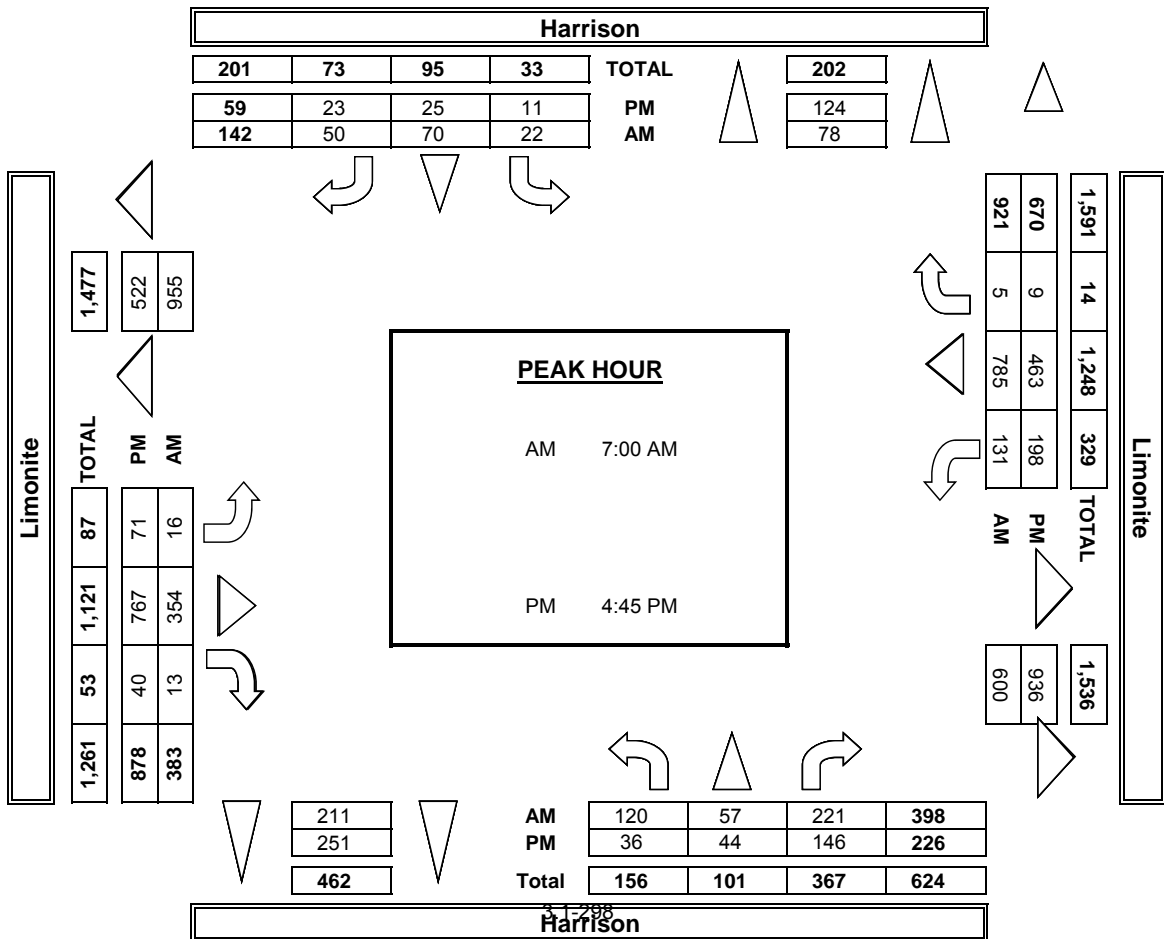
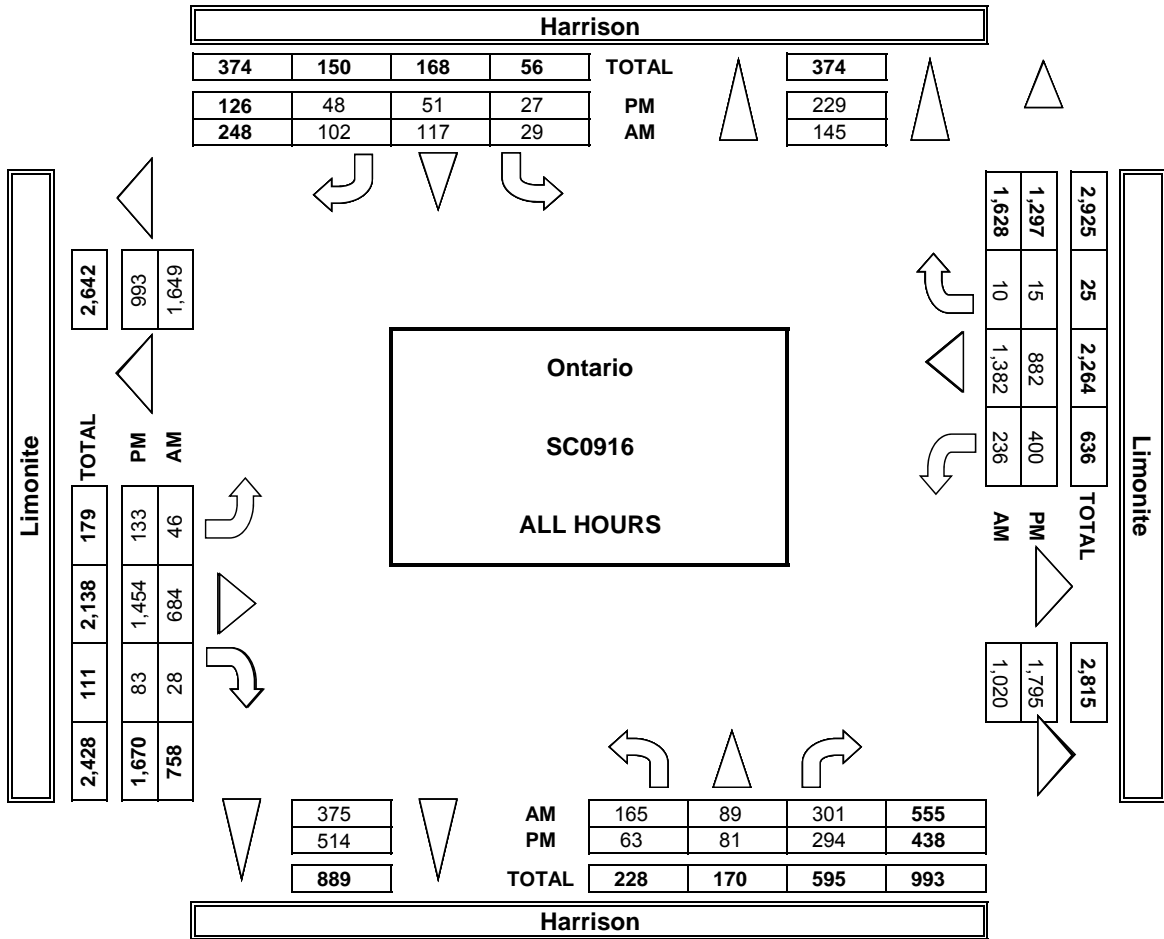
	ALL PED AND BIKE				TOTAL
	E SIDE	W SIDE	S SIDE	N SIDE	
7:00 AM	1	1	0	1	3
7:15 AM	0	2	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	2	0	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	2	0	0	0	2
8:45 AM	0	0	1	0	1
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	5	3	1	1	10
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	2	0	0	0	2
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	1	1	0	2
5:00 PM	1	0	0	0	1
5:15 PM	1	0	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	5	1	1	0	7

ALL PED AND BIKE				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
1	1	0	1	3
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
2	0	0	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
5	3	1	1	10
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
1	0	0	0	1
0	0	0	0	0
0	1	1	0	2
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
5	1	1	0	7

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
1	0	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
2	0	0	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	1	0	1	2
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	1	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	1	1	0	2
0	0	0	0	0
0	0	0	0	0
2	1	1	0	4

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Harrison Limonite	PROJECT #: SC0916	LOCATION #: 37	CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	24	8	41	5	10	16	3	59	0	27	190	1	384
7:15 AM	30	14	57	4	23	20	3	97	4	32	180	1	465
7:30 AM	39	16	68	9	17	9	5	79	5	36	185	1	469
7:45 AM	24	16	51	3	14	5	3	80	3	28	175	2	404
8:00 AM	17	16	41	3	28	9	9	71	3	33	150	1	381
8:15 AM	13	11	19	0	10	17	6	83	3	31	141	0	334
8:30 AM	8	2	8	3	4	11	3	81	5	17	144	2	288
8:45 AM	7	2	8	1	3	10	7	65	2	19	121	1	246
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	162	85	293	28	109	97	39	615	25	223	1,286	9	2,971
APPROACH %	30%	16%	54%	12%	47%	41%	6%	91%	4%	15%	85%	1%	
APP/DEPART	540	/	133	234	/	352	679	/	941	1,518	/	1,545	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	117	54	217	21	64	50	14	315	12	121	730	5	1,722
APPROACH %	30%	14%	56%	16%	47%	37%	4%	92%	4%	14%	85%	1%	
PEAK HR FACTOR	0.789												
APP/DEPART	388	/	73	135	/	197	341	/	555	858	/	897	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	5	3	15	1	3	5	20	173	10	45	105	3	388
4:15 PM	7	6	38	3	3	5	6	185	9	48	98	0	408
4:30 PM	8	9	44	4	11	7	16	130	9	49	102	0	389
4:45 PM	7	11	39	3	5	2	14	193	8	48	108	5	443
5:00 PM	8	7	30	1	9	5	20	169	10	40	104	1	404
5:15 PM	14	14	41	3	4	12	16	201	8	53	128	1	495
5:30 PM	5	9	32	4	7	3	19	171	14	54	107	2	427
5:45 PM	6	14	48	7	7	7	16	168	15	56	100	3	447
VOLUMES	60	73	287	26	49	46	127	1,390	83	393	852	15	3,401
APPROACH %	14%	17%	68%	21%	40%	38%	8%	87%	5%	31%	68%	1%	
APP/DEPART	420	/	215	121	/	505	1,600	/	1,723	1,260	/	958	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	33	44	151	15	27	27	71	709	47	191	439	7	1,773
APPROACH %	14%	19%	66%	22%	39%	39%	9%	86%	6%	29%	68%	1%	
PEAK HR FACTOR	0.826												
APP/DEPART	228	/	122	69	/	265	827	/	887	649	/	499	0

0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	3	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	5	5

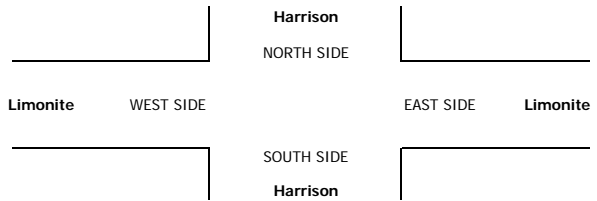
6	7	0	0
5	7	0	0
11	3	2	0
8	2	0	0
5	2	2	0
5	3	0	0
3	3	0	0
3	7	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
46	34	4	0

30	19	2	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	3	3
0	0	0	1	1
0	0	0	4	4
0	0	0	1	1
0	0	0	4	4
0	0	0	3	3
0	0	0	4	4
0	0	0	20	20

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
3	1	0	0
10	2	0	0
8	3	0	0
5	0	0	0
2	1	0	0
9	5	0	0
10	0	1	0
5	0	1	0
52	12	2	0

26	6	2	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Harrison Limonite	PROJECT #: SC0916	LOCATION #: 37	CONTROL: SIGNAL
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CLASS 6:	NOTES:	
BUSES		

LANES:	NORTHBOUND <small>Harrison</small>			SOUTHBOUND <small>Harrison</small>			EASTBOUND <small>Limonite</small>			WESTBOUND <small>Limonite</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	2
7:15 AM	0	1	0	1	0	0	0	0	0	1	0	0	3
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	1	1	1	0	0	0	3	0	2	1	0	9
APPROACH %	0%	50%	50%	100%	0%	0%	0%	100%	0%	67%	33%	0%	
APP/DEPART	2	/	1	1	/	1	3	/	6	3	/	1	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	1	1	1	0	0	0	3	0	1	0	0	7
APPROACH %	0%	50%	50%	100%	0%	0%	0%	100%	0%	100%	0%	0%	
PEAK HR FACTOR	0.500			0.250			0.375			0.125			0.583
APP/DEPART	2	/	1	1	/	1	3	/	5	1	/	0	0

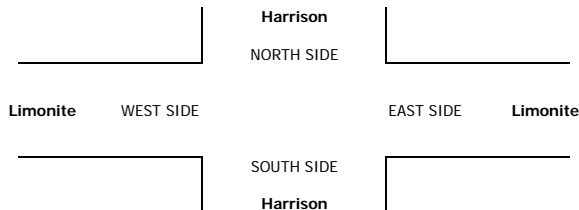
0	0	0	0
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03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	/	0	0	/	1	0	/	0	1	/	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Thu, Apr 21, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST:
Ontario
Sumner
Limonite

PROJECT #:
LOCATION #:
CONTROL:
SC0916
38
SIGNAL

NOTES:

Add U-Turns to Left Turns

	NORTHBOUND Sumner			SOUTHBOUND Sumner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	2	0	2	3	0	2	3	1	
7:00 AM	25	40	39	19	38	19	11	96	4	19	150	5	465
7:15 AM	27	34	43	14	52	11	19	147	6	27	188	5	573
7:30 AM	51	49	48	18	17	19	14	143	7	18	171	1	556
7:45 AM	34	44	52	26	18	20	17	131	5	21	132	1	501
8:00 AM	28	27	51	34	15	18	21	115	7	24	161	7	508
8:15 AM	35	40	70	23	18	16	27	90	7	25	110	7	468
8:30 AM	25	32	77	14	7	14	7	92	6	23	136	4	437
8:45 AM	21	20	45	15	6	9	5	75	4	17	102	1	320
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	246	286	425	163	171	126	121	889	46	174	1,150	31	3,828
APPROACH %	26%	30%	44%	35%	37%	27%	11%	84%	4%	13%	85%	2%	
APP/DEPART	957	/	430	460	/	364	1,056	/	1,504	1,355	/	1,530	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	1	1
0	0	0	5	5
0	0	0	2	2
0	0	2	6	8
0	0	1	4	5
0	0	4	4	8
0	0	1	2	3
0	0	0	3	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	8	27	35

RTOR			
NRR	SRR	ERR	WRR
13	7	1	2
16	6	2	3
18	6	2	0
15	5	1	0
20	8	2	3
18	11	2	4
31	9	0	2
25	6	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
156	58	10	14

	7:15 AM			92	102	68	71	536	25	90	652	14	2,138
	VOLUMES	APPROACH %	PEAK HR FACTOR										
VOLUMES	140	154	194	35%	39%	26%	11%	85%	4%	12%	86%	2%	
APPROACH %	29%	32%	40%										
PEAK HR FACTOR	0.824			0.851			0.919			0.859			0.933
APP/DEPART	488	/	236	262	/	200	632	/	839	756	/	863	0

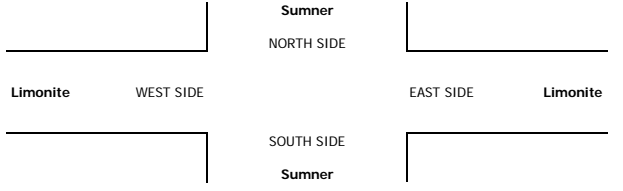
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	6	7
0	0	1	4	5
0	0	0	1	1
0	0	0	3	3
0	0	0	3	3
0	0	1	3	4
1	0	0	1	2
0	0	1	5	6
1	0	4	26	31

NRR	SRR	ERR	WRR
69	25	7	6

	4:45 PM			491	672	1,730	1,933	1,517	1,270	0			
	VOLUMES	APPROACH %	PEAK HR FACTOR										
VOLUMES	47	68	150	27%	48%	25%	8%	84%	6%	24%	70%	6%	2,210
APPROACH %	18%	26%	57%										
PEAK HR FACTOR	0.920			0.928			0.945			0.963			0.973
APP/DEPART	265	/	199	256	/	359	907	/	995	782	/	657	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	6	7
0	0	1	4	5
0	0	0	1	1
0	0	0	3	3
0	0	0	3	3
0	0	1	3	4
1	0	0	1	2
0	0	1	5	6
1	0	4	26	31

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
23	11	1	5
13	9	0	4
18	9	0	8
18	5	1	4
19	10	3	0
18	8	1	8
17	3	1	8
13	3	2	6
139	58	9	43



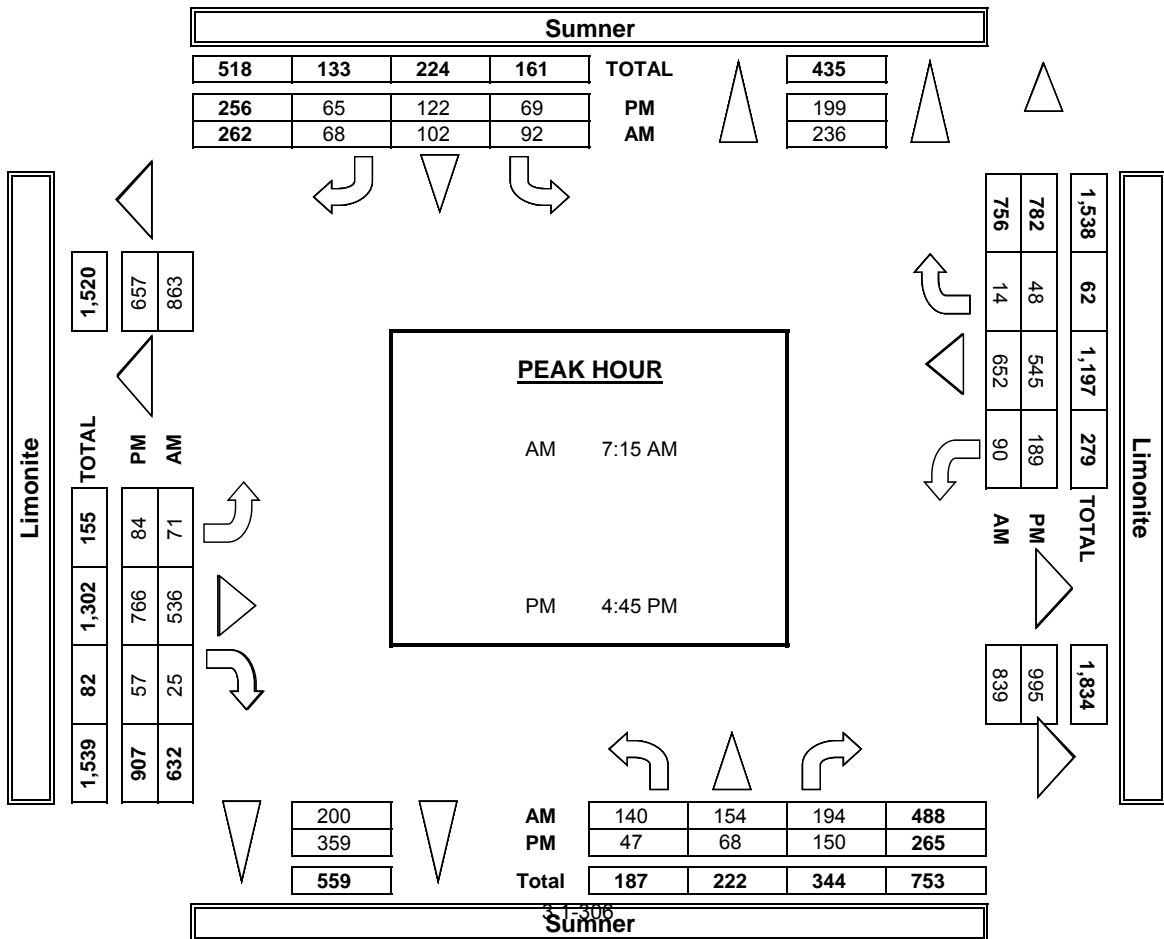
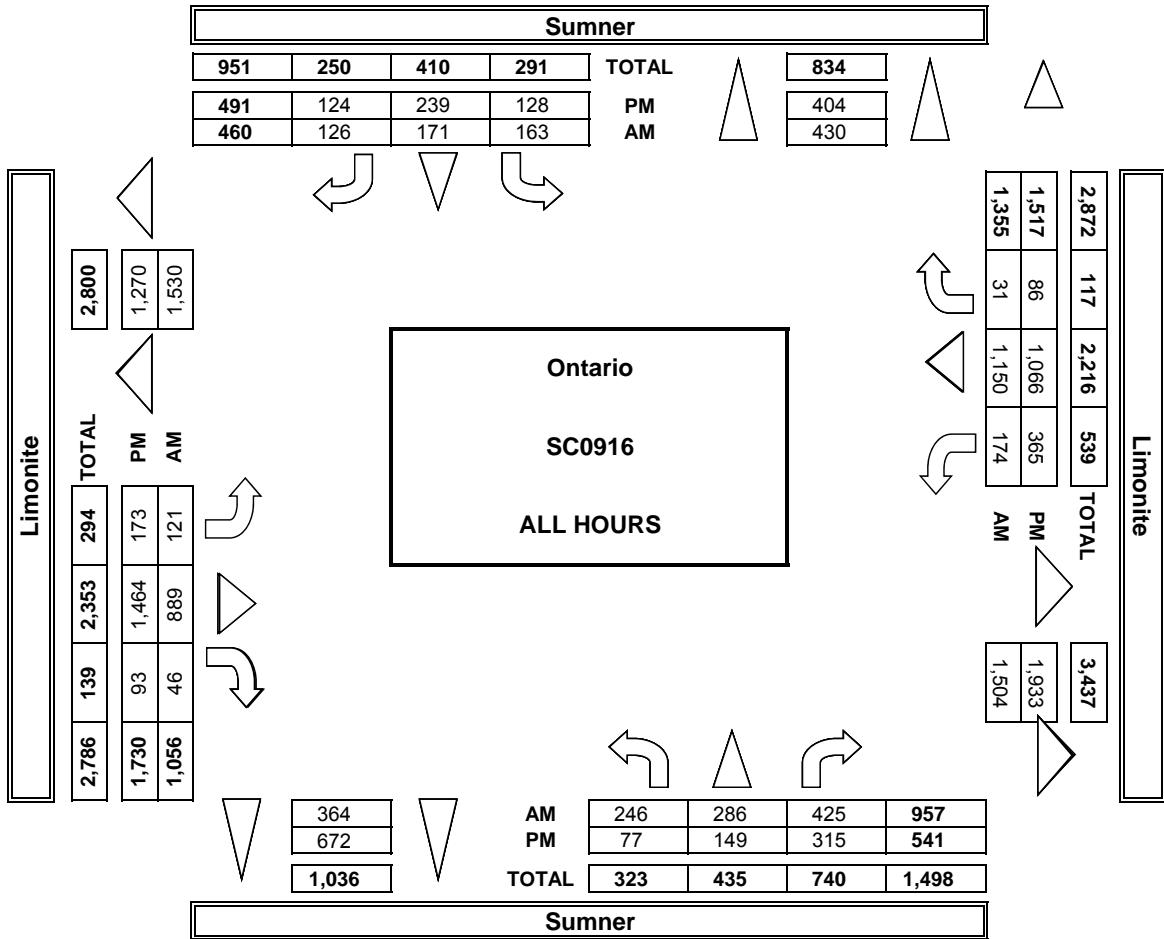
Time	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	6	0	0	6
7:15 AM	2	0	0	0	2
7:30 AM	1	0	0	0	1
7:45 AM	0	2	0	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	1	0	1	0	2
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	4	8	1	0	13
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	2	1	1	0	4
4:45 PM	0	2	2	0	4
5:00 PM	1	2	0	1	4
5:15 PM	0	0	0	0	0
5:30 PM	2	0	0	0	2
5:45 PM	0	0	1	1	2
TOTAL	5	5	4	2	16

ALL PED AND BIKE				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0
7:15 AM	2	0	0	2
7:30 AM	1	0	0	1
7:45 AM	0	2	0	2
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	1	0	1	2
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
TOTAL	4	8	1	13
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	2	1	1	4
4:45 PM	0	2	2	4
5:00 PM	1	2	0	3
5:15 PM	0	0	0	0
5:30 PM	2	0	0	2
5:45 PM	0	0	1	1
TOTAL	5	5	4	16

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	1	0	0	1
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	1	0	1	2
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
TOTAL	1	0	1	2
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	1	1	2
4:45 PM	0	2	2	4
5:00 PM	1	0	0	1
5:15 PM	0	0	0	0
5:30 PM	2	0	0	2
5:45 PM	0	0	1	1
TOTAL	3	2	2	8

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
7:00 AM	0	6	0	6
7:15 AM	2	0	0	2
7:30 AM	0	0	0	0
7:45 AM	0	2	0	2
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
TOTAL	2	2	0	4
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	2	0	0	2
4:45 PM	0	0	0	0
5:00 PM	0	2	0	2
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
TOTAL	0	2	0	2

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Sumner Limonite	PROJECT #: SC0916 LOCATION #: 38 CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	◀ W E ▶	▲ N S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 3	ER 0	WL 2	WT 3	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR 0	SRR 0	ERR 0	WRR 1

AM	7:00 AM	25	40	39	17	38	16	10	87	4	19	136	4	435	
	7:15 AM	27	34	43	12	52	10	19	141	6	25	173	5	547	
	7:30 AM	50	49	48	17	17	19	14	125	7	17	163	1	527	
	7:45 AM	34	41	50	26	17	18	15	120	5	21	121	0	468	
	8:00 AM	28	26	49	33	13	16	20	105	7	23	149	7	476	
	8:15 AM	35	40	68	22	17	15	27	83	5	24	97	5	438	
	8:30 AM	25	30	77	13	7	14	7	88	5	20	128	4	418	
	8:45 AM	19	20	45	14	6	9	5	64	4	15	93	1	295	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	243	280	419	154	167	117	117	813	43	164	1,060	27	3,604		
APPROACH %	26%	30%	44%	35%	38%	27%	12%	84%	4%	13%	85%	2%			
APP/DEPART	942	/	416	438	/	347	973	/	1,413	1,251	/	1,428	0		
BEGIN PEAK HR	7:15 AM														
VOLUMES	139	150	190	88	99	63	65	491	25	69	606	13	2,018		
APPROACH %	29%	31%	40%	35%	40%	25%	11%	84%	4%	10%	86%	2%			
PEAK HR FACTOR	0.815			0.845			0.880			0.868			0.922		
APP/DEPART	479	/	228	250	/	193	584	/	786	705	/	811	0		
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	9	25	53	16	22	14	25	132	4	49	117	10	476	
	4:15 PM	1	27	43	20	22	20	19	203	8	35	129	8	535	
	4:30 PM	11	12	36	12	24	14	20	164	11	37	117	9	467	
	4:45 PM	13	15	43	19	31	11	17	180	12	51	125	10	527	
	5:00 PM	8	15	31	17	21	21	21	170	18	51	132	12	517	
	5:15 PM	13	20	33	15	34	19	20	195	13	48	121	12	543	
	5:30 PM	11	16	41	16	34	14	22	186	14	38	148	12	552	
	5:45 PM	7	13	27	11	47	9	21	164	13	52	147	10	521	
VOLUMES	73	143	307	126	235	122	165	1,394	93	361	1,036	83	4,138		
APPROACH %	14%	27%	59%	26%	49%	25%	10%	84%	6%	24%	70%	6%			
APP/DEPART	523	/	387	483	/	664	1,652	/	1,853	1,480	/	1,234	0		
BEGIN PEAK HR	4:45 PM														
VOLUMES	44	66	148	67	120	65	79	731	57	178	526	46	2,139		
APPROACH %	17%	25%	57%	27%	48%	26%	9%	84%	7%	23%	69%	6%			
PEAK HR FACTOR	0.912			0.926			0.952			0.960			0.969		
APP/DEPART	259	/	191	252	/	356	868	/	956	760	/	636	0		

0	0	0	1	1
0	0	0	5	5
0	0	0	2	2
0	0	2	6	8
0	0	1	4	5
0	0	4	4	8
0	0	1	2	3
0	0	0	3	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	8	27	35

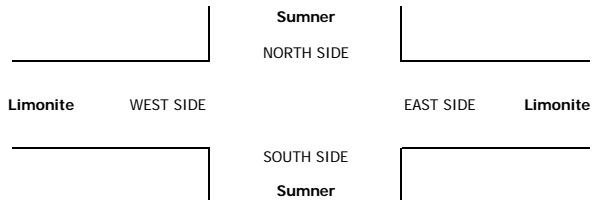
13	6	1	2
16	5	2	3
18	6	2	0
15	5	1	0
20	7	2	3
18	11	2	3
31	9	0	2
25	6	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
156	55	10	13

69	23	7	6
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	6	7
0	0	1	4	5
0	0	0	1	1
0	0	0	3	3
0	0	0	3	3
0	0	1	3	4
1	0	0	1	2
0	0	1	5	6
1	0	4	26	31

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
21	11	1	5
13	8	0	4
18	9	0	8
18	5	1	4
19	10	3	0
18	8	1	8
17	3	1	8
13	3	2	6
137	57	9	43

72	26	6	20
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Sumner Limonite	PROJECT #: SC0916	LOCATION #: 38	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM	▲	N	
		PM	◀	W	E ▶
		MD			
		OTHER		S	▼

LANES:	NORTHBOUND Sumner			SOUTHBOUND Sumner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	1	0	3	1	6	0	0	7	0	18
7:15 AM	0	0	0	2	0	1	0	4	0	1	9	0	17
7:30 AM	1	0	0	1	0	0	0	7	0	1	6	0	16
7:45 AM	0	2	2	0	1	1	0	5	0	0	5	1	17
8:00 AM	0	0	1	0	0	2	1	6	0	1	9	0	20
8:15 AM	0	0	1	1	1	1	0	6	2	1	6	1	20
8:30 AM	0	1	0	0	0	0	0	3	1	3	6	0	14
8:45 AM	2	0	0	1	0	0	0	7	0	2	4	0	16
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	3	0	1

VOLUMES	3	3	4	6	2	8	2	44	3	9	52	2	138
APPROACH %	30%	30%	40%	38%	13%	50%	4%	90%	6%	14%	83%	3%	
APP/DEPART	10	/	7	16	/	14	49	/	54	63	/	63	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	1	2	4	2	2	4	1	24	2	3	26	2	73
APPROACH %	14%	29%	57%	25%	25%	50%	4%	89%	7%	10%	84%	6%	
PEAK HR FACTOR	0.438			0.667			0.844			0.775			0.913
APP/DEPART	7	/	5	8	/	7	27	/	30	31	/	31	0

0	1	0	1
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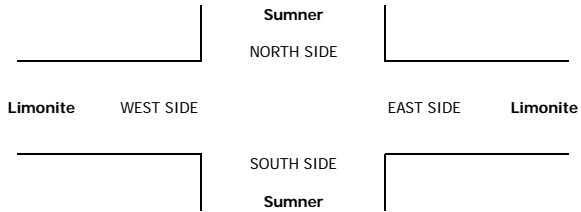
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	2	3	0	0	0	1	8	0	0	2	0	17
4:15 PM	0	1	2	0	1	1	0	7	0	0	2	0	14
4:30 PM	1	1	1	0	1	1	0	10	0	1	1	1	18
4:45 PM	0	1	0	1	0	0	2	8	0	1	3	0	16
5:00 PM	1	0	0	0	0	0	1	4	0	0	6	1	13
5:15 PM	1	0	1	1	0	0	1	7	0	0	2	0	13
5:30 PM	0	1	0	0	1	0	0	6	0	0	3	0	11
5:45 PM	0	0	0	0	0	0	3	3	0	2	1	0	9

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	1	0	0

VOLUMES	4	6	7	2	3	2	8	53	0	4	20	2	111
APPROACH %	24%	35%	41%	29%	43%	29%	13%	87%	0%	15%	77%	8%	
APP/DEPART	17	/	16	7	/	7	61	/	62	26	/	26	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	2	5	6	1	2	2	3	33	0	2	8	1	65
APPROACH %	15%	38%	46%	20%	40%	40%	8%	92%	0%	18%	73%	9%	
PEAK HR FACTOR	0.542			0.625			0.900			0.688			0.903
APP/DEPART	13	/	9	5	/	4	36	/	40	11	/	12	0

2	1	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Sumner Limonite	PROJECT #: SC0916	LOCATION #: 38	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
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LANES:	NORTHBOUND Sumner			SOUTHBOUND Sumner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 3	ER 0	WL 2	WT 3	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	2	0	0	0	3	0	5
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	4	0	5
7:30 AM	0	0	0	0	0	0	0	4	0	0	0	2	0	6
7:45 AM	0	0	0	0	0	0	0	4	0	0	0	3	0	7
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	15	0	0	18	0	33
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	15	/	15	18	/	18	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	0	0	0	0	11	0	0	12	0	23
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR	0.000			0.000			0.688			0.750			0.821
APP/DEPART	0	/	0	0	/	0	11	/	11	12	/	12	0

0	0	0	0
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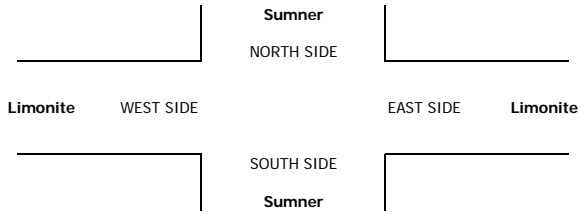
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	5	0	0	6	0	11
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	5	/	5	6	/	6	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	0	0	0	0	0	0	4	0	0	5	0	9
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR	0.000			0.000			0.500			0.625			0.563
APP/DEPART	0	/	0	0	/	0	4	/	4	5	/	5	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Sumner Limonite	PROJECT #: SC0916	LOCATION #: 38	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND <small>Sumner</small>			SOUTHBOUND <small>Sumner</small>			EASTBOUND <small>Limonite</small>			WESTBOUND <small>Limonite</small>			TOTAL
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 2	ET 3	ER 0	WL 2	WT 3	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0

0	0	0	0
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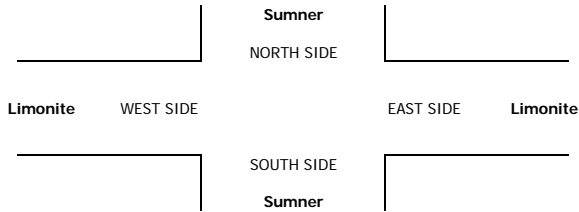
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Sumner Limonite	PROJECT #: SC0916	LOCATION #: 38	CONTROL: SIGNAL
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CLASS 6: BUSES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W ▶ E S ▼
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LANES:	NORTHBOUND Sumner			SOUTHBOUND Sumner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	1	0	0	0	0	0	0	1	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	1	0	0	1	0	3
8:00 AM	0	0	0	1	2	0	0	2	0	0	1	0	6
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	2	1	3	2	0	0	5	0	0	3	0	16
APPROACH %	0%	67%	33%	60%	40%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	3	/	2	5	/	2	5	/	9	3	/	3	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	2	1	2	2	0	0	3	0	0	2	0	12
APPROACH %	0%	67%	33%	50%	50%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR	0.750			0.333			0.375			0.500			0.500
APP/DEPART	3	/	2	4	/	2	3	/	6	2	/	2	0

0	0	0	0
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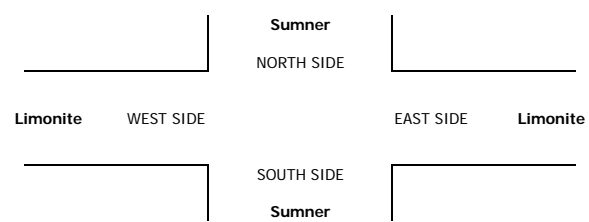
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

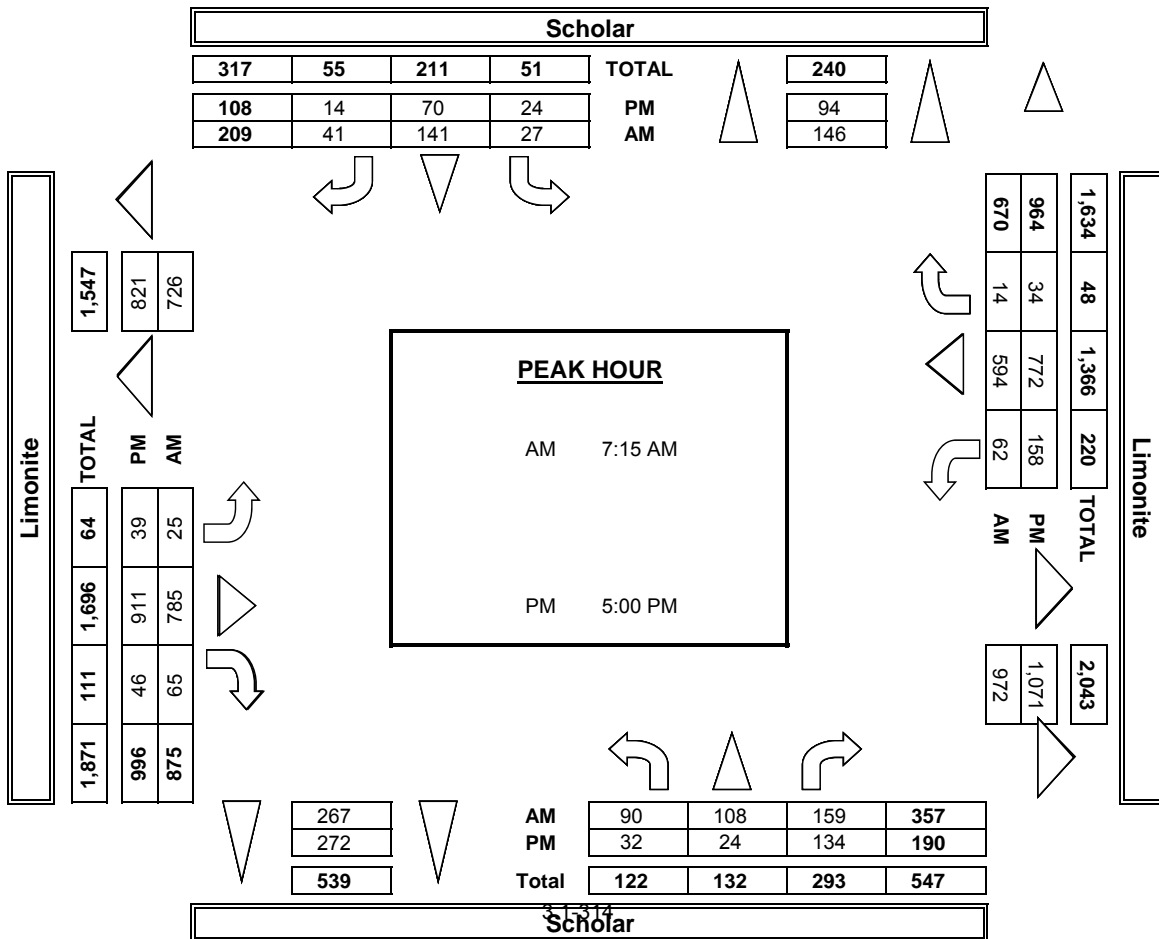
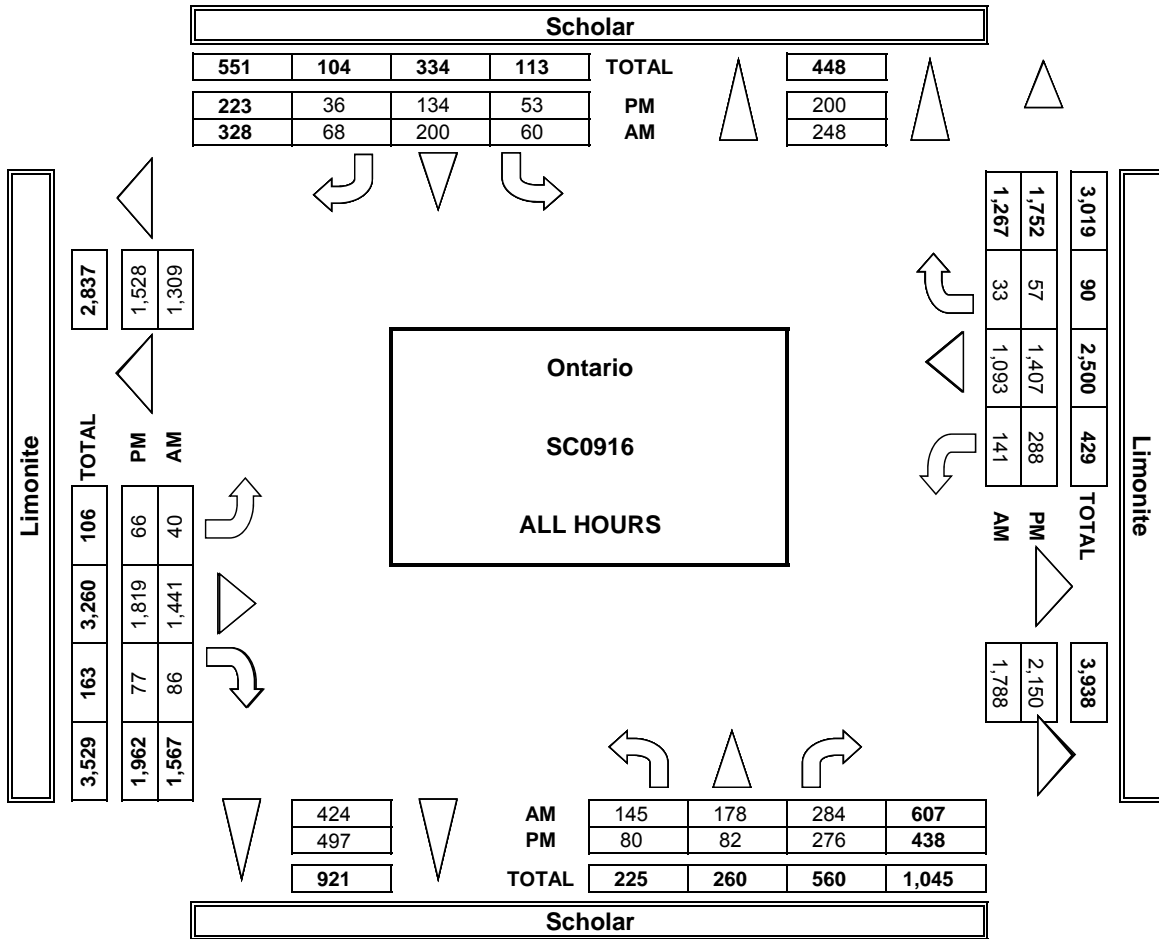
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.250			0.250
APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0

0	0	0	0
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AimTD LLC
TURNING MOVEMENT COUNTS

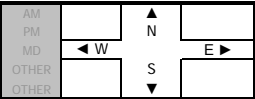


INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Scholar Limonite	PROJECT #: SC0916 LOCATION #: 39 CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	8	10	28	6	15	8	4	109	2	17	124	5	336	
	7:15 AM	18	23	42	10	37	11	7	199	11	16	153	5	532	
	7:30 AM	22	22	35	8	21	7	11	181	3	11	127	3	451	
	7:45 AM	17	31	48	4	35	9	1	201	15	6	130	1	498	
	8:00 AM	31	31	31	4	47	11	4	158	32	22	137	2	510	
	8:15 AM	22	37	37	7	25	8	5	177	15	19	97	2	451	
	8:30 AM	14	17	32	11	12	7	2	171	2	18	128	5	419	
	8:45 AM	10	5	25	8	3	3	2	154	2	21	102	3	338	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	142	176	278	58	195	64	36	1,350	82	130	998	26	3,535	
APPROACH %	24%	30%	47%	18%	62%	20%	2%	92%	6%	11%	86%	2%			
APP/DEPART	596	/	236	317	/	405	1,468	/	1,688	1,154	/	1,206	0		
BEGIN PEAK HR	7:15 AM														
VOLUMES	88	107	156	26	140	38	22	739	61	55	547	11	1,991		
APPROACH %	25%	30%	44%	13%	69%	19%	3%	90%	7%	9%	89%	2%			
PEAK HR FACTOR	0.914			0.823			0.948			0.881			0.936		
APP/DEPART	351	/	140	204	/	256	823	/	921	613	/	674	0		
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	15	34	38	8	24	3	9	201	12	28	149	9	530	
	4:15 PM	10	11	42	5	19	4	6	235	5	29	152	3	521	
	4:30 PM	12	7	25	4	11	6	3	214	6	41	150	7	486	
	4:45 PM	10	4	28	9	10	8	5	210	8	29	168	2	491	
	5:00 PM	8	3	34	6	16	2	6	229	6	30	172	8	520	
	5:15 PM	6	8	28	5	8	4	8	224	17	37	203	9	557	
	5:30 PM	5	5	34	5	21	3	15	216	10	50	180	6	550	
	5:45 PM	11	8	34	7	23	4	10	210	13	37	197	11	565	
	VOLUMES	77	80	263	49	132	34	62	1,739	77	281	1,371	55	4,220	
APPROACH %	18%	19%	63%	23%	61%	16%	3%	93%	4%	16%	80%	3%			
APP/DEPART	420	/	193	215	/	488	1,878	/	2,053	1,707	/	1,486	0		
BEGIN PEAK HR	5:00 PM														
VOLUMES	30	24	130	23	68	13	36	879	46	152	752	34	2,192		
APPROACH %	16%	13%	71%	22%	65%	13%	4%	91%	5%	16%	80%	4%			
PEAK HR FACTOR	0.868			0.765			0.968			0.944			0.970		
APP/DEPART	184	/	94	104	/	266	964	/	1,034	940	/	798	0		

0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
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0	0	0	0	0
0	0	2	2	4

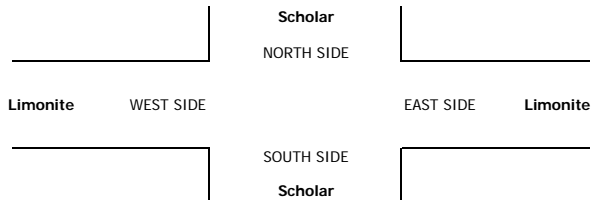
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8	0	2	0
6	0	1	0
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9	1	3	0
11	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
73	3	8	1

36	2	7	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	1	1	2
0	0	1	1	2
0	0	4	2	6

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
6	1	0	1
6	1	0	1
7	1	0	0
9	3	0	0
11	1	1	0
10	0	1	0
15	2	0	0
11	0	0	0
75	9	2	2

47	3	2	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Scholar Limonite	PROJECT #: SC0916 LOCATION #: 39 CONTROL: SIGNAL
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CLASS 6: BUSES	NOTES:	
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	1	0	0	0	1	0	1	0	0	0	0	1	4
7:15 AM	0	0	0	0	1	1	0	1	1	0	1	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:00 AM	0	0	0	0	0	0	0	1	1	1	0	0	3
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

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0	0	1	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0

VOLUMES	1	0	0	0	2	1	1	5	2	3	2	1	18
APPROACH %	100%	0%	0%	0%	67%	33%	13%	63%	25%	50%	33%	17%	
APP/DEPART	1	/	2	3	/	6	8	/	6	6	/	4	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	1	0	0	0	2	1	1	2	1	1	2	1	13
APPROACH %	100%	0%	0%	0%	67%	33%	25%	50%	25%	20%	40%	20%	
PEAK HR FACTOR	0.250			0.375			0.500			0.625			0.650
APP/DEPART	1	/	2	3	/	4	4	/	3	5	/	4	0

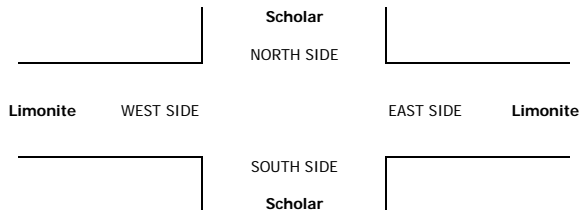
0	0	1	0
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03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	2	0	0	0	0	0	0	0	1	0	3
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	2	/	0	0	/	0	0	/	2	1	/	1	0
BEGIN PEAK HR	3:45 PM												
VOLUMES	0	0	2	0	0	0	0	0	0	0	1	0	3
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR	0.500			0.000			0.000			0.250			0.750
APP/DEPART	2	/	0	0	/	0	0	/	2	1	/	1	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	34	27	3	0	64	27	111	40	0	178	26	98	88	0	212	3	52	12	0	67	0	521	521
07:15 AM	29	38	12	3	79	39	111	44	19	194	23	95	106	18	224	2	52	14	7	68	47	565	612
07:30 AM	29	35	7	4	71	43	105	29	16	177	21	84	86	11	191	6	73	17	10	96	41	535	576
07:45 AM	18	41	1	1	60	49	78	33	15	160	21	105	72	14	198	7	68	19	7	94	37	512	549
Total	110	141	23	8	274	158	405	146	50	709	91	382	352	43	825	18	245	62	24	325	125	2133	2258
08:00 AM	18	45	4	0	67	24	57	31	18	112	23	108	41	4	172	9	50	20	11	79	33	430	463
08:15 AM	14	29	2	1	45	35	52	42	20	129	25	96	53	2	174	3	43	15	13	61	36	409	445
08:30 AM	18	36	2	1	56	26	58	40	16	124	19	84	71	17	174	4	59	14	6	77	40	431	471
08:45 AM	23	22	2	1	47	22	59	52	24	133	31	52	46	8	129	3	36	18	13	57	46	366	412
Total	73	132	10	3	215	107	226	165	78	498	98	340	211	31	649	19	188	67	43	274	155	1636	1791
Grand Total	183	273	33	11	489	265	631	311	128	1207	189	722	563	74	1474	37	433	129	67	599	280	3769	4049
Approach %	37.4	55.8	6.7			22	52.3	25.8			12.8	49	38.2			6.2	72.3	21.5					
Total %	4.9	7.2	0.9		13	7	16.7	8.3		32	5	19.2	14.9		39.1	1	11.5	3.4		15.9	6.9	93.1	
% Passenger Vehicles	151	255	20		430	259	536	277		1187	180	702	551		1505	28	362	119		569	0	0	3691
% Large 2 Axle Vehicles	82.5	93.4	60.6		36.4	86	97.7	89.1		88.9	95.2	97.2	97.9		97.3	75.7	83.6	92.2		89.6	85.4	0	91.2
% 3 Axle Vehicles	9	16	7		36	5	30	12		53	6	16	9		32	6	18	8		38	0	0	159
% 4+ Axle Trucks	4.9	5.9	21.2		36.4	7.2	1.9	4.8		4.7	3.2	2.2	1.6		2.1	16.2	4.2	6.2		9	0	0	3.9
3 Axle Vehicles	8	1	1		10	1	39	4		46	2	2	2		6	2	24	1		28	0	0	90
% 3 Axle Vehicles	4.4	0.4	3		0	2	0.4	6.2		3.4	1.1	0.3	0.4		0.4	5.4	5.5	0.8		1.5	0	0	2.2
4+ Axle Trucks	15	1	5		24	0	26	18		49	1	2	1		5	1	29	1		31	0	0	109
% 4+ Axle Trucks	8.2	0.4	15.2		27.3	4.8	0	4.1		3.7	0.5	0.3	0.2		0.3	2.7	6.7	0.8		0	0	0	2.7

Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	34	27	3		64	27	111	40		178	26	98	88		212	3	52	12		67	0	521	521
07:15 AM	29	38	12		79	39	111	44		194	23	95	106		224	2	52	14		68	47	565	612
07:30 AM	29	35	7		71	43	105	29		177	21	84	86		191	6	73	17		96	41	535	576
07:45 AM	18	41	1		60	49	78	33		160	21	105	72		198	7	68	19		94	37	512	549
Total	110	141	23		274	158	405	146		709	91	382	352		825	18	245	62		325	125	2133	2258
08:00 AM	18	45	4		67	24	57	31		112	23	108	41		172	9	50	20		79	33	430	463
08:15 AM	14	29	2		45	35	52	42		129	25	96	53		174	3	43	15		61	36	409	445
08:30 AM	18	36	2		56	26	58	40		124	19	84	71		174	4	59	14		77	40	431	471
08:45 AM	23	22	2		47	22	59	52		133	31	52	46		129	3	36	18		57	46	366	412
Total	73	132	10		215	107	226	165		498	98	340	211		649	19	188	67		274	155	1636	1791
Grand Total	183	273	33		489	265	631	311		1207	189	722	563		1474	37	433	129		599	280	3769	4049
Approach %	37.4	55.8	6.7			22	52.3	25.8			12.8	49	38.2			6.2	72.3	21.5					
Total %	4.9	7.2	0.9		13	7	16.7	8.3		32	5	19.2	14.9		39.1	1	11.5	3.4		15.9	6.9	93.1	
% Passenger Vehicles	151	255	20		430	259	536	277		1187	180	702	551		1505	28	362	119		569	0	0	3691
% Large 2 Axle Vehicles	82.5	93.4	60.6		36.4	86	97.7	89.1		88.9	95.2	97.2	97.9		97.3	75.7	83.6	92.2		89.6	85.4	0	91.2
% 3 Axle Vehicles	9	16	7		36	5	30	12		53	6	16	9		32	6	18	8		38	0	0	159
% 4+ Axle Trucks	4.9	5.9	21.2		36.4	7.2	1.9	4.8		4.7	3.2	2.2	1.6		2.1	16.2	4.2	6.2		9	0	0	3.9
3 Axle Vehicles	8	1	1		10	1	39	4		46	2	2	2		6	2	24	1		28	0	0	90
% 3 Axle Vehicles	4.4	0.4	3		0	2	0.4	6.2		3.4	1.1	0.3	0.4		0.4	5.4	5.5	0.8		1.5	0	0	2.2
4+ Axle Trucks	15	1	5		24	0	26	18		49	1	2	1		5	1	29	1		31	0	0	109
% 4+ Axle Trucks	8.2	0.4	15.2		27.3	4.8	0	4.1		3.7	0.5	0.3	0.2		0.3	2.7	6.7	0.8		0	0	0	2.7

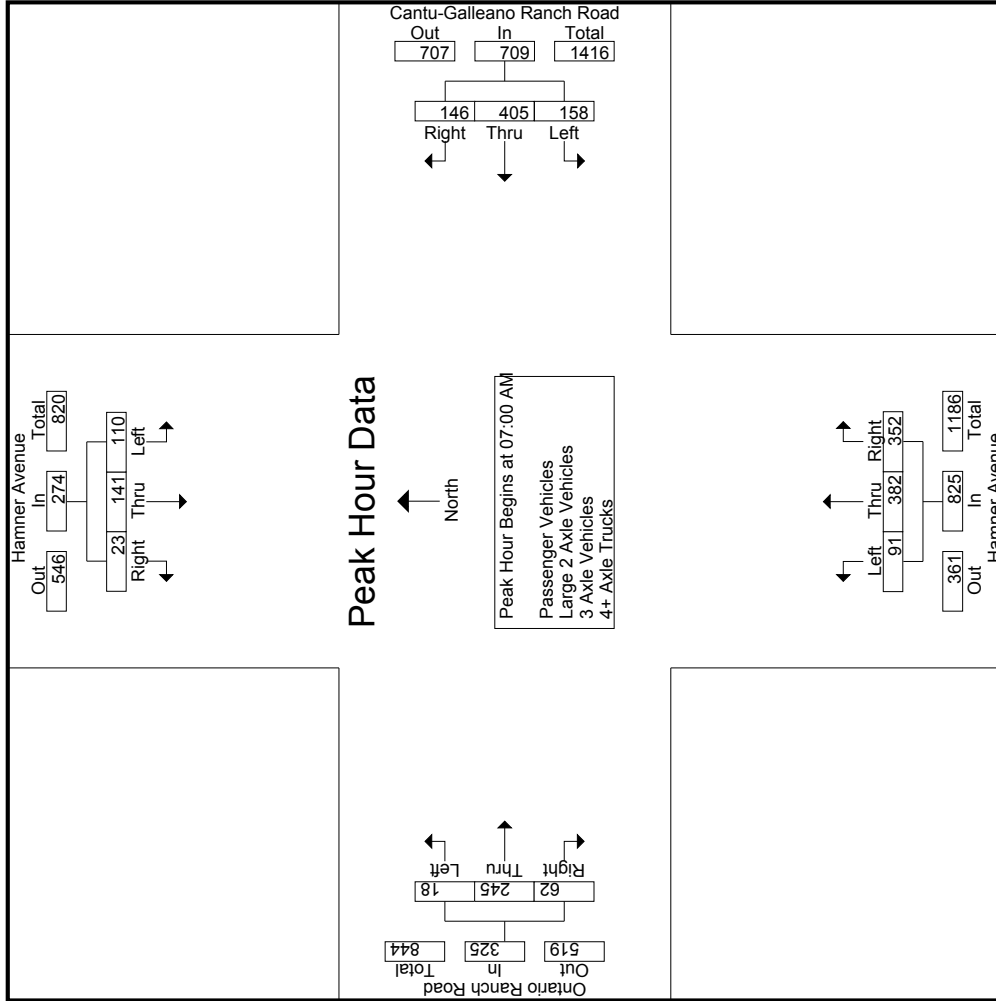
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	34	27	3		64	27	111	40		178	26	98	88		212	3	52	12		67	0	521	521
07:15 AM	29	38	12		79	39	111	44		194	23	95	106		224	2	52	14		68	47	565	612
07:30 AM	29	35	7		71	43	105	29		177	21	84	86		191	6	73	17		96	41	535	576
07:45 AM	18	41	1		60	49	78	33		160	21	105	72		198	7	68	19		94	37	512	549
Total	110	141	23		274	158	405	146		709	91	382	352		825	18	245	62		325	125	2133	2258
% App. Total	40.1	51.5	8.4			22.3	57.1	20.6			11	46.3	42.7			5.5	75.4	19.1					
PHF	.809	.860	.479		.867	.806	.912	.830		.914	.875	.910	.830		.921	.643	.839	.816		.846			.944

Counts Unlimited
 PO Box 1178
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File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 EW: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	29	38	12	27	111	40	26	98	88	2	52	14	212	68
+15 mins.	29	35	7	39	111	44	23	95	106	6	73	17	224	96
+30 mins.	18	41	1	43	105	29	21	84	86	7	68	19	191	94
+45 mins.	18	45	4	49	78	33	21	105	72	9	50	20	198	79
Total Volume	94	159	24	158	405	146	91	382	352	24	243	70	825	337
% App. Total	33.9	57.4	8.7	22.3	57.1	20.6	11	46.3	42.7	7.1	72.1	20.8	.921	.875
PHF	.810	.883	.500	.806	.912	.830	.875	.910	.830	.667	.832	.875	.921	.875

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 PO Box 1178
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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	32	26	3	0	61	26	103	35	0	164	25	98	87	0	210	3	47	11	0	61	0	496	496
07:15 AM	26	37	7	0	70	39	97	40	17	176	22	92	105	18	219	2	45	13	7	60	42	525	567
07:30 AM	25	32	4	2	61	42	88	25	13	155	20	80	85	11	185	5	61	17	10	83	36	484	520
07:45 AM	14	39	0	0	53	47	65	32	15	144	21	105	71	14	197	7	59	16	5	82	34	476	510
Total	97	134	14	2	245	154	353	132	45	639	88	375	348	43	811	17	212	57	22	286	112	1981	2093
08:00 AM	14	42	2	0	58	23	47	29	16	99	23	103	40	4	166	7	41	19	10	67	30	390	420
08:15 AM	11	27	2	1	40	35	45	37	17	117	25	94	51	2	170	1	32	13	11	46	31	373	404
08:30 AM	14	30	0	0	44	26	50	34	15	110	15	82	66	15	163	2	45	12	4	59	34	376	410
08:45 AM	15	22	2	1	39	21	41	45	22	107	29	48	46	8	123	1	32	18	13	51	44	320	364
Total	54	121	6	2	181	105	183	145	70	433	92	327	203	29	622	11	150	62	38	223	139	1459	1598
Grand Total	151	255	20	4	426	259	536	277	115	1072	180	702	551	72	1433	28	362	119	60	509	251	3440	3691
Approch %	35.4	59.9	4.7		12.4	24.2	50	25.8		31.2	12.6	49	38.5		41.7	5.5	71.1	23.4		14.8	6.8	93.2	
Total %	4.4	7.4	0.6			7.5	15.6	8.1			5.2	20.4	16			0.8	10.5	3.5					

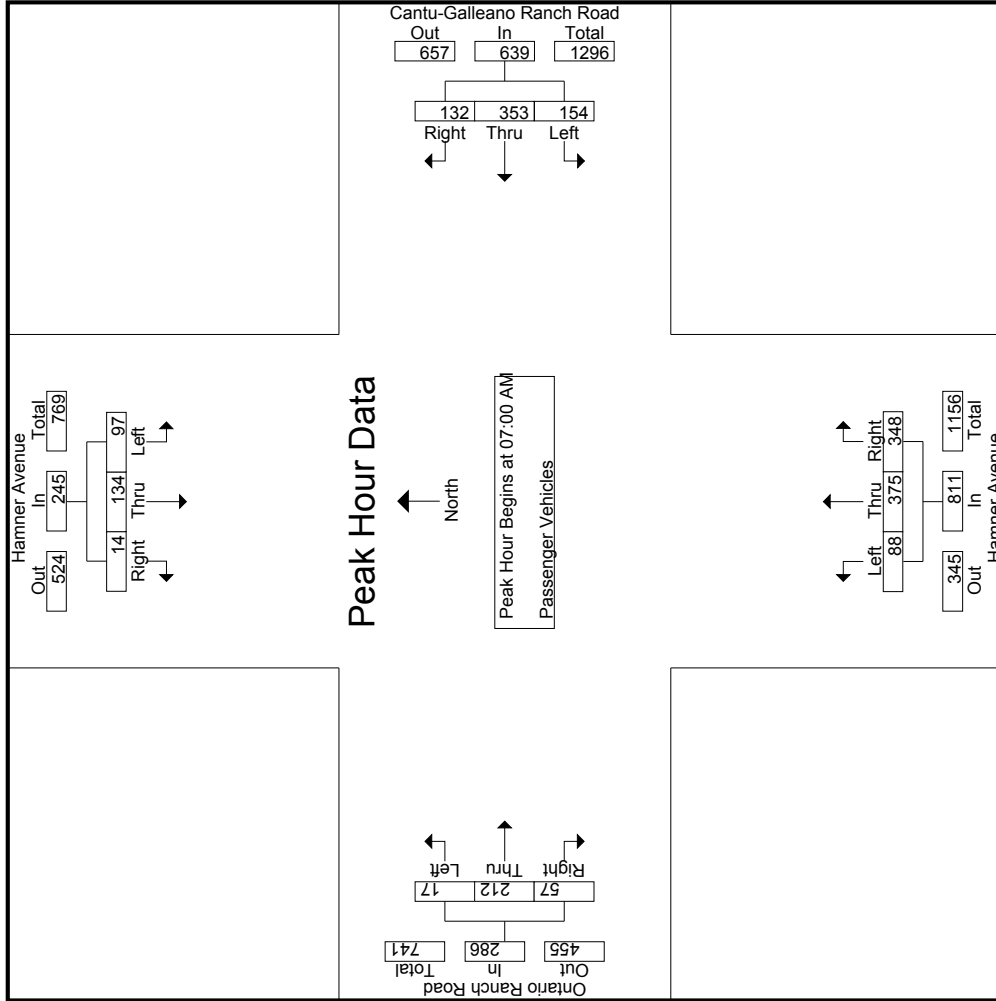
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	32	26	3	0	61	26	103	35	0	164	25	98	87	0	210	3	47	11	0	61	0	496	496
07:15 AM	26	37	7	0	70	39	97	40	17	176	22	92	105	18	219	2	45	13	7	60	42	525	567
07:30 AM	25	32	4	2	61	42	88	25	13	155	20	80	85	11	185	5	61	17	10	83	36	484	520
07:45 AM	14	39	0	0	53	47	65	32	15	144	21	105	71	14	197	7	59	16	5	82	34	476	510
Total Volume	97	134	14	2	245	154	353	132	45	639	88	375	348	43	811	17	212	57	22	286	112	1981	2093
% App. Total	39.6	54.7	5.7		12.4	24.1	55.2	20.7		31.2	10.9	46.2	42.9		41.7	5.9	74.1	19.9		14.8	6.8	93.2	
PHF	.758	.859	.500		.875	.819	.857	.825		.908	.880	.893	.829		.926	.607	.869	.838		.861		.943	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 EW: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM												07:00 AM		
+0 mins.	32	26	3	26	103	35	164	25	98	87	210	3	47	11	61
+15 mins.	26	37	7	39	97	40	176	22	92	105	219	2	45	13	60
+30 mins.	25	32	4	42	88	25	155	20	80	85	185	5	61	17	83
+45 mins.	14	39	0	47	65	32	144	21	105	71	197	7	59	16	82
Total Volume	97	134	14	154	353	132	639	88	375	348	811	17	212	57	286
% App. Total	39.6	54.7	5.7	24.1	55.2	20.7	90.8	10.9	46.2	42.9	926	5.9	74.1	19.9	861
PHF	.758	.859	.500	.819	.857	.825	.908	.880	.893	.829	.926	.607	.869	.838	.861

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	1	0	0	2	1	2	3	0	6	1	0	1	0	1	0	11	11
07:15 AM	1	1	2	2	4	0	4	2	1	6	1	2	1	0	4	3	16	19
07:30 AM	0	3	1	1	4	1	4	3	3	8	1	3	1	0	5	4	22	26
07:45 AM	0	1	1	1	2	2	6	0	0	8	0	0	1	0	1	2	16	18
Total	2	6	4	4	12	4	16	8	4	28	3	5	4	0	12	9	65	74
08:00 AM	1	3	2	0	6	1	4	0	0	5	0	5	1	0	6	1	21	22
08:15 AM	1	2	0	0	3	0	1	2	2	3	0	2	1	0	3	4	14	18
08:30 AM	2	5	1	0	8	0	3	0	0	3	2	2	3	1	7	3	25	28
08:45 AM	3	0	0	0	3	0	6	2	0	8	1	2	0	0	3	0	17	17
Total	7	10	3	0	20	1	14	4	2	19	3	11	5	1	19	8	77	85
Grand Total	9	16	7	4	32	5	30	12	6	47	6	16	9	1	31	17	142	159
Approach %	28.1	50	21.9		10.6	63.8	25.5			19.4	51.6	29			21.8	18.8	89.3	
Total %	6.3	11.3	4.9		22.5	33.1	8.5			4.2	11.3	6.3			5.6	4.2	22.5	

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	1	0	0	2	1	2	3	0	6	1	0	1	0	1	0	11	11
07:15 AM	1	1	2	2	4	0	4	2	1	6	1	2	1	0	4	3	16	19
07:30 AM	0	3	1	1	4	1	4	3	3	8	1	3	1	0	5	4	22	26
07:45 AM	0	1	1	1	2	2	6	0	0	8	0	0	1	0	1	2	16	18
Total	2	6	4	4	12	4	16	8	4	28	3	5	4	0	12	9	65	74
08:00 AM	1	3	2	0	6	1	4	0	0	5	0	5	1	0	6	1	21	22
08:15 AM	1	2	0	0	3	0	1	2	2	3	0	2	1	0	3	4	14	18
08:30 AM	2	5	1	0	8	0	3	0	0	3	2	2	3	1	7	3	25	28
08:45 AM	3	0	0	0	3	0	6	2	0	8	1	2	0	0	3	0	17	17
Total	7	10	3	0	20	1	14	4	2	19	3	11	5	1	19	8	77	85
Grand Total	9	16	7	4	32	5	30	12	6	47	6	16	9	1	31	17	142	159
Approach %	28.1	50	21.9		10.6	63.8	25.5			19.4	51.6	29			21.8	18.8	89.3	
Total %	6.3	11.3	4.9		22.5	33.1	8.5			4.2	11.3	6.3			5.6	4.2	22.5	

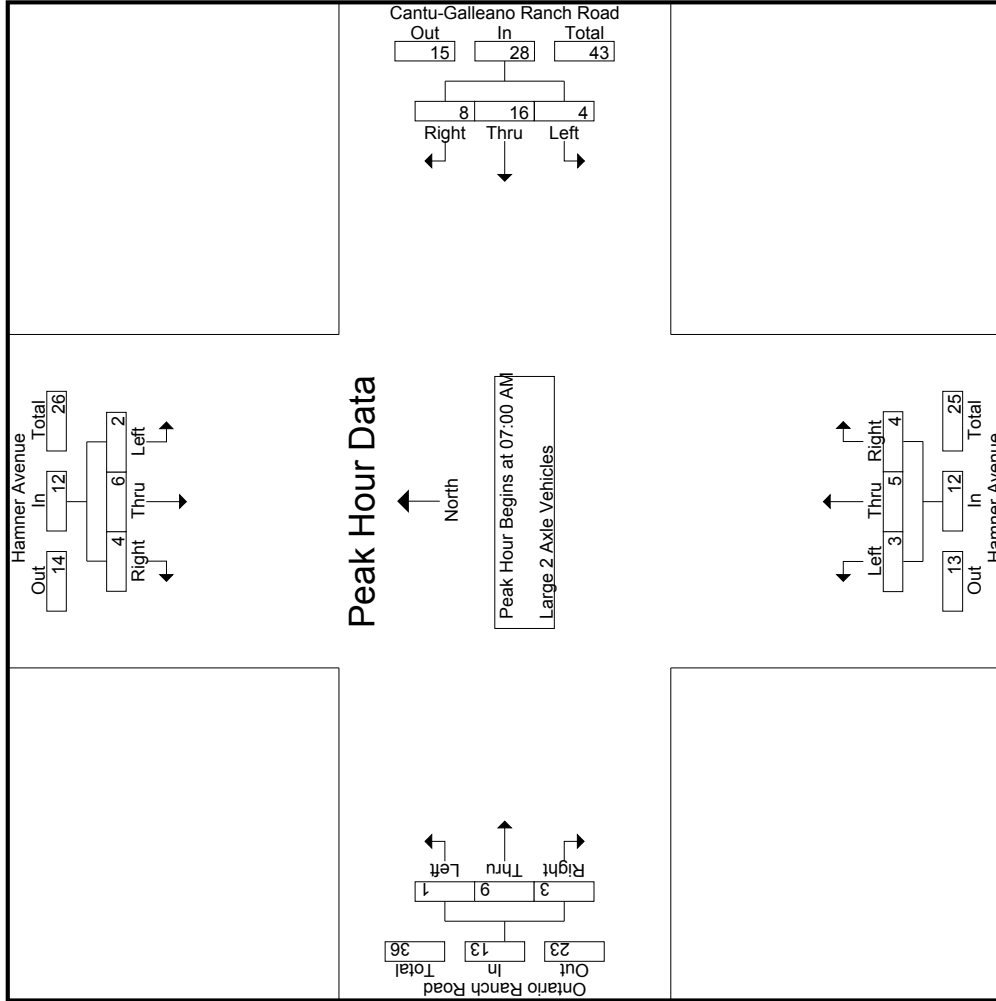
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	1	0	0	2	1	2	3	0	6	1	0	1	0	1	0	11	11
07:15 AM	1	1	2	2	4	0	4	2	1	6	1	2	1	0	4	3	16	19
07:30 AM	0	3	1	1	4	1	4	3	3	8	1	3	1	0	5	4	22	26
07:45 AM	0	1	1	1	2	2	6	0	0	8	0	0	1	0	1	2	16	18
Total	2	6	4	4	12	4	16	8	4	28	3	5	4	0	12	9	65	74
% App. Total	16.7	50	33.3		14.3	57.1	28.6			25	41.7	33.3			7.7	69.2	23.1	
PHF	.500	.500	.500		.750	.667	.667			.875	.417	1.00			.600	.563	.650	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM														
Peak Hour for Each Approach Begins at:	07:00 AM														
+0 mins.	1	1	0	2	2	3	6	1	0	1	0	0	1	1	
+15 mins.	1	1	2	4	4	2	6	1	2	1	2	0	0	2	
+30 mins.	0	3	1	4	4	3	8	1	3	1	4	1	4	5	
+45 mins.	0	1	1	2	6	0	8	0	0	1	0	3	2	5	
Total Volume	2	6	4	12	16	8	28	3	5	4	12	9	3	13	
% App. Total	16.7	50	33.3	14.3	57.1	28.6	25	41.7	33.3	7.7	69.2	23.1			
PHF	.500	.500	.500	.750	.667	.667	.875	.750	.417	1.000	.600	.563	.375	.650	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

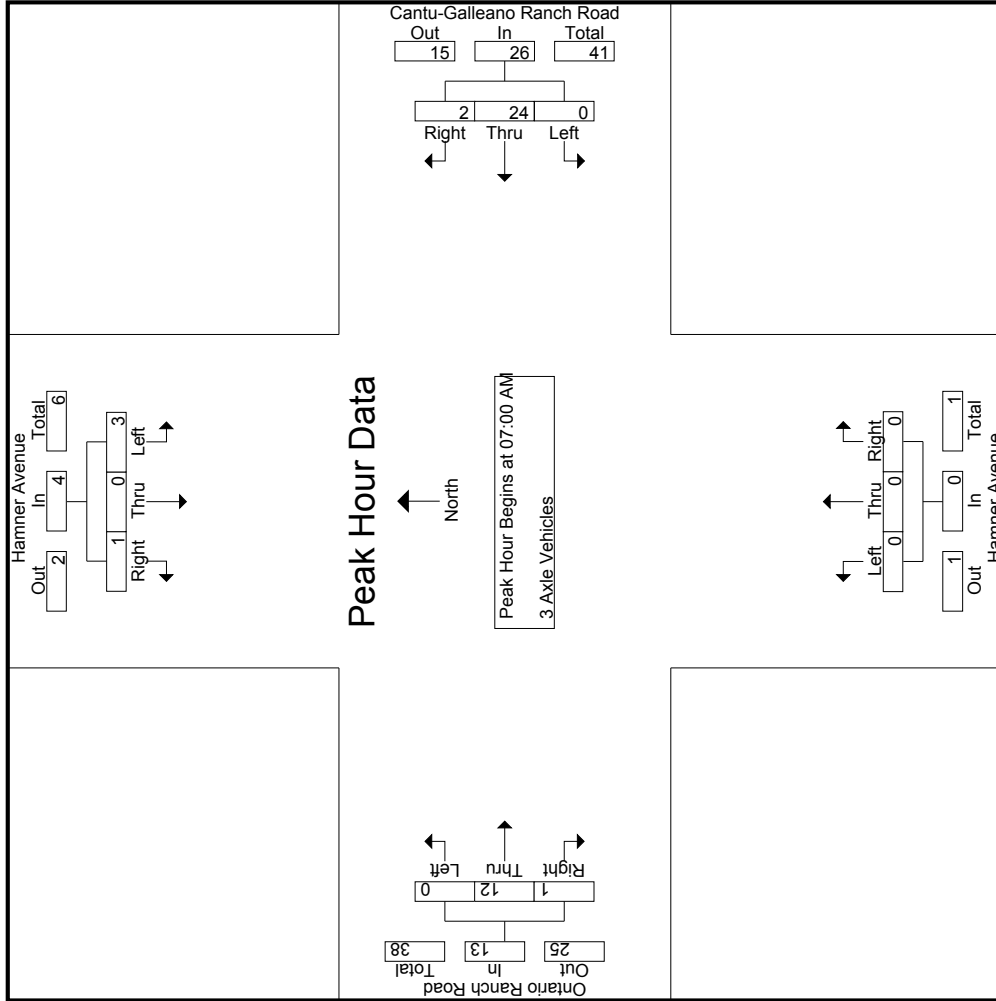
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
07:00 AM	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:15 AM	0	0	0	0	3	6	1	1	7	0	0	0	0	0	0	0	2	0	0	2	1	9
07:30 AM	2	0	1	0	3	9	0	0	9	0	0	0	0	0	0	6	0	0	6	0	0	18
07:45 AM	1	0	0	1	1	5	0	0	5	0	0	0	0	0	4	1	1	1	5	1	1	12
Total	3	0	1	0	4	24	2	1	26	0	0	0	0	0	12	1	1	1	13	2	43	45
08:00 AM	0	0	0	0	0	2	1	1	3	0	0	0	0	0	1	1	0	0	2	1	5	6
08:15 AM	1	0	0	0	1	2	0	0	2	0	0	1	0	0	1	4	0	0	5	0	9	9
08:30 AM	2	1	0	0	3	4	0	0	4	1	0	1	0	2	6	0	0	6	0	0	15	15
08:45 AM	2	0	0	0	2	7	1	0	9	1	2	0	0	3	0	1	0	0	1	0	15	15
Total	5	1	0	0	6	15	2	1	18	2	2	2	0	6	2	12	0	0	14	1	44	45
Grand Total	8	1	1	0	10	39	4	2	44	2	2	2	0	6	2	24	1	1	27	3	87	90
Approach %	80	10	10		2.3	88.6	9.1		44	33.3	33.3	33.3		6.9	7.4	88.9	3.7		31	3.3	96.7	
Total %	9.2	1.1	1.1		11.5	44.8	4.6		50.6	2.3	2.3	2.3		6.9	2.3	27.6	1.1		31	3.3	96.7	

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00 AM																						
07:00 AM	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:15 AM	0	0	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	2	9
07:30 AM	2	0	0	1	3	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	6	18
07:45 AM	1	0	0	1	1	0	5	0	5	0	0	0	0	0	0	4	1	1	5	1	11	
Total Volume	3	0	0	1	4	0	24	2	26	0	0	0	0	0	0	12	1	13	43			
% App. Total	.75	0	0	.25		0	92.3	7.7		0	0	0	0	0	92.3	7.7						
PHF	.375	.000	.250	.333		.000	.667	.500	.722	.000	.000	.000	.000	.000	.500	.250	.542				.597	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:00 AM													07:00 AM	07:00 AM
+0 mins.	0	0	0	0	0	1	4	1	5	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	6	1	7	0	0	0	2	0	2
+30 mins.	2	0	1	0	0	0	9	0	9	0	0	0	6	0	6
+45 mins.	1	0	0	0	0	0	5	0	5	0	0	0	4	1	5
Total Volume	3	0	1	0	24	2	26	0	0	0	0	0	12	1	13
% App. Total	75	0	25	0	92.3	7.7	92.3	0	0	0	0	0	92.3	7.7	100.0
PHF	.375	.000	.250	.333	.667	.500	.722	.000	.000	.000	.000	.000	.500	.250	.542

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

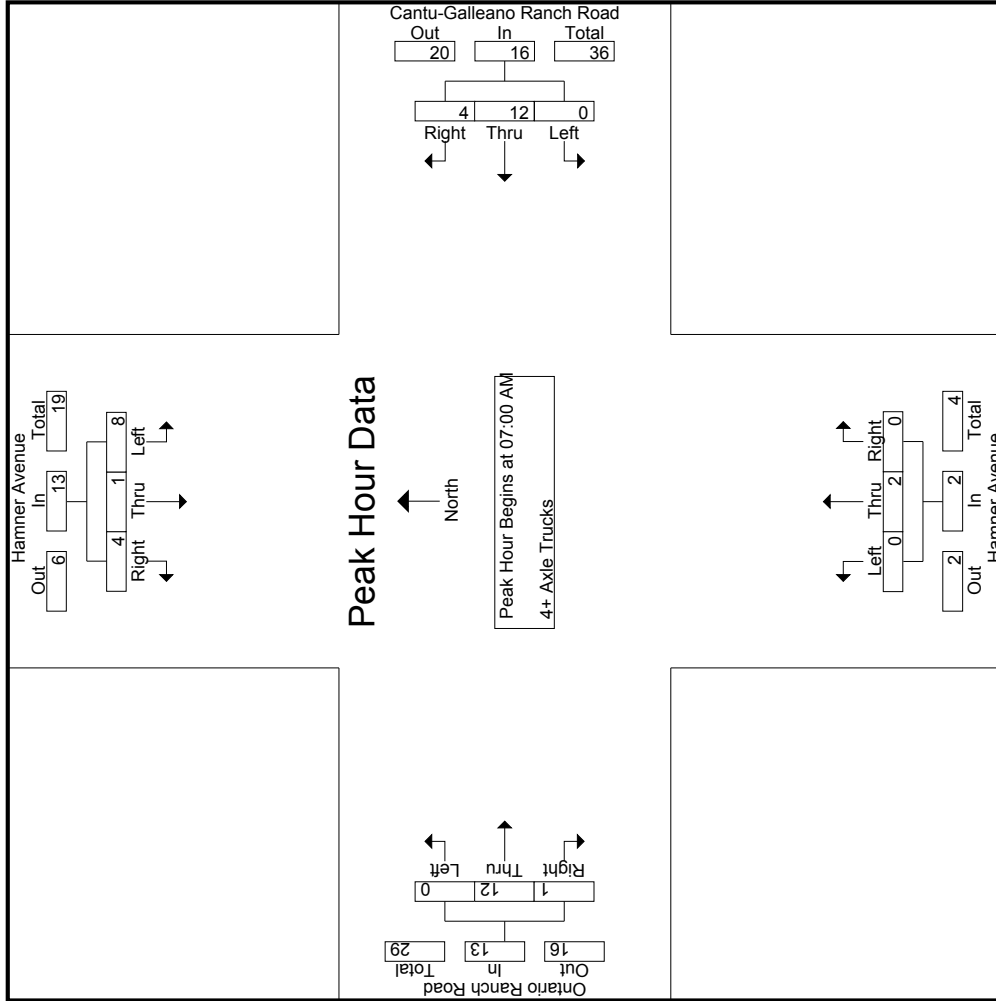
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	0	5	0	0	0	5	0	9
07:15 AM	2	0	3	1	5	0	4	1	0	5	0	1	0	0	1	0	4	1	0	0	4	1	15
07:30 AM	2	0	1	1	3	0	4	1	0	5	0	1	0	0	1	0	2	1	0	0	2	1	11
07:45 AM	3	1	0	0	4	0	2	1	0	4	0	0	0	0	0	0	2	0	0	0	2	0	9
Total	8	1	4	2	13	0	12	4	0	16	0	2	0	0	2	0	12	1	0	0	13	2	44
08:00 AM	3	0	0	0	3	0	4	1	1	5	0	0	0	0	0	0	6	1	0	0	6	1	14
08:15 AM	1	0	0	0	1	0	4	3	1	7	0	0	0	0	0	0	5	0	0	0	5	1	13
08:30 AM	0	0	1	1	1	0	1	6	1	7	1	0	1	1	2	0	5	0	0	0	5	3	15
08:45 AM	3	0	0	0	3	0	5	4	2	9	0	0	0	0	0	0	2	0	0	0	2	2	14
Total	7	0	1	1	8	0	14	14	5	28	1	0	1	1	2	1	17	0	0	0	18	7	56
Grand Total	15	1	5	3	21	0	26	18	5	44	1	2	1	1	4	1	29	1	0	0	31	9	100
Approach %	71.4	4.8	23.8			0	59.1	40.9			25	50	25		3.2	93.5	3.2				31	8.3	91.7
Total %	15	1	5			0	26	18			1	2	1		4	1	29	1			31	8.3	91.7

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	0	5	0	0	0	5	0	9
07:15 AM	2	0	3	1	5	0	4	1	0	5	0	1	0	0	1	0	4	1	0	0	4	1	15
07:30 AM	2	0	1	1	3	0	4	1	0	5	0	1	0	0	1	0	2	1	0	0	2	1	11
07:45 AM	3	1	0	0	4	0	2	1	0	4	0	0	0	0	0	0	2	0	0	0	2	0	9
Total	8	1	4	2	13	0	12	4	0	16	0	2	0	0	2	0	12	1	0	0	13	2	44
08:00 AM	3	0	0	0	3	0	4	1	1	5	0	0	0	0	0	0	6	1	0	0	6	1	14
08:15 AM	1	0	0	0	1	0	4	3	1	7	0	0	0	0	0	0	5	0	0	0	5	1	13
08:30 AM	0	0	1	1	1	0	1	6	1	7	1	0	1	1	2	0	5	0	0	0	5	3	15
08:45 AM	3	0	0	0	3	0	5	4	2	9	0	0	0	0	0	0	2	0	0	0	2	2	14
Total	7	0	1	1	8	0	14	14	5	28	1	0	1	1	2	1	17	0	0	0	18	7	56
Grand Total	15	1	5	3	21	0	26	18	5	44	1	2	1	1	4	1	29	1	0	0	31	9	100
Approach %	71.4	4.8	23.8			0	59.1	40.9			25	50	25		3.2	93.5	3.2				31	8.3	91.7
Total %	15	1	5			0	26	18			1	2	1		4	1	29	1			31	8.3	91.7

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM														
Peak Hour for Each Approach Begins at:	07:00 AM														
+0 mins.	1	0	0	2	1	1	3	0	0	0	0	0	0	5	5
+15 mins.	2	0	3	4	1	1	5	0	1	0	0	0	3	1	4
+30 mins.	2	0	1	4	1	1	5	0	1	0	0	0	2	0	2
+45 mins.	3	1	0	2	1	1	3	0	0	0	0	0	2	0	2
Total Volume	8	1	4	12	4	4	16	0	2	0	0	0	12	1	13
% App. Total	61.5	7.7	30.8	75	25	25	800	0	100	0	0	0	92.3	7.7	13
PHF	.667	.250	.333	.750	1.000	1.000	.800	.000	.500	.000	.000	.000	.600	.250	.650

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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	77	85	4	1	166	74	46	14	11	134	26	64	37	3	127	2	87	47	33	136	48	563	611
04:15 PM	61	80	11	3	152	76	41	34	16	151	14	42	33	3	89	7	105	36	23	148	45	540	585
04:30 PM	54	96	4	2	154	76	36	13	9	125	23	76	40	3	139	6	74	42	30	122	44	540	584
04:45 PM	58	81	5	1	144	65	55	21	10	141	19	51	36	4	106	3	96	37	20	136	35	527	562
Total	250	342	24	7	616	291	178	82	46	551	82	233	146	13	461	18	362	162	106	542	172	2170	2342
05:00 PM	43	80	8	1	131	59	58	22	13	139	26	39	30	1	95	4	99	53	19	156	34	521	555
05:15 PM	69	114	5	1	188	76	58	25	17	159	20	51	33	3	104	2	88	53	39	143	60	594	654
05:30 PM	56	92	2	0	150	82	66	31	16	179	33	70	34	1	137	3	93	58	34	154	51	620	671
05:45 PM	62	112	8	3	182	84	60	27	20	171	16	47	52	4	115	11	80	60	37	151	64	619	683
Total	230	398	23	5	651	301	242	105	66	648	95	207	149	9	451	20	360	224	129	604	209	2354	2563
Grand Total	480	740	47	12	1267	592	420	187	112	1199	177	440	295	22	912	38	722	386	235	1146	381	4524	4905
Approach %	37.9	58.4	3.7			49.4	35	15.6			19.4	48.2	32.3			3.3	63	33.7					
Total %	10.6	16.4	1		28	13.1	9.3	4.1		26.5	3.9	9.7	6.5		20.2	0.8	16	8.5		25.3	7.8	92.2	
% Passenger Vehicles	446	730	38		1224	584	382	147		1206	168	432	291		911	25	660	380		1297	0	0	4638
% Large 2 Axle Vehicles	92.9	98.6	80.9	83.3	95.7	98.6	91	78.6	83	92	94.9	98.2	98.6	90.9	97.5	65.8	91.4	98.4	98.7	93.9	0	0	94.6
% 3 Axle Vehicles	11	9	3		23	5	13	14		40	6	8	2		17	4	28	5		40	0	0	120
% Large 2 Axle Vehicles	2.3	1.2	6.4	0	1.8	0.8	3.1	7.5	7.1	3.1	3.4	1.8	0.7	4.5	1.8	10.5	3.9	1.3	1.3	2.9	0	0	2.4
% 3 Axle Vehicles	8	0	1		9	1	7	7		17	0	0	1		2	2	10	1		13	0	0	41
% 4+ Axle Trucks	1.7	0	2.1	0	0.7	0.2	1.7	3.7	1.8	1.3	0	0	0.3	4.5	0.2	5.3	1.4	0.3	0	0.9	0	0	0.8
% 4+ Axle Trucks	15	1	5		23	2	18	19		48	3	0	1		4	7	24	0		31	0	0	106
% 4+ Axle Trucks	3.1	0.1	10.6	16.7	1.8	0.3	4.3	10.2	8	3.7	1.7	0	0.3	0	0.4	18.4	3.3	0	0	2.2	0	0	2.2

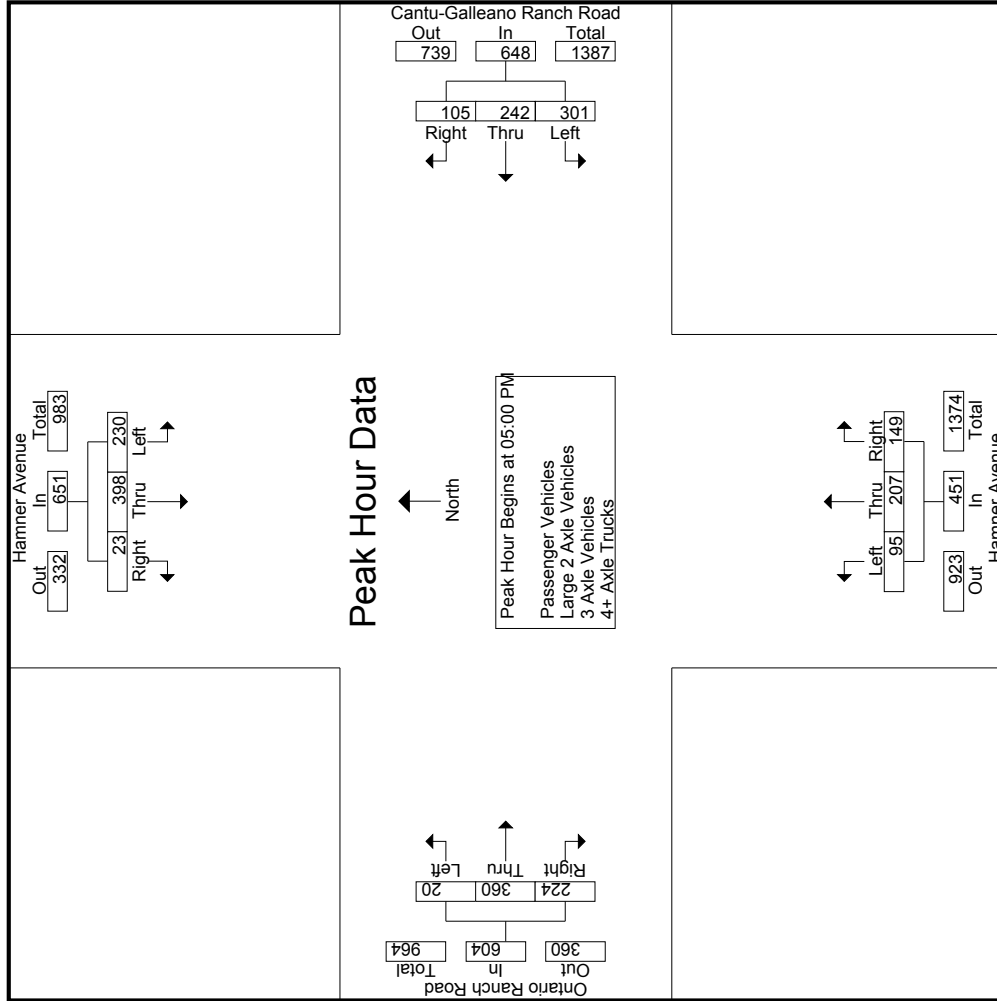
Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	43	80	8		131	59	58	22		139	26	39	30		95	4	99	53		156			521
05:15 PM	69	114	5		188	76	58	25		159	20	51	33		104	2	88	53		143			594
05:30 PM	56	92	2		150	82	66	31		179	33	70	34		137	3	93	58		154			620
05:45 PM	62	112	8		182	84	60	27		171	16	47	52		115	11	80	60		151			619
Total Volume	230	398	23		651	301	242	105		648	95	207	149		451	20	360	224		604			2354
% App. Total	35.3	61.1	3.5			46.5	37.3	16.2			21.1	45.9	33		59.6	3.3	59.6	37.1					.949
PHF	.833	.873	.719		.866	.896	.917	.847		.905	.720	.739	.716		.823	.455	.909	.933		.968			

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
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File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hammer Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	05:00 PM														
+0 mins.	43	80	8	59	58	22	139	26	64	37	127	4	99	53	156
+15 mins.	69	114	5	76	58	25	159	14	42	33	89	2	88	53	143
+30 mins.	56	92	2	82	66	31	179	23	76	40	139	3	93	58	154
+45 mins.	62	112	8	84	60	27	171	19	51	36	106	11	80	60	151
Total Volume	230	398	23	301	242	105	648	82	233	146	461	20	360	224	604
% App. Total	35.3	61.1	3.5	46.5	37.3	16.2	17.8	50.5	31.7	31.7	3.3	59.6	37.1	37.1	968
PHF	.833	.873	.719	.866	.917	.847	.905	.788	.766	.913	.829	.455	.909	.933	.968

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City of Ontario
 N/S: Hamner Avenue
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 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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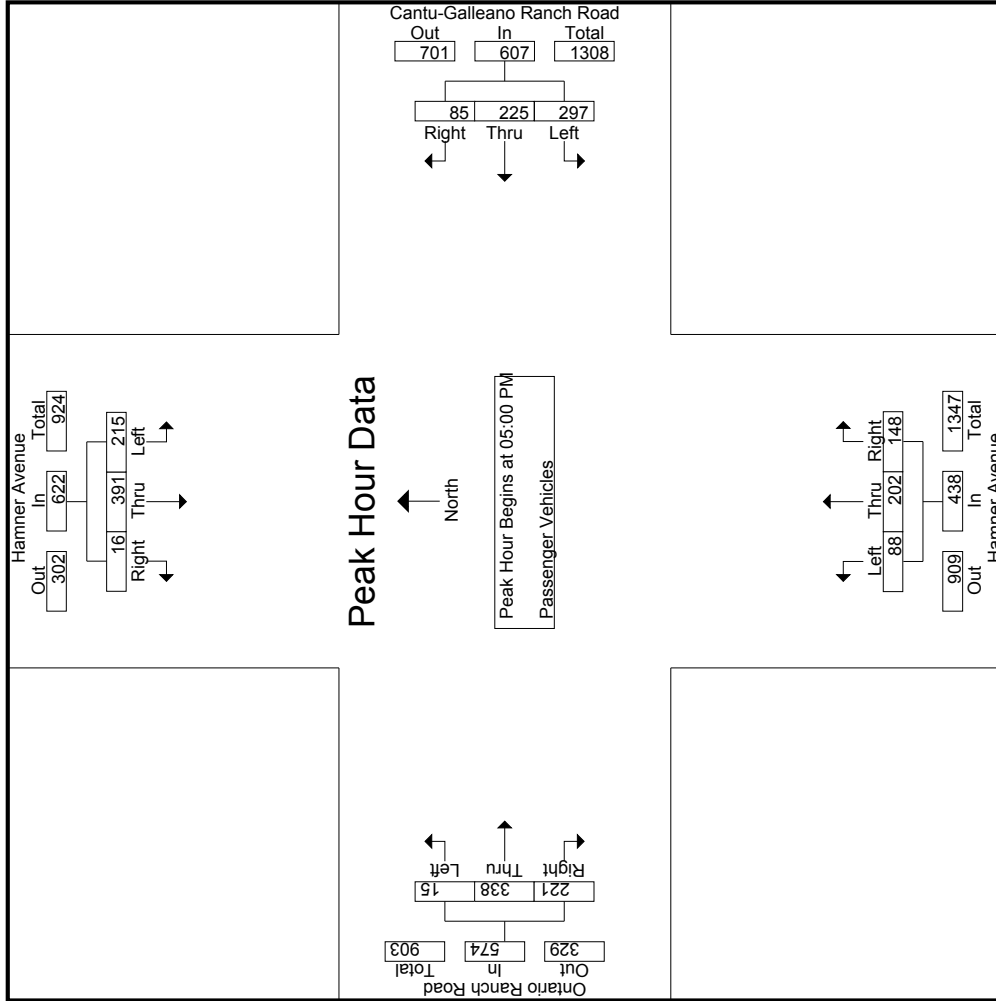
Groups Printed- Passenger Vehicles

Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
04:00 PM	70	85	4	1	159	73	36	11	8	120	26	64	35	2	125	0	76	46	32	122	43	526	569		
04:15 PM	57	79	10	2	146	76	40	24	14	140	14	41	33	3	88	3	97	35	22	135	41	509	550		
04:30 PM	51	95	4	2	150	76	33	11	8	120	23	76	39	2	138	5	66	42	30	113	42	521	563		
04:45 PM	53	80	4	1	137	62	48	16	8	126	17	49	36	4	102	2	83	36	19	121	32	486	518		
Total	231	339	22	6	592	287	157	62	38	506	80	230	143	11	453	10	322	159	103	491	158	2042	2200		
05:00 PM	39	79	4	1	122	58	51	18	12	127	25	38	30	1	93	3	93	50	19	146	33	488	521		
05:15 PM	66	112	5	1	183	76	56	20	15	152	19	49	32	3	100	1	83	53	39	137	58	572	630		
05:30 PM	53	89	2	0	144	81	63	25	12	169	30	69	34	1	133	2	89	58	34	149	47	595	642		
05:45 PM	57	111	5	2	173	82	55	22	16	159	14	46	52	4	112	9	73	60	37	142	59	586	645		
Total	215	391	16	4	622	297	225	85	55	607	88	202	148	9	438	15	338	221	129	574	197	2241	2438		
Grand Total	446	730	38	10	1214	584	382	147	93	1113	168	432	291	20	891	25	660	380	232	1065	355	4283	4638		
Approch %	36.7	60.1	3.1		52.5	34.3	13.2			26	18.9	48.5	32.7		20.8	2.3	62	35.7		24.9	7.7	92.3			
Total %	10.4	17	0.9		28.3	8.9	3.4			26	3.9	10.1	6.8			0.6	15.4	8.9							
Start Time	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound									
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
Peak Hour for Entire Intersection Begins at 05:00 PM	39	79	4		122	58	51	18		127	25	38	30		93	3	93	50		146	33	488	521		
05:00 PM	66	112	5		183	76	56	20		152	19	49	32		100	1	83	53		137	58	572	630		
05:15 PM	53	89	2		144	81	63	25		169	30	69	34		133	2	89	58		149	47	595	642		
05:30 PM	57	111	5		173	82	55	22		159	14	46	52		112	9	73	60		142	59	586	645		
05:45 PM	215	391	16		622	297	225	85		607	88	202	148		438	15	338	221		574	197	2241	2438		
Total Volume	34.6	62.9	2.6		85.0	48.9	37.1	14		14	20.1	46.1	33.8		33.8	2.6	58.9	38.5		38.5	7.7	92.3			
% App. Total	.814	.873	.800		.850	.905	.893	.850		.898	.733	.732	.712		.823	.417	.909	.921		.963					
PHF																									

Counts Unlimited
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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	39	79	4	122	58	51	18	127	25	38	30	93	3	93	50	146
+15 mins.	66	112	5	183	76	56	20	152	19	49	32	100	1	83	53	137
+30 mins.	53	89	2	144	81	63	25	169	30	69	34	133	2	89	58	149
+45 mins.	57	111	5	173	82	55	22	159	14	46	52	112	9	73	60	142
Total Volume	215	391	16	622	297	225	85	607	88	202	148	438	15	338	221	574
% App. Total	34.6	62.9	2.6		48.9	37.1	14		20.1	46.1	33.8		2.6	58.9	38.5	
PHF	.814	.873	.800	.850	.905	.893	.850	.898	.733	.732	.712	.823	.417	.909	.921	.963

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City of Ontario
 N/S: Hamner Avenue
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 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
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 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	3	0	0	0	3	0	3	0	0	3	0	0	0	0	0	0	3	1	1	4	1	10	11
04:15 PM	1	1	0	0	2	0	2	0	0	2	0	1	0	0	1	2	3	1	1	6	1	11	12
04:30 PM	1	1	0	0	2	0	2	0	0	2	0	1	1	1	1	1	5	0	0	6	1	11	12
04:45 PM	2	1	0	0	3	2	3	1	1	6	1	2	0	0	3	1	4	1	1	6	2	18	20
Total	7	3	0	0	10	2	8	3	1	13	1	3	1	1	5	4	15	3	3	22	5	50	55
05:00 PM	1	1	3	0	5	0	4	2	0	6	1	1	0	0	2	0	5	2	0	7	0	20	20
05:15 PM	1	1	0	0	2	0	0	3	2	3	0	2	1	0	3	0	2	0	0	2	2	10	12
05:30 PM	1	3	0	0	4	1	1	4	3	6	3	1	0	0	4	0	1	0	0	1	3	15	18
05:45 PM	1	1	0	0	2	2	0	2	2	4	1	1	0	0	2	0	5	0	0	5	2	13	15
Total	4	6	3	0	13	3	5	11	7	19	5	5	1	0	11	0	13	2	0	15	7	58	65
Grand Total	11	9	3	0	23	5	13	14	8	32	6	8	2	1	16	4	28	5	3	37	12	108	120
Approch %	47.8	39.1	13		15.6	40.6	43.8			29.6	37.5	50	12.5		14.8	10.8	75.7	13.5		34.3	10	90	
Total %	10.2	8.3	2.8		21.3	4.6	12	13		29.6	5.6	7.4	1.9		14.8	3.7	25.9	4.6		34.3	10	90	

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
05:00 PM	1	1	1	3	5	0	4	2	0	6	1	1	0	0	2	0	5	2	0	7	0	20	20
05:15 PM	1	1	0	0	2	0	0	3	2	3	0	2	1	0	3	0	2	0	0	2	2	10	10
05:30 PM	1	3	0	0	4	1	1	4	3	6	3	1	0	0	4	0	1	0	0	1	3	15	15
05:45 PM	1	1	0	0	2	2	0	2	2	4	1	1	0	0	2	0	5	0	0	5	2	13	13
Total	4	6	3	0	13	3	5	11	7	19	5	5	1	0	11	0	13	2	0	15	7	58	65
Grand Total	11	9	3	0	23	5	13	14	8	32	6	8	2	1	16	4	28	5	3	37	12	108	120
Approch %	47.8	39.1	13		15.6	40.6	43.8			29.6	37.5	50	12.5		14.8	10.8	75.7	13.5		34.3	10	90	
Total %	10.2	8.3	2.8		21.3	4.6	12	13		29.6	5.6	7.4	1.9		14.8	3.7	25.9	4.6		34.3	10	90	

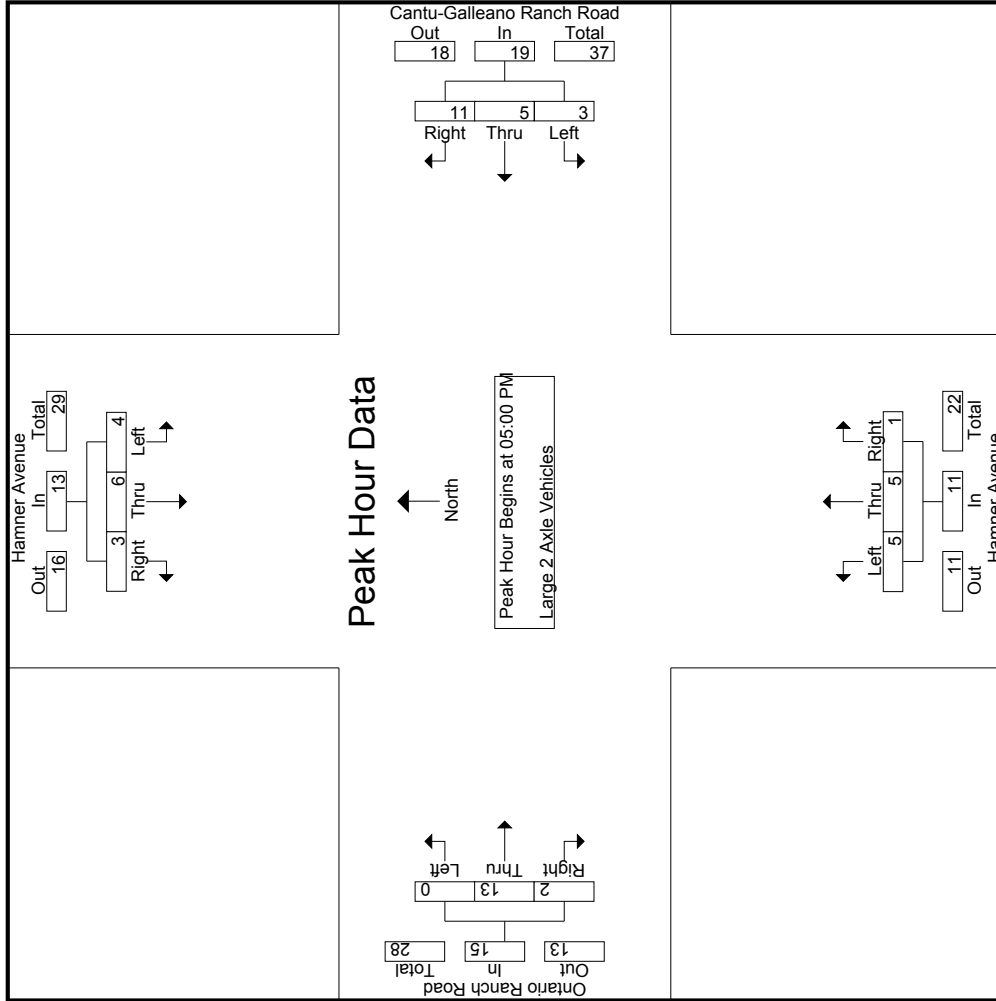
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
05:00 PM	1	1	1	3	5	0	4	2	0	6	1	1	0	0	2	0	5	2	0	7	0	20	20
05:15 PM	1	1	0	0	2	0	0	3	2	3	0	2	1	0	3	0	2	0	0	2	2	10	10
05:30 PM	1	3	0	0	4	1	1	4	3	6	3	1	0	0	4	0	1	0	0	1	3	15	15
05:45 PM	1	1	0	0	2	2	0	2	2	4	1	1	0	0	2	0	5	0	0	5	2	13	13
Total	4	6	3	0	13	3	5	11	7	19	5	5	1	0	11	0	13	2	0	15	7	58	65
% App. Total	30.8	46.2	23.1		15.8	26.3	57.9			45.5	45.5	9.1			86.7	0	86.7	13.3		13.3	15	58	65
PHF	1.00	.500	.250		.650	.375	.313	.688		.792	.417	.625	.250		.688	.000	.650	.250		.536	.725	.725	.725

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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City of Ontario
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 Weather: Clear

File Name : ONTHACAPM
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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1	05:00 PM														
Peak Hour for Each Approach Begins at:	05:00 PM														
+0 mins.	1	1	3	0	4	2	1	1	0	0	0	5	2	7	
+15 mins.	1	1	0	0	0	3	0	2	1	0	0	2	0	2	
+30 mins.	1	3	0	1	1	4	3	1	0	0	0	1	0	1	
+45 mins.	1	1	0	2	0	2	1	1	0	0	0	5	0	5	
Total Volume	4	6	3	3	5	11	5	5	1	0	13	2	15		
% App. Total	30.8	46.2	23.1	15.8	26.3	57.9	45.5	45.5	9.1	0	86.7	13.3			
PHF	1.000	.500	.250	.375	.313	.688	.417	.625	.250	.000	.650	.250	.536		

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City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	2	0	0	0	2	1	1	2	2	4	0	0	1	1	1	3	0	0	4
04:15 PM	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	1	1	0	2
04:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1
04:45 PM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	4	0	0	4
Total	4	0	0	0	4	1	3	6	2	10	0	0	1	1	1	2	9	0	11
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	1	0	0	1
05:45 PM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Total	4	0	1	0	5	0	4	1	0	5	0	0	0	0	0	1	1	0	2
Grand Total	8	0	1	0	9	1	7	7	2	15	0	0	1	1	1	2	10	1	13
Approch %	88.9	0	11.1		23.7	6.7	46.7	46.7		39.5	0	0	100		2.6	15.4	76.9	7.7	34.2
Total %	21.1	0	2.6			2.6	18.4	18.4			0	0	2.6		5.3	5.3	26.3	2.6	7.3

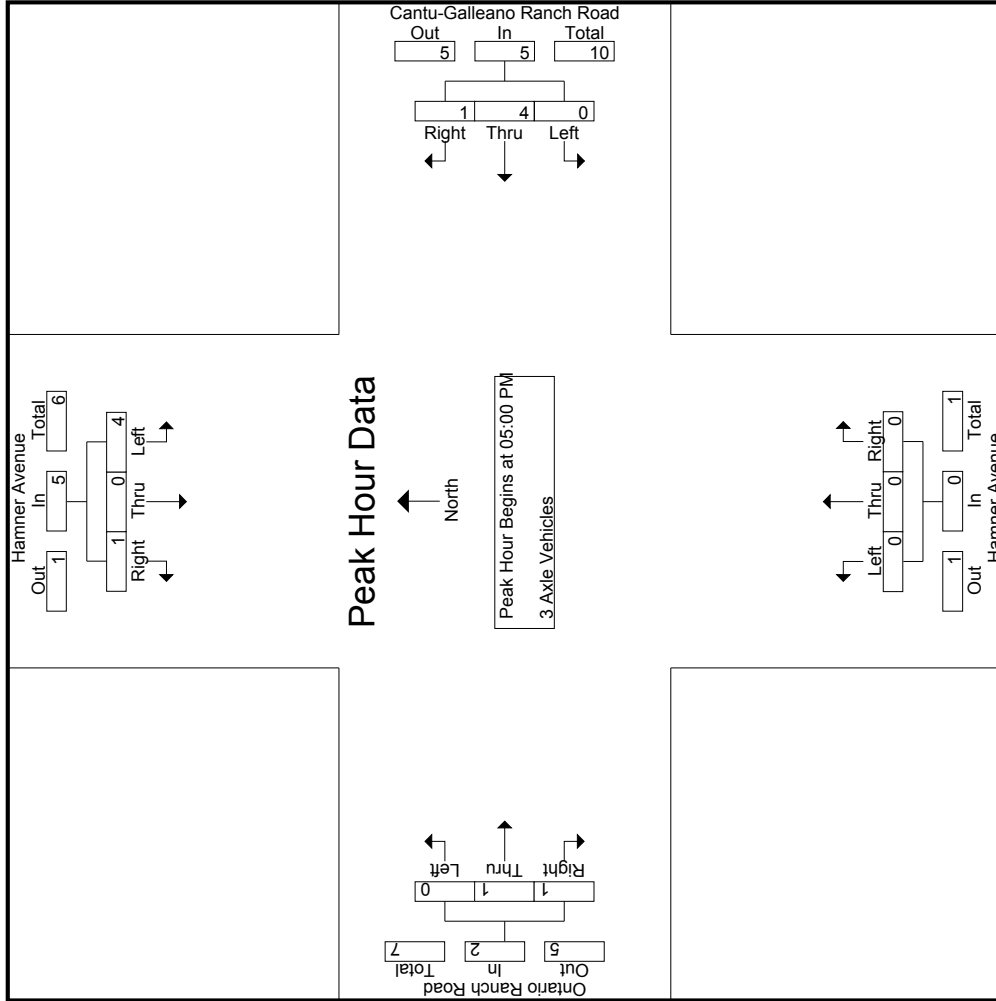
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0	0
05:45 PM	2	0	1	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Total Volume	4	0	1	0	5	0	4	4	0	8	0	0	0	0	0	0	0	1	2
% App. Total	80	0	20		20	0	80	20		20	0	0	0	0	0	0	50	50	12
PHF	.500	.000	.250		.417	.000	.500	.250		.625	.000	.000	.000	.000	.250	.250	.500	.500	.750

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM												05:00 PM	
+0 mins.	1	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	2	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	0	0	1	1	0	0	0	0	0	1	0	1
+45 mins.	2	0	1	0	1	0	0	0	0	0	0	0	0	0
Total Volume	4	0	1	0	4	1	0	0	0	0	0	1	1	2
% App. Total	80	0	20	0	80	20	0	0	0	0	0	50	50	50
PHF	.500	.000	.250	.417	.000	.500	.250	.625	.000	.000	.000	.250	.250	.500

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	2	0	0	0	2	0	6	1	1	7	0	0	1	0	1	1	5	0	0	6	1	16	17
04:15 PM	2	0	1	1	3	0	1	6	2	7	0	0	0	0	0	1	4	0	0	5	3	15	18
04:30 PM	2	0	0	0	2	0	1	1	1	2	0	0	0	0	0	0	2	0	0	2	1	6	7
04:45 PM	2	0	1	0	3	1	2	3	1	6	1	0	0	0	1	0	5	0	0	5	1	15	16
Total	8	0	2	1	10	1	10	11	5	22	1	0	1	0	2	2	16	0	0	18	6	52	58
05:00 PM	2	0	1	0	3	1	3	2	1	6	0	0	0	0	0	1	1	0	0	2	1	11	12
05:15 PM	2	1	0	0	3	0	0	2	0	2	1	0	0	0	1	3	0	0	4	0	0	10	10
05:30 PM	1	0	0	0	1	0	1	1	1	2	0	0	0	0	0	2	0	0	3	1	1	6	7
05:45 PM	2	0	2	1	4	0	4	3	2	7	1	0	0	0	1	2	2	0	0	4	3	16	19
Total	7	1	3	1	11	1	8	8	4	17	2	0	0	0	2	5	8	0	0	13	5	43	48
Grand Total	15	1	5	2	21	2	18	19	9	39	3	0	1	0	4	7	24	0	0	31	11	95	106
Approch %	71.4	4.8	23.8			5.1	46.2	48.7			75	0	25		22.6	77.4	0			32.6	10.4	89.6	
Total %	15.8	1.1	5.3		22.1	2.1	18.9	20		41.1	3.2	0	1.1		7.4	25.3	0						

Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
05:00 PM	2	0	1	1	3	1	3	2	1	6	0	0	0	0	0	1	1	0	0	2	1	11	12
05:15 PM	2	1	0	0	3	0	0	2	0	2	1	0	0	0	1	3	0	0	4	0	0	10	10
05:30 PM	1	0	0	0	1	0	1	1	1	2	0	0	0	0	0	2	0	0	3	1	1	6	7
05:45 PM	2	0	2	1	4	0	4	3	2	7	1	0	0	0	1	2	2	0	0	4	3	16	19
Total	7	1	3	1	11	1	8	8	4	17	2	0	0	0	2	5	8	0	0	13	5	43	48
Grand Total	15	1	5	2	21	2	18	19	9	39	3	0	1	0	4	7	24	0	0	31	11	95	106
Approch %	71.4	4.8	23.8			5.1	46.2	48.7			75	0	25		22.6	77.4	0			32.6	10.4	89.6	
Total %	15.8	1.1	5.3		22.1	2.1	18.9	20		41.1	3.2	0	1.1		7.4	25.3	0						

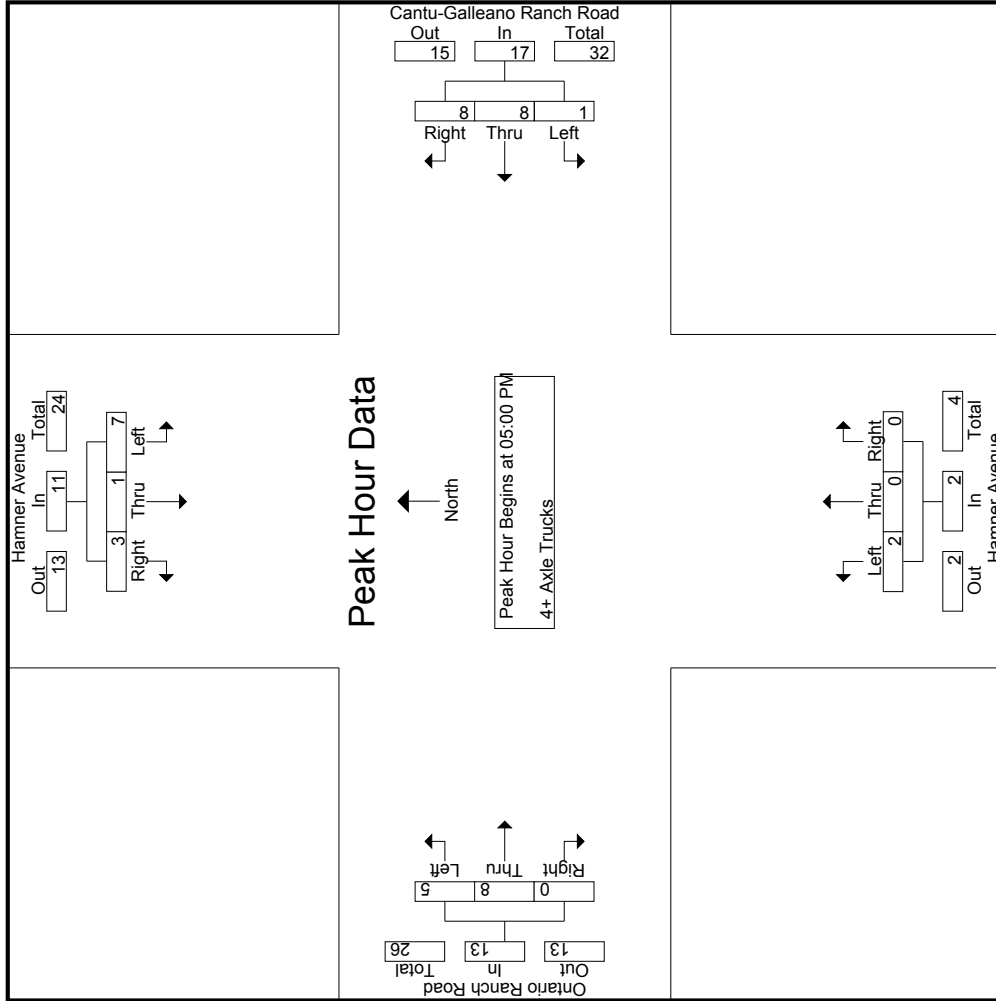
Start Time	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
05:00 PM	2	0	1	1	3	1	3	2	1	6	0	0	0	0	0	1	1	0	0	2	1	11	12
05:15 PM	2	1	0	0	3	0	0	2	0	2	1	0	0	0	1	3	0	0	4	0	0	10	10
05:30 PM	1	0	0	0	1	0	1	1	1	2	0	0	0	0	0	2	0	0	3	1	1	6	7
05:45 PM	2	0	2	1	4	0	4	3	2	7	1	0	0	0	1	2	2	0	0	4	3	16	19
Total	7	1	3	1	11	1	8	8	4	17	2	0	0	0	2	5	8	0	0	13	5	43	48
% App. Total	63.6	9.1	27.3			5.9	47.1	47.1			100	0	0		38.5	61.5	0						
PHF	.875	.250	.375		.688	.250	.500	.667		.607	.500	.000	.000		.500	.667	.000			.813	.000	.672	

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
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 (951) 268-6268

File Name : ONTHACAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Ontario Rch Rd/Cantu-Galleano Rch R
 Weather: Clear

Start Time	Hamner Avenue Southbound			Cantu-Galleano Ranch Road Westbound			Hamner Avenue Northbound			Ontario Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1	05:00 PM														
Peak Hour for Each Approach Begins at:	05:00 PM														
+0 mins.	2	0	1	3	2	2	6	0	0	0	0	0	1	0	2
+15 mins.	2	1	0	3	0	2	2	1	0	0	1	0	3	0	4
+30 mins.	1	0	0	1	1	1	2	0	0	0	0	0	2	0	3
+45 mins.	2	0	2	4	0	3	7	1	0	0	1	0	2	0	4
Total Volume	7	1	3	11	8	8	17	2	0	0	2	0	5	0	13
% App. Total	63.6	9.1	27.3	5.9	47.1	47.1	100	100	0	0	38.5	61.5	61.5	0	0
PHF	.875	.250	.375	.688	.250	.667	.607	.500	.000	.000	.625	.667	.667	.000	.813

Location: Ontario
 N/S: Hamner Avenue
 E/W: Ontario Ranch Rd/Cantu-Galleano Ranch Rd



Date: 12/7/2016
 Day: Wednesday

PEDESTRIANS

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	2	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	2

Location: Ontario
 N/S: Hamner Avenue
 E/W: Ontario Ranch Rd/Cantu-Galleano Ranch Rd



Date: 12/7/2016
 Day: Wednesday

BICYCLES

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	0	0	1	0	1

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	36	13	7	58	21	33	31	20	85	4	115	33	8	152	77	20	3	1	100	36	395	431
07:15 AM	10	43	25	3	78	31	24	31	16	86	2	116	34	11	152	74	32	1	1	107	31	423	454
07:30 AM	11	54	20	0	85	29	35	22	15	86	2	106	37	13	145	71	39	3	2	113	30	429	459
07:45 AM	14	69	25	1	108	27	35	19	17	81	5	117	44	6	166	54	43	3	1	100	25	455	480
Total	44	202	83	11	329	108	127	103	68	338	13	454	148	38	615	276	134	10	5	420	122	1702	1824
08:00 AM	4	67	19	2	90	23	31	17	12	71	1	124	49	10	174	42	35	8	2	85	26	420	446
08:15 AM	6	49	29	1	84	30	23	19	13	72	1	93	48	13	142	48	17	2	1	67	28	365	393
08:30 AM	8	38	16	1	62	31	13	35	30	79	2	92	54	14	148	42	18	1	0	61	45	350	395
08:45 AM	5	51	11	0	67	28	16	12	9	56	1	87	27	7	115	30	18	5	2	53	18	291	309
Total	23	205	75	4	303	112	83	83	64	278	5	396	178	44	579	162	88	16	5	266	117	1426	1543
Grand Total	67	407	158	15	632	220	210	186	132	616	18	850	326	82	1194	438	222	26	10	686	239	3128	3367
Approach %	10.6	64.4	25			35.7	34.1	30.2			1.5	71.2	27.3			63.8	32.4	3.8					
Total %	2.1	13	5.1		20.2	7	6.7	5.9		19.7	0.6	27.2	10.4		38.2	14	7.1	0.8		21.9	7.1	92.9	
Passenger Vehicles	63	388	154		618	212	203	180		723	14	826	317		1237	435	220	23		687	0	0	3265
% Large 2 Axle Vehicles	94	95.3	97.5		86.7	95.5	96.4	96.8		97	77.8	97.2	97.2		97.6	99.3	99.1	88.5		90	98.7	0	97
Large 2 Axle Vehicles	2	18	3		25	8	6	4		22	4	19	8		33	2	1	3		7	0	0	87
% 3 Axle Vehicles	3	4.4	1.9		13.3	3.6	2.9	2.2		3	22.2	2.2	2.5		2.4	0.5	0.5	11.5		10	0	0	2.6
3 Axle Vehicles	2	0	1		3	0	0	2		2	0	2	0		2	0	0	0		0	0	0	7
% 4+ Axle Trucks	3	0	0.6		0.5	0	0	1.1		0.3	0	0.2	0		0	0	0	0		0	0	0	0.2
4+ Axle Trucks	0	1	0		1	0	1	0		1	0	3	1		4	1	1	0		2	0	0	8
% 4+ Axle Trucks	0	0.2	0		0.2	0	0.5	0		0.1	0	0.4	0.3		0.3	0.2	0.5	0		0.3	0	0	0.2

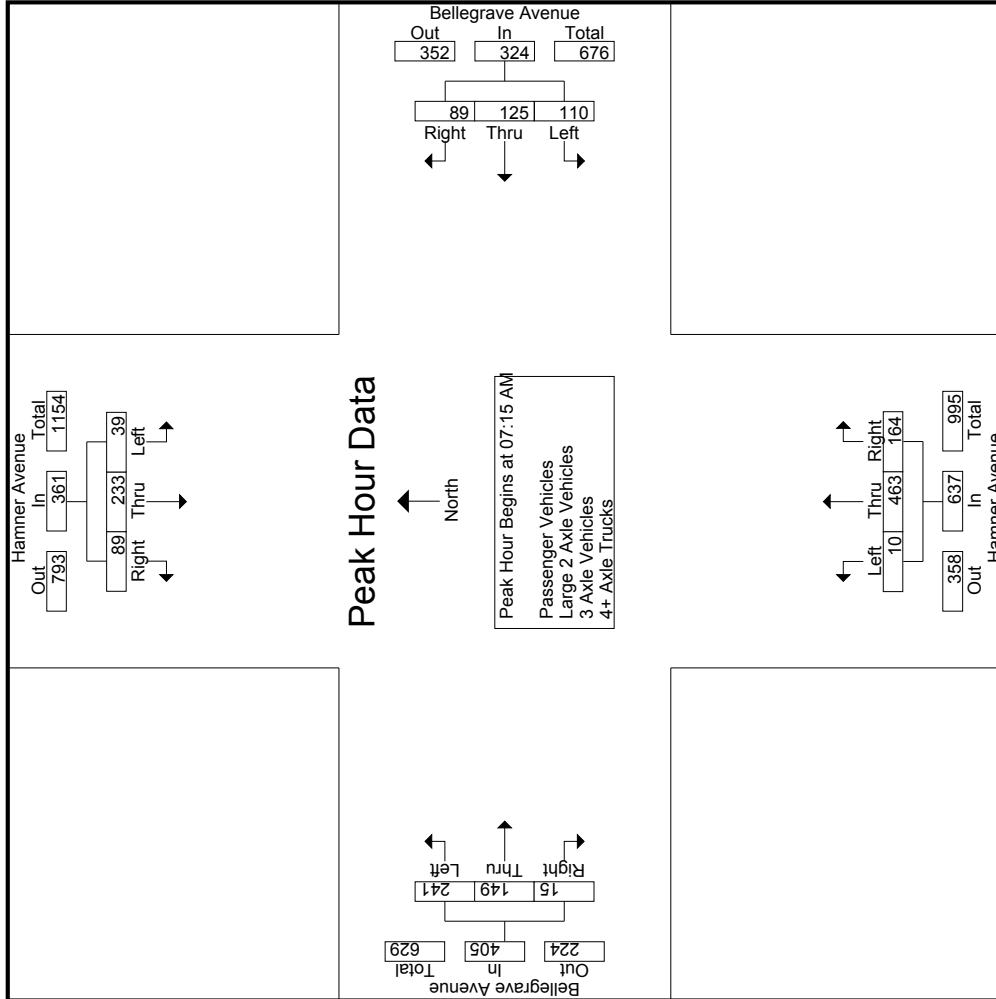
Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	10	43	25		78	31	24	31		86	2	116	34		152	74	32	1		107			423
07:30 AM	11	54	20		85	29	35	22		86	2	106	37		145	71	39	3		113			429
07:45 AM	14	69	25		108	27	35	19		81	5	117	44		166	54	43	3		100			455
08:00 AM	4	67	19		90	23	31	17		71	1	124	49		174	42	35	8		85			420
Total Volume	39	233	89		361	110	125	89		324	10	463	164		637	241	149	15		405			1727
% App. Total	10.8	64.5	24.7			34	38.6	27.5			1.6	72.7	25.7			59.5	36.8	3.7					
PHF	.696	.844	.890		.836	.887	.893	.718		.942	.500	.933	.837		.915	.814	.866	.469		.896			.949

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:30 AM			07:00 AM			07:15 AM			07:00 AM				
+0 mins.	11	54	20	21	33	31	85	2	116	34	152	77	20	3
+15 mins.	14	69	25	31	24	31	86	2	106	37	145	74	32	1
+30 mins.	4	67	19	29	35	22	86	5	117	44	166	71	39	3
+45 mins.	6	49	29	27	35	19	81	1	124	49	174	54	43	3
Total Volume	35	239	93	108	127	103	338	10	463	164	637	276	134	10
% App. Total	9.5	65.1	25.3	32	37.6	30.5	98.3	1.6	72.7	25.7	65.7	65.7	31.9	2.4
PHF	.625	.866	.802	.871	.907	.831	.983	.500	.933	.837	.915	.896	.779	.833

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
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City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	35	12	6	56	21	33	31	20	85	3	114	32	8	149	77	20	3	1	100	35	390	425
07:15 AM	9	41	25	3	75	29	22	29	14	80	1	113	33	11	147	73	32	1	1	106	29	408	437
07:30 AM	11	51	20	0	82	29	33	21	14	83	2	104	35	12	141	70	38	2	1	110	27	416	443
07:45 AM	12	64	24	1	100	24	35	19	17	78	3	116	43	5	162	54	43	3	1	100	24	440	464
Total	41	191	81	10	313	103	123	100	65	326	9	447	143	36	599	274	133	9	4	416	115	1654	1769
08:00 AM	4	64	18	1	86	23	30	17	12	70	1	118	46	10	165	41	35	7	2	83	25	404	429
08:15 AM	6	48	29	1	83	27	22	19	13	68	1	91	47	13	139	48	17	2	1	67	28	357	385
08:30 AM	7	34	16	1	57	31	12	32	29	75	2	85	54	14	141	42	17	1	0	60	44	333	377
08:45 AM	5	51	10	0	66	28	16	12	9	56	1	85	27	7	113	30	18	4	2	52	18	287	305
Total	22	197	73	3	292	109	80	80	63	269	5	379	174	44	558	161	87	14	5	262	115	1381	1496
Grand Total	63	388	154	13	605	212	203	180	128	595	14	826	317	80	1157	435	220	23	9	678	230	3035	3265
Approach %	10.4	64.1	25.5		35.6	34.1	30.3			19.6	1.2	71.4	27.4		38.1	64.2	32.4	3.4		22.3	7	93	
Total %	2.1	12.8	5.1		19.9	7	6.7	5.9			0.5	27.2	10.4			14.3	7.2	0.8					

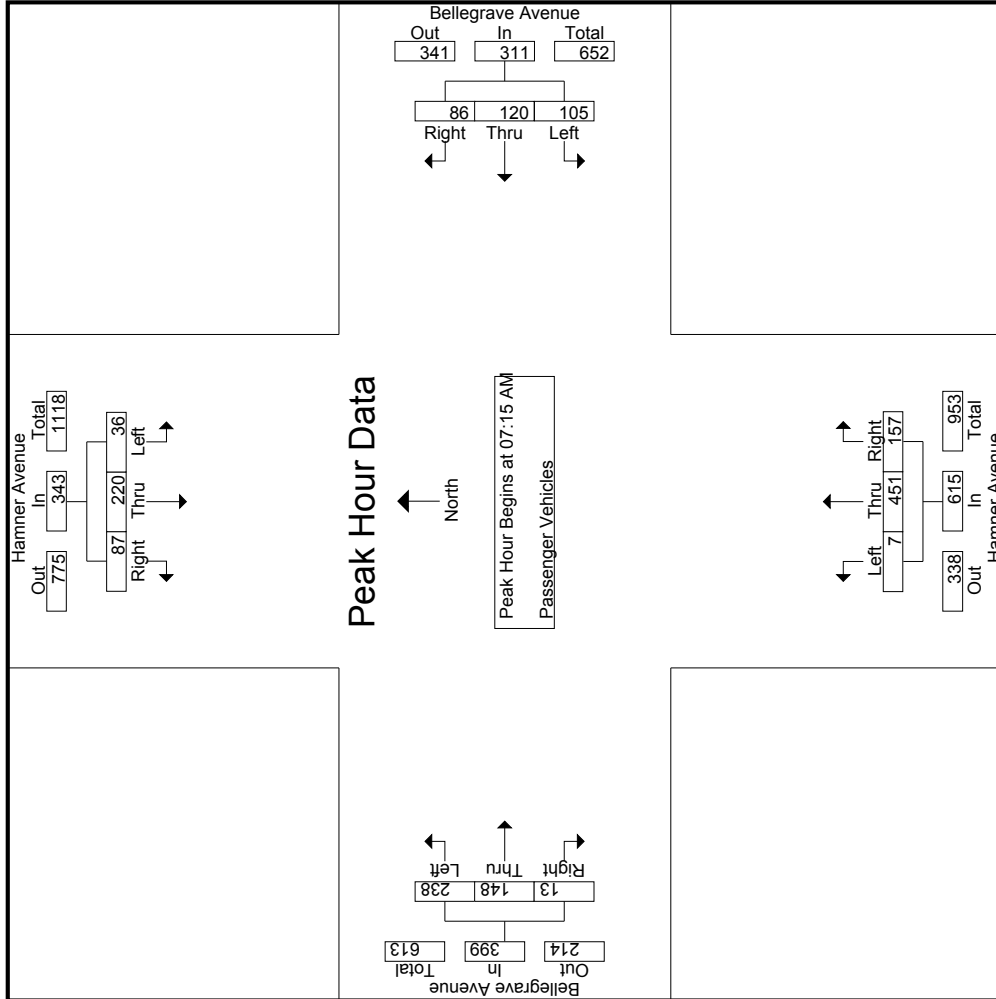
Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	9	41	25	3	75	29	22	29	14	80	1	113	33	11	147	73	32	1	1	106	35	390	425
07:30 AM	11	51	20	0	82	29	33	21	14	83	2	104	35	12	141	70	38	2	1	110	27	416	443
07:45 AM	12	64	24	1	100	24	35	19	17	78	3	116	43	5	162	54	43	3	1	100	24	440	464
08:00 AM	4	64	18	0	66	28	16	12	9	56	1	85	27	7	113	30	18	4	2	52	18	287	305
Total Volume	36	220	87		343	105	120	86		311	7	451	157		615	238	148	13		399			1668
% App. Total	10.5	64.1	25.4		35.6	33.8	38.6	27.7		19.6	1.1	73.3	25.5		38.1	59.6	37.1	3.3		22.3	7	93	
PHF	.750	.859	.870		.858	.905	.857	.741		.937	.583	.956	.853		.932	.815	.860	.464		.907			.948

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	9	41	25	75	29	22	29	80	1	113	33	147	73	32	1	106
+15 mins.	11	51	20	82	29	33	21	83	2	104	35	141	70	38	2	110
+30 mins.	12	64	24	100	24	35	19	78	3	116	43	162	54	43	3	100
+45 mins.	4	64	18	86	23	30	17	70	1	118	46	165	41	35	7	83
Total Volume	36	220	87	343	105	120	86	311	7	451	157	615	238	148	13	399
% App. Total	10.5	64.1	25.4	33.8	38.6	27.7	27.7	33.8	1.1	73.3	25.5	59.6	59.6	37.1	3.3	3.3
PHF	.750	.859	.870	.858	.905	.857	.741	.937	.583	.956	.853	.932	.815	.860	.464	.907

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	App. Total	App. Total
07:00 AM	0	1	1	1	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	1	5	6
07:15 AM	0	2	0	0	2	1	2	2	1	3	1	0	5	0	0	0	0	0	2	2	12	14
07:30 AM	0	3	0	0	3	0	2	1	3	0	1	2	3	1	0	1	2	2	3	3	11	14
07:45 AM	1	4	1	0	3	0	0	0	2	2	1	1	4	0	0	0	0	0	1	13	13	14
Total	1	10	2	1	13	3	3	3	4	6	5	2	15	1	0	1	2	2	7	41	41	48
08:00 AM	0	3	1	1	0	1	0	0	0	6	2	0	8	1	0	1	0	2	1	15	15	16
08:15 AM	0	1	0	0	3	1	0	0	0	1	1	0	2	0	0	0	0	0	0	7	7	7
08:30 AM	1	4	0	0	5	0	1	1	2	5	0	0	5	0	1	0	1	1	1	13	13	14
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	2	2	2
Total	1	8	1	1	10	3	3	1	7	13	3	0	16	1	1	2	0	4	2	37	37	39
Grand Total	2	18	3	2	23	8	6	4	18	4	19	8	31	2	1	3	1	6	9	78	78	87
Approch %	8.7	78.3	13		44.4	33.3	22.2		23.1	12.9	61.3	25.8	39.7	33.3	16.7	50	7.7	10.3	89.7			
Total %	2.6	23.1	3.8		10.3	7.7	5.1		23.1	5.1	24.4	10.3	39.7	2.6	1.3	3.8	7.7	10.3	89.7			

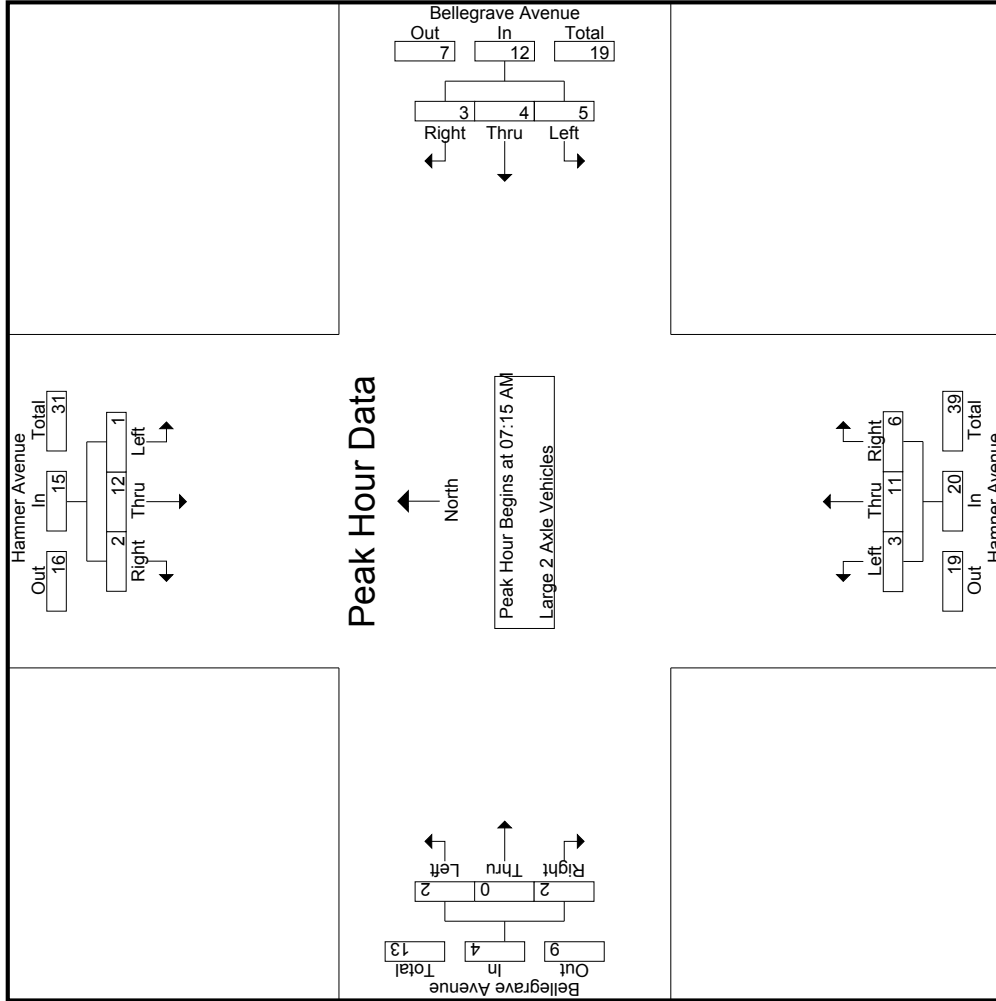
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	App. Total	App. Total
07:15 AM	0	2	0	0	2	1	2	1	1	3	1	3	1	1	3	1	0	0	0	0	0	12
07:30 AM	0	3	0	0	3	0	2	1	1	3	0	1	2	1	3	1	0	0	1	2	1	11
07:45 AM	1	4	1	1	6	3	0	0	3	2	2	1	1	1	4	0	0	0	0	0	0	13
08:00 AM	0	3	1	1	4	0	1	0	1	0	0	6	2	1	8	1	0	1	2	1	2	15
Total Volume	1	12	2	2	15	5	4	3	12	3	11	6	20	2	0	2	0	4	2	4	4	51
% App. Total	6.7	80	13.3		41.7	33.3	25		23.1	15	55	30	39.7	33.3	16.7	50	7.7	10.3	89.7			
PHF	.250	.750	.500		.625	.417	.500	.375	.600	.375	.458	.750	.625	.500	.500	.500	.625	.500	.500	.500	.500	.850

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM													
+0 mins.	0	2	0	2	1	2	5	3	1	0	0	0	0	0
+15 mins.	0	3	0	0	2	1	3	1	2	1	0	0	1	2
+30 mins.	1	4	1	3	0	0	3	2	1	1	4	0	0	0
+45 mins.	0	3	1	0	1	0	1	0	6	2	1	0	1	2
Total Volume	1	12	2	15	4	3	12	3	11	6	20	2	0	4
% App. Total	6.7	80	13.3	41.7	33.3	25	15	55	30	50	50	0	0	50
PHF	.250	.750	.500	.417	.500	.375	.600	.375	.458	.750	.625	.000	.500	.500

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	0	0	3	3
08:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	1	0	1	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	0	5	5
Grand Total	2	0	1	0	3	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	0	7	7
Approch %	66.7	0	33.3			0	0	100			0	100	0	0	28.6	0	0	0	0	0	0	0	100	100
Total %	28.6	0	14.3		42.9	0	0	28.6			0	28.6	0	0	28.6	0	0	0	0	0	0	0	100	100

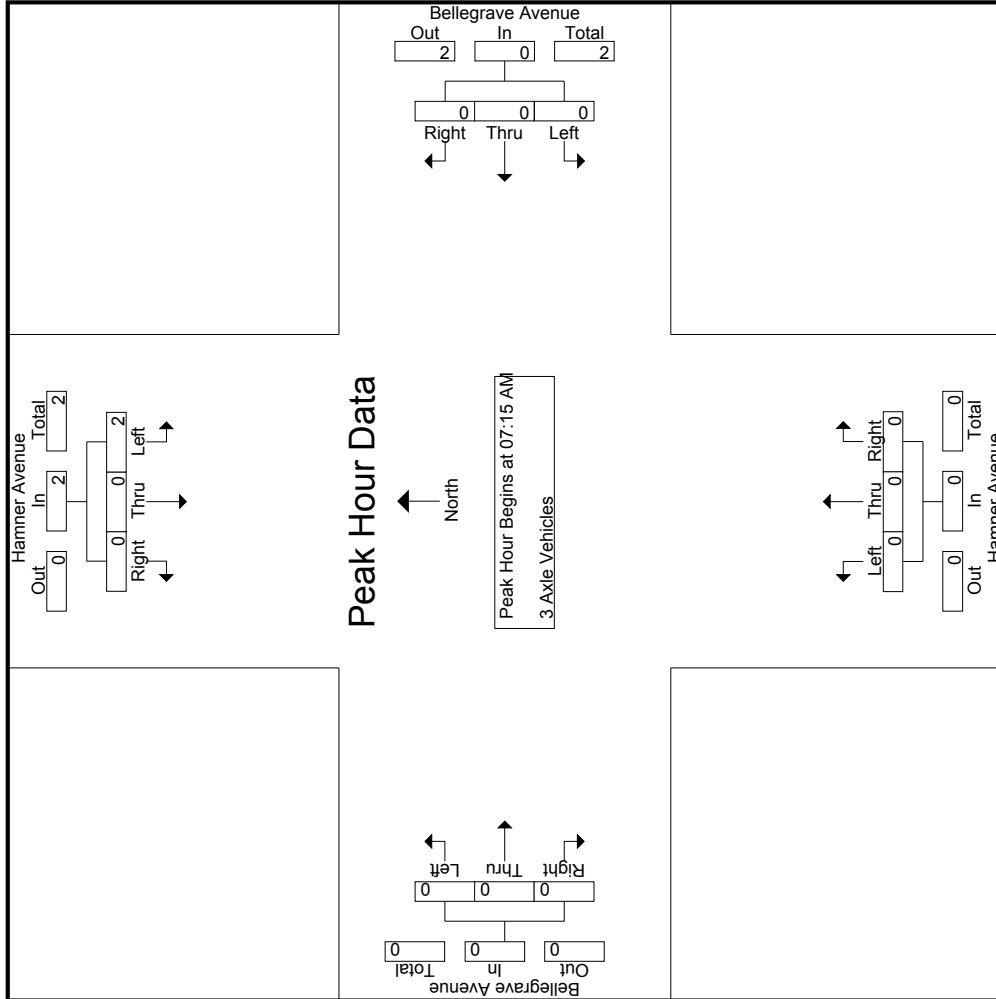
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total		
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
% App. Total	100	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM													
+0 mins.	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	100	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	2	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	1	0	0	2	0	0	5	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	3	3
Grand Total	0	1	0	0	1	0	1	0	0	1	0	3	1	0	4	1	1	0	0	2	0	0	8	8
Approch %	0	100	0	0	0	100	0	0	0	75	25	0	50	0	50	50	12.5	0	0	25	0	0	100	100
Total %	0	12.5	0	0	12.5	0	12.5	0	0	37.5	12.5	0	12.5	0	12.5	12.5	0	0	0	25	0	0	100	100

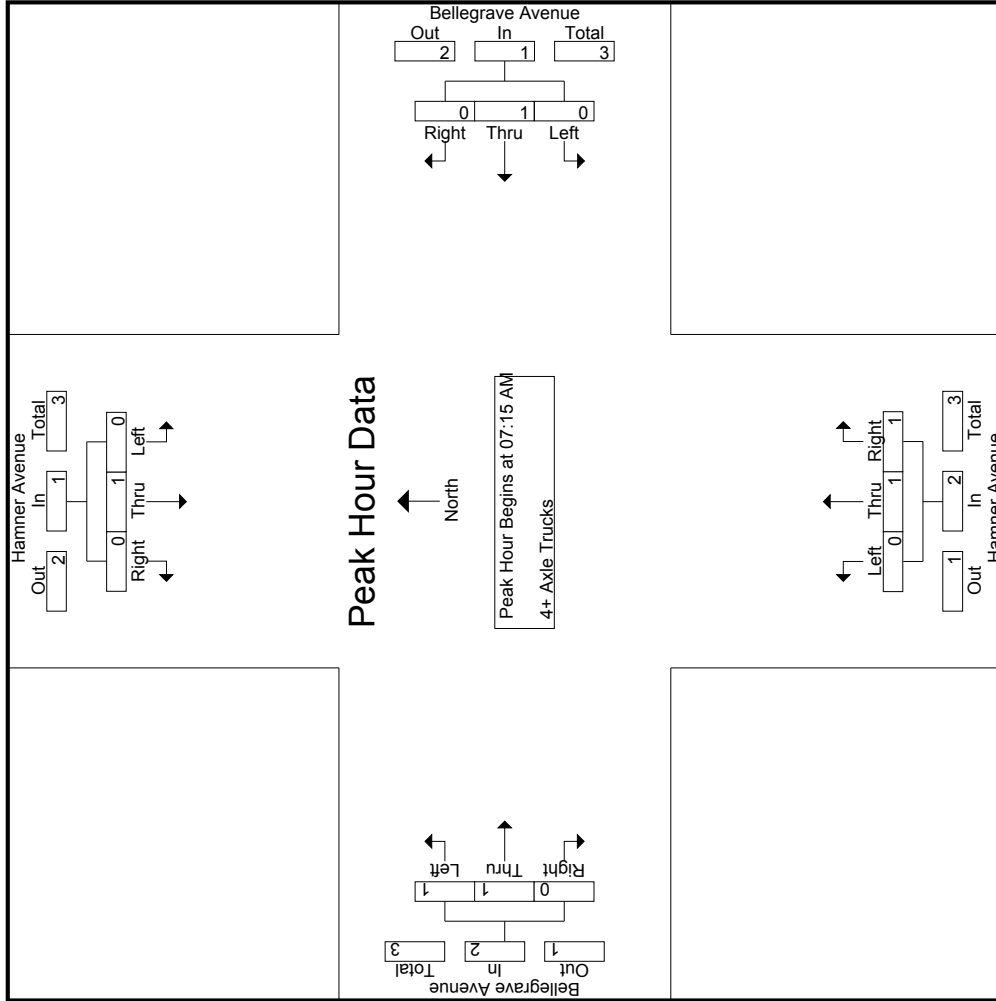
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	1	0	0	1	0	0	1	0	2	1	1	0	0	2	0	0	2	6
% App. Total	0	100	0	0	100	0	100	0	0	50	50	0	50	0	50	50	50	0	0	25	0	0	75	75
PHF	.000	.250	.000	.250	.000	.000	.250	.000	.250	.250	.000	.250	.250	.000	.500	.250	.250	.000	.000	.500	.000	.500	.750	.750

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTHABEAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:15 AM													
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	0	0	0	1	0	0	1	0	0	1
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total Volume	0	1	0	0	1	0	0	1	0	1	1	1	0	0
% App. Total	0	100	0	0	100	0	0	50	0	50	50	50	0	2
PHF	.000	.250	.000	.000	.250	.000	.000	.250	.250	.250	.250	.250	.000	.500

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City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	29	123	41	1	193	47	30	16	15	93	2	75	55	12	132	19	29	1	1	49	29	467	496
04:15 PM	25	139	46	2	210	58	20	13	9	91	3	74	54	15	131	18	28	5	4	51	30	483	513
04:30 PM	29	124	47	2	200	42	28	12	9	82	3	92	64	17	159	22	31	7	5	60	33	501	534
04:45 PM	20	117	40	2	177	54	29	14	12	97	3	69	62	15	134	29	30	3	2	62	31	470	501
Total	103	503	174	7	780	201	107	55	45	363	11	310	235	59	556	88	118	16	12	222	123	1921	2044
05:00 PM	15	131	51	4	197	51	23	14	12	88	1	76	48	9	125	21	20	4	3	45	28	455	483
05:15 PM	25	158	49	2	232	58	26	9	5	93	2	84	64	20	150	27	22	1	0	50	27	525	552
05:30 PM	23	155	53	1	231	56	43	13	5	112	2	85	42	7	129	21	19	15	7	55	20	527	547
05:45 PM	30	160	54	6	244	60	28	18	16	106	1	85	48	8	134	18	20	1	1	39	31	523	554
Total	93	604	207	13	904	225	120	54	38	399	6	330	202	44	538	87	81	21	11	189	106	2030	2136
Grand Total	196	1107	381	20	1684	426	227	109	83	762	17	640	437	103	1094	175	199	37	23	411	229	3951	4180
Approach %	11.6	65.7	22.6			55.9	29.8	14.3			1.6	58.5	39.9			42.6	48.4	9			5.5	94.5	
Total %	5	28	9.6			10.8	5.7	2.8			0.4	16.2	11.1			4.4	5	0.9		10.4	0	0	
Passenger Vehicles	195	1094	377		1686	422	222	106		831	17	628	430		1175	171	193	33		418	0	0	4110
% Passenger Vehicles	99.5	98.8	99	100	98.9	99.1	97.8	97.2	97.6	98.3	100	98.1	98.4	97.1	98.2	97.7	97	89.2	91.3	96.3	0	0	98.3
Large 2 Axle Vehicles	1	9	4		14	4	1	1		7	0	9	6		18	4	5	4		15	0	0	54
% Large 2 Axle Vehicles	0.5	0.8	1	0	0.8	0.9	0.4	0.9	1.2	0.8	0	1.4	1.4	2.9	1.5	2.3	2.5	10.8	8.7	3.5	0	0	1.3
3 Axle Vehicles	0	1	0		1	0	0	1		2	0	0	0		0	0	1	0		1	0	0	4
% 3 Axle Vehicles	0	0.1	0	0	0.1	0	0	0.9	1.2	0.2	0	0	0	0	0	0	0.5	0	0	0.2	0	0	0.1
4+ Axle Trucks	0	3	0		3	0	4	1		5	0	3	1		4	0	0	0		0	0	0	12
% 4+ Axle Trucks	0	0.3	0	0	0.2	0	1.8	0.9	0	0.6	0	0.5	0.2	0	0.3	0	0	0	0	0	0	0	0.3

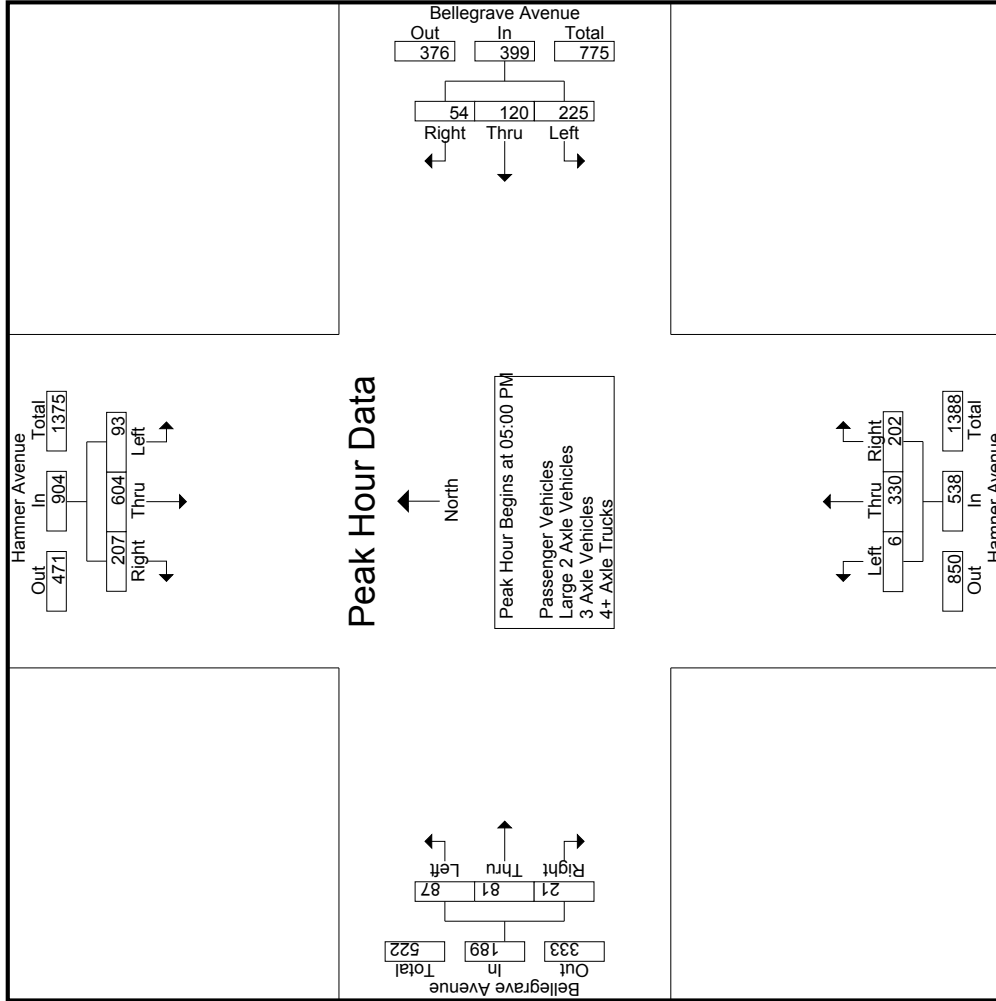
Start Time	Hamner Avenue Southbound					Bellegrave Avenue Westbound					Hamner Avenue Northbound					Bellegrave Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	15	131	51		197	51	23	14		88	1	76	48		125	21	20	4		45	45	455	
05:15 PM	25	158	49		232	58	26	9		93	2	84	64		150	27	22	1		50	50	525	
05:30 PM	23	155	53		231	56	43	13		112	2	85	42		129	21	19	15		55	55	527	
05:45 PM	30	160	54		244	60	28	18		106	1	85	48		134	18	20	1		39	39	523	
Total Volume	93	604	207		904	225	120	54		399	6	330	202		538	87	81	21		189	189	2030	
% App. Total	10.3	66.8	22.9			56.4	30.1	13.5			1.1	61.3	37.5			46	42.9	11.1					
PHF	.775	.944	.958		.926	.938	.698	.750		.891	.750	.971	.789		.897	.806	.920	.350			.859	.963	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Begins at 05:00 PM

Passenger Vehicles
 Large 2 Axle Vehicles
 3 Axle Vehicles
 4+ Axle Trucks

Counts Unlimited
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City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	15	131	51	197	51	23	14	88	3	92	64	159	19	29	1	49
+15 mins.	25	158	49	232	58	26	9	93	3	69	62	134	18	28	5	51
+30 mins.	23	155	53	231	56	43	13	112	1	76	48	125	22	31	7	60
+45 mins.	30	160	54	244	60	28	18	106	2	84	64	150	29	30	3	62
Total Volume	93	604	207	904	225	120	54	399	9	321	238	568	88	118	16	222
% App. Total	10.3	66.8	22.9		56.4	30.1	13.5		1.6	56.5	41.9		39.6	53.2	7.2	
PHF	.775	.944	.958	.926	.938	.698	.750	.891	.750	.872	.930	.893	.759	.952	.571	.895

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City of Ontario
 N/S: Hamner Avenue
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File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
04:00 PM	29	122	41	1	47	30	15	14	92	2	74	55	12	131	19	28	1	48	28	463	491
04:15 PM	25	138	46	2	57	20	13	9	90	3	74	53	15	130	17	28	3	48	28	477	505
04:30 PM	29	123	47	2	42	26	12	9	80	3	92	61	15	156	21	30	7	58	31	493	524
04:45 PM	19	115	38	2	51	26	14	12	91	3	66	61	15	130	29	28	3	60	31	453	484
Total	102	498	172	7	197	102	54	44	353	11	306	230	57	547	86	114	14	214	118	1886	2004
05:00 PM	15	128	51	4	51	23	14	12	88	1	74	48	9	123	21	18	4	43	28	448	476
05:15 PM	25	157	49	2	58	26	8	5	92	2	83	62	19	147	26	22	1	49	26	519	545
05:30 PM	23	153	51	1	227	56	43	13	112	2	81	42	7	125	20	19	13	7	20	516	536
05:45 PM	30	158	54	6	60	28	17	15	105	1	84	48	8	133	18	20	1	39	30	519	549
Total	93	596	205	13	225	120	52	37	397	6	322	200	43	528	85	79	19	183	104	2002	2106
Grand Total	195	1094	377	20	422	222	106	81	750	17	628	430	100	1075	171	193	33	397	222	3888	4110
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5.4	94.6	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			4	43		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

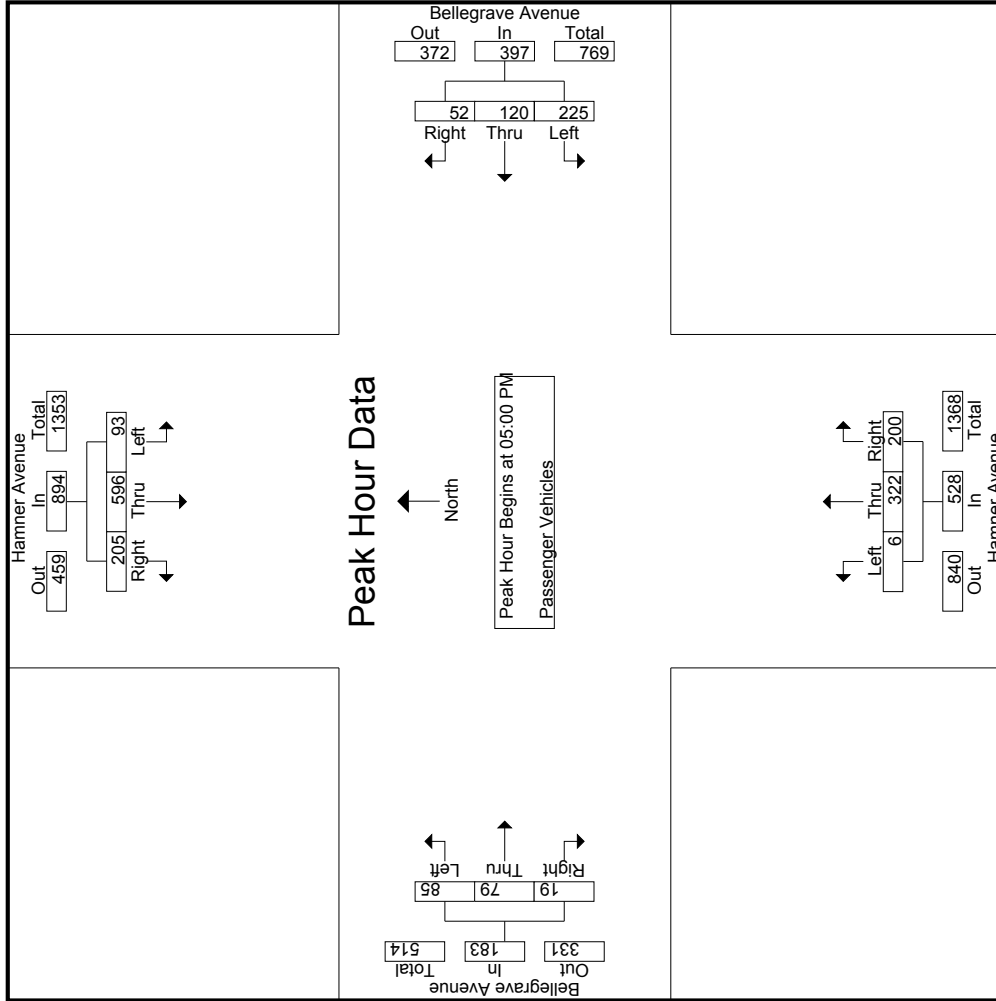
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105	1	84	48		84	48			18	20		
Total	93	596	205		225	120	52		397	6	322	200		322	200			85	79		
Approach %	11.7	65.7	22.6		56.3	29.6	14.1		19.3	1.6	58.4	40		27.6	43.1	48.6	8.3		5	10.2	
Total %	5	28.1	9.7		10.9	5.7	2.7			0.4	16.2	11.1			4.4	5	0.8				

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR					
05:00 PM	15	128	51		51	23	14		88	1	74	48		74	48			21	18		
05:15 PM	25	157	49		58	26	8		92	2	83	62		83	62			26	22		
05:30 PM	23	153	51		56	43	13		112	2	81	42		81	42			20	19		
05:45 PM	30	158	54		60	28	17		105												

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City of Ontario
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 Site Code : 05116658
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City of Ontario
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File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	15	128	51	194	51	23	14	88	1	74	48	123	21	18	4	43
+15 mins.	25	157	49	231	58	26	8	92	2	83	62	147	26	22	1	49
+30 mins.	23	153	51	227	56	43	13	112	2	81	42	125	20	19	13	52
+45 mins.	30	158	54	242	60	28	17	105	1	84	48	133	18	20	1	39
Total Volume	93	596	205	894	225	120	52	397	6	322	200	528	85	79	19	183
% App. Total	10.4	66.7	22.9	.924	56.7	30.2	13.1	.886	1.1	61	37.9	46.4	43.2	10.4		
PHF	.775	.943	.949	.924	.938	.698	.765	.886	.750	.958	.806	.898	.817	.898	.365	.880

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File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15 PM	0	1	0	0	1	0	0	0	1	0	1	0	1	0	2	3	2	6	
04:30 PM	0	1	0	0	0	0	0	2	2	0	2	1	1	0	0	2	2	5	
04:45 PM	1	1	2	0	3	1	0	0	4	2	1	0	2	0	0	2	0	13	
Total	1	3	2	0	4	1	0	0	5	2	4	2	2	3	2	7	4	28	
05:00 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	2	0	6	
05:15 PM	0	0	0	0	0	0	0	1	2	1	2	1	3	0	0	1	1	4	
05:30 PM	0	2	2	0	4	0	0	4	0	4	0	2	4	1	0	3	0	11	
05:45 PM	0	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	1	3	
Total	0	6	2	0	8	0	1	1	1	7	2	1	9	2	2	6	2	26	
Grand Total	1	9	4	0	14	4	1	1	6	9	6	3	15	4	5	13	6	54	
Approch %	7.1	64.3	28.6		66.7	16.7	16.7		12.5	60	40		31.2	30.8	38.5	30.8		88.9	
Total %	2.1	18.8	8.3		8.3	2.1	2.1		12.5	18.8	12.5		8.3	10.4	8.3	27.1	11.1		

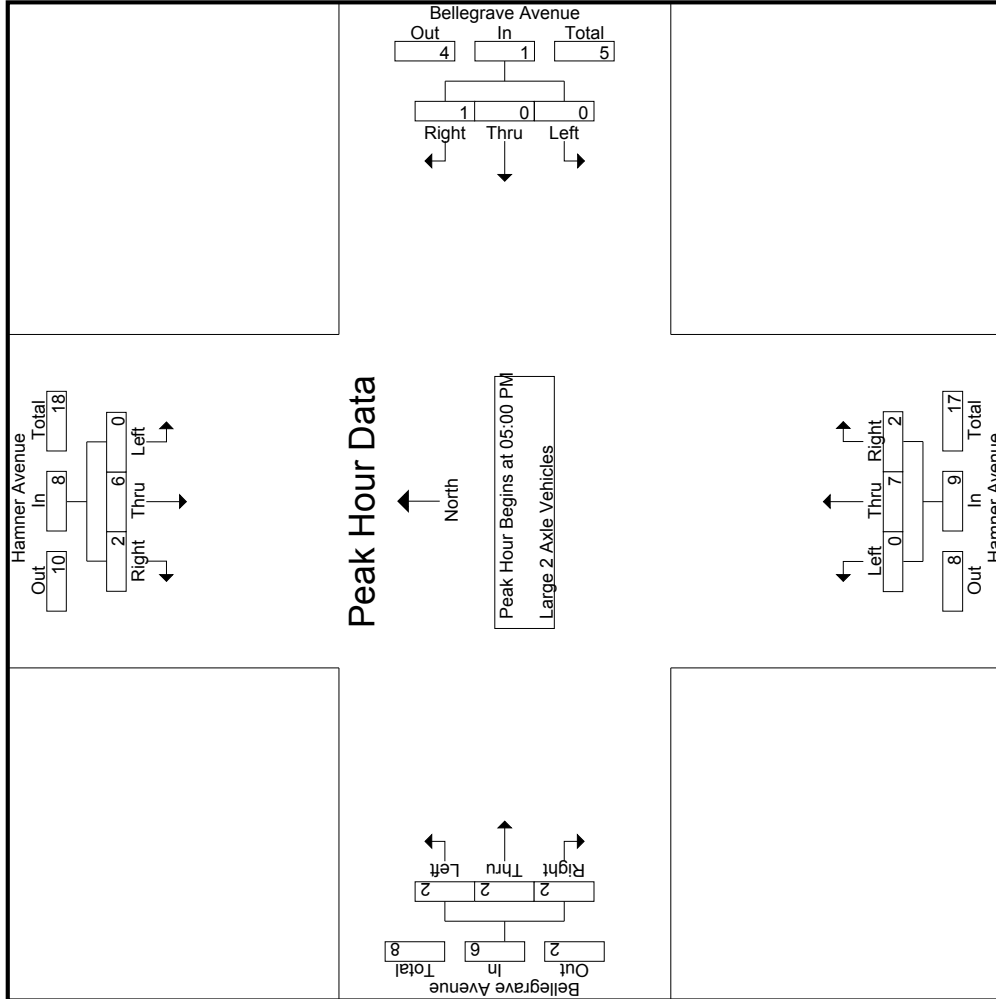
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
05:00 PM	0	2	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	2	
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	2	1	3	0	0	1	4	
05:30 PM	0	2	2	0	4	0	0	4	0	4	0	0	4	1	0	2	0	11	
05:45 PM	0	2	0	0	2	0	1	0	1	0	0	0	0	0	0	0	1	3	
Total	0	6	2	0	8	0	1	1	1	7	2	1	9	2	2	2	2	24	
% App. Total	0	.75	.25		100	0	100		22.2	77.8	22.2		33.3	33.3	33.3	33.3		54	
PHF	.000	.750	.250		.000	.000	.250		.250	.000	.438		.250	.563	.250	.500	.250	.545	

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1	05:00 PM													
Peak Hour for Each Approach Begins at:	05:00 PM													
+0 mins.	0	2	0	0	0	0	0	2	0	0	2	0	2	
+15 mins.	0	0	0	0	0	0	0	1	2	1	0	0	1	
+30 mins.	0	2	2	0	0	0	0	4	0	1	0	0	3	
+45 mins.	0	2	0	0	0	1	0	0	0	0	0	0	0	
Total Volume	0	6	2	0	0	1	0	7	2	2	2	2	6	
% App. Total	0	.75	.25	0	0	100	0	77.8	22.2	33.3	33.3	33.3	6	
PHF	.000	.750	.250	.000	.000	.250	.000	.438	.250	.500	.250	.250	.500	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
04:00 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	3	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	3	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	3	4
Approch %	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	33.3	0	0
Total %	0	33.3	0	0	0	0	33.3	33.3	0	0	0	0	0	0	0	0	33.3	0	75

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			05:00 PM			05:00 PM			05:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	3	3
04:45 PM	0	1	0	0	1	2	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	4	4
Total	0	1	0	0	1	4	0	0	4	0	2	1	0	0	3	0	0	0	0	0	0	0	8	8
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	4	4
Grand Total	0	3	0	0	3	0	4	1	0	5	0	3	1	0	4	0	0	0	0	0	0	0	12	12
Approch %	0	100	0	0	0	80	20	8.3	41.7	0	75	25	8.3	33.3	0	0	0	0	0	0	0	0	100	100
Total %	0	25	0	0	25	0	33.3	8.3	41.7	0	25	8.3	33.3	33.3	0	0	0	0	0	0	0	0	100	100

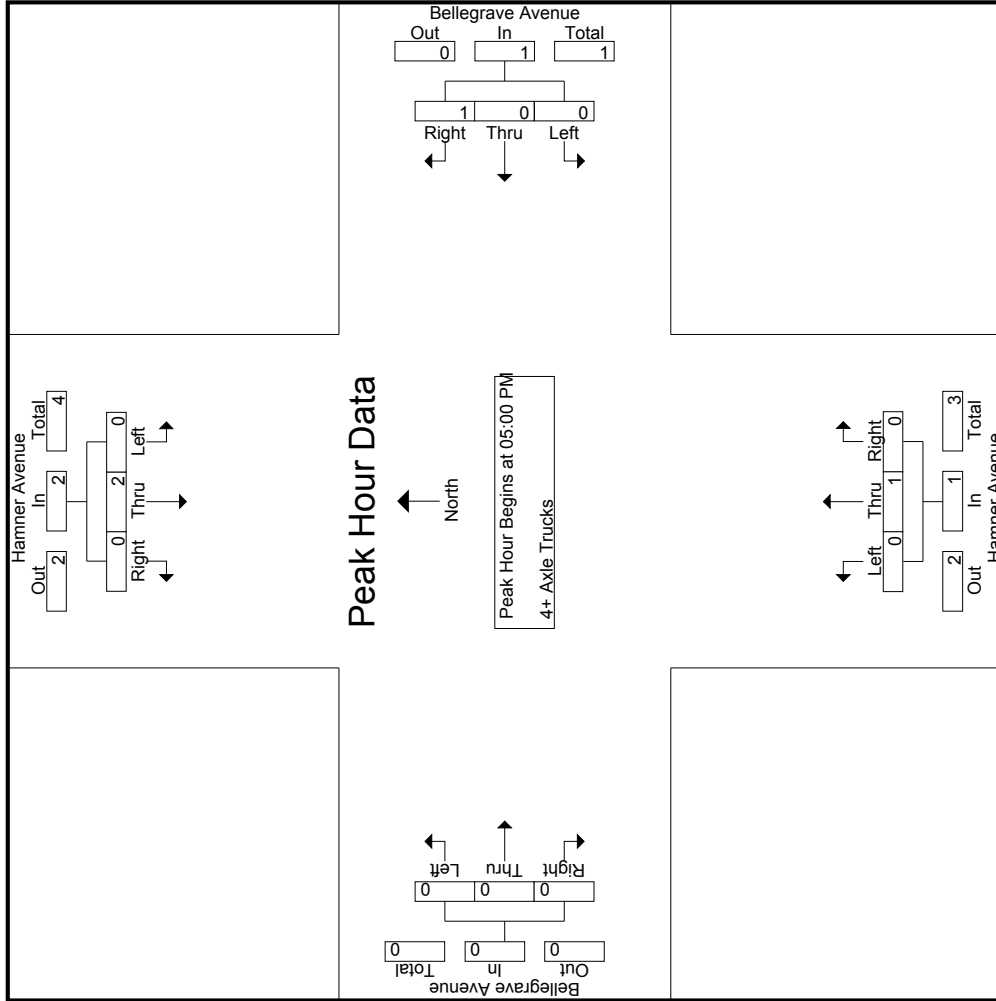
Start Time	Hamner Avenue Southbound				Bellegrave Avenue Westbound				Hamner Avenue Northbound				Bellegrave Avenue Eastbound				Exclu. Total	Inclu. Total	Int. Total					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total	
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	4
% App. Total	0	100	0	0	100	0	0	100	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500	.500
PHF	.000	.500	.000	.000	.500	.000	.000	.250	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500	.500

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue
 Weather: Clear

File Name : ONTHABEPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	Hamner Avenue Southbound			Bellegrave Avenue Westbound			Hamner Avenue Northbound			Bellegrave Avenue Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			05:00 PM			05:00 PM			05:00 PM				
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	0	1	0	0	1	0	0	0	0	0
% App. Total	0	100	0	0	0	100	0	0	100	0	0	0	0	0
PHF	.000	.500	.000	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000

Location: Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue



Date: 12/7/2016
 Day: Wednesday

PEDESTRIANS

	North Leg Hamner Avenue	East Leg Bellegrave Avenue	South Leg Hamner Avenue	West Leg Bellegrave Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Hamner Avenue	East Leg Bellegrave Avenue	South Leg Hamner Avenue	West Leg Bellegrave Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	0	1	0	0	1

Location: Ontario
 N/S: Hamner Avenue
 E/W: Bellegrave Avenue



Date: 12/7/2016
 Day: Wednesday

BICYCLES

	North Leg Hamner Avenue	East Leg Bellegrave Avenue	South Leg Hamner Avenue	West Leg Bellegrave Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	2	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	2	0	2

	North Leg Hamner Avenue	East Leg Bellegrave Avenue	South Leg Hamner Avenue	West Leg Bellegrave Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:
Thu, Apr 21, 16

LOCATION:
NORTH & SOUTH:
EAST & WEST:
Ontario
Hammer
Limonite

PROJECT #:
LOCATION #:
CONTROL:
SC0916
40
SIGNAL

NOTES:

PM	▲ N
PM	← W
MD	→ E
OTHER	▼ S

Add U-Turns to Left Turns

LANES:	NORTHBOUND Hammer			SOUTHBOUND Hammer			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	16	74	98	55	49	18	22	171	0	69	166	17	755
7:15 AM	25	88	99	60	74	23	28	203	9	56	116	26	807
7:30 AM	31	126	102	61	54	28	37	197	7	48	101	25	817
7:45 AM	32	127	108	54	61	24	42	178	5	47	86	31	795
8:00 AM	28	104	97	64	51	36	36	168	7	54	100	18	763
8:15 AM	25	99	102	54	80	26	37	177	4	40	94	31	769
8:30 AM	29	80	97	56	50	36	54	167	6	56	104	37	772
8:45 AM	17	68	65	47	50	22	42	131	6	54	94	31	627
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	203	766	768	451	469	213	298	1,392	44	424	861	216	6,105
APPROACH %	12%	44%	44%	40%	41%	19%	17%	80%	3%	28%	57%	14%	
APP/DEPART	1,737	/	1,278	1,133	/	960	1,734	/	2,633	1,501	/	1,234	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	116	445	406	239	240	111	143	746	28	205	403	100	3,182
APPROACH %	12%	46%	42%	41%	41%	19%	16%	81%	3%	29%	57%	14%	
PEAK HR FACTOR	0.905			0.939			0.951			0.894			0.974
APP/DEPART	967	/	686	590	/	485	917	/	1,404	708	/	607	0

U-TURNS				
NB	SB	EB	WB	TTL
1	1	0	1	3
2	0	2	3	7
8	0	0	2	10
6	0	0	5	11
9	0	0	3	12
11	0	0	2	13
5	0	1	1	7
4	0	0	6	10
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
46	1	3	23	73

RTOR			
NRR	SRR	ERR	WRR
30	8	0	5
29	13	2	8
35	13	0	12
25	10	1	15
25	15	3	2
25	16	2	6
32	18	2	11
15	12	4	18
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
216	105	14	77

LANES:	NORTHBOUND Hammer			SOUTHBOUND Hammer			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	31	78	65	44	95	32	58	174	13	85	130	36	841
4:15 PM	30	83	61	69	111	47	59	208	14	87	126	48	943
4:30 PM	39	81	79	62	103	38	57	194	15	93	124	39	924
4:45 PM	34	85	70	65	111	36	60	171	16	103	154	45	950
5:00 PM	34	66	50	54	94	49	46	207	20	90	178	55	943
5:15 PM	32	96	70	48	127	36	57	168	8	103	158	40	943
5:30 PM	38	74	57	49	88	37	46	217	16	124	176	45	967
5:45 PM	51	79	61	66	116	50	68	153	20	103	148	32	947
VOLUMES	289	642	513	457	845	325	451	1,492	122	788	1,194	340	7,458
APPROACH %	20%	44%	36%	28%	52%	20%	22%	72%	6%	34%	51%	15%	
APP/DEPART	1,444	/	1,431	1,627	/	1,810	2,065	/	2,521	2,322	/	1,696	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	138	321	247	216	420	158	209	763	60	420	666	185	3,803
APPROACH %	20%	45%	35%	27%	53%	20%	20%	74%	6%	33%	52%	15%	
PEAK HR FACTOR	0.891			0.936			0.925			0.921			0.983
APP/DEPART	706	/	715	794	/	915	1,032	/	1,259	1,271	/	914	0

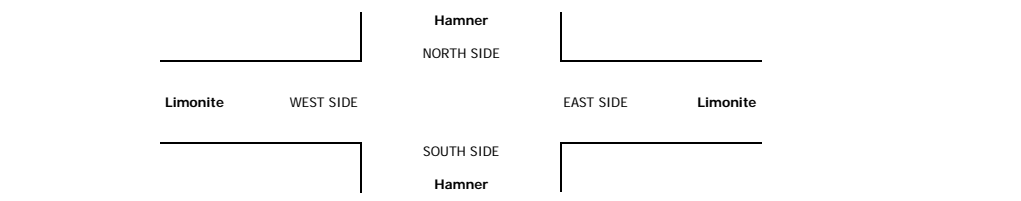
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
16	0	0	6	22
10	0	0	7	17
19	0	1	6	26
10	0	0	11	21
15	0	0	9	24
17	0	1	7	25
7	1	0	7	25
21	0	1	7	29
115	1	3	60	179

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
23	7	3	11
24	11	7	19
25	7	7	12
20	8	4	20
14	11	8	16
21	9	2	16
20	12	5	16
20	11	12	14
167	76	48	124

LANES:	NORTHBOUND Hammer			SOUTHBOUND Hammer			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	11	0	0	0	0	0	11	0	0	0	0	0	11
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	5	1	0	0	1	7	5	1	0	1	7	7	25
4:45 PM	3	1	0	0	0	4	2	1	0	0	3	3	11
5:00 PM	5	0	6	1	12	11	4	0	6	1	11	11	38
5:15 PM	3	0	3	0	6	6	3	0	3	0	6	6	21
5:30 PM	2	1	3	2	8	8	1	1	1	2	5	5	23
5:45 PM	4	1	0	1	6	6	4	0	0	4	4	4	25
TOTAL	33	4	12	5	54	54	10	2	10	3	25	25	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
16	0	0	6	22
10	0	0	7	17
19	0	1	6	26
10	0	0	11	21
15	0	0	9	24
17	0	1	7	25
7	1	0	7	25
21	0	1	7	29
115	1	3	60	179

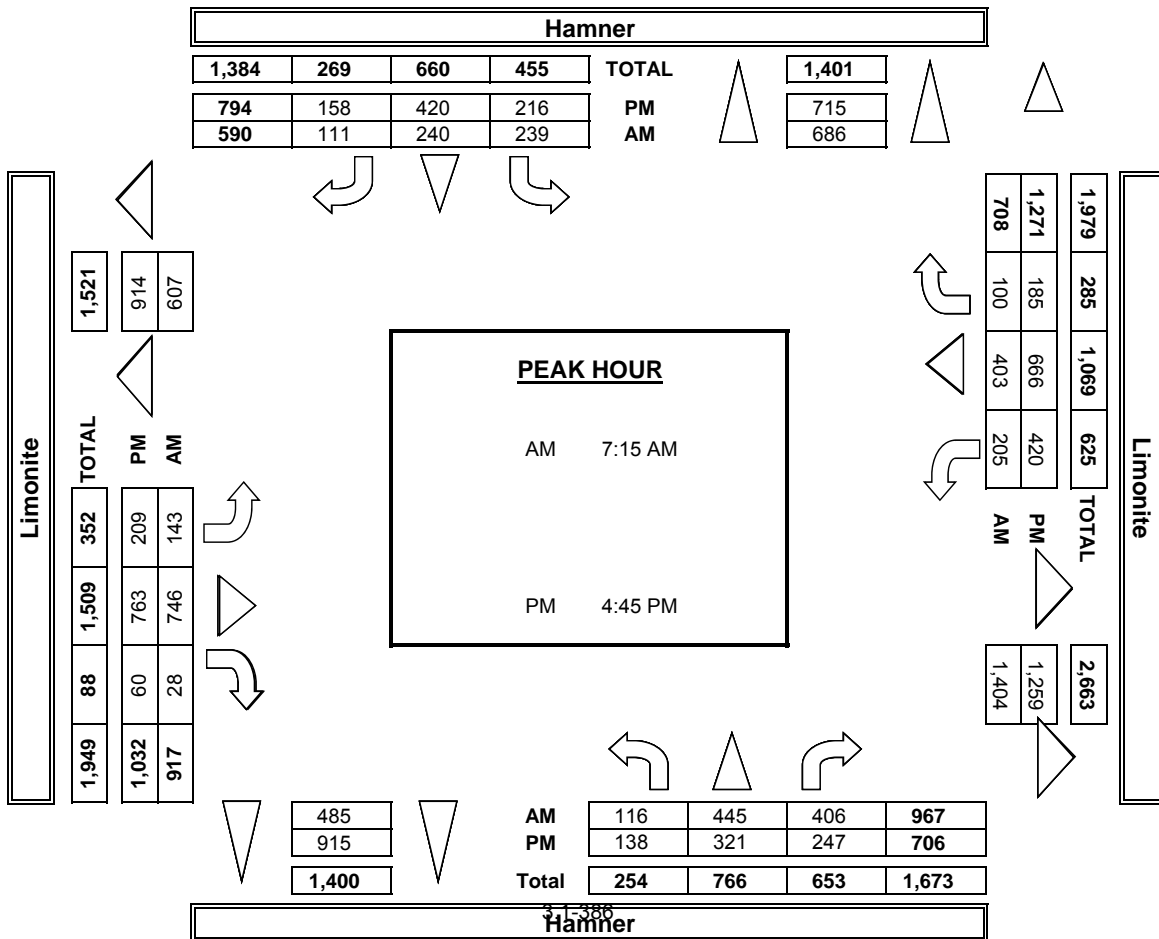
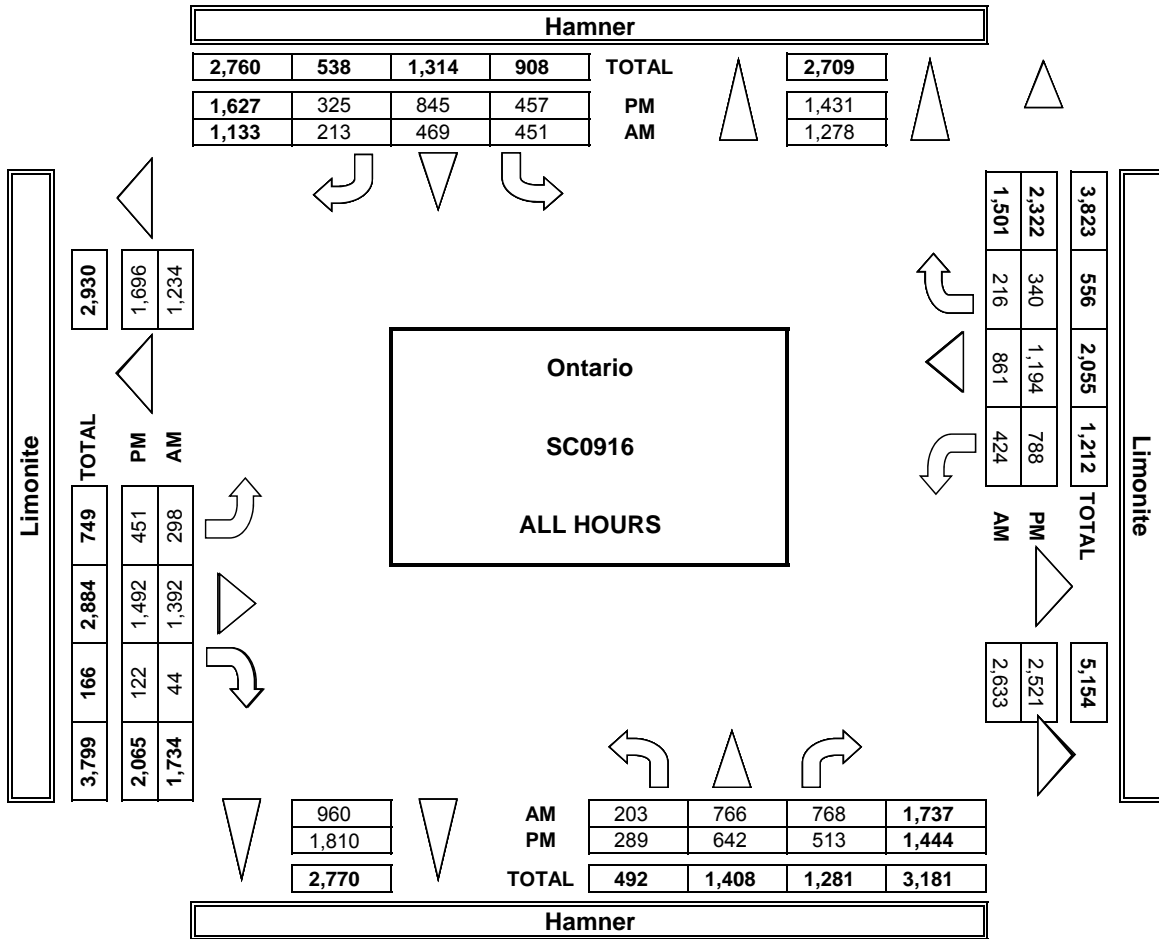
RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
23	7	3	11
24	11	7	19
25	7	7	12
20	8	4	20
14	11	8	16
21	9	2	16
20	12	5	16
20	11	12	14
167	76	48	124



TIME	ALL PED AND BIKE				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	3	0	3	6
7:30 AM	1	0	2	0	3
7:45 AM	3	0	0	0	3
8:00 AM	2	0	0	0	2
8:15 AM	1	0	0	0	1
8:30 AM	1	0	1	0	2
8:45 AM	7	0	2	0	9
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	15	3	5	4	27
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	11	0	0	0	11
4:15 PM	0	0	0	0	0
4:30 PM	5	1	0	1	7
4:45 PM	3	1	0	0	4
5:00 PM	5	0	6	1	12
5:15 PM	3	0	3	0	6
5:30 PM	2	1	3	2	8
5:45 PM	4	1	0	1	6
TOTAL	33	4	12	5	54

TIME	PEDESTRIAN CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	3	0	3	6
7:30 AM	1	0	2	0	3
7:45 AM	3	0	0	0	3
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	1	0	1
8:45 AM	7	0	2	0	9
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
TOTAL	5	3	2	3	13
3:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	11	0	0	0	11
4:15 PM	0	0	0	0	0
4:30 PM	5	1	0	1	7
4:45 PM	2	1	0	0	3
5:00 PM	4	0	6	1	11
5:15 PM	3</				

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hamner Limonite	PROJECT #: SC0916 LOCATION #: 40 CONTROL: SIGNAL
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CLASS 1: PASSENGER VEHICLES	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ ▼ S
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	2	1	2	3	1	2	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
1	1	0	1	3

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

AM	7:00 AM	13	70	97	51	47	16	17	156	0	65	145	14	691	
	7:15 AM	24	88	97	59	74	22	25	194	8	52	96	20	759	
	7:30 AM	31	124	100	50	50	26	36	183	7	44	88	24	763	
	7:45 AM	30	123	106	51	58	22	40	168	5	45	72	28	748	
	8:00 AM	28	103	94	57	47	33	33	157	6	50	89	17	714	
	8:15 AM	24	94	101	51	76	25	35	165	2	36	78	30	717	
	8:30 AM	26	79	95	54	45	33	52	162	6	51	93	34	730	
	8:45 AM	16	64	57	46	43	18	38	123	6	51	81	28	571	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	192	745	747	419	440	195	276	1,308	40	394	742	195	5,693	
	APPROACH %	11%	44%	44%	40%	42%	19%	17%	81%	2%	30%	56%	15%		
	APP/DEPART	1,684	/	1,214	1,054	/	897	1,624	/	2,496	1,331	/	1,086	0	
BEGIN PEAK HR	7:15 AM														
VOLUMES	88	438	397	217	229	103	132	702	26	178	345	89	2,984		
APPROACH %	9%	46%	42%	40%	42%	19%	15%	81%	3%	28%	55%	14%			
PEAK HR FACTOR	0.915			0.885			0.949			0.930			0.978		
APP/DEPART	948	/	659	549	/	458	862	/	1,329	625	/	538	0		
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	30	76	63	42	93	31	54	159	13	82	123	34	800	
	4:15 PM	30	77	61	66	109	46	58	197	14	85	120	47	910	
	4:30 PM	39	80	76	59	100	38	56	182	15	93	116	37	891	
	4:45 PM	33	84	70	64	110	35	60	158	16	101	147	42	920	
	5:00 PM	33	65	50	52	92	48	44	198	20	88	170	53	913	
	5:15 PM	32	94	67	47	127	36	55	161	8	102	151	40	920	
	5:30 PM	37	72	55	46	85	37	44	204	16	121	171	44	932	
	5:45 PM	51	79	59	65	114	49	68	142	20	103	146	32	928	
	VOLUMES	285	627	501	441	830	320	439	1,401	122	775	1,144	329	7,214	
	APPROACH %	20%	44%	35%	28%	52%	20%	22%	71%	6%	34%	51%	15%		
	APP/DEPART	1,413	/	1,393	1,591	/	1,782	1,962	/	2,402	2,248	/	1,637	0	
BEGIN PEAK HR	5:00 PM														
VOLUMES	93	310	231	209	418	170	209	705	64	384	638	169	3,693		
APPROACH %	13%	45%	33%	26%	52%	21%	21%	72%	7%	31%	52%	14%			
PEAK HR FACTOR	0.899			0.875			0.928			0.908			0.991		
APP/DEPART	694	/	689	798	/	926	980	/	1,175	1,221	/	903	0		

2	0	2	3	7
8	0	0	2	10
6	0	0	5	11
9	0	0	3	12
11	0	0	2	13
5	0	1	1	7
4	0	0	6	10
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
46	1	3	23	73

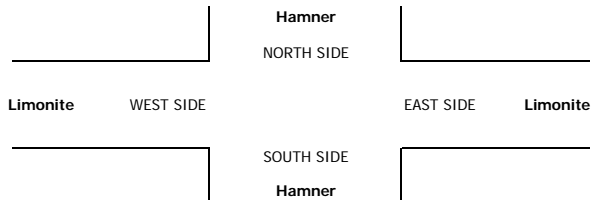
30	7	0	5
28	12	2	5
34	12	0	12
25	9	1	14
25	13	3	2
25	15	2	6
31	16	2	10
15	9	4	18
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
213	93	14	72

112	46	6	33
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
16	0	0	6	22
10	0	0	7	17
19	0	1	6	26
10	0	0	11	21
15	0	0	9	24
7	0	1	7	15
17	1	0	7	25
21	0	1	7	29
115	1	3	60	179

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
23	6	3	11
24	10	7	19
24	7	7	12
20	8	4	18
14	11	8	15
21	9	2	16
19	12	5	16
19	10	12	14
164	73	48	121

73	42	27	61
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hamner Limonite	PROJECT #: LOCATION #: CONTROL:	SC0916 40 SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM	▲	N	
		PM	◀	W	E ▶
		MD		S	
		OTHER	▼		

LANES:	NORTHBOUND Hamner			SOUTHBOUND Hamner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	2	2	0	0	5	1	10
7:15 AM	0	0	0	0	0	0	0	1	0	0	6	0	7
7:30 AM	0	0	0	3	0	0	0	3	0	2	0	0	8
7:45 AM	1	0	0	0	2	0	0	0	0	1	3	0	7
8:00 AM	0	0	0	0	0	0	1	1	0	1	0	0	3
8:15 AM	0	0	0	0	0	0	0	1	0	2	4	0	7
8:30 AM	0	0	0	0	0	0	0	1	0	2	3	1	7
8:45 AM	0	0	3	0	0	0	0	0	0	0	2	0	5
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	3	3	2	0	3	9	0	8	23	2	54
APPROACH %	25%	0%	75%	60%	40%	0%	25%	75%	0%	24%	70%	6%	
APP/DEPART	4	/	5	5	/	10	12	/	15	33	/	24	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	1	0	0	3	2	0	2	6	0	3	14	1	32
APPROACH %	100%	0%	0%	60%	40%	0%	25%	75%	0%	17%	78%	6%	
PEAK HR FACTOR	0.250			0.417			0.500			0.750			0.800
APP/DEPART	1	/	3	5	/	5	8	/	9	18	/	15	0

0	0	0	0
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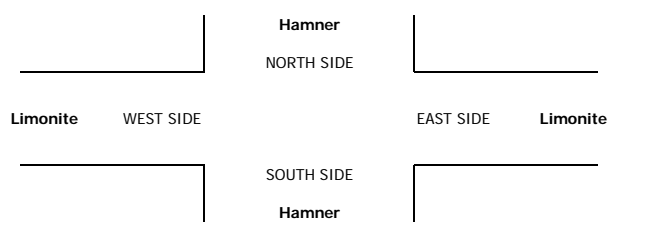
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	3	0	2	0	1	7
4:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	4
4:30 PM	0	0	1	1	0	0	0	2	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
5:30 PM	0	0	0	1	0	0	0	3	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	2	2	2	0	0	16	0	2	2	1	27
APPROACH %	0%	0%	100%	50%	50%	0%	0%	100%	0%	40%	40%	20%	
APP/DEPART	2	/	1	4	/	4	16	/	20	5	/	2	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	2	1	2	0	0	10	0	2	0	1	18
APPROACH %	0%	0%	100%	33%	67%	0%	0%	100%	0%	67%	0%	33%	
PEAK HR FACTOR	0.500			0.375			0.833			0.250			0.643
APP/DEPART	2	/	1	3	/	4	10	/	13	3	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hamner Limonite	PROJECT #: LOCATION #: CONTROL:	SC0916 40 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM		▲	
		PM		N	
		MD	◀ W		E ▶
		OTHER		S	

LANES:	NORTHBOUND Hamner			SOUTHBOUND Hamner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL 2	NT 3	NR 1	SL 2	ST 2	SR 1	EL 2	ET 3	ER 1	WL 2	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	1	1	4	0	2	3	1	12
7:15 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
7:30 AM	0	0	0	1	0	0	0	2	0	0	3	0	6
7:45 AM	0	0	0	1	0	0	0	3	0	0	1	0	5
8:00 AM	0	0	0	0	2	0	0	4	0	0	2	0	8
8:15 AM	0	0	0	1	0	1	0	1	0	0	1	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	1	0	1	0	0	2	1	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	3	0	0

VOLUMES	0	0	1	3	2	3	1	16	0	2	16	2	46
APPROACH %	0%	0%	100%	38%	25%	38%	6%	94%	0%	10%	80%	10%	
APP/DEPART	1	/	3	8	/	4	17	/	20	20	/	19	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	2	0	1	1	10	0	2	11	1	28
APPROACH %	0%	0%	0%	67%	0%	33%	9%	91%	0%	14%	79%	7%	
PEAK HR FACTOR	0.000			0.750			0.550			0.583			0.583
APP/DEPART	0	/	2	3	/	2	11	/	12	14	/	12	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
4:30 PM	0	0	0	0	1	0	0	1	0	0	1	1	4
4:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
5:15 PM	0	0	0	1	0	0	0	0	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

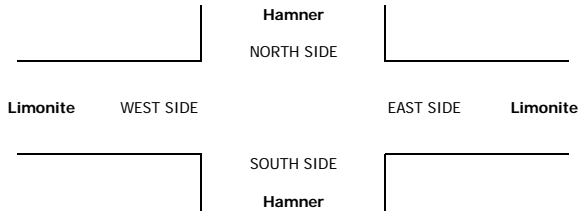
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	1	0	1	1	0	0	4	0	1	8	1	17
APPROACH %	0%	100%	0%	50%	50%	0%	0%	100%	0%	10%	80%	10%	
APP/DEPART	1	/	2	2	/	2	4	/	5	10	/	8	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	0	0	0	1	1	0	0	2	0	0	6	1	11
APPROACH %	0%	0%	0%	50%	50%	0%	0%	100%	0%	0%	86%	14%	
PEAK HR FACTOR	0.000			0.500			0.500			0.875			0.688
APP/DEPART	0	/	1	2	/	1	2	/	3	7	/	6	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hamner Limonite	PROJECT #: SC0916	LOCATION #: 40	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND Hamner			SOUTHBOUND Hamner			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL 2	NT 3	NR 1	SL 2	ST 2	SR 1	EL 2	ET 3	ER 1	WL 2	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0

VOLUMES	0	0	1	0	0	0	0	0	0	0	1	0	2
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	1	/	0	0	/	0	0	/	1	1	/	1	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	1	0	0	0	0	0	0	0	1	0	2
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR	0.250			0.000			0.000			0.250			0.500
APP/DEPART	1	/	0	0	/	0	0	/	1	1	/	1	0

1	0	0	0
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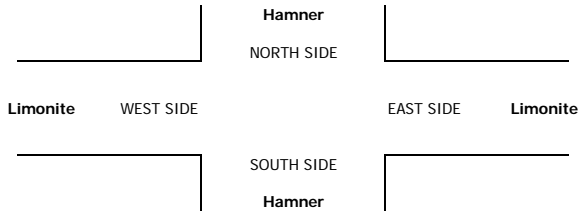
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR	3:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario Hamner Limonite	PROJECT #: SC0916 LOCATION #: 40 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	◀ W	E ▶	▲ N S ▼
BUSES					

LANES:	NORTHBOUND <small>Hamner</small>			SOUTHBOUND <small>Hamner</small>			EASTBOUND <small>Limonite</small>			WESTBOUND <small>Limonite</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	2	1	2	3	1	2	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

7:00 AM	2	2	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	1	0	1	1	0	0	0	0	1	0	0	6	10
7:30 AM	0	0	0	5	2	1	0	1	0	0	1	10	
7:45 AM	1	1	0	2	0	0	0	1	0	0	1	7	
8:00 AM	0	0	0	3	0	1	0	0	1	0	0	5	
8:15 AM	0	0	1	0	0	0	1	1	0	0	0	3	
8:30 AM	0	0	1	1	0	0	0	0	0	0	1	3	
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	2	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
1	0	0	3
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
1	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	2	0	4

VOLUMES	4	4	3	12	3	2	1	3	2	0	1	9	44
APPROACH %	36%	36%	27%	71%	18%	12%	17%	50%	33%	0%	10%	90%	
APP/DEPART	11	/	14	17	/	5	6	/	18	10	/	7	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	2	1	1	11	2	2	0	2	2	0	1	8	32
APPROACH %	50%	25%	25%	73%	13%	13%	0%	50%	50%	0%	11%	89%	
PEAK HR FACTOR	0.500			0.469			1.000			0.375			0.800
APP/DEPART	4	/	9	15	/	4	4	/	14	9	/	5	0

1	2	0	3
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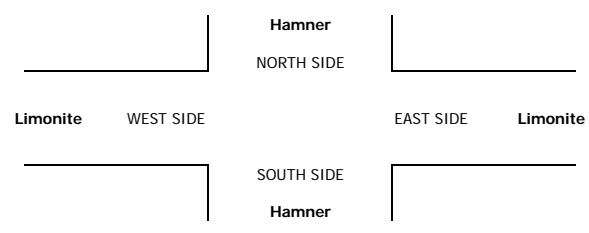
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	1	1	3	
4:15 PM	0	0	0	2	0	0	0	0	0	0	0	2	
4:30 PM	0	0	1	0	0	0	0	1	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	1	
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	1	1	0	0	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	2

VOLUMES	0	1	2	3	2	0	0	1	0	0	1	3	13
APPROACH %	0%	33%	67%	60%	40%	0%	0%	100%	0%	0%	25%	75%	
APP/DEPART	3	/	4	5	/	2	1	/	6	4	/	1	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	1	2	1	0	0	1	0	0	1	3	9
APPROACH %	0%	0%	100%	67%	33%	0%	0%	100%	0%	0%	25%	75%	
PEAK HR FACTOR	0.250			0.375			0.250			0.500			0.750
APP/DEPART	1	/	3	3	/	1	1	/	4	4	/	1	0

1	0	0	2
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Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	70	0	107	35	177	0	100	0	0	100	0	0	0	0	0	0	122	29	0	151	35	428	463
07:15 AM	81	0	93	39	174	0	122	0	0	122	0	0	0	0	0	0	126	35	0	161	39	457	496
07:30 AM	75	0	105	34	180	0	93	0	0	93	0	0	0	0	0	0	134	35	0	169	34	442	476
07:45 AM	83	0	102	29	185	0	65	0	0	65	0	0	0	0	0	0	123	35	0	158	29	408	437
Total	309	0	407	137	716	0	380	0	0	380	0	0	0	0	0	0	505	134	0	639	137	1735	1872
08:00 AM	74	0	68	15	142	0	67	0	0	67	0	0	0	0	0	0	78	33	0	111	15	320	335
08:15 AM	53	0	81	31	134	0	70	0	0	70	0	0	0	0	0	0	86	21	0	107	31	311	342
08:30 AM	55	0	75	30	130	0	68	0	0	68	0	0	0	0	0	0	107	29	0	136	30	334	364
08:45 AM	63	0	79	16	142	0	78	0	0	78	0	0	0	0	0	0	72	21	0	93	16	313	329
Total	245	0	303	92	548	0	283	0	0	283	0	0	0	0	0	0	343	104	0	447	92	1278	1370
Grand Total	554	0	710	229	1264	0	663	0	0	663	0	0	0	0	0	0	848	238	0	1086	229	3013	3242
Approach %	43.8	0	56.2			0	100	0			0	0				0	78.1	21.9					
Total %	18.4	0	23.6		42	0	22	0		22	0	0				0	28.1	7.9		36	7.1	92.9	
Passenger Vehicles	500	0	625		1321	0	610	0		610	0	0				0	773	199		972	0	0	2903
% Large 2 Axle Vehicles	90.3	0	88		85.6	0	92	0		92	0	0				0	91.2	83.6		89.5	0	0	89.5
Large 2 Axle Vehicles	10	0	22		41	0	17	0		17	0	0				0	22	9		31	0	0	89
% Large 3 Axle Vehicles	1.8	0	3.1		3.9	0	2.6	0		2.6	0	0				0	2.6	3.8		2.9	0	0	2.7
3 Axle Vehicles	14	0	36		69	0	15	0		15	0	0				0	27	12		39	0	0	123
% 3 Axle Vehicles	2.5	0	5.1		8.3	0	2.3	0		2.3	0	0				0	3.2	5		3.6	0	0	3.8
4+ Axle Trucks	30	0	27		62	0	21	0		21	0	0				0	26	18		44	0	0	127
% 4+ Axle Trucks	5.4	0	3.8		2.2	0	3.2	0		3.2	0	0				0	3.1	7.6		4.1	0	0	3.9

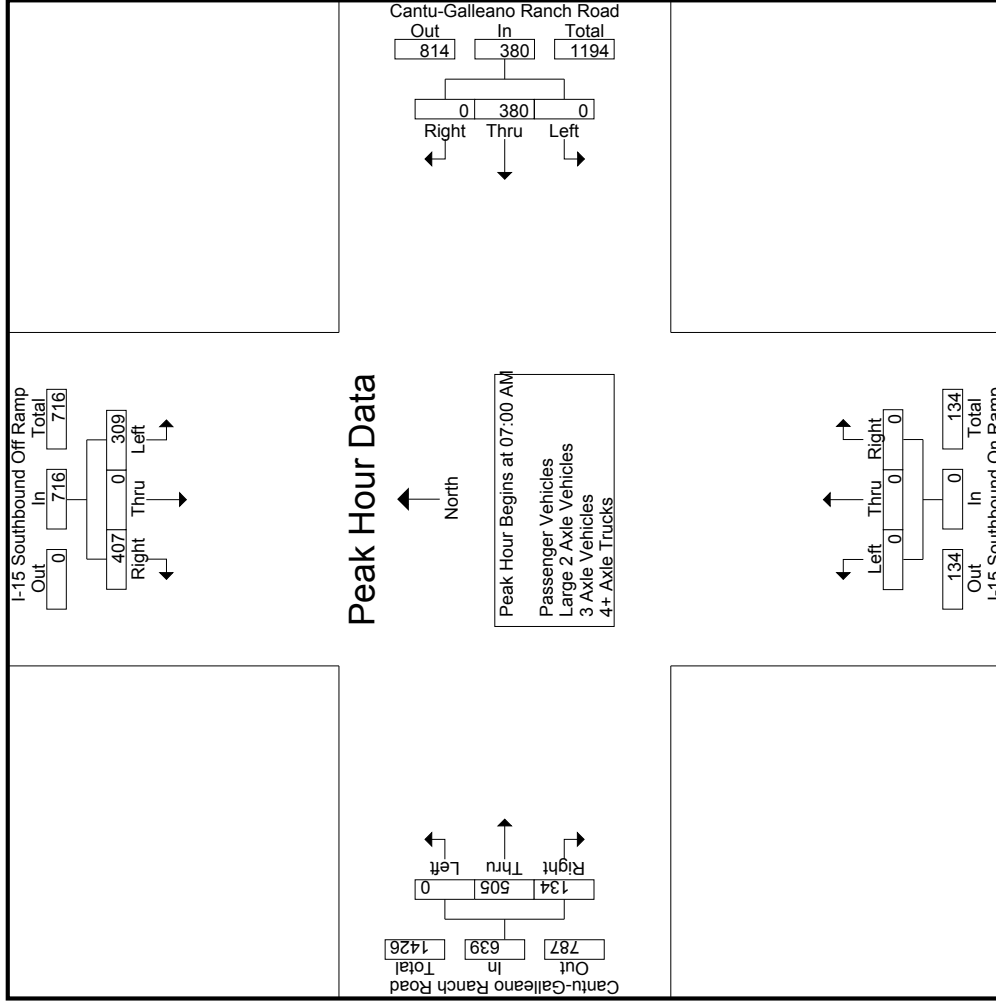
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	70	0	107	35	177	0	100	0	0	100	0	0	0	0	0	0	122	29	0	151	35	428	463
07:15 AM	81	0	93	39	174	0	122	0	0	122	0	0	0	0	0	0	126	35	0	161	39	457	496
07:30 AM	75	0	105	34	180	0	93	0	0	93	0	0	0	0	0	0	134	35	0	169	34	442	476
07:45 AM	83	0	102	29	185	0	65	0	0	65	0	0	0	0	0	0	123	35	0	158	29	408	437
Total	309	0	407	137	716	0	380	0	0	380	0	0	0	0	0	0	505	134	0	639	137	1735	1872
% App. Total	43.2	0	56.8			0	100	0			0	0				0	79	21			0	0	949
PHF	.931	.000	.951		.968	.000	.779	.000		.779	.000	.000		.000	.000	.000	.942	.957		.945			

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 EW: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM																
+0 mins.	70	0	107	177	0	100	0	100	0	0	0	0	0	0	0	0	151
+15 mins.	81	0	93	174	0	122	0	122	0	0	0	0	0	126	35	161	161
+30 mins.	75	0	105	180	0	93	0	93	0	0	0	0	0	134	35	169	169
+45 mins.	83	0	102	185	0	65	0	65	0	0	0	0	0	123	35	158	158
Total Volume	309	0	407	716	0	380	0	380	0	0	0	0	0	505	134	639	639
% App. Total	43.2	0	56.8	96.8	0	100	0	100	0	0	0	0	0	79	21	100	100
PHF	.931	.000	.951	.968	.000	.779	.000	.779	.000	.000	.000	.000	.000	.942	.957	.945	.945

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

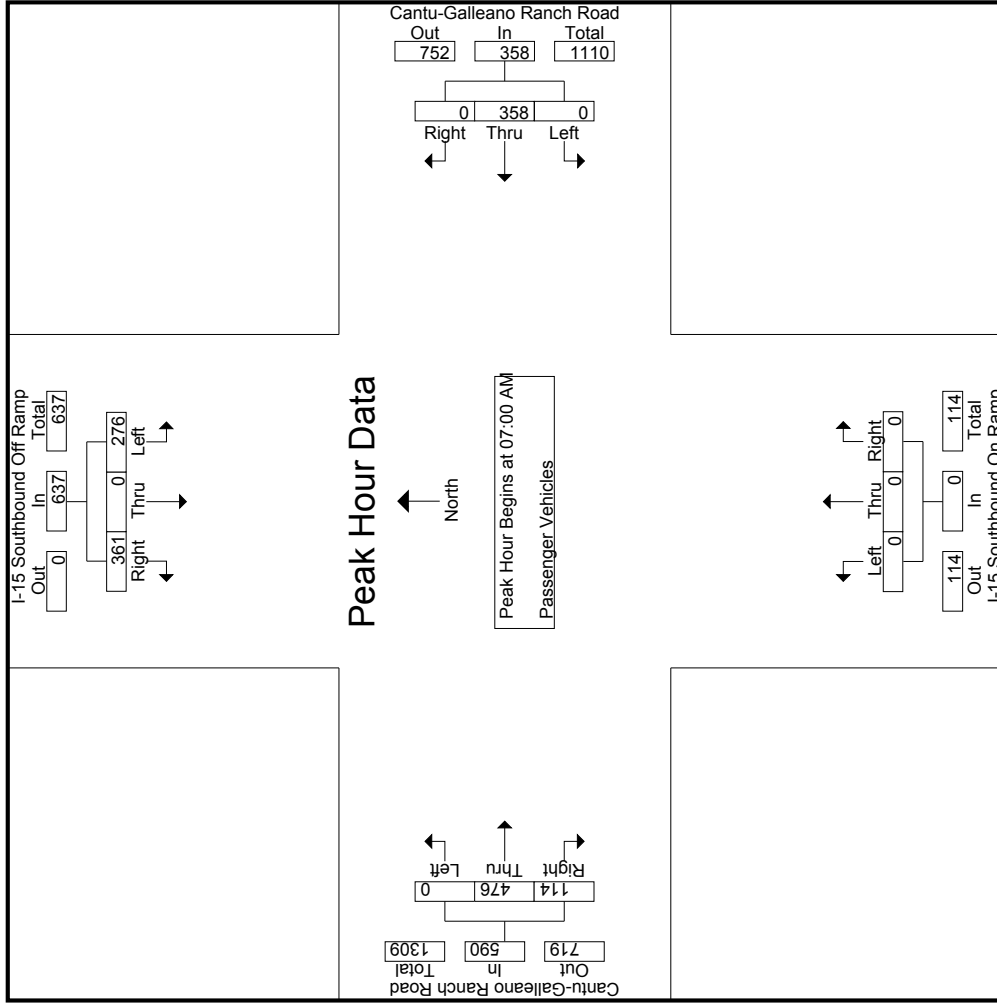
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	64	0	97	33	161	0	95	0	0	95	0	0	0	0	0	0	118	25	0	143	33	399	432
07:15 AM	71	0	80	34	151	0	118	0	0	118	0	0	0	0	0	0	120	29	0	149	34	418	452
07:30 AM	68	0	92	26	160	0	86	0	0	86	0	0	0	0	0	0	126	29	0	155	26	401	427
07:45 AM	73	0	92	23	165	0	59	0	0	59	0	0	0	0	0	0	112	31	0	143	23	367	390
Total	276	0	361	116	637	0	358	0	0	358	0	0	0	0	0	0	476	114	0	590	116	1585	1701
08:00 AM	70	0	61	13	131	0	62	0	0	62	0	0	0	0	0	0	67	28	0	95	13	288	301
08:15 AM	48	0	71	29	119	0	65	0	0	65	0	0	0	0	0	0	72	19	0	91	29	275	304
08:30 AM	48	0	64	23	112	0	64	0	0	64	0	0	0	0	0	0	90	23	0	113	23	289	312
08:45 AM	58	0	68	15	126	0	61	0	0	61	0	0	0	0	0	0	68	15	0	83	15	270	285
Total	224	0	264	80	488	0	252	0	0	252	0	0	0	0	0	0	297	85	0	382	80	1122	1202
Grand Total	500	0	625	196	1125	0	610	0	0	610	0	0	0	0	0	0	773	199	0	972	196	2707	2903
Approach %	44.4	0	55.6			0	100	0			0	0	0			0	79.5	20.5		35.9	6.8	93.2	
Total %	18.5	0	23.1		41.6	0	22.5	0		22.5	0	0	0			0	28.6	7.4					

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	64	0	97	33	161	0	95	0	0	95	0	0	0	0	0	0	118	25	0	143	33	399	432
07:15 AM	71	0	80	34	151	0	118	0	0	118	0	0	0	0	0	0	120	29	0	149	34	418	452
07:30 AM	68	0	92	26	160	0	86	0	0	86	0	0	0	0	0	0	126	29	0	155	26	401	427
07:45 AM	73	0	92	23	165	0	59	0	0	59	0	0	0	0	0	0	112	31	0	143	23	367	390
Total	276	0	361	116	637	0	358	0	0	358	0	0	0	0	0	0	476	114	0	590	116	1585	1701
08:00 AM	70	0	61	13	131	0	62	0	0	62	0	0	0	0	0	0	67	28	0	95	13	288	301
08:15 AM	48	0	71	29	119	0	65	0	0	65	0	0	0	0	0	0	72	19	0	91	29	275	304
08:30 AM	48	0	64	23	112	0	64	0	0	64	0	0	0	0	0	0	90	23	0	113	23	289	312
08:45 AM	58	0	68	15	126	0	61	0	0	61	0	0	0	0	0	0	68	15	0	83	15	270	285
Total	224	0	264	80	488	0	252	0	0	252	0	0	0	0	0	0	297	85	0	382	80	1122	1202
Grand Total	500	0	625	196	1125	0	610	0	0	610	0	0	0	0	0	0	773	199	0	972	196	2707	2903
Approach %	44.4	0	55.6			0	100	0			0	0	0			0	79.5	20.5		35.9	6.8	93.2	
Total %	18.5	0	23.1		41.6	0	22.5	0		22.5	0	0	0			0	28.6	7.4					

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 EW: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM													
Peak Hour for Each Approach Begins at:	07:00 AM													
+0 mins.	64	0	97	0	95	0	95	0	0	0	0	118	25	143
+15 mins.	71	0	80	0	118	0	118	0	0	0	0	120	29	149
+30 mins.	68	0	92	0	86	0	86	0	0	0	0	126	29	155
+45 mins.	73	0	92	0	59	0	59	0	0	0	0	112	31	143
Total Volume	276	0	361	0	358	0	358	0	0	0	0	476	114	590
% App. Total	43.3	0	56.7	0	100	0	100	0	0	0	0	80.7	19.3	95.2
PHF	.945	.000	.930	.965	.758	.000	.758	.000	.000	.000	.000	.944	.919	.952

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

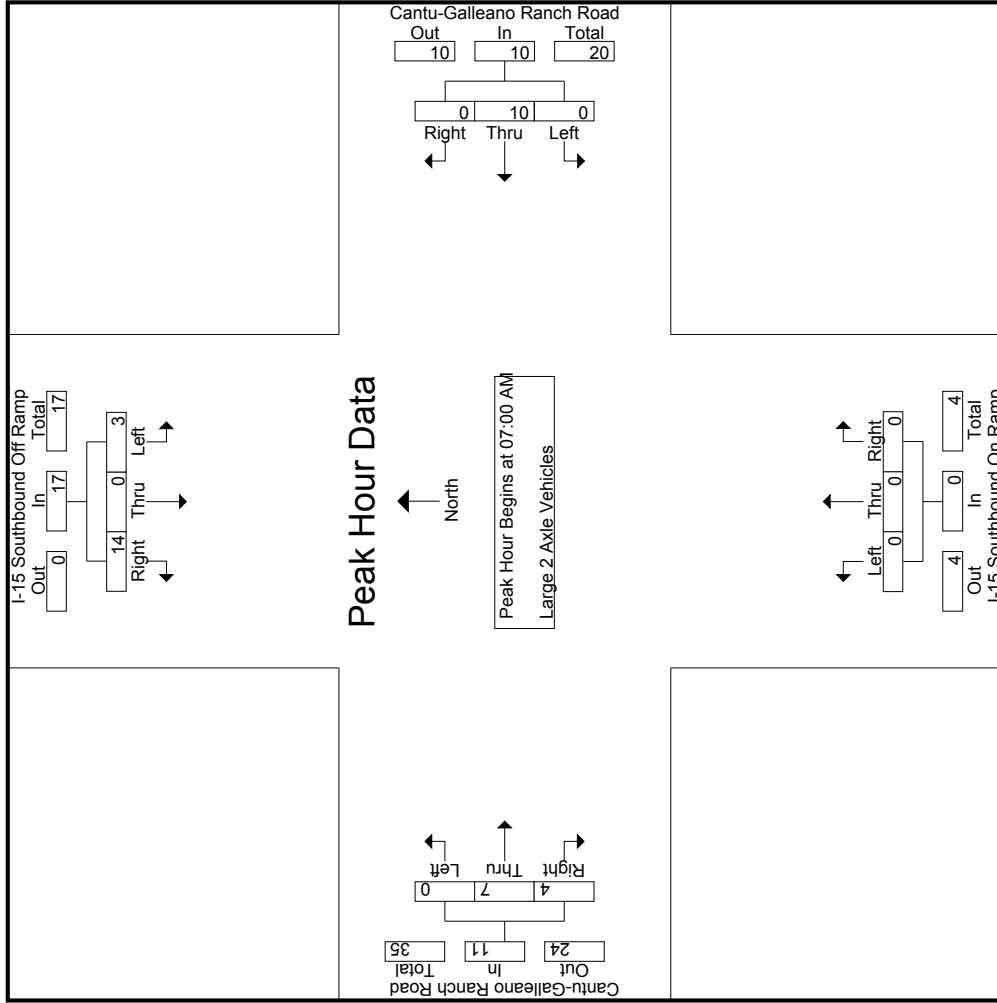
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	6
07:15 AM	1	0	4	0	5	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	8
07:30 AM	1	0	4	3	5	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	3	3	12
07:45 AM	1	0	4	4	5	0	4	0	0	4	0	0	0	0	0	0	4	2	0	6	4	15	19
Total	3	0	14	7	17	0	10	0	0	10	0	0	0	0	0	0	7	4	0	11	7	38	45
08:00 AM	1	0	3	2	4	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	2	10	12
08:15 AM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	6	6
08:30 AM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	7	2	0	9	0	13	13
08:45 AM	1	0	3	0	4	0	5	0	0	5	0	0	0	0	0	0	2	2	0	4	0	13	13
Total	7	0	8	2	15	0	7	0	0	7	0	0	0	0	0	0	15	5	0	20	2	42	44
Grand Total	10	0	22	9	32	0	17	0	0	17	0	0	0	0	0	0	22	9	0	31	9	80	89
Approach %	31.2	0	68.8			0	100	0			0	0	0			0	71	29		38.8	10.1	89.9	
Total %	12.5	0	27.5		40	0	21.2	0		21.2	0	0	0		0	0	27.5	11.2					

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	6
07:15 AM	1	0	4	0	5	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	8
07:30 AM	1	0	4	3	5	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	3	3	12
07:45 AM	1	0	4	4	5	0	4	0	0	4	0	0	0	0	0	0	4	2	0	6	4	15	19
Total	3	0	14	7	17	0	10	0	0	10	0	0	0	0	0	0	7	4	0	11	7	38	45
08:00 AM	1	0	3	2	4	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	2	10	12
08:15 AM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	6	6
08:30 AM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	7	2	0	9	0	13	13
08:45 AM	1	0	3	0	4	0	5	0	0	5	0	0	0	0	0	0	2	2	0	4	0	13	13
Total	7	0	8	2	15	0	7	0	0	7	0	0	0	0	0	0	15	5	0	20	2	42	44
Grand Total	10	0	22	9	32	0	17	0	0	17	0	0	0	0	0	0	22	9	0	31	9	80	89
Approach %	31.2	0	68.8			0	100	0			0	0	0			0	71	29		38.8	10.1	89.9	
Total %	12.5	0	27.5		40	0	21.2	0		21.2	0	0	0		0	0	27.5	11.2					

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
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 (951) 268-6268

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM														
Peak Hour for Each Approach Begins at:	07:00 AM														
+0 mins.	0	0	2	0	3	0	0	0	0	0	0	0	0	0	1
+15 mins.	1	0	4	0	1	0	0	0	0	0	0	0	1	1	2
+30 mins.	1	0	4	0	2	0	0	0	0	0	0	0	1	1	2
+45 mins.	1	0	4	0	4	0	0	0	0	0	0	0	4	2	6
Total Volume	3	0	14	0	10	0	0	0	0	0	0	0	7	4	11
% App. Total	17.6	0	82.4	0	100	0	0	0	0	0	0	0	63.6	36.4	
PHF	.750	.000	.875	.850	.625	.000	.625	.000	.000	.000	.000	.000	.438	.500	.458

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

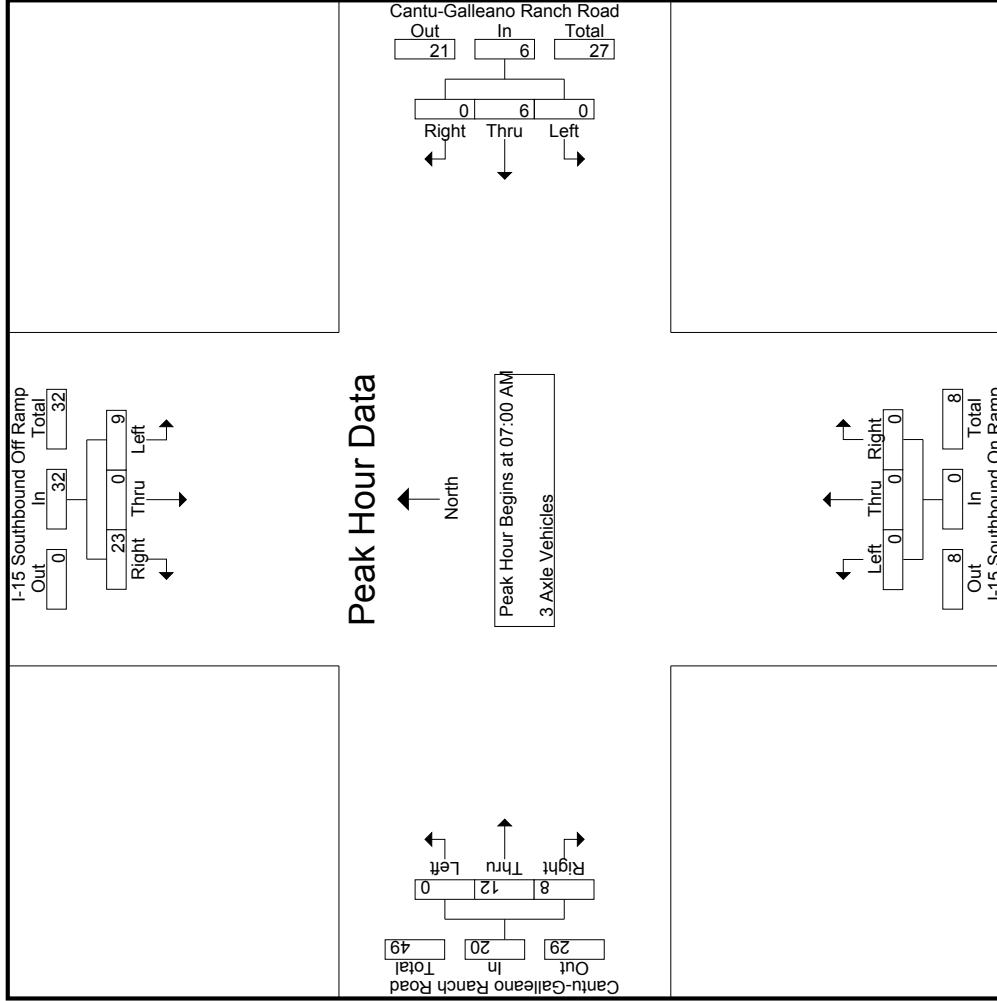
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	6	2	6	0	1	0	0	1	0	0	0	0	0	0	0	1	0	2	2	9	11
07:15 AM	4	0	7	5	11	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4	5	16	21
07:30 AM	2	0	6	3	8	0	4	0	0	4	0	0	0	0	0	0	4	4	0	8	3	20	23
07:45 AM	3	0	4	1	7	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	1	13	14
Total	9	0	23	11	32	0	6	0	0	6	0	0	0	0	0	0	12	8	0	20	11	58	69
08:00 AM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	6	6
08:15 AM	0	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	2	9	11
08:30 AM	2	0	5	5	7	0	1	0	0	1	0	0	0	0	0	0	6	3	0	9	5	17	22
08:45 AM	1	0	4	1	5	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	1	14	15
Total	5	0	13	8	18	0	9	0	0	9	0	0	0	0	0	0	15	4	0	19	8	46	54
Grand Total	14	0	36	19	50	0	15	0	0	15	0	0	0	0	0	0	27	12	0	39	19	104	123
Approach %	28	0	72			0	100	0			0	0	0			0	69.2	30.8		37.5	15.4	84.6	
Total %	13.5	0	34.6		48.1	0	14.4	0		14.4	0	0	0		0	0	26	11.5					

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	6	0	6	0	1	0	0	1	0	0	0	0	0	0	0	1	0	2	2	9	11
07:15 AM	4	0	7	0	11	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4	5	16	21
07:30 AM	2	0	6	0	8	0	4	0	0	4	0	0	0	0	0	0	4	4	0	8	3	20	23
07:45 AM	3	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	1	13	14
Total	9	0	23	0	32	0	6	0	0	6	0	0	0	0	0	0	12	8	0	20	11	58	69
08:00 AM	2	0	1	0	3	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	6	6
08:15 AM	0	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	2	9	11
08:30 AM	2	0	5	5	7	0	1	0	0	1	0	0	0	0	0	0	6	3	0	9	5	17	22
08:45 AM	1	0	4	1	5	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	1	14	15
Total	5	0	13	8	18	0	9	0	0	9	0	0	0	0	0	0	15	4	0	19	8	46	54
Grand Total	14	0	36	19	50	0	15	0	0	15	0	0	0	0	0	0	27	12	0	39	19	104	123
Approach %	28	0	72			0	100	0			0	0	0		0	0	69.2	30.8		37.5	15.4	84.6	
Total %	13.5	0	34.6		48.1	0	14.4	0		14.4	0	0	0		0	0	26	11.5					

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:00 AM												07:00 AM	07:00 AM	
+0 mins.	0	0	6	0	1	0	0	0	0	0	0	0	1	1	2
+15 mins.	4	0	7	0	1	0	0	0	0	0	0	0	2	2	4
+30 mins.	2	0	6	0	4	0	0	0	0	0	0	0	4	4	8
+45 mins.	3	0	4	0	0	0	0	0	0	0	0	0	5	1	6
Total Volume	9	0	23	0	6	0	0	0	0	0	0	0	12	8	20
% App. Total	28.1	0	71.9	0	100	0	0	0	0	0	0	0	60	40	
PHF	.563	.000	.821	.727	.000	.375	.000	.375	.000	.000	.000	.000	.600	.500	.625

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

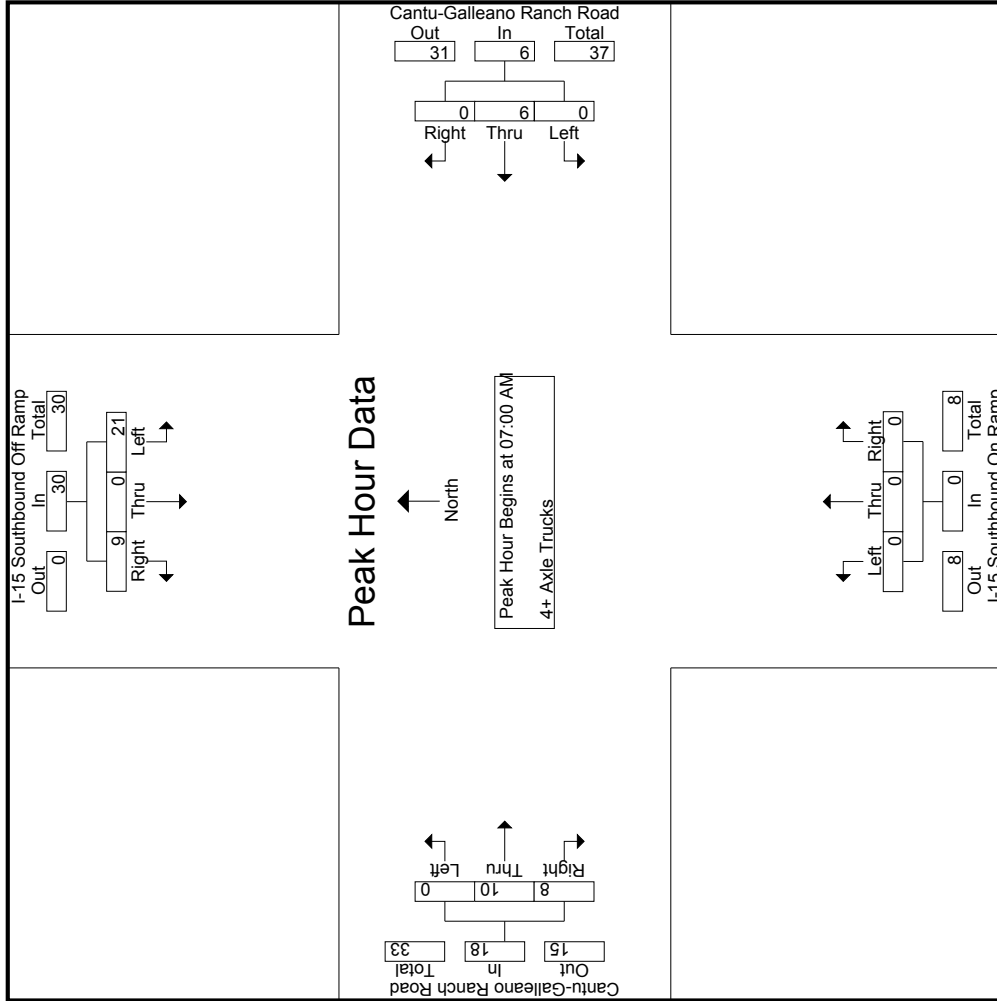
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	6	0	2	0	8	0	1	0	0	1	0	0	0	0	0	0	2	3	0	5	0	14	14
07:15 AM	5	0	2	0	7	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	0	15	15
07:30 AM	4	0	3	2	7	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	2	12	14
07:45 AM	6	0	2	1	8	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	13	14
Total	21	0	9	3	30	0	6	0	0	6	0	0	0	0	0	0	10	8	0	18	3	54	57
08:00 AM	1	0	3	0	4	0	3	0	0	3	0	0	0	0	0	0	6	3	0	9	0	16	16
08:15 AM	2	0	6	0	8	0	5	0	0	5	0	0	0	0	0	0	6	2	0	8	0	21	21
08:30 AM	3	0	5	2	8	0	2	0	0	2	0	0	0	0	0	0	4	1	0	5	2	15	17
08:45 AM	3	0	4	0	7	0	5	0	0	5	0	0	0	0	0	0	0	4	0	4	0	16	16
Total	9	0	18	2	27	0	15	0	0	15	0	0	0	0	0	0	16	10	0	26	2	68	70
Grand Total	30	0	27	5	57	0	21	0	0	21	0	0	0	0	0	0	26	18	0	44	5	122	127
Approach %	52.6	0	47.4			0	100	0			0	0	0			0	59.1	40.9		36.1	3.9	96.1	
Total %	24.6	0	22.1		46.7	0	17.2	0		17.2	0	0	0			0	21.3	14.8					

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	6	0	2	0	8	0	1	0	0	1	0	0	0	0	0	0	2	3	0	5	0	14	14
07:15 AM	5	0	2	0	7	0	2	0	0	2	0	0	0	0	0	0	3	3	0	6	0	15	15
07:30 AM	4	0	3	2	7	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	2	12	14
07:45 AM	6	0	2	1	8	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	1	13	14
Total	21	0	9	3	30	0	6	0	0	6	0	0	0	0	0	0	10	8	0	18	3	54	57
08:00 AM	1	0	3	0	4	0	3	0	0	3	0	0	0	0	0	0	6	3	0	9	0	16	16
08:15 AM	2	0	6	0	8	0	5	0	0	5	0	0	0	0	0	0	6	2	0	8	0	21	21
08:30 AM	3	0	5	2	8	0	2	0	0	2	0	0	0	0	0	0	4	1	0	5	2	15	17
08:45 AM	3	0	4	0	7	0	5	0	0	5	0	0	0	0	0	0	0	4	0	4	0	16	16
Total	9	0	18	2	27	0	15	0	0	15	0	0	0	0	0	0	16	10	0	26	2	68	70
Grand Total	30	0	27	5	57	0	21	0	0	21	0	0	0	0	0	0	26	18	0	44	5	122	127
Approach %	52.6	0	47.4			0	100	0			0	0	0			0	59.1	40.9		36.1	3.9	96.1	
Total %	24.6	0	22.1		46.7	0	17.2	0		17.2	0	0	0			0	21.3	14.8					

Counts Unlimited
 PO Box 1178
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 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:00 AM														
+0 mins.	6	0	2	0	1	0	1	0	0	0	0	0	2	3	5
+15 mins.	5	0	2	0	2	0	2	0	0	0	0	0	3	3	6
+30 mins.	4	0	3	0	1	0	1	0	0	0	0	0	3	1	4
+45 mins.	6	0	2	0	2	0	2	0	0	0	0	0	2	1	3
Total Volume	21	0	9	0	6	0	6	0	0	0	0	0	10	8	18
% App. Total	70	0	30	0	100	0	100	0	0	0	0	0	55.6	44.4	18
PHF	.875	.000	.750	.938	.000	.750	.000	.750	.000	.000	.000	.000	.833	.667	.750

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File Name : ES/15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	72	0	105	38	177	0	32	0	0	32	0	0	0	0	0	0	181	37	0	218	38	427	465
04:15 PM	57	4	99	32	160	0	36	0	0	36	0	0	0	0	0	0	148	42	0	190	32	386	418
04:30 PM	53	0	108	37	161	0	34	0	0	34	0	0	0	0	0	0	127	32	0	159	37	354	391
04:45 PM	74	0	94	24	168	0	46	0	0	46	0	0	0	0	0	0	145	35	0	180	24	394	418
Total	256	4	406	131	666	0	148	0	0	148	0	0	0	0	0	0	601	146	0	747	131	1561	1692
05:00 PM	67	0	98	32	165	0	44	0	0	44	0	0	0	0	0	0	126	28	0	154	32	363	395
05:15 PM	76	0	119	35	195	0	48	0	0	48	0	0	0	0	0	0	143	37	0	180	35	423	458
05:30 PM	73	0	127	42	200	0	62	0	0	62	0	0	0	0	0	0	143	37	0	180	42	442	484
05:45 PM	70	0	123	25	193	0	66	0	0	66	0	0	0	0	0	0	158	45	0	203	25	462	487
Total	286	0	467	134	753	0	220	0	0	220	0	0	0	0	0	0	570	147	0	717	134	1690	1824
Grand Total	542	4	873	265	1419	0	368	0	0	368	0	0	0	0	0	0	1171	293	0	1464	265	3251	3516
Approach %	38.2	0.3	61.5			0	100	0			0	0				0	80	20			0	7.5	92.5
Total %	16.7	0.1	26.9		43.6	0	11.3	0		11.3	0	0		0	0	0	36	9		45	0	0	0
Passenger Vehicles	495	4	836		1586	0	334	0		334	0	0		0	0	0	1088	281		1369	0	0	0
% Passenger Vehicles	91.3	100	95.8		94.7	0	90.8	0		90.8	0	0		0	0	0	92.9	95.9		93.5	0	0	0
Large 2 Axle Vehicles	17	0	11		33	0	14	0		14	0	0		0	0	0	24	4		28	0	0	0
% Large 2 Axle Vehicles	3.1	0	1.3		1.9	2	3.8	0		3.8	0	0		0	0	0	2	1.4		1.9	0	0	0
3 Axle Vehicles	9	0	7		17	0	5	0		5	0	0		0	0	0	19	3		22	0	0	0
% 3 Axle Vehicles	1.7	0	0.8		0.4	1	1.4	0		1.4	0	0		0	0	0	1.6	1		1.5	0	0	0
4+ Axle Trucks	21	0	19		48	0	15	0		15	0	0		0	0	0	40	5		45	0	0	0
% 4+ Axle Trucks	3.9	0	2.2		3	2.9	4.1	0		4.1	0	0		0	0	0	3.4	1.7		3.1	0	0	0

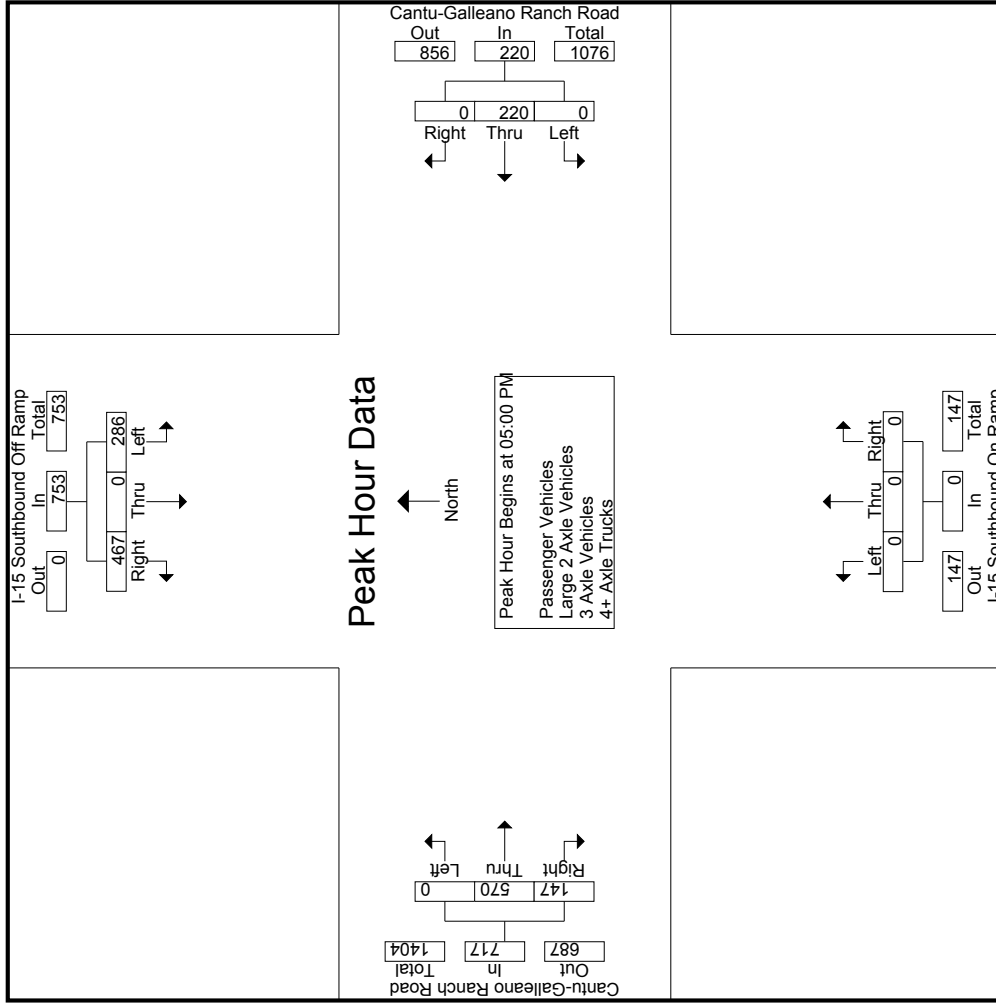
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
05:00 PM	67	0	98		165	0	44	0		44	0	0		0	0	0	126	28		154	0	154	363
05:15 PM	76	0	119		195	0	48	0		48	0	0		0	0	0	143	37		180	0	180	423
05:30 PM	73	0	127		200	0	62	0		62	0	0		0	0	0	143	37		180	0	180	442
05:45 PM	70	0	123		193	0	66	0		66	0	0		0	0	0	158	45		203	0	203	462
Total Volume	286	0	467		753	0	220	0		220	0	0		0	0	0	570	147		717	0	717	1690
% App. Total	38	0	62		62	0	100	0		100	0	0		0	0	0	79.5	20.5		20.5	0	20.5	915
PHF	.941	.000	.919		.941	.000	.833	.000		.833	.000	.000		.000	.000	.000	.902	.817		.883	.000	.883	.915

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



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City of Eastvale
 N/S: I-15 Southbound Ramps
 EW: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
														05:00 PM	04:00 PM	
+0 mins.	67	0	98	0	44	0	44	0	0	0	0	0	0	181	37	218
+15 mins.	76	0	119	0	48	0	48	0	0	0	0	0	0	148	42	190
+30 mins.	73	0	127	0	62	0	62	0	0	0	0	0	0	127	32	159
+45 mins.	70	0	123	0	66	0	66	0	0	0	0	0	0	145	35	180
Total Volume	286	0	467	0	220	0	220	0	0	0	0	0	0	601	146	747
% App. Total	38	0	62	0	100	0	100	0	0	0	0	0	0	80.5	19.5	747
PHF	.941	.000	.919	.941	.833	.000	.833	.000	.000	.000	.000	.000	.000	.830	.869	.857

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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Indu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	62	0	94	35	156	0	31	0	0	31	0	0	0	0	0	0	158	34	0	192	35	379	414
04:15 PM	52	4	96	31	152	0	33	0	0	33	0	0	0	0	0	0	136	41	0	177	31	362	393
04:30 PM	53	0	106	36	159	0	29	0	0	29	0	0	0	0	0	0	119	30	0	149	36	337	373
04:45 PM	65	0	88	22	153	0	40	0	0	40	0	0	0	0	0	0	129	35	0	164	22	357	379
Total	232	4	384	124	620	0	133	0	0	133	0	0	0	0	0	0	542	140	0	682	124	1435	1559
05:00 PM	63	0	94	29	157	0	39	0	0	39	0	0	0	0	0	0	121	28	0	149	29	345	374
05:15 PM	70	0	117	35	187	0	45	0	0	45	0	0	0	0	0	0	136	37	0	173	35	405	440
05:30 PM	69	0	125	41	194	0	56	0	0	56	0	0	0	0	0	0	137	33	0	170	41	420	461
05:45 PM	61	0	116	22	177	0	61	0	0	61	0	0	0	0	0	0	152	43	0	195	22	433	455
Total	263	0	452	127	715	0	201	0	0	201	0	0	0	0	0	0	546	141	0	687	127	1603	1730
Grand Total	495	4	836	251	1335	0	334	0	0	334	0	0	0	0	0	0	1088	281	0	1369	251	3038	3289
Approach %	37.1	0.3	62.6			0	100	0			0	0	0			0	79.5	20.5		45.1	7.6	92.4	
Total %	16.3	0.1	27.5		43.9	0	11	0		11	0	0	0			0	35.8	9.2					

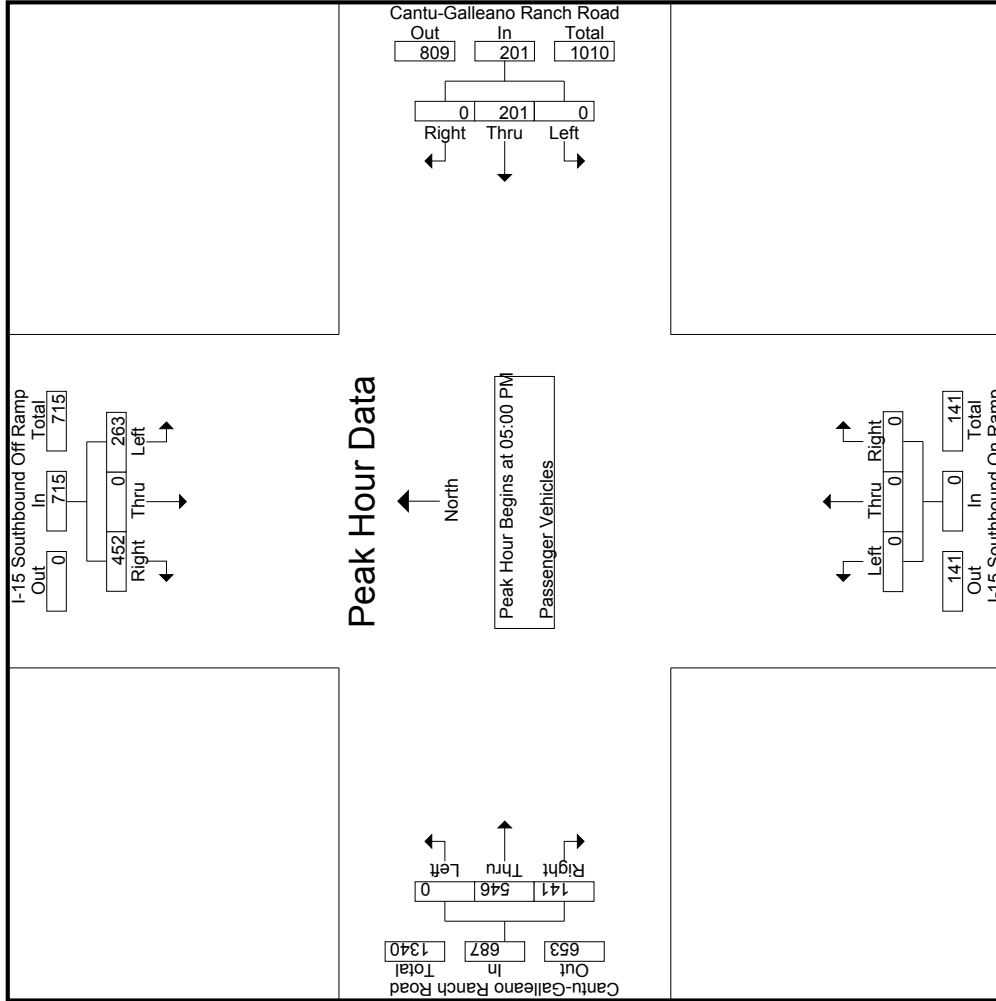
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
05:00 PM	63	0	94	0	94	0	39	0	0	39	0	0	0	0	0	0	121	28	0	149	28	149	345
05:15 PM	70	0	117	0	117	0	45	0	0	45	0	0	0	0	0	0	136	37	0	173	37	173	405
05:30 PM	69	0	125	0	125	0	56	0	0	56	0	0	0	0	0	0	137	33	0	170	33	170	420
05:45 PM	61	0	116	0	116	0	61	0	0	61	0	0	0	0	0	0	152	43	0	195	43	195	433
Total Volume	263	0	452	0	452	0	201	0	0	201	0	0	0	0	0	0	546	141	0	687	141	687	1603
% App. Total	36.8	0	63.2			0	100	0			0	0	0			0	79.5	20.5		45.1	7.6	92.4	
PHF	.939	.000	.904		.921	.000	.824	.000		.824	.000	.000	.000		.000	.000	.898	.820		.881	.881	.926	

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

City of Eastvale
 N/S: I-15 Southbound Ramps
 EW: Cantu-Galleano Ranch Road
 Weather: Clear

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
				App. Total									App. Total		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	05:00 PM			05:00 PM			05:00 PM			05:00 PM					
+0 mins.	63	0	94	157	0	39	0	39	0	0	0	0	121	28	149
+15 mins.	70	0	117	187	0	45	0	45	0	0	0	0	136	37	173
+30 mins.	69	0	125	194	0	56	0	56	0	0	0	0	137	33	170
+45 mins.	61	0	116	177	0	61	0	61	0	0	0	0	152	43	195
Total Volume	263	0	452	715	0	201	0	201	0	0	0	0	546	141	687
% App. Total	36.8	0	63.2		0	100	0		0	0	0	0	79.5	20.5	
PHF	.939	.000	.904	.921	.000	.824	.000	.824	.000	.000	.000	.000	.898	.820	.881

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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ES/15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	0	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5	2	7	1	12	13
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	3	3
04:30 PM	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	1	8	9
04:45 PM	3	0	3	1	6	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	11	12
Total	6	0	6	3	12	0	5	0	0	5	0	0	0	0	0	0	14	3	0	17	3	34	37
05:00 PM	2	0	1	1	3	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	1	8	9
05:15 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	7	7
05:30 PM	3	0	1	1	4	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	1	11	12
05:45 PM	5	0	2	0	7	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	10	10
Total	11	0	5	2	16	0	9	0	0	9	0	0	0	0	0	0	10	1	0	11	2	36	38
Grand Total	17	0	11	5	28	0	14	0	0	14	0	0	0	0	0	0	24	4	0	28	5	70	75
Approach %	60.7	0	39.3			0	100	0			0	0	0			0	85.7	14.3			6.7	93.3	
Total %	24.3	0	15.7			0	20	0		20	0	0	0			0	34.3	5.7		40			

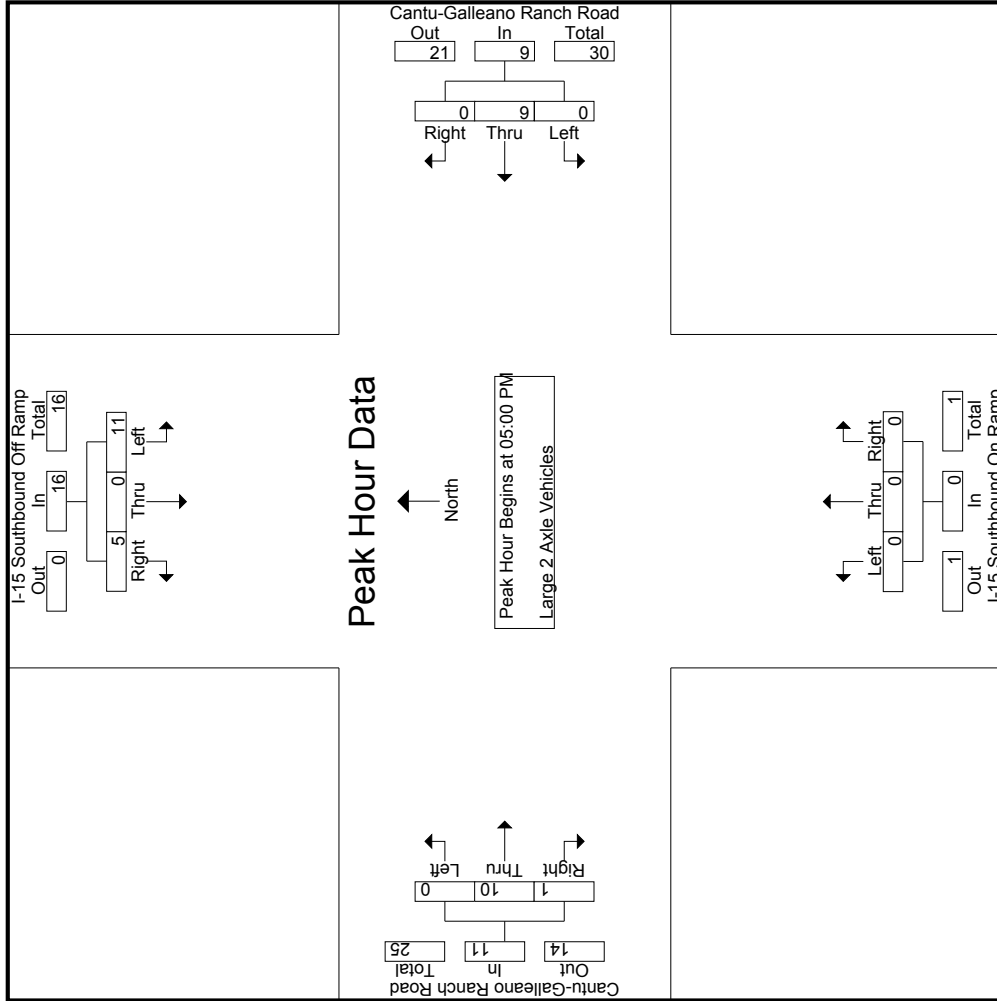
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	2	0	1	0	3	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	2	2
05:15 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	4	4
05:30 PM	3	0	1	1	4	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	3	3
05:45 PM	5	0	2	0	7	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	2	2
Total Volume	11	0	5	2	16	0	9	0	0	9	0	0	0	0	0	0	10	1	0	11	1	11	11
% App. Total	68.8	0	31.2			0	100	0		100	0	0	0			0	90.9	9.1			9.1	100	100
PHF	.550	.000	.625		.571	.000	.563	.000		.563	.000	.000	.000		.000	.000	.625	.250		.688	.688	.818	.818

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
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City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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City of Eastvale
 N/S: I-15 Southbound Ramps
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 Start Date : 12/7/2016
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Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
+0 mins.	2	0	1	3	0	0	3	0	0	0	0	0	2	0	2
+15 mins.	1	0	1	2	0	0	1	0	0	0	0	0	4	0	4
+30 mins.	3	0	1	4	0	0	4	0	0	0	0	0	3	0	3
+45 mins.	5	0	2	7	0	0	1	0	0	0	0	0	1	1	2
Total Volume	11	0	5	16	0	0	9	0	0	0	0	0	10	1	11
% App. Total	68.8	0	31.2	0	0	0	100	0	0	0	0	0	90.9	9.1	11
PHF	.550	.000	.625	.571	.000	.000	.563	.000	.000	.000	.000	.000	.625	.250	.688

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	13	13
04:15 PM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	6	6
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:45 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	9	9
Total	6	0	4	0	10	0	3	0	0	3	0	0	0	0	0	0	16	1	0	17	0	30	30
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4	0	6	6
05:45 PM	3	0	1	1	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5	6
Total	3	0	3	1	6	0	2	0	0	2	0	0	0	0	0	0	3	2	0	5	1	13	14
Grand Total	9	0	7	1	16	0	5	0	0	5	0	0	0	0	0	0	19	3	0	22	1	43	44
Approach %	56.2	0	43.8		37.2	0	100	0		11.6	0					86.4	13.6		51.2	2.3	97.7		
Total %	20.9	0	16.3			0	11.6	0			0					44.2	7						

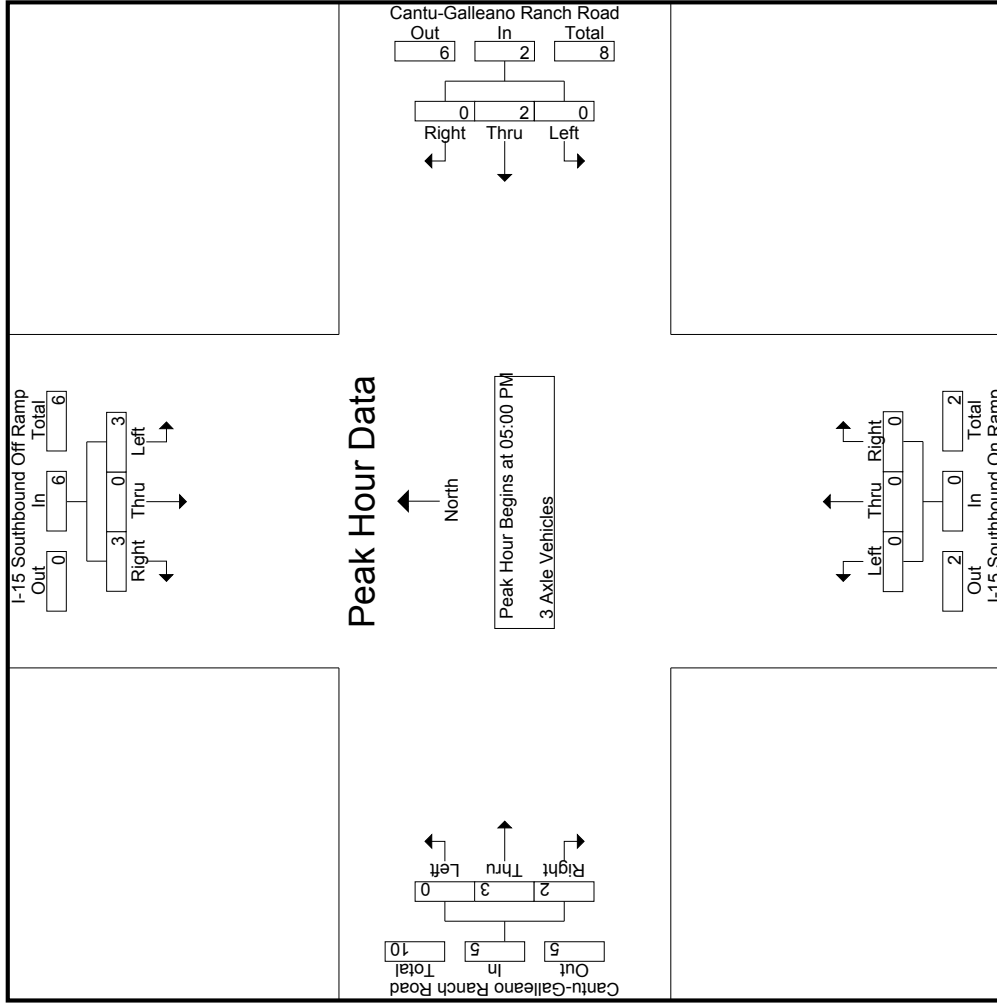
Start Time	I-15 Southbound Off Ramp Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	6
05:45 PM	3	0	1	1	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	3	0	3		6	0	2	0		2	0	0	0	0	0	0	3	2		5	2	13	13
% App. Total	50	0	50		750	0	100	0		500	0	0	0	0	0	60	40						
PHF	.250	.000	.750		.375	.000	.500	.000		.500	.000	.000	.000	.000	.375	.250	.313						.542

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	1	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	0	1	0	0	0	0	0	0	0	2	4
+45 mins.	3	0	1	0	1	0	0	0	0	0	0	0	0	0
Total Volume	3	0	3	0	2	0	2	0	0	0	0	3	2	5
% App. Total	50	0	50	0	100	0	0	0	0	0	0	60	40	
PHF	.250	.000	.750	.375	.500	.000	.500	.000	.000	.000	.000	.375	.250	.313

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ES/15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total				
04:00 PM	5	0	6	2	11	0	1	0	0	1	0	0	0	0	0	0	11	0	0	0	11	2	23	25
04:15 PM	2	0	2	1	4	0	2	0	0	2	0	0	0	0	0	0	9	0	0	0	9	1	15	16
04:30 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	4	2	2	0	4	0	7	7
04:45 PM	5	0	3	1	8	0	2	0	0	2	0	0	0	0	0	0	7	0	0	0	7	1	17	18
Total	12	0	12	4	24	0	7	0	0	7	0	0	0	0	0	0	29	2	0	0	31	4	62	66
05:00 PM	2	0	3	2	5	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	2	2	9	11
05:15 PM	5	0	0	0	5	0	2	0	0	2	0	0	0	0	0	0	3	0	0	0	3	0	10	10
05:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	2	0	0	3	0	5	5
05:45 PM	1	0	4	2	5	0	3	0	0	3	0	0	0	0	0	0	5	1	0	0	6	2	14	16
Total	9	0	7	4	16	0	8	0	0	8	0	0	0	0	0	0	11	3	0	0	14	4	38	42
Grand Total	21	0	19	8	40	0	15	0	0	15	0	0	0	0	0	0	40	5	0	0	45	8	100	108
Approach %	52.5	0	47.5			0	100	0		0	0	0			0	88.9	11.1			45	7.4	92.6		
Total %	21	0	19			0	15	0		0	0	0			0	40	5			45				

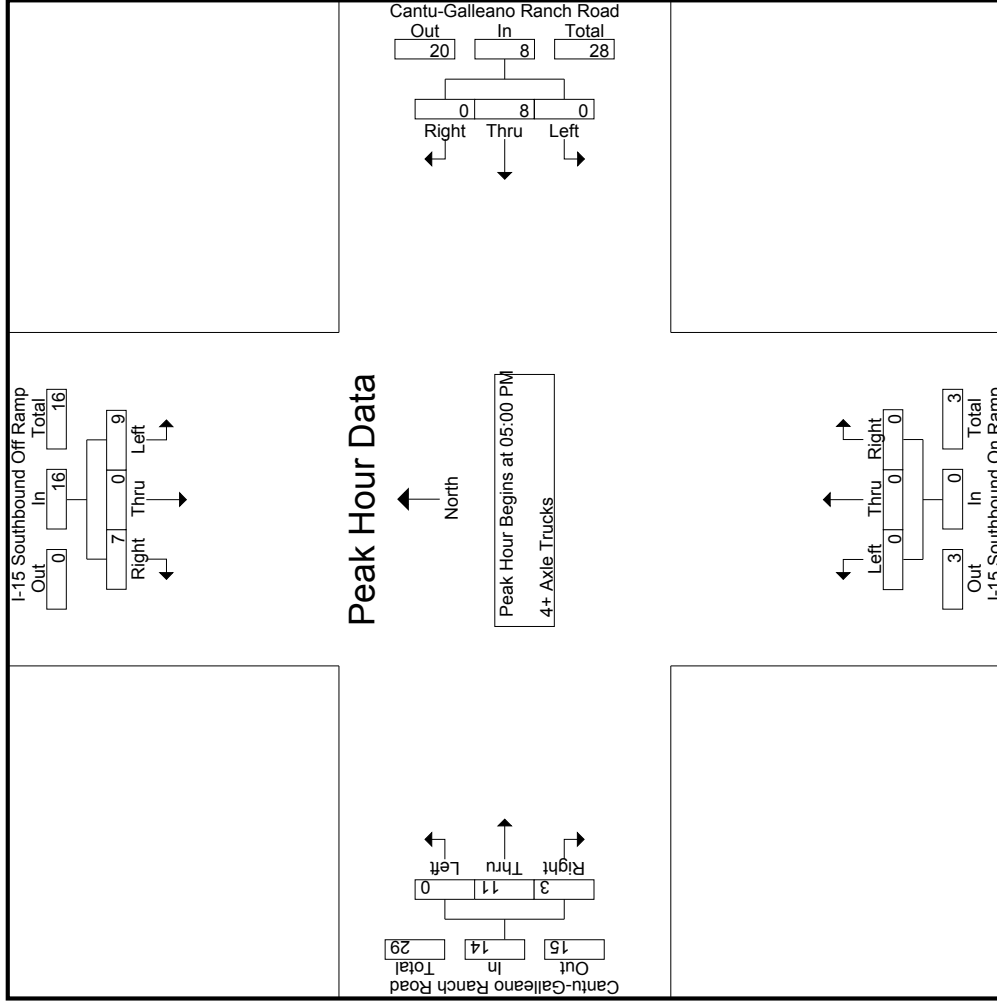
Start Time	I-15 Southbound Off Ramp Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound					Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total				
05:00 PM	2	0	3		5	0	2	0		2	0	0		0	0	0	2	0		0	2	0	2	9
05:15 PM	5	0	0		5	0	2	0		2	0	0		0	0	0	3	0		0	3	0	3	10
05:30 PM	1	0	0		1	0	1	0		1	0	0		0	0	0	1	2		0	1	2	3	5
05:45 PM	1	0	4		5	0	3	0		3	0	0		0	0	0	5	1		0	5	1	6	14
Total Volume	9	0	7		16	0	8	0		8	0	0		0	0	0	11	3		0	11	3	14	38
% App. Total	56.2	0	43.8			0	100	0		0	0	0		0	0	0	78.6	21.4		0	78.6	21.4		
PHF	.450	.000	.438		.800	.000	.667	.000		.667	.000	.000		.000	.000	.000	.550	.375		.000	.550	.375		.679

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : ESV15SCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 3

Start Time	I-15 Southbound Off Ramp			Cantu-Galleano Ranch Road Westbound			I-15 Southbound On Ramp Northbound			Cantu-Galleano Ranch Road Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	2	0	3	0	2	0	0	0	0	0	2	0	0	2
+15 mins.	5	0	0	0	2	0	0	0	0	0	3	0	0	3
+30 mins.	1	0	0	0	1	0	0	0	0	0	1	2	0	3
+45 mins.	1	0	4	0	3	0	0	0	0	0	5	1	0	6
Total Volume	9	0	7	0	8	0	0	0	0	0	11	3	0	14
% App. Total	56.2	0	43.8	0	100	0	0	0	0	0	78.6	21.4	0	100
PHF	.450	.000	.438	.800	.667	.000	.667	.000	.000	.000	.550	.375	.000	.583

Location: Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Rd



Date: 12/7/2016
 Day: Wednesday

PEDESTRIANS

	North Leg I-15 Southbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Southbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 Southbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Southbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Eastvale
 N/S: I-15 Southbound Ramps
 E/W: Cantu-Galleano Ranch Rd



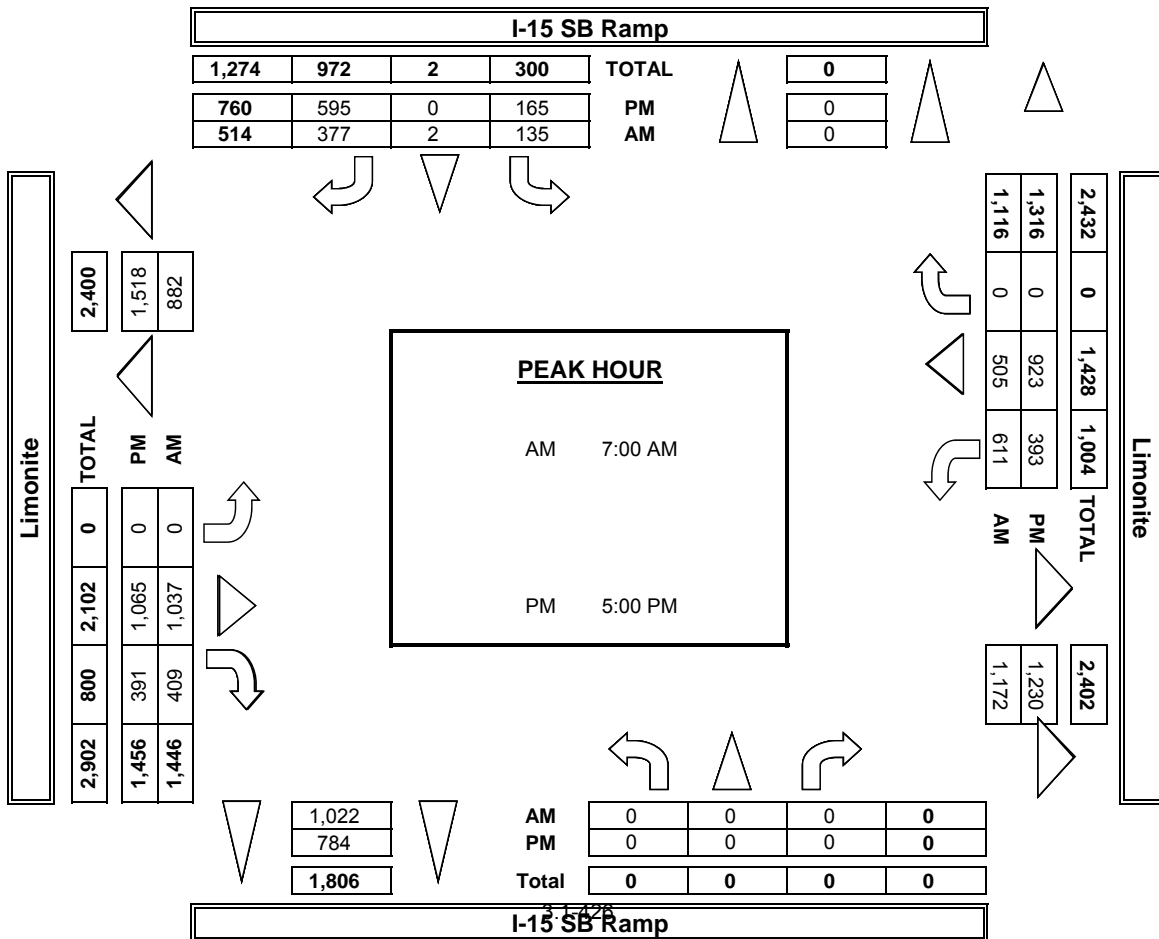
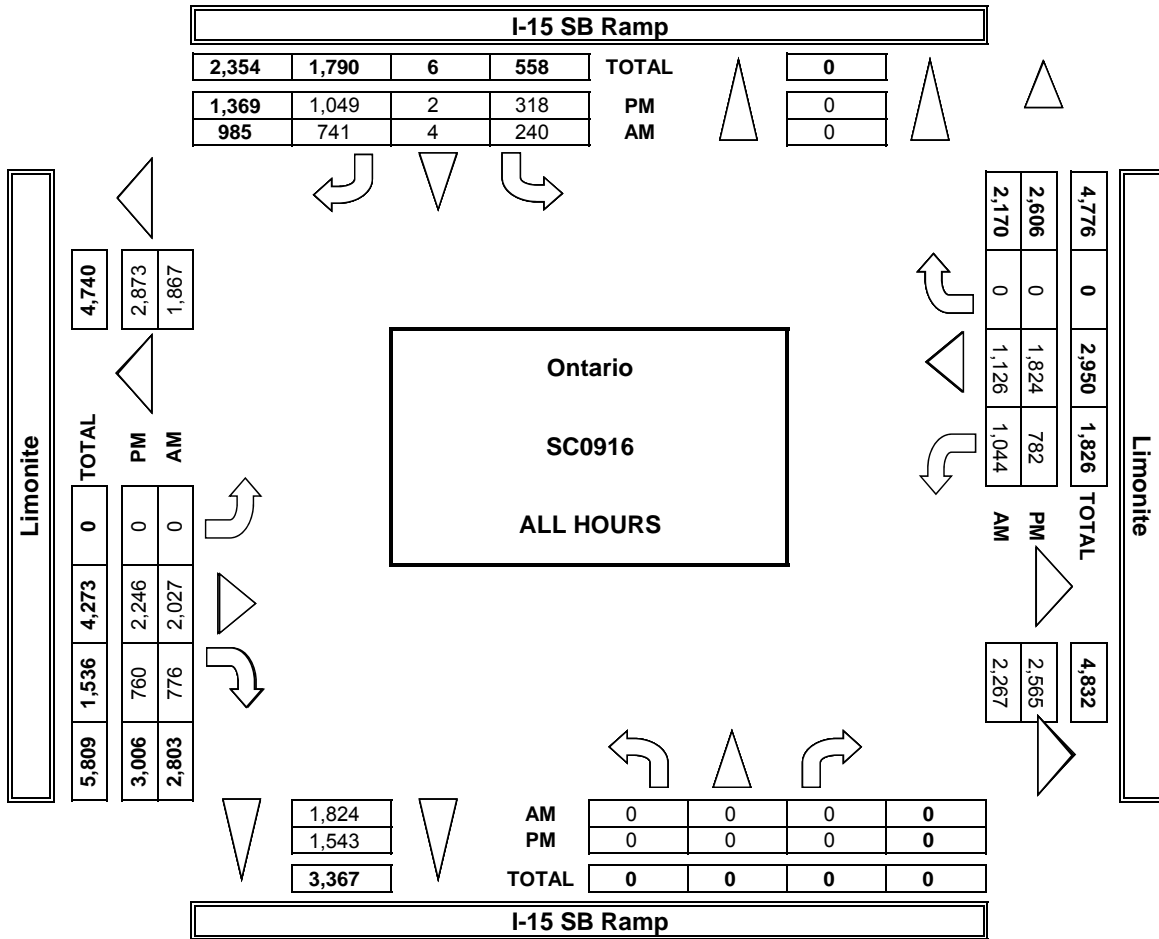
Date: 12/7/2016
 Day: Wednesday

BICYCLES

	North Leg I-15 Southbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Southbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	2	0	0	0	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	0	2

	North Leg I-15 Southbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Southbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 SB Ramp Limonite	PROJECT #: SC0916	LOCATION #: 41	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E
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LANES:	NORTHBOUND I-15 SB Ramp			SOUTHBOUND I-15 SB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	2	0	4	0	0	3	3	2	0	14
7:15 AM	0	0	0	0	0	1	0	1	0	0	2	0	4
7:30 AM	0	0	0	1	0	2	0	2	1	0	1	0	7
7:45 AM	0	0	0	1	0	2	0	2	5	3	1	0	14
8:00 AM	0	0	0	1	0	0	0	1	2	0	2	0	6
8:15 AM	0	0	0	2	0	2	0	3	1	1	3	0	12
8:30 AM	0	0	0	1	0	0	0	0	0	1	0	0	2
8:45 AM	0	0	0	1	0	0	0	1	1	1	2	0	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	9	0	11	0	10	13	9	13	0	65
APPROACH %	0%	0%	0%	45%	0%	55%	0%	43%	57%	41%	59%	0%	
APP/DEPART	0	/	0	20	/	22	23	/	19	22	/	24	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	0	0	0	5	0	6	0	8	9	4	7	0	39
APPROACH %	0%	0%	0%	45%	0%	55%	0%	47%	53%	36%	64%	0%	
PEAK HR FACTOR	0.000			0.458			0.607			0.550			0.696
APP/DEPART	0	/	0	11	/	13	17	/	13	11	/	13	0

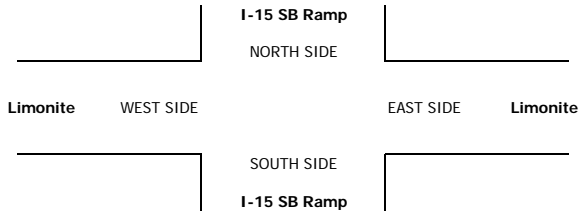
0	0	0	0
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03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	2	0	2	0	1	0	0	1	0	6
4:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	2
4:30 PM	0	0	0	0	0	2	0	1	0	1	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	1	0	0	0	0	0	3	2	0	6
5:15 PM	0	0	0	0	0	1	0	1	2	1	0	0	5
5:30 PM	0	0	0	1	0	0	0	1	1	0	0	0	3
5:45 PM	0	0	0	2	0	1	0	0	0	1	3	0	7
VOLUMES	0	0	0	6	0	6	0	4	5	7	6	0	34
APPROACH %	0%	0%	0%	50%	0%	50%	0%	44%	56%	54%	46%	0%	
APP/DEPART	0	/	0	12	/	12	9	/	10	13	/	12	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	4	0	2	0	2	3	5	5	0	21
APPROACH %	0%	0%	0%	67%	0%	33%	0%	40%	60%	50%	50%	0%	
PEAK HR FACTOR	0.000			0.500			0.417			0.500			0.750
APP/DEPART	0	/	0	6	/	8	5	/	6	10	/	7	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 SB Ramp Limonite	PROJECT #: SC0916 LOCATION #: 41 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	← W	E →	▲ N S ▼
BUSES					

LANES:	NORTHBOUND I-15 SB Ramp			SOUTHBOUND I-15 SB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1,3	0,3	1,3	X	2	1	2	2	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2
7:15 AM	0	0	0	0	0	0	0	1	0	0	6	7
7:30 AM	0	0	0	0	0	0	0	4	1	0	2	7
7:45 AM	0	0	0	0	0	0	0	3	1	0	2	6
8:00 AM	0	0	0	0	0	0	0	4	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	2	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	1	1	0	2	4
8:45 AM	0	0	0	1	0	0	0	1	1	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	1	0	0	0	16	4	0	14	0	35
APPROACH %	0%	0%	0%	100%	0%	0%	0%	80%	20%	0%	100%	0%	
APP/DEPART	0	/	0	1	/	4	20	/	17	14	/	14	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	0	0	0	0	12	2	0	10	0	24
APPROACH %	0%	0%	0%	0%	0%	0%	0%	86%	14%	0%	100%	0%	
PEAK HR FACTOR	0.000			0.000			0.700			0.417			0.857
APP/DEPART	0	/	0	0	/	2	14	/	12	10	/	10	0

0	0	0	0
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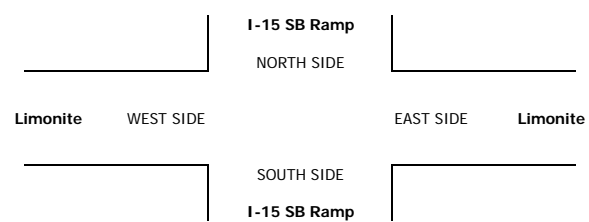
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	1	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	1	0	2	1	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	2	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	1	0	4	1	3	4	0	13
APPROACH %	0%	0%	0%	0%	0%	100%	0%	80%	20%	43%	57%	0%	
APP/DEPART	0	/	0	1	/	4	5	/	4	7	/	5	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	1	0	2	1	2	4	0	10
APPROACH %	0%	0%	0%	0%	0%	100%	0%	67%	33%	33%	67%	0%	
PEAK HR FACTOR	0.000			0.250			0.750			0.500			0.625
APP/DEPART	0	/	0	1	/	3	3	/	2	6	/	5	0

0	0	0	0
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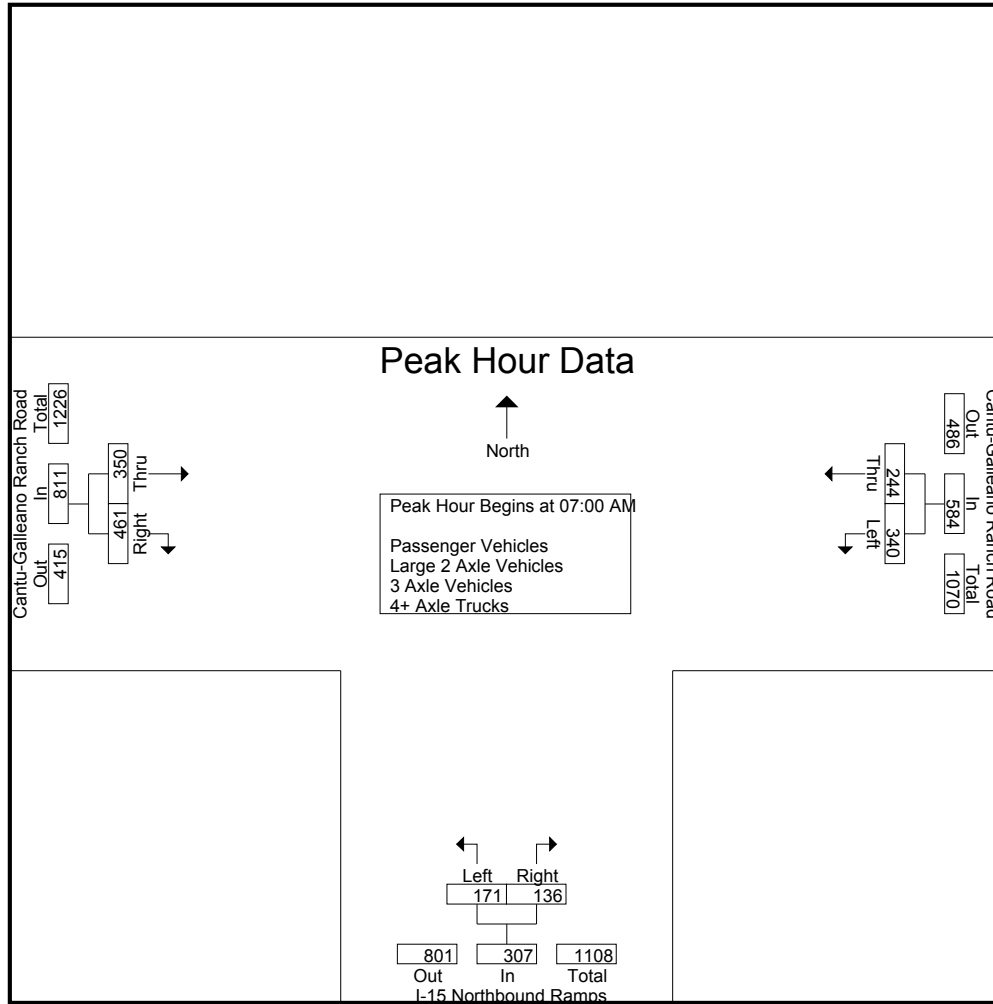
City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	77	56	0	133	53	30	13	83	74	117	14	191	27	407	434
07:15 AM	91	70	0	161	61	33	23	94	91	114	24	205	47	460	507
07:30 AM	113	67	0	180	32	37	22	69	84	127	27	211	49	460	509
07:45 AM	59	51	0	110	25	36	25	61	101	103	33	204	58	375	433
Total	340	244	0	584	171	136	83	307	350	461	98	811	181	1702	1883
08:00 AM	54	36	0	90	38	33	22	71	73	77	31	150	53	311	364
08:15 AM	56	48	0	104	33	33	28	66	66	78	28	144	56	314	370
08:30 AM	45	50	0	95	29	37	25	66	66	100	33	166	58	327	385
08:45 AM	55	61	0	116	27	34	28	61	74	63	32	137	60	314	374
Total	210	195	0	405	127	137	103	264	279	318	124	597	227	1266	1493
Grand Total	550	439	0	989	298	273	186	571	629	779	222	1408	408	2968	3376
Apprch %	55.6	44.4			52.2	47.8			44.7	55.3					
Total %	18.5	14.8		33.3	10	9.2		19.2	21.2	26.2		47.4	12.1	87.9	
Passenger Vehicles	473	374		847	259	234		664	566	688		1444	0	0	2955
% Passenger Vehicles	86	85.2	0	85.6	86.9	85.7	91.9	87.7	90	88.3	85.6	88.6	0	0	87.5
Large 2 Axle Vehicles	32	19		51	15	12		32	18	33		61	0	0	144
% Large 2 Axle Vehicles	5.8	4.3	0	5.2	5	4.4	2.7	4.2	2.9	4.2	4.5	3.7	0	0	4.3
3 Axle Vehicles	12	12		24	12	6		22	15	29		52	0	0	98
% 3 Axle Vehicles	2.2	2.7	0	2.4	4	2.2	2.2	2.9	2.4	3.7	3.6	3.2	0	0	2.9
4+ Axle Trucks	33	34		67	12	21		39	30	29		73	0	0	179
% 4+ Axle Trucks	6	7.7	0	6.8	4	7.7	3.2	5.2	4.8	3.7	6.3	4.5	0	0	5.3

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	77	56	133	53	30	83	74	117	191	407
07:15 AM	91	70	161	61	33	94	91	114	205	460
07:30 AM	113	67	180	32	37	69	84	127	211	460
07:45 AM	59	51	110	25	36	61	101	103	204	375
Total Volume	340	244	584	171	136	307	350	461	811	1702
% App. Total	58.2	41.8		55.7	44.3		43.2	56.8		
PHF	.752	.871	.811	.701	.919	.816	.866	.907	.961	.925



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	77	56	133	53	30	83	74	117	191
+15 mins.	91	70	161	61	33	94	91	114	205
+30 mins.	113	67	180	32	37	69	84	127	211
+45 mins.	59	51	110	25	36	61	101	103	204
Total Volume	340	244	584	171	136	307	350	461	811
% App. Total	58.2	41.8		55.7	44.3		43.2	56.8	
PHF	.752	.871	.811	.701	.919	.816	.866	.907	.961

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

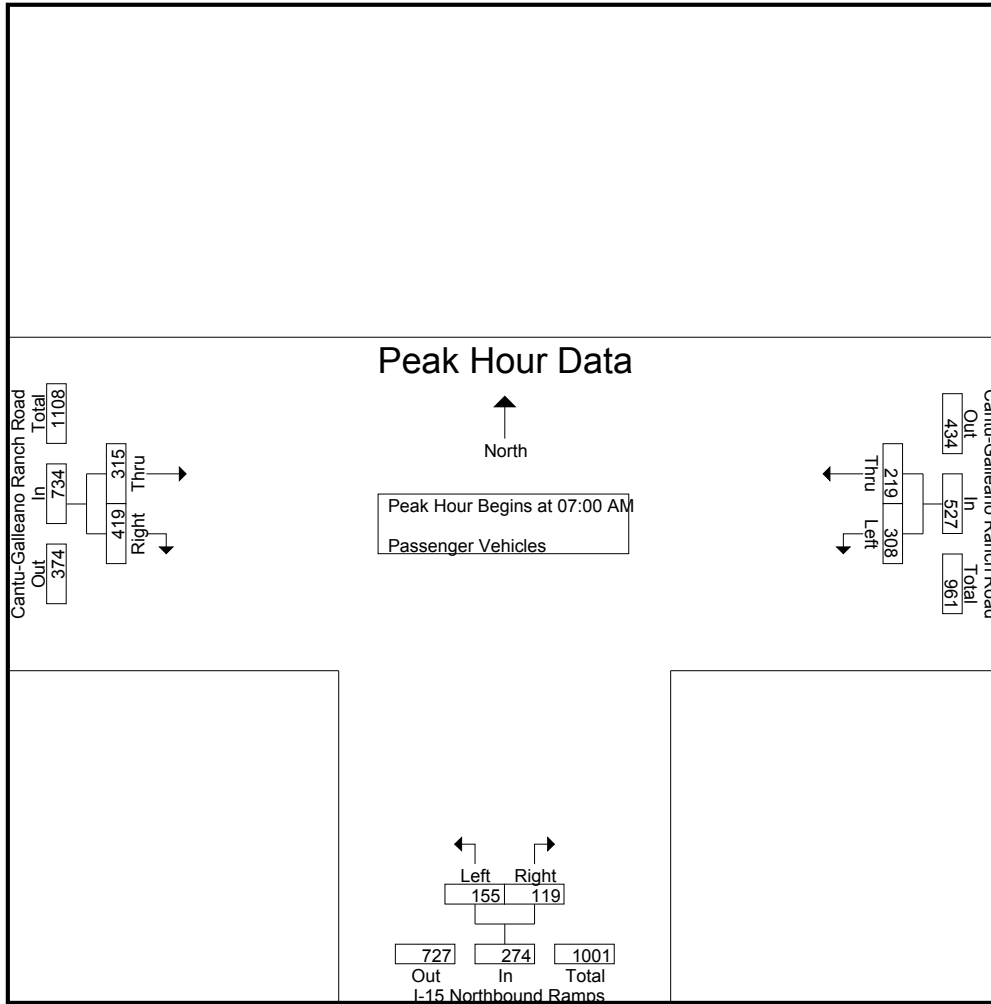
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	68	53	0	121	49	25	11	74	69	108	12	177	23	372	395
07:15 AM	83	67	0	150	58	27	22	85	77	106	23	183	45	418	463
07:30 AM	103	59	0	162	28	33	20	61	78	119	25	197	45	420	465
07:45 AM	54	40	0	94	20	34	24	54	91	86	25	177	49	325	374
Total	308	219	0	527	155	119	77	274	315	419	85	734	162	1535	1697
08:00 AM	42	32	0	74	31	26	21	57	69	65	27	134	48	265	313
08:15 AM	43	39	0	82	31	28	25	59	60	61	22	121	47	262	309
08:30 AM	34	38	0	72	26	30	21	56	53	85	28	138	49	266	315
08:45 AM	46	46	0	92	16	31	27	47	69	58	28	127	55	266	321
Total	165	155	0	320	104	115	94	219	251	269	105	520	199	1059	1258
Grand Total	473	374	0	847	259	234	171	493	566	688	190	1254	361	2594	2955
Apprch %	55.8	44.2			52.5	47.5			45.1	54.9					
Total %	18.2	14.4		32.7	10	9		19	21.8	26.5		48.3	12.2	87.8	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	68	53	121	49	25	74	69	108	177	372
07:15 AM	83	67	150	58	27	85	77	106	183	418
07:30 AM	103	59	162	28	33	61	78	119	197	420
07:45 AM	54	40	94	20	34	54	91	86	177	325
Total Volume	308	219	527	155	119	274	315	419	734	1535
% App. Total	58.4	41.6		56.6	43.4		42.9	57.1		
PHF	.748	.817	.813	.668	.875	.806	.865	.880	.931	.914

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	68	53	121	49	25	74	69	108	177
+15 mins.	83	67	150	58	27	85	77	106	183
+30 mins.	103	59	162	28	33	61	78	119	197
+45 mins.	54	40	94	20	34	54	91	86	177
Total Volume	308	219	527	155	119	274	315	419	734
% App. Total	58.4	41.6		56.6	43.4		42.9	57.1	
PHF	.748	.817	.813	.668	.875	.806	.865	.880	.931

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

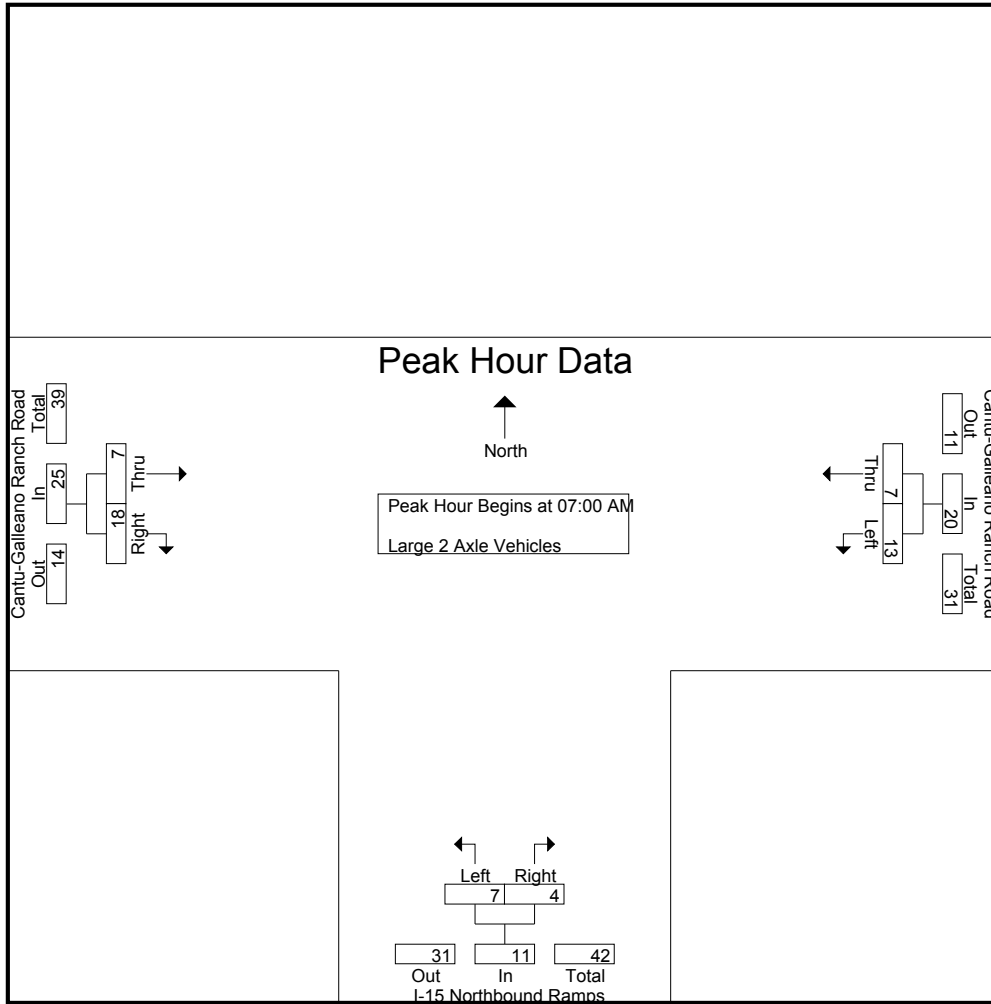
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	5	0	0	5	3	1	0	4	0	5	0	5	0	14	14
07:15 AM	3	0	0	3	0	1	0	1	3	4	1	7	1	11	12
07:30 AM	3	2	0	5	1	2	1	3	1	1	0	2	1	10	11
07:45 AM	2	5	0	7	3	0	0	3	3	8	3	11	3	21	24
Total	13	7	0	20	7	4	1	11	7	18	4	25	5	56	61
08:00 AM	3	1	0	4	2	2	0	4	1	5	2	6	2	14	16
08:15 AM	6	4	0	10	0	2	1	2	3	5	2	8	3	20	23
08:30 AM	5	4	0	9	2	4	3	6	5	4	1	9	4	24	28
08:45 AM	5	3	0	8	4	0	0	4	2	1	1	3	1	15	16
Total	19	12	0	31	8	8	4	16	11	15	6	26	10	73	83
Grand Total	32	19	0	51	15	12	5	27	18	33	10	51	15	129	144
Apprch %	62.7	37.3			55.6	44.4			35.3	64.7					
Total %	24.8	14.7		39.5	11.6	9.3		20.9	14	25.6		39.5	10.4	89.6	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	5	0	5	3	1	4	0	5	5	14
07:15 AM	3	0	3	0	1	1	3	4	7	11
07:30 AM	3	2	5	1	2	3	1	1	2	10
07:45 AM	2	5	7	3	0	3	3	8	11	21
Total Volume	13	7	20	7	4	11	7	18	25	56
% App. Total	65	35		63.6	36.4		28	72		
PHF	.650	.350	.714	.583	.500	.688	.583	.563	.568	.667

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	5	0	5	3	1	4	0	5	5
+15 mins.	3	0	3	0	1	1	3	4	7
+30 mins.	3	2	5	1	2	3	1	1	2
+45 mins.	2	5	7	3	0	3	3	8	11
Total Volume	13	7	20	7	4	11	7	18	25
% App. Total	65	35		63.6	36.4		28	72	
PHF	.650	.350	.714	.583	.500	.688	.583	.563	.568

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

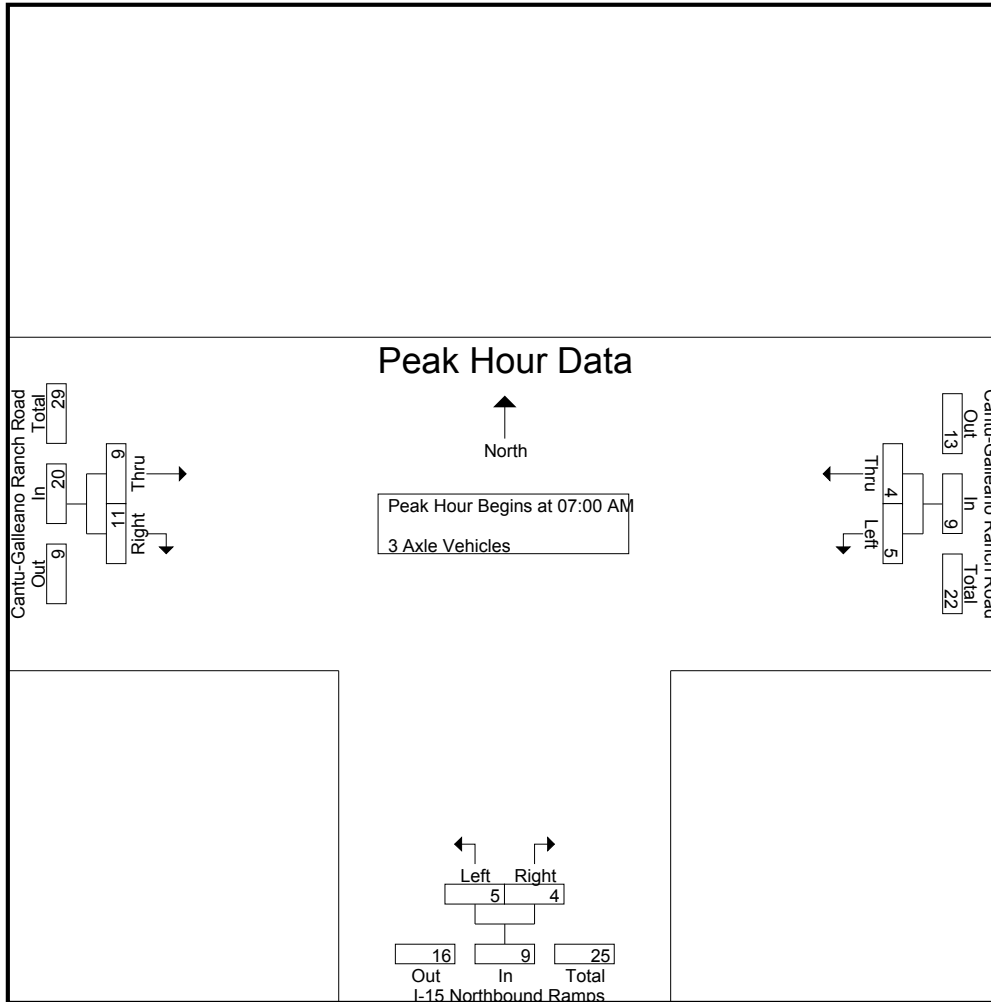
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	1	1	0	2	1	0	0	1	0	2	0	2	0	5	5
07:15 AM	2	0	0	2	2	1	0	3	4	2	0	6	0	11	11
07:30 AM	2	2	0	4	2	2	1	4	2	3	1	5	2	13	15
07:45 AM	0	1	0	1	0	1	1	1	3	4	1	7	2	9	11
Total	5	4	0	9	5	4	2	9	9	11	2	20	4	38	42
08:00 AM	1	0	0	1	1	0	0	1	1	2	0	3	0	5	5
08:15 AM	3	2	0	5	0	1	1	1	0	7	2	7	3	13	16
08:30 AM	2	3	0	5	0	0	0	0	4	6	2	10	2	15	17
08:45 AM	1	3	0	4	6	1	1	7	1	3	2	4	3	15	18
Total	7	8	0	15	7	2	2	9	6	18	6	24	8	48	56
Grand Total	12	12	0	24	12	6	4	18	15	29	8	44	12	86	98
Apprch %	50	50			66.7	33.3			34.1	65.9					
Total %	14	14		27.9	14	7		20.9	17.4	33.7		51.2	12.2	87.8	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	1	2	1	0	1	0	2	2	5
07:15 AM	2	0	2	2	1	3	4	2	6	11
07:30 AM	2	2	4	2	2	4	2	3	5	13
07:45 AM	0	1	1	0	1	1	3	4	7	9
Total Volume	5	4	9	5	4	9	9	11	20	38
% App. Total	55.6	44.4		55.6	44.4		45	55		
PHF	.625	.500	.563	.625	.500	.563	.563	.688	.714	.731

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVV15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	1	2	1	0	1	0	2	2
+15 mins.	2	0	2	2	1	3	4	2	6
+30 mins.	2	2	4	2	2	4	2	3	5
+45 mins.	0	1	1	0	1	1	3	4	7
Total Volume	5	4	9	5	4	9	9	11	20
% App. Total	55.6	44.4		55.6	44.4		45	55	
PHF	.625	.500	.563	.625	.500	.563	.563	.688	.714

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

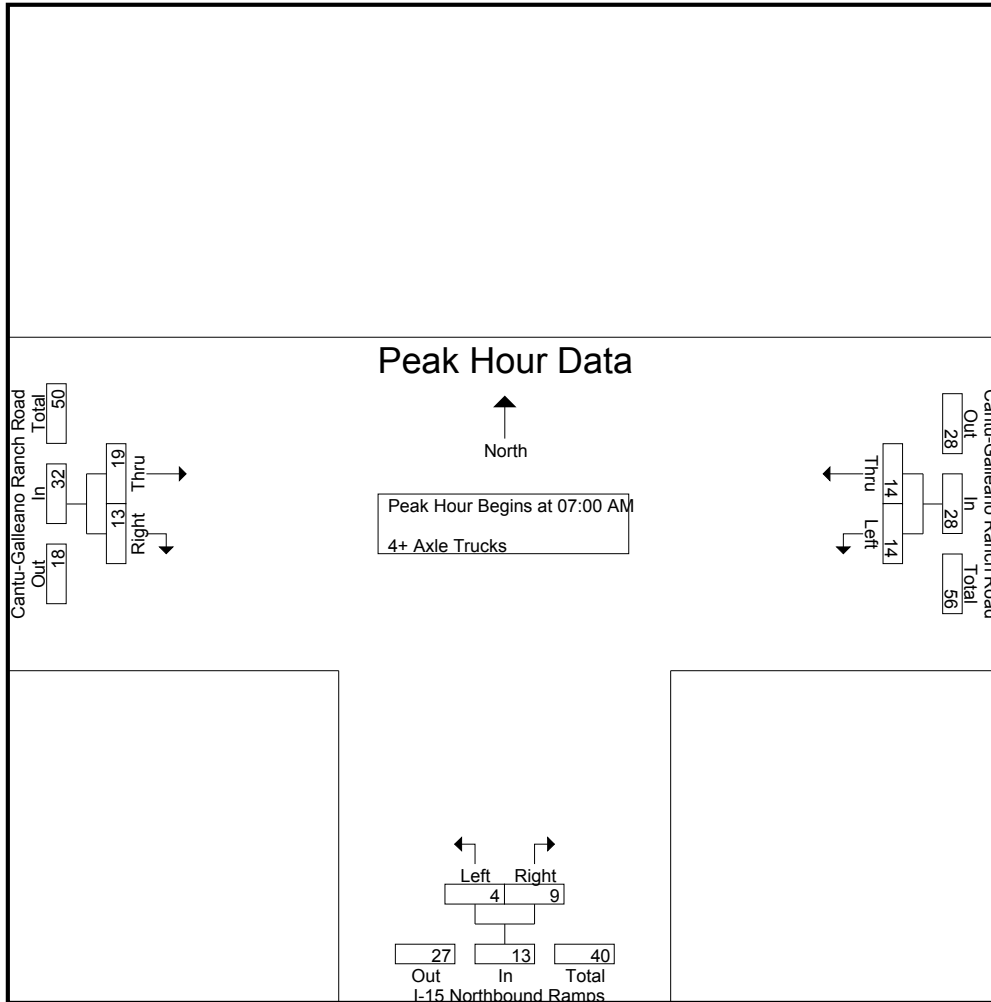
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	3	2	0	5	0	4	2	4	5	2	2	7	4	16	20
07:15 AM	3	3	0	6	1	4	1	5	7	2	0	9	1	20	21
07:30 AM	5	4	0	9	1	0	0	1	3	4	1	7	1	17	18
07:45 AM	3	5	0	8	2	1	0	3	4	5	4	9	4	20	24
Total	14	14	0	28	4	9	3	13	19	13	7	32	10	73	83
08:00 AM	8	3	0	11	4	5	1	9	2	5	2	7	3	27	30
08:15 AM	4	3	0	7	2	2	1	4	3	5	2	8	3	19	22
08:30 AM	4	5	0	9	1	3	1	4	4	5	2	9	3	22	25
08:45 AM	3	9	0	12	1	2	0	3	2	1	1	3	1	18	19
Total	19	20	0	39	8	12	3	20	11	16	7	27	10	86	96
Grand Total	33	34	0	67	12	21	6	33	30	29	14	59	20	159	179
Apprch %	49.3	50.7			36.4	63.6			50.8	49.2					
Total %	20.8	21.4		42.1	7.5	13.2		20.8	18.9	18.2		37.1	11.2	88.8	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	3	2	5	0	4	4	5	2	7	16
07:15 AM	3	3	6	1	4	5	7	2	9	20
07:30 AM	5	4	9	1	0	1	3	4	7	17
07:45 AM	3	5	8	2	1	3	4	5	9	20
Total Volume	14	14	28	4	9	13	19	13	32	73
% App. Total	50	50		30.8	69.2		59.4	40.6		
PHF	.700	.700	.778	.500	.563	.650	.679	.650	.889	.913

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAAM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	3	2	5	0	4	4	5	2	7
+15 mins.	3	3	6	1	4	5	7	2	9
+30 mins.	5	4	9	1	0	1	3	4	7
+45 mins.	3	5	8	2	1	3	4	5	9
Total Volume	14	14	28	4	9	13	19	13	32
% App. Total	50	50		30.8	69.2		59.4	40.6	
PHF	.700	.700	.778	.500	.563	.650	.679	.650	.889

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

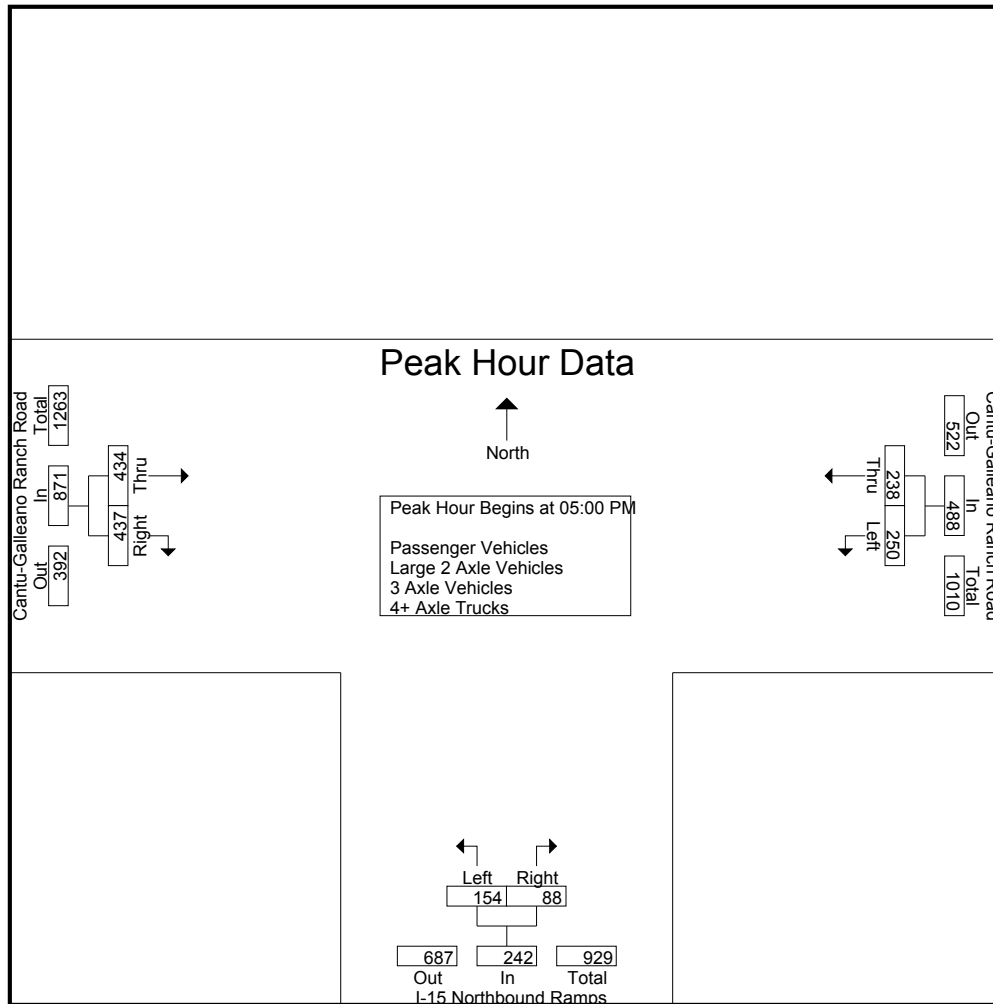
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	80	70	0	150	20	27	16	47	124	137	39	261	55	458	513
04:15 PM	46	46	0	92	23	20	11	43	109	100	32	209	43	344	387
04:30 PM	81	65	0	146	12	28	26	40	74	104	54	178	80	364	444
04:45 PM	53	76	0	129	19	25	15	44	113	102	23	215	38	388	426
Total	260	257	0	517	74	100	68	174	420	443	148	863	216	1554	1770
05:00 PM	83	64	0	147	27	24	10	51	108	94	24	202	34	400	434
05:15 PM	60	59	0	119	29	22	11	51	116	108	39	224	50	394	444
05:30 PM	54	59	0	113	46	18	14	64	107	107	24	214	38	391	429
05:45 PM	53	56	0	109	52	24	13	76	103	128	34	231	47	416	463
Total	250	238	0	488	154	88	48	242	434	437	121	871	169	1601	1770
Grand Total	510	495	0	1005	228	188	116	416	854	880	269	1734	385	3155	3540
Apprch %	50.7	49.3			54.8	45.2			49.3	50.7					
Total %	16.2	15.7		31.9	7.2	6		13.2	27.1	27.9		55	10.9	89.1	
Passenger Vehicles	454	450		904	212	138		442	780	808		1830	0	0	3176
% Passenger Vehicles	89	90.9	0	90	93	73.4	79.3	83.1	91.3	91.8	90	91.4	0	0	89.7
Large 2 Axle Vehicles	23	19		42	7	12		27	33	19		57	0	0	126
% Large 2 Axle Vehicles	4.5	3.8	0	4.2	3.1	6.4	6.9	5.1	3.9	2.2	1.9	2.8	0	0	3.6
3 Axle Vehicles	6	1		7	3	6		12	9	15		28	0	0	47
% 3 Axle Vehicles	1.2	0.2	0	0.7	1.3	3.2	2.6	2.3	1.1	1.7	1.5	1.4	0	0	1.3
4+ Axle Trucks	27	25		52	6	32		51	32	38		88	0	0	191
% 4+ Axle Trucks	5.3	5.1	0	5.2	2.6	17	11.2	9.6	3.7	4.3	6.7	4.4	0	0	5.4

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	83	64	147	27	24	51	108	94	202	400
05:15 PM	60	59	119	29	22	51	116	108	224	394
05:30 PM	54	59	113	46	18	64	107	107	214	391
05:45 PM	53	56	109	52	24	76	103	128	231	416
Total Volume	250	238	488	154	88	242	434	437	871	1601
% App. Total	51.2	48.8		63.6	36.4		49.8	50.2		
PHF	.753	.930	.830	.740	.917	.796	.935	.854	.943	.962

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			05:00 PM		
+0 mins.	81	65	146	27	24	51	108	94	202
+15 mins.	53	76	129	29	22	51	116	108	224
+30 mins.	83	64	147	46	18	64	107	107	214
+45 mins.	60	59	119	52	24	76	103	128	231
Total Volume	277	264	541	154	88	242	434	437	871
% App. Total	51.2	48.8		63.6	36.4		49.8	50.2	
PHF	.834	.868	.920	.740	.917	.796	.935	.854	.943

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Passenger Vehicles

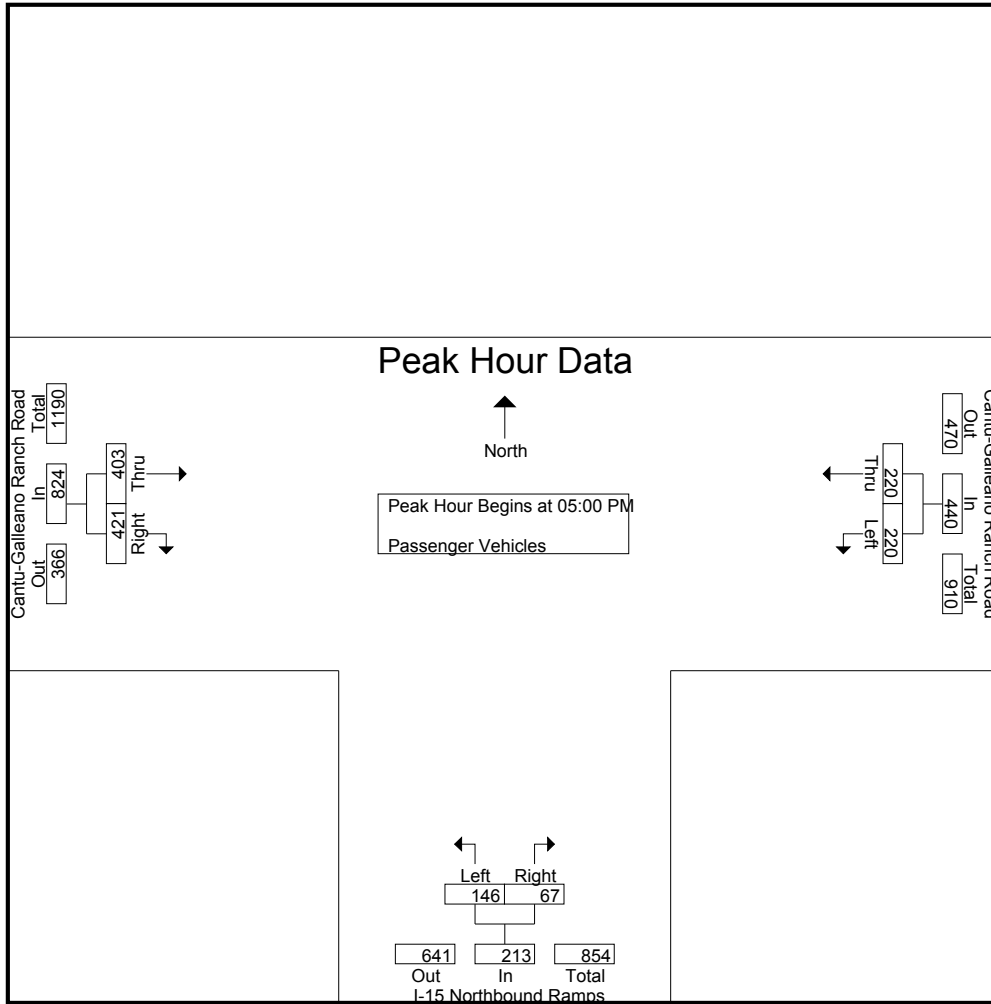
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	74	62	0	136	19	15	10	34	110	116	31	226	41	396	437
04:15 PM	39	40	0	79	23	13	10	36	95	90	29	185	39	300	339
04:30 PM	69	58	0	127	11	22	20	33	71	96	50	167	70	327	397
04:45 PM	52	70	0	122	13	21	13	34	101	85	16	186	29	342	371
Total	234	230	0	464	66	71	53	137	377	387	126	764	179	1365	1544
05:00 PM	73	57	0	130	25	18	8	43	103	90	23	193	31	366	397
05:15 PM	54	57	0	111	28	18	9	46	108	104	36	212	45	369	414
05:30 PM	47	54	0	101	44	12	11	56	100	105	24	205	35	362	397
05:45 PM	46	52	0	98	49	19	11	68	92	122	33	214	44	380	424
Total	220	220	0	440	146	67	39	213	403	421	116	824	155	1477	1632
Grand Total	454	450	0	904	212	138	92	350	780	808	242	1588	334	2842	3176
Apprch %	50.2	49.8			60.6	39.4			49.1	50.9					
Total %	16	15.8		31.8	7.5	4.9		12.3	27.4	28.4		55.9	10.5	89.5	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	73	57	130	25	18	43	103	90	193	366
05:15 PM	54	57	111	28	18	46	108	104	212	369
05:30 PM	47	54	101	44	12	56	100	105	205	362
05:45 PM	46	52	98	49	19	68	92	122	214	380
Total Volume	220	220	440	146	67	213	403	421	824	1477
% App. Total	50	50		68.5	31.5		48.9	51.1		
PHF	.753	.965	.846	.745	.882	.783	.933	.863	.963	.972

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	73	57	130	25	18	43	103	90	193
+15 mins.	54	57	111	28	18	46	108	104	212
+30 mins.	47	54	101	44	12	56	100	105	205
+45 mins.	46	52	98	49	19	68	92	122	214
Total Volume	220	220	440	146	67	213	403	421	824
% App. Total	50	50		68.5	31.5		48.9	51.1	
PHF	.753	.965	.846	.745	.882	.783	.933	.863	.963

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

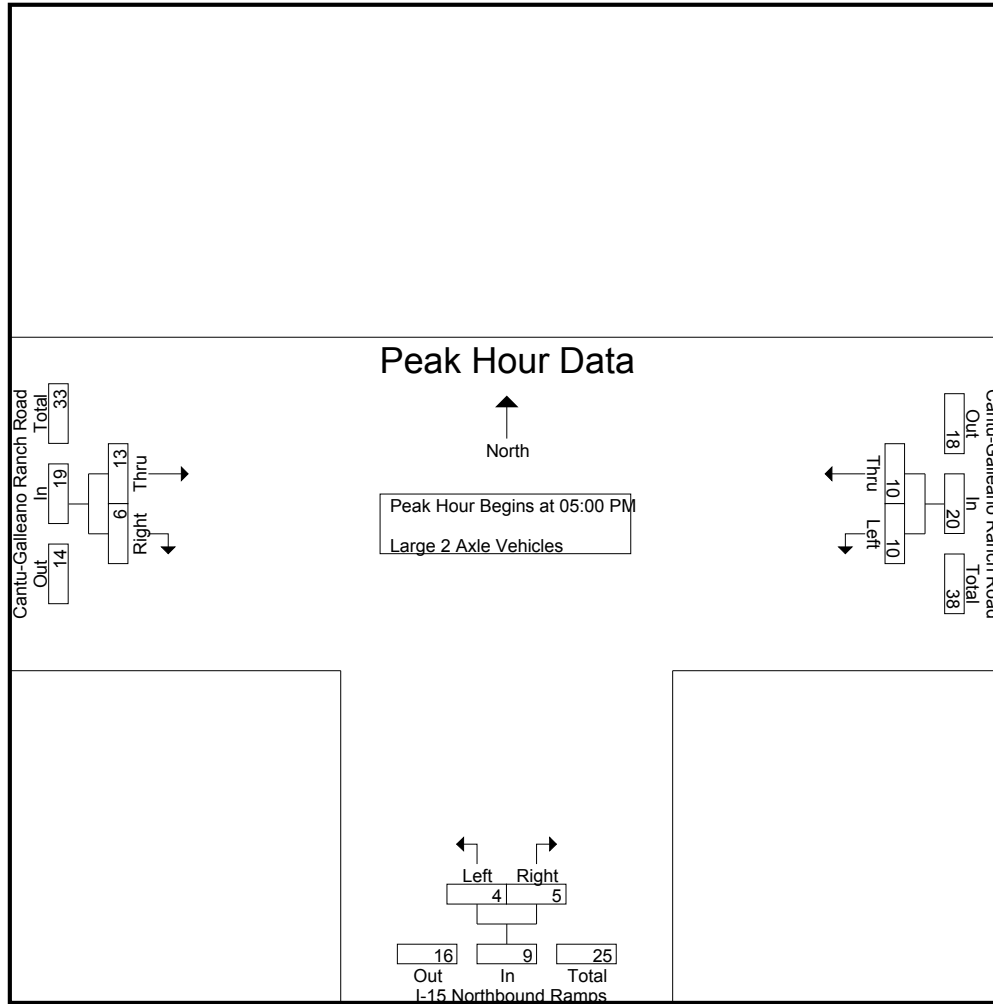
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	3	4	0	7	0	2	1	2	5	4	1	9	2	18	20
04:15 PM	3	2	0	5	0	1	1	1	8	1	0	9	1	15	16
04:30 PM	6	3	0	9	0	3	3	3	3	4	2	7	5	19	24
04:45 PM	1	0	0	1	3	1	1	4	4	4	0	8	1	13	14
Total	13	9	0	22	3	7	6	10	20	13	3	33	9	65	74
05:00 PM	4	3	0	7	2	0	0	2	2	2	1	4	1	13	14
05:15 PM	4	1	0	5	1	0	0	1	2	2	1	4	1	10	11
05:30 PM	1	3	0	4	1	3	1	4	4	0	0	4	1	12	13
05:45 PM	1	3	0	4	0	2	1	2	5	2	0	7	1	13	14
Total	10	10	0	20	4	5	2	9	13	6	2	19	4	48	52
Grand Total	23	19	0	42	7	12	8	19	33	19	5	52	13	113	126
Apprch %	54.8	45.2			36.8	63.2			63.5	36.5					
Total %	20.4	16.8		37.2	6.2	10.6		16.8	29.2	16.8		46	10.3	89.7	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	4	3	7	2	0	2	2	2	4	13
05:15 PM	4	1	5	1	0	1	2	2	4	10
05:30 PM	1	3	4	1	3	4	4	0	4	12
05:45 PM	1	3	4	0	2	2	5	2	7	13
Total Volume	10	10	20	4	5	9	13	6	19	48
% App. Total	50	50		44.4	55.6		68.4	31.6		
PHF	.625	.833	.714	.500	.417	.563	.650	.750	.679	.923

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	4	3	7	2	0	2	2	2	4
+15 mins.	4	1	5	1	0	1	2	2	4
+30 mins.	1	3	4	1	3	4	4	0	4
+45 mins.	1	3	4	0	2	2	5	2	7
Total Volume	10	10	20	4	5	9	13	6	19
% App. Total	50	50		44.4	55.6		68.4	31.6	
PHF	.625	.833	.714	.500	.417	.563	.650	.750	.679

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

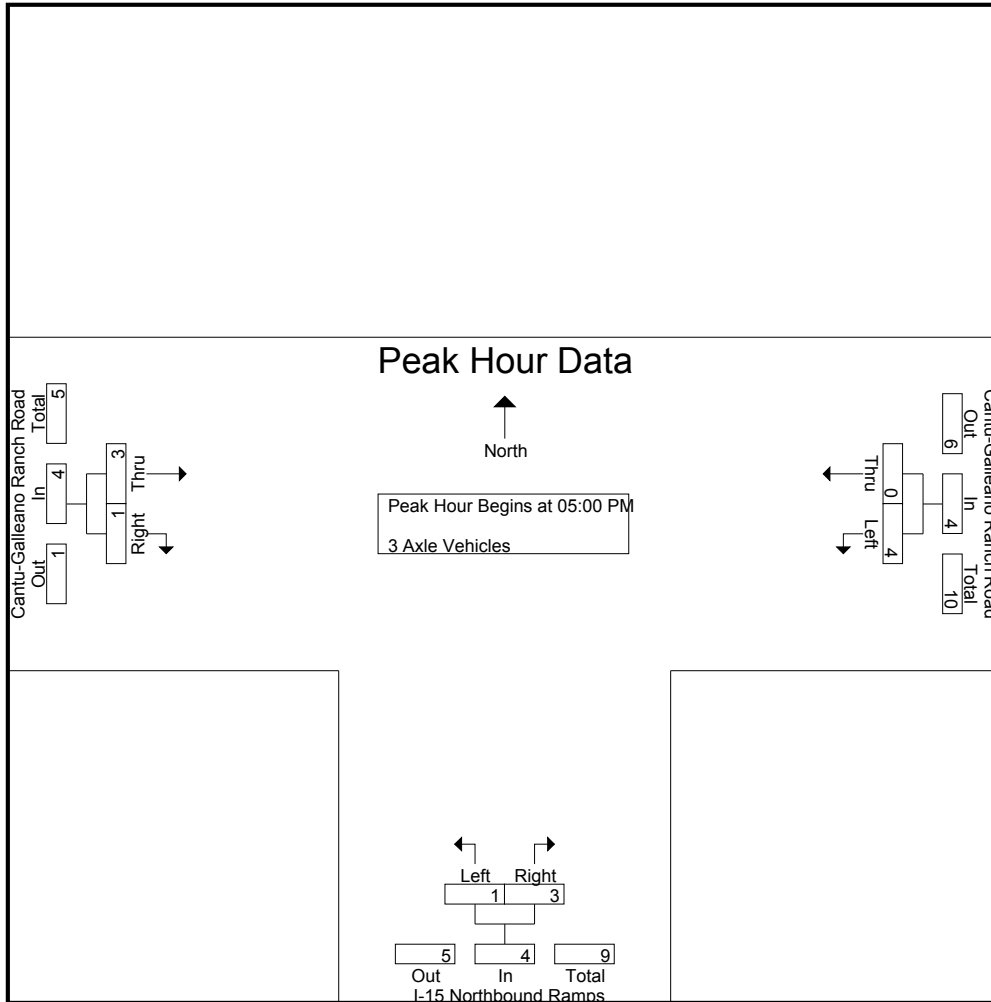
Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	1	0	0	1	0	2	1	2	1	7	2	8	3	11	14
04:15 PM	0	0	0	0	0	1	0	1	4	1	0	5	0	6	6
04:30 PM	1	1	0	2	0	0	0	0	0	2	1	2	1	4	5
04:45 PM	0	0	0	0	2	0	0	2	1	4	1	5	1	7	8
Total	2	1	0	3	2	3	1	5	6	14	4	20	5	28	33
05:00 PM	3	0	0	3	0	1	1	1	0	1	0	1	1	5	6
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	2	2
05:45 PM	1	0	0	1	0	1	1	1	2	0	0	2	1	4	5
Total	4	0	0	4	1	3	2	4	3	1	0	4	2	12	14
Grand Total	6	1	0	7	3	6	3	9	9	15	4	24	7	40	47
Apprch %	85.7	14.3			33.3	66.7			37.5	62.5					
Total %	15	2.5		17.5	7.5	15		22.5	22.5	37.5		60	14.9	85.1	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	3	0	3	0	1	1	0	1	1	5
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	1	0	1	1	0	1	2
05:45 PM	1	0	1	0	1	1	2	0	2	4
Total Volume	4	0	4	1	3	4	3	1	4	12
% App. Total	100	0		25	75		75	25		
PHF	.333	.000	.333	.250	.750	1.00	.375	.250	.500	.600

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	3	0	3	0	1	1	0	1	1
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	0	0	1	0	1	1	0	1
+45 mins.	1	0	1	0	1	1	2	0	2
Total Volume	4	0	4	1	3	4	3	1	4
% App. Total	100	0		25	75		75	25	
PHF	.333	.000	.333	.250	.750	1.000	.375	.250	.500

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 1

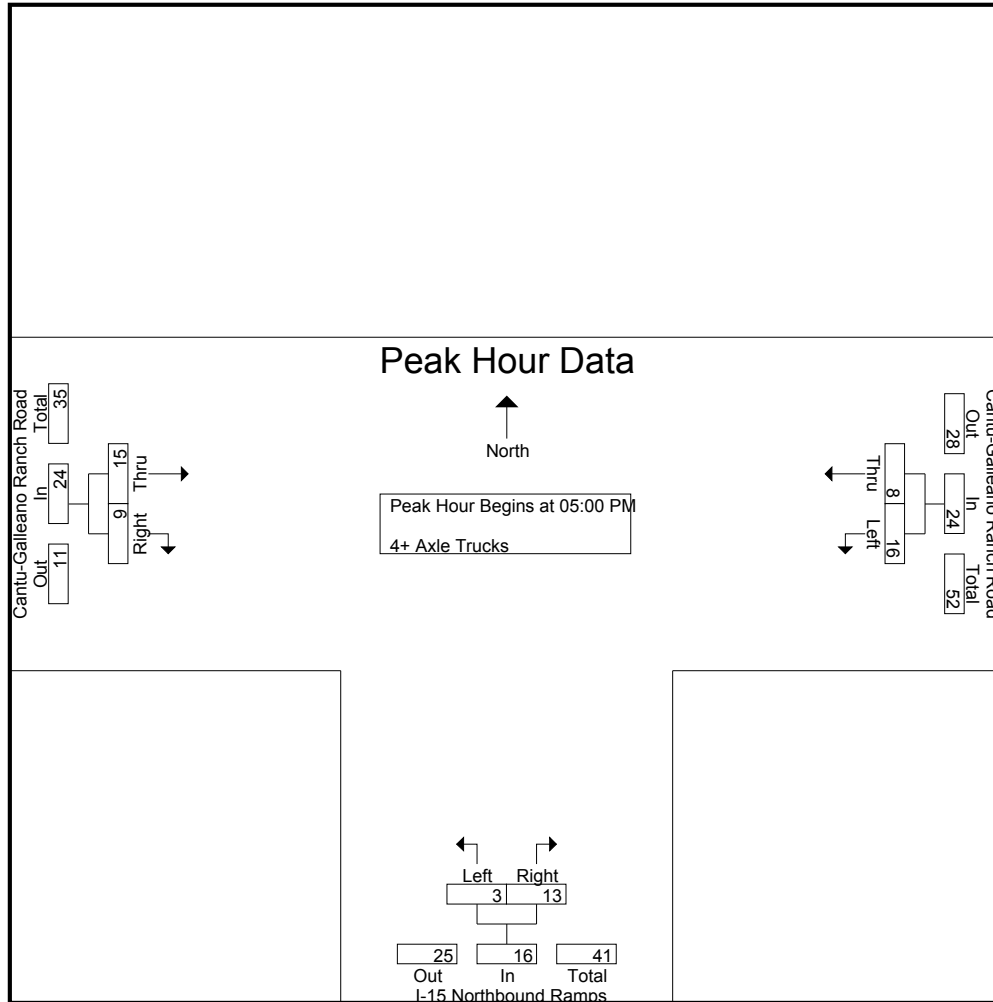
Groups Printed- 4+ Axle Trucks

Start Time	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	2	4	0	6	1	8	4	9	8	10	5	18	9	33	42
04:15 PM	4	4	0	8	0	5	0	5	2	8	3	10	3	23	26
04:30 PM	5	3	0	8	1	3	3	4	0	2	1	2	4	14	18
04:45 PM	0	6	0	6	1	3	1	4	7	9	6	16	7	26	33
Total	11	17	0	28	3	19	8	22	17	29	15	46	23	96	119
05:00 PM	3	4	0	7	0	5	1	5	3	1	0	4	1	16	17
05:15 PM	2	1	0	3	0	3	2	3	6	2	2	8	4	14	18
05:30 PM	6	2	0	8	0	3	2	3	2	2	0	4	2	15	17
05:45 PM	5	1	0	6	3	2	0	5	4	4	1	8	1	19	20
Total	16	8	0	24	3	13	5	16	15	9	3	24	8	64	72
Grand Total	27	25	0	52	6	32	13	38	32	38	18	70	31	160	191
Apprch %	51.9	48.1			15.8	84.2			45.7	54.3					
Total %	16.9	15.6		32.5	3.8	20		23.8	20	23.8		43.8	16.2	83.8	

Start Time	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	3	4	7	0	5	5	3	1	4	16
05:15 PM	2	1	3	0	3	3	6	2	8	14
05:30 PM	6	2	8	0	3	3	2	2	4	15
05:45 PM	5	1	6	3	2	5	4	4	8	19
Total Volume	16	8	24	3	13	16	15	9	24	64
% App. Total	66.7	33.3		18.8	81.2		62.5	37.5		
PHF	.667	.500	.750	.250	.650	.800	.625	.563	.750	.842

City of Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Road
 Weather: Clear

File Name : JVY15NCAPM
 Site Code : 05116658
 Start Date : 12/7/2016
 Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	3	4	7	0	5	5	3	1	4
+15 mins.	2	1	3	0	3	3	6	2	8
+30 mins.	6	2	8	0	3	3	2	2	4
+45 mins.	5	1	6	3	2	5	4	4	8
Total Volume	16	8	24	3	13	16	15	9	24
% App. Total	66.7	33.3		18.8	81.2		62.5	37.5	
PHF	.667	.500	.750	.250	.650	.800	.625	.563	.750

Location: Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Rd



Date: 12/7/2016
 Day: Wednesday

PEDESTRIANS

	North Leg I-15 Northbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Northbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 Northbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Northbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Jurupa Valley
 N/S: I-15 Northbound Ramps
 E/W: Cantu-Galleano Ranch Rd



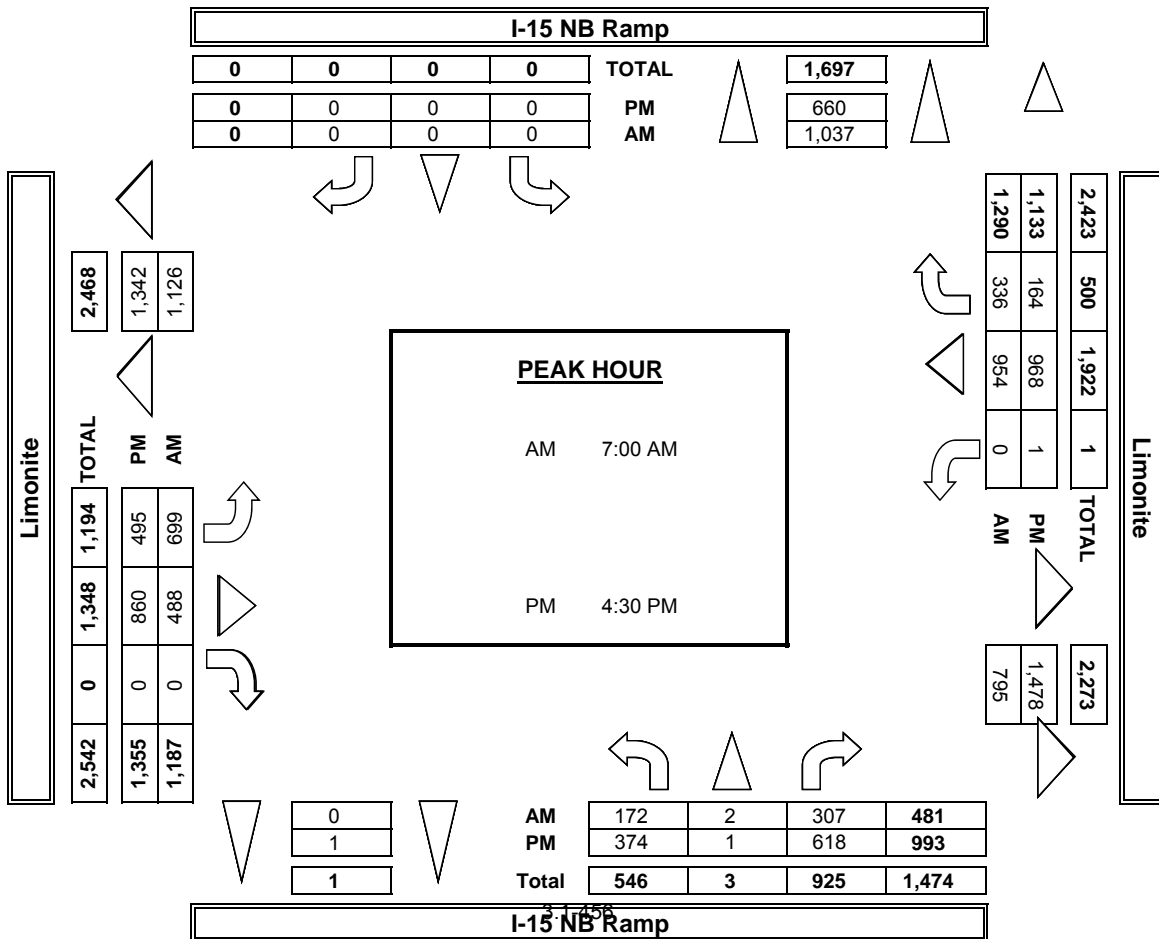
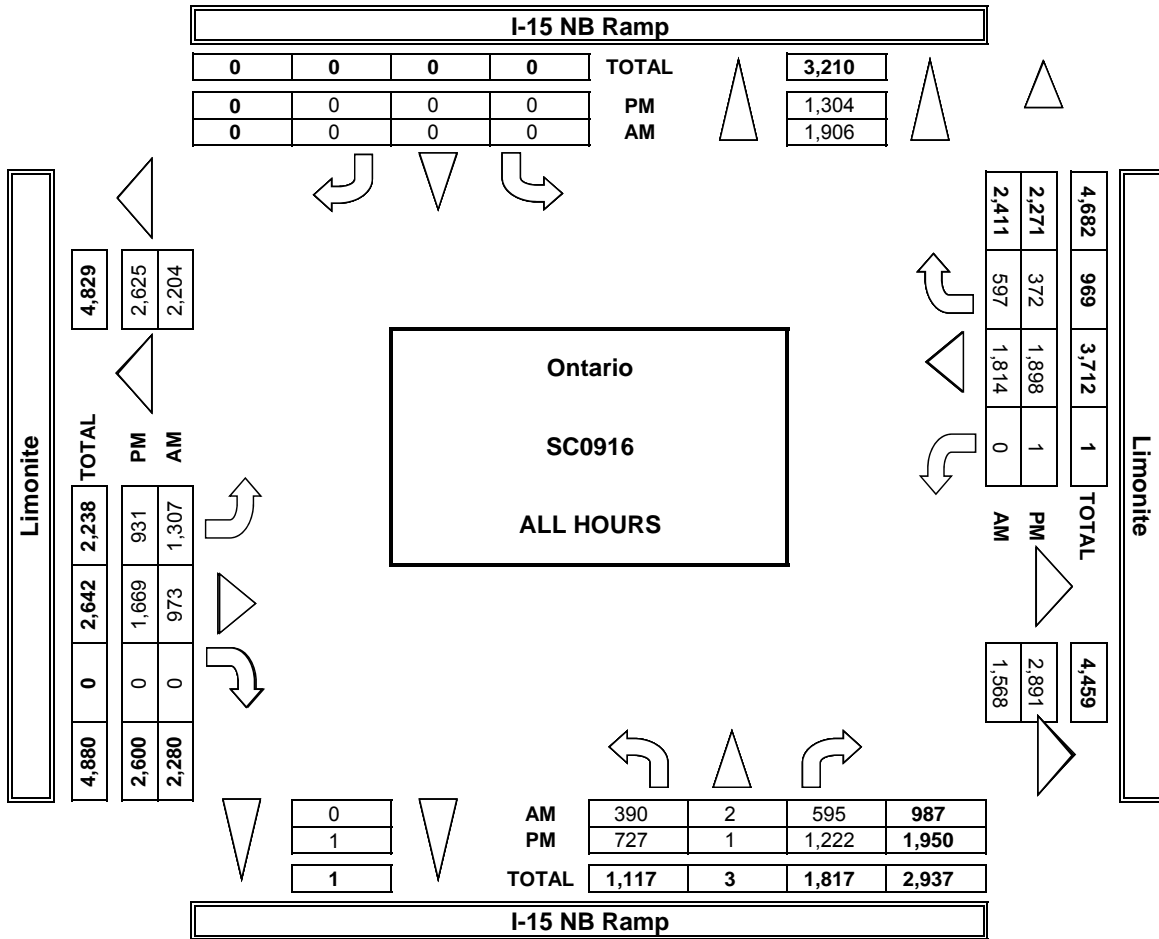
Date: 12/7/2016
 Day: Wednesday

BICYCLES

	North Leg I-15 Northbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Northbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg I-15 Northbound Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 Northbound Ramps	West Leg Cantu-Galleano Ranch Rd	TOTAL
4:00 PM	0	0	0	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 NB Ramp Limonite	PROJECT #: SC0916	LOCATION #: 42	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM	▲ N S ▼	E ▶	
		PM			
		MD			◀ W
		OTHER			

LANES:	NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	1	1	6	0	0	0	9	6	0	0	19	2	44
	7:15 AM	5	0	5	0	0	0	7	5	0	0	16	2	40
	7:30 AM	1	0	3	0	0	0	8	7	0	0	19	1	39
	7:45 AM	3	0	4	0	0	0	11	6	0	0	17	3	44
	8:00 AM	1	0	2	0	0	0	8	5	0	0	31	0	47
	8:15 AM	4	0	4	0	0	0	12	7	0	0	21	6	54
	8:30 AM	2	0	3	0	0	0	9	6	0	0	19	0	39
	8:45 AM	5	0	8	0	0	0	14	8	0	0	16	4	55
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

1	0	0	0
4	0	0	0
0	0	0	0
1	0	0	0
0	0	0	1
2	0	0	0
3	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
12	0	0	1

VOLUMES	22	1	35	0	0	0	78	50	0	0	158	18	362
APPROACH %	38%	2%	60%	0%	0%	0%	61%	39%	0%	0%	90%	10%	
APP/DEPART	58	/	97	0	/	0	128	/	85	176	/	180	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	12	0	17	0	0	0	43	26	0	0	87	10	195
APPROACH %	41%	0%	59%	0%	0%	0%	62%	38%	0%	0%	90%	10%	
PEAK HR FACTOR	0.558			0.000			0.784			0.782			0.886
APP/DEPART	29	/	53	0	/	0	69	/	43	97	/	99	0

6	0	0	1
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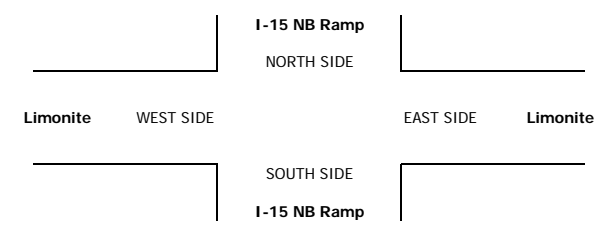
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	4:00 PM	0	0	10	0	0	0	1	4	0	0	7	1	23
	4:15 PM	2	0	9	0	0	0	7	8	0	0	10	1	37
	4:30 PM	5	0	3	0	0	0	4	13	0	0	11	2	38
	4:45 PM	1	0	7	0	0	0	4	8	0	0	8	0	28
	5:00 PM	2	0	4	0	0	0	5	9	0	0	9	0	29
	5:15 PM	1	0	3	0	0	0	3	12	0	0	9	0	28
	5:30 PM	4	0	12	0	0	0	6	11	0	0	11	2	46
	5:45 PM	1	0	8	0	0	0	5	8	0	0	11	1	34

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
3	0	0	0
4	0	0	0
1	0	0	0
2	0	0	0
1	0	0	0
2	0	0	0
5	0	0	0
3	0	0	0
21	0	0	0

VOLUMES	16	0	56	0	0	0	35	73	0	0	76	7	263
APPROACH %	22%	0%	78%	0%	0%	0%	32%	68%	0%	0%	92%	8%	
APP/DEPART	72	/	42	0	/	0	108	/	129	83	/	92	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	8	0	27	0	0	0	19	40	0	0	40	3	137
APPROACH %	23%	0%	77%	0%	0%	0%	32%	68%	0%	0%	93%	7%	
PEAK HR FACTOR	0.547			0.000			0.868			0.827			0.745
APP/DEPART	35	/	22	0	/	0	59	/	67	43	/	48	0

11	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 NB Ramp Limonite	PROJECT #: LOCATION #: CONTROL:	SC0916 42 SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM	▲	N	
		PM	◀	W	E ▶
		MD		S	
		OTHER	▼		

LANES:	NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	1	0	0	0	4	1	6
7:15 AM	2	0	0	0	0	0	2	1	0	0	2	2	9
7:30 AM	0	0	1	0	0	0	3	1	0	0	1	3	9
7:45 AM	2	0	3	0	0	0	0	1	0	0	2	0	8
8:00 AM	0	0	0	0	0	0	1	2	0	0	3	0	6
8:15 AM	2	0	0	0	0	0	3	1	0	0	3	0	9
8:30 AM	0	0	0	0	0	0	1	1	0	0	5	0	7
8:45 AM	0	0	0	0	0	0	2	0	0	0	3	1	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	6	0	4	0	0	0	13	7	0	0	23	7	60
APPROACH %	60%	0%	40%	0%	0%	0%	65%	35%	0%	0%	77%	23%	
APP/DEPART	10	/	20	0	/	0	20	/	11	30	/	29	0
BEGIN PEAK HR	7:00 AM												
VOLUMES	4	0	4	0	0	0	7	5	0	0	9	3	32
APPROACH %	50%	0%	50%	0%	0%	0%	58%	42%	0%	0%	75%	25%	
PEAK HR FACTOR	0.400			0.000			0.750			0.600			0.889
APP/DEPART	8	/	10	0	/	0	12	/	9	12	/	13	0

0	0	0	0
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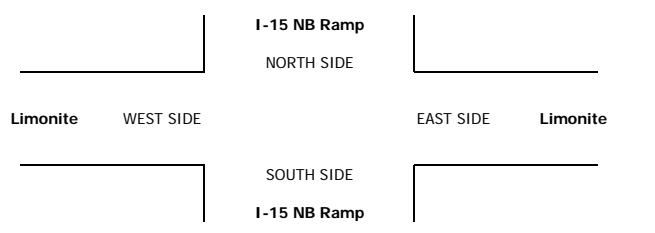
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	5	0	0	0	1	1	0	0	1	0	9
4:15 PM	0	0	1	0	0	0	3	1	0	0	4	1	10
4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	3
4:45 PM	0	0	1	0	0	0	3	0	0	0	0	0	4
5:00 PM	0	0	1	0	0	0	1	1	0	0	2	0	5
5:15 PM	0	0	2	0	0	0	1	0	0	0	2	1	6
5:30 PM	0	0	0	0	0	0	2	1	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	2	0	0	0	2	0	4

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
3	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	1
0	0	0	0
0	0	0	0
4	0	0	1

VOLUMES	1	0	11	0	0	0	15	4	0	0	11	3	45
APPROACH %	8%	0%	92%	0%	0%	0%	79%	21%	0%	0%	79%	21%	
APP/DEPART	12	/	18	0	/	0	19	/	15	14	/	12	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	1	0	8	0	0	0	9	2	0	0	5	1	26
APPROACH %	11%	0%	89%	0%	0%	0%	82%	18%	0%	0%	83%	17%	
PEAK HR FACTOR	0.375			0.000			0.688			0.300			0.650
APP/DEPART	9	/	10	0	/	0	11	/	10	6	/	6	0

3	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 NB Ramp Limonite	PROJECT #: SC0916	LOCATION #: 42	CONTROL: SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E
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LANES:	NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	1	0	0	0	0	0	0	0	0	0	1	1	3
7:15 AM	0	0	1	0	0	0	1	1	0	0	2	1	6
7:30 AM	1	0	0	0	0	0	2	2	0	0	2	0	7
7:45 AM	0	0	0	0	0	0	1	0	0	0	1	2	4
8:00 AM	2	0	0	0	0	0	0	2	0	0	2	1	7
8:15 AM	1	0	0	0	0	0	1	2	0	0	2	2	8
8:30 AM	1	0	1	0	0	0	2	1	0	0	3	0	8
8:45 AM	1	0	0	0	0	0	0	2	0	0	1	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	7	0	2	0	0	0	7	10	0	0	14	7	47
APPROACH %	78%	0%	22%	0%	0%	0%	41%	59%	0%	0%	67%	33%	
APP/DEPART	9	/	14	0	/	0	17	/	12	21	/	21	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	5	0	1	0	0	0	3	7	0	0	8	3	27
APPROACH %	83%	0%	17%	0%	0%	0%	30%	70%	0%	0%	73%	27%	
PEAK HR FACTOR	0.750			0.000			0.833			0.688			0.844
APP/DEPART	6	/	6	0	/	0	10	/	8	11	/	13	0

1	0	0	0
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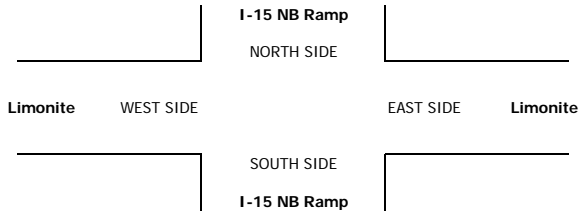
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
4:30 PM	0	0	1	0	0	0	1	1	0	0	1	0	4
4:45 PM	0	0	1	0	0	0	0	2	0	0	0	0	3
5:00 PM	2	0	2	0	0	0	0	1	0	0	2	0	7
5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
5:30 PM	0	0	1	0	0	0	1	1	0	0	2	0	5
5:45 PM	3	0	0	0	0	0	0	2	0	0	0	0	5

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	5	0	5	0	0	0	3	8	0	0	7	1	29
APPROACH %	50%	0%	50%	0%	0%	0%	27%	73%	0%	0%	88%	13%	
APP/DEPART	10	/	4	0	/	0	11	/	13	8	/	12	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	5	0	3	0	0	0	2	4	0	0	5	0	19
APPROACH %	63%	0%	38%	0%	0%	0%	33%	67%	0%	0%	100%	0%	
PEAK HR FACTOR	0.500			0.000			0.750			0.625			0.679
APP/DEPART	8	/	2	0	/	0	6	/	7	5	/	10	0

0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 NB Ramp Limonite	PROJECT #: SC0916	LOCATION #: 42	CONTROL: SIGNAL
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CLASS 5: RV	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	0	0	0	0	0	2	0	0	0	1	3
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	
APP/DEPART	0	/	1	0	/	0	2	/	2	1	/	0	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	0	0	0	0	1	0	0	0	1	2
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	
PEAK HR FACTOR	0.000			0.000			0.250			0.250			0.500
APP/DEPART	0	/	1	0	/	0	1	/	1	1	/	0	0

0	0	0	0
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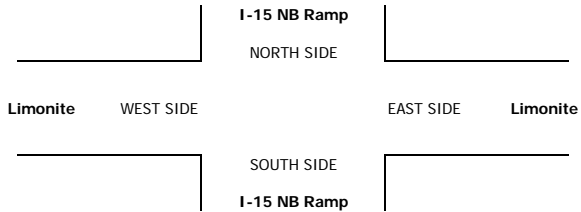
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	1	0	0	0	0	0	0	1	0	2	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0

VOLUMES	1	0	2	0	0	0	0	0	0	0	2	0	5
APPROACH %	33%	0%	67%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
APP/DEPART	3	/	0	0	/	0	0	/	2	2	/	3	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	1	0	0	0	0	0	0	2	0	0	3
APPROACH %	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
PEAK HR FACTOR	0.250			0.000			0.000			0.500			0.375
APP/DEPART	1	/	0	0	/	0	0	/	1	2	/	2	0

1	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: 4/21/16 THURSDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Ontario I-15 NB Ramp Limonite	PROJECT #: SC0916 LOCATION #: 42 CONTROL: SIGNAL
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CLASS 6:	NOTES:	AM PM MD OTHER OTHER	◀ W	E ▶	▲ N S ▼
BUSES					

LANES:	NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Limonite			WESTBOUND Limonite			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1,3	0,3	1,3	X	X	X	2	2	X	X	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	1

7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	2	0	0	5	0	7
7:30 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
7:45 AM	0	0	0	0	0	0	1	3	0	0	1	0	5
8:00 AM	1	0	0	0	0	0	0	2	0	0	2	0	5
8:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	2	4
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	1	0	0	0	0	0	1	15	0	0	12	2	31
APPROACH %	100%	0%	0%	0%	0%	0%	6%	94%	0%	0%	86%	14%	
APP/DEPART	1	/	3	0	/	0	16	/	15	14	/	13	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	1	0	0	0	0	0	1	10	0	0	10	0	22
APPROACH %	100%	0%	0%	0%	0%	0%	9%	91%	0%	0%	100%	0%	
PEAK HR FACTOR	0.250			0.000			0.688			0.500			0.786
APP/DEPART	1	/	1	0	/	0	11	/	10	10	/	11	0

0	0	0	0
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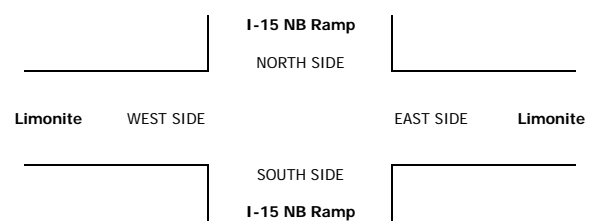
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	1	0	0	2	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

VOLUMES	0	0	1	0	0	0	0	4	0	0	7	0	12
APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	1	/	0	0	/	0	4	/	5	7	/	7	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	1	0	0	0	0	2	0	0	6	0	9
APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR	0.250			0.000			0.500			0.500			0.563
APP/DEPART	1	/	0	0	/	0	2	/	3	6	/	6	0

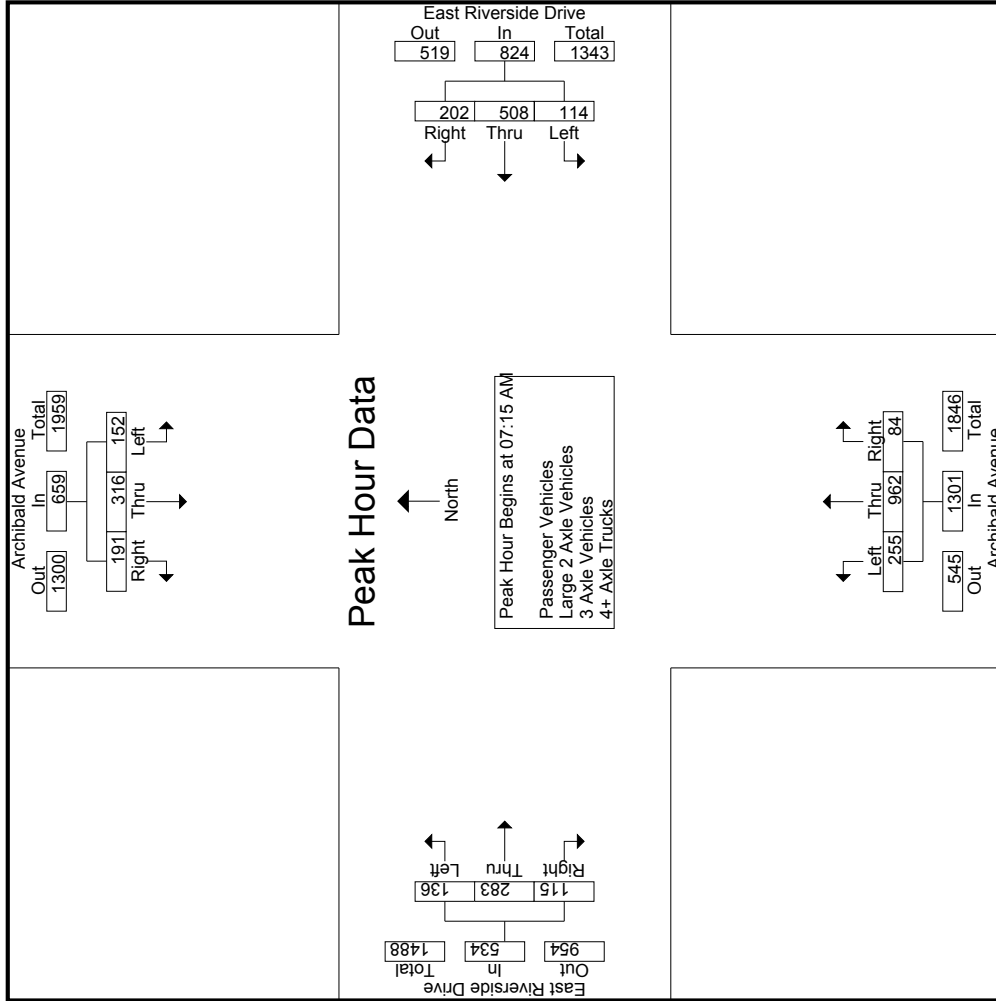
0	0	0	0
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Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM			07:00 AM			07:15 AM			07:00 AM						
+0 mins.	40	81	23	144	27	112	45	184	42	246	27	315	20	90	31	141
+15 mins.	45	72	32	149	31	116	47	194	64	246	23	333	20	63	28	111
+30 mins.	38	84	72	194	38	161	69	268	69	257	16	342	42	110	31	183
+45 mins.	29	79	64	172	23	130	55	208	80	213	18	311	52	67	30	149
Total Volume	152	316	191	659	119	519	216	854	255	962	84	1301	134	330	120	584
% App. Total	23.1	48	29	849	13.9	60.8	25.3	797	19.6	73.9	6.5	951	22.9	56.5	20.5	798
PHF	.844	.940	.663	.849	.783	.806	.783	.797	.797	.936	.778	.951	.644	.750	.968	.798

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City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

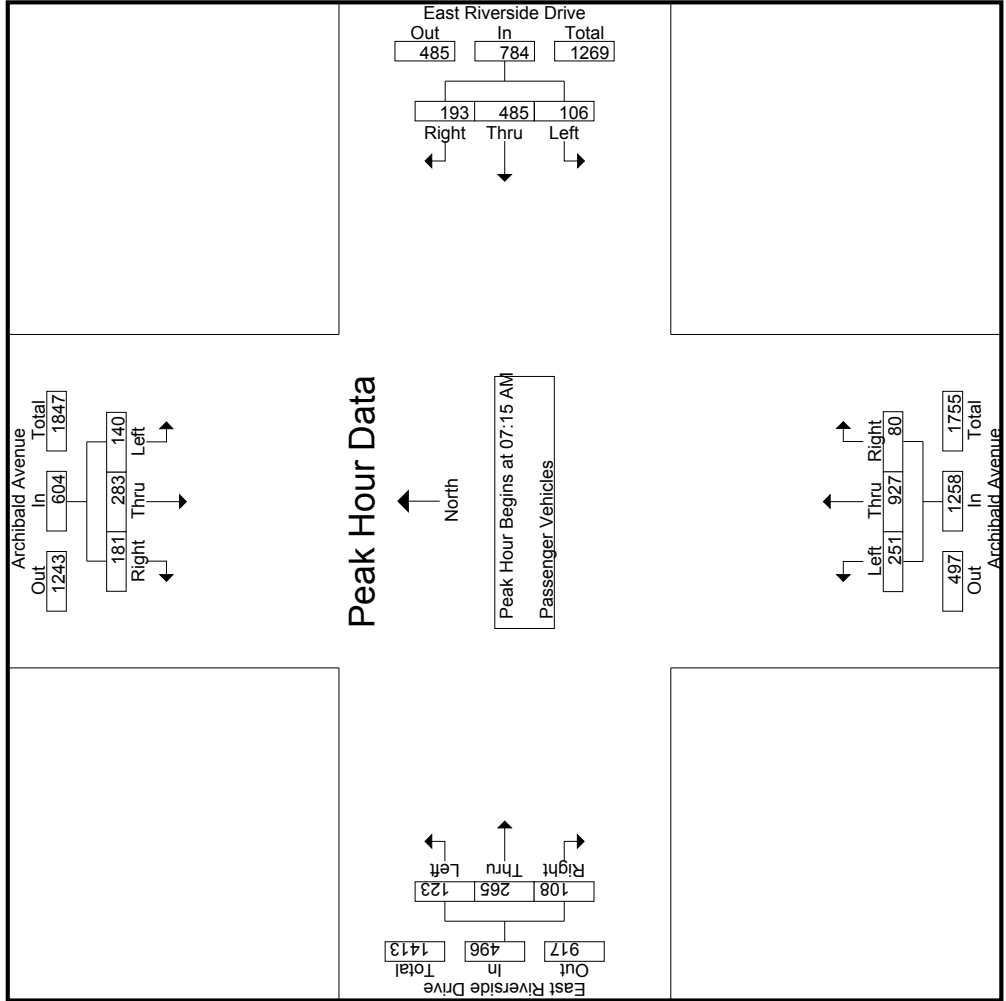
Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	34	60	30	19	124	26	111	43	15	180	41	184	18	8	243	19	86	31	15	136	57	683	740
07:15 AM	37	69	20	8	126	29	111	47	34	187	41	239	26	5	306	16	58	26	17	100	64	719	783
07:30 AM	42	67	31	14	140	36	156	67	33	259	63	238	21	4	322	38	104	29	9	171	60	892	952
07:45 AM	34	77	70	21	181	23	122	52	21	197	68	248	16	0	332	49	64	29	12	142	54	852	906
Total	147	273	151	62	571	114	500	209	103	823	213	909	81	17	1203	122	312	115	53	549	235	3146	3381
08:00 AM	27	70	60	29	157	18	96	27	12	141	79	202	17	1	298	20	39	24	18	83	60	679	739
08:15 AM	31	62	36	18	129	19	95	38	18	152	46	181	14	5	241	27	63	30	14	120	55	642	697
08:30 AM	22	63	28	9	113	14	74	28	10	116	67	167	10	2	244	15	42	23	17	80	38	553	591
08:45 AM	24	49	25	14	98	9	87	35	17	131	70	165	19	2	254	17	40	18	10	75	43	558	601
Total	104	244	149	70	497	60	352	128	57	540	262	715	60	10	1037	79	184	95	59	358	196	2432	2628
Grand Total	251	517	300	132	1068	174	852	337	160	1363	475	1624	141	27	2240	201	496	210	112	907	431	5578	6009
Approach %	23.5	48.4	28.1			12.8	62.5	24.7			21.2	72.5	6.3			22.2	54.7	23.2			7.2	92.8	
Total %	4.5	9.3	5.4		19.1	3.1	15.3	6		24.4	8.5	29.1	2.5		40.2	3.6	8.9	3.8		16.3			

Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:15 AM																							
07:15 AM	37	69	20	8	126	29	111	47	34	187	41	184	18	8	243	19	86	31	15	136	57	683	740
07:30 AM	42	67	31	14	140	36	156	67	33	259	63	238	21	4	322	38	104	29	9	171	60	892	952
07:45 AM	34	77	70	21	181	23	122	52	21	197	68	248	16	0	332	49	64	29	12	142	54	852	906
08:00 AM	27	70	60	29	157	18	96	27	12	141	79	202	17	1	298	20	39	24	18	83	60	679	739
Total Volume	140	283	181		604	106	485	193		784	251	927	80		1258	123	265	108		496			
% App. Total	23.2	46.9	30		30	13.5	61.9	24.6		24.6	20	73.7	6.4		6.4	24.8	53.4	21.8		21.8			
PHF	.833	.919	.646		.834	.736	.777	.720		.757	.794	.934	.769		.947	.628	.637	.931		.725			.881

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City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
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File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 EW: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	37	69	20	126	29	111	47	187	41	239	26	306	16	58	26	100
+15 mins.	42	67	31	140	36	156	67	259	63	238	21	322	38	104	29	171
+30 mins.	34	77	70	181	23	122	52	197	68	248	16	332	49	64	29	142
+45 mins.	27	70	60	157	18	96	27	141	79	202	17	298	20	39	24	83
Total Volume	140	283	181	604	106	485	193	784	251	927	80	1258	123	265	108	496
% App. Total	23.2	46.9	30		13.5	61.9	24.6		20	73.7	6.4		24.8	53.4	21.8	
PHF	.833	.919	.646	.834	.736	.777	.720	.757	.794	.934	.769	.947	.628	.637	.931	.725

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 PO Box 1178
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City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	1	10	0	0	11	1	0	1	0	2	0	3	1	1	4	0	4	0	0	4	1	21	22
07:15 AM	3	4	2	0	9	1	4	0	0	5	1	2	0	0	3	2	4	2	1	8	1	25	26
07:30 AM	2	2	1	0	5	2	5	1	0	8	1	4	1	0	6	2	5	2	0	9	0	28	28
07:45 AM	3	0	1	0	4	0	6	3	2	9	1	4	0	0	5	1	3	1	0	5	2	23	25
Total	9	16	4	0	29	4	15	5	2	24	3	13	2	1	18	5	16	5	1	26	4	97	101
08:00 AM	1	2	1	0	4	3	4	4	2	11	1	6	1	0	8	2	4	1	0	7	2	30	32
08:15 AM	1	3	0	0	4	0	0	1	1	1	0	3	0	0	3	0	1	1	1	2	2	10	12
08:30 AM	0	5	1	1	6	0	0	0	0	0	1	1	1	0	3	0	3	0	0	3	1	12	13
08:45 AM	4	6	1	0	11	2	3	0	0	5	0	2	0	0	2	0	0	0	0	0	0	18	18
Total	6	16	3	1	25	5	7	5	3	17	2	12	2	0	16	2	8	2	1	12	5	70	75
Grand Total	15	32	7	1	54	9	22	10	5	41	5	25	4	1	34	7	24	7	2	38	9	167	176
Approch %	27.8	59.3	13			22	53.7	24.4			14.7	73.5	11.8		20.4	18.4	63.2	18.4		22.8	5.1	94.9	
Total %	9	19.2	4.2		32.3	5.4	13.2	6		24.6	3	15	2.4			4.2	14.4	4.2					

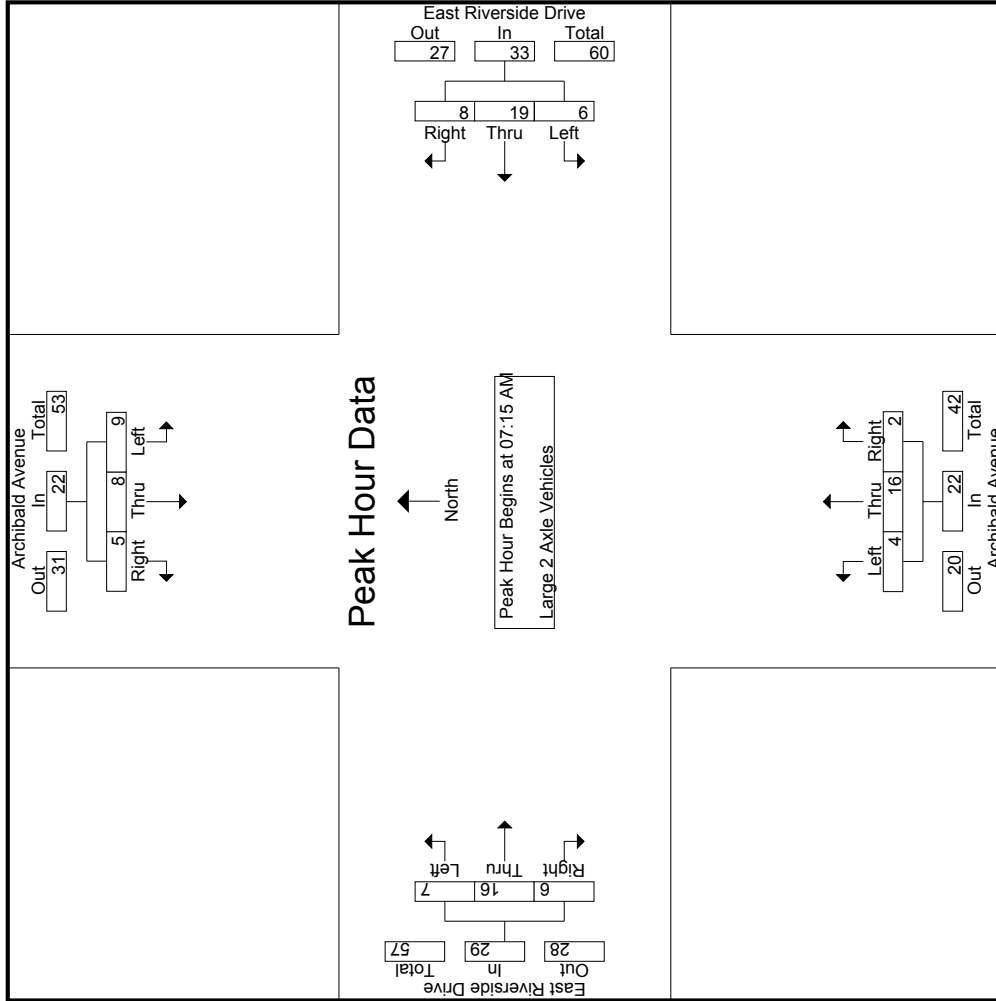
Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:15 AM	3	4	2		9	1	4	0		5	1	2	0		3	2	4	2		8	2	8	25
07:30 AM	2	2	1		5	2	5	1		8	1	4	1		6	2	5	2		9	2	9	28
07:45 AM	3	0	1		4	0	6	3		9	1	4	0		5	1	3	1		5	1	5	23
08:00 AM	1	2	1		4	3	4	4		11	1	1	6		8	2	4	1		7	1	7	30
Total Volume	9	8	5		22	6	19	8		33	4	16	2		22	7	16	6		29	6	106	
% App. Total	40.9	36.4	22.7			18.2	57.6	24.2			18.2	72.7	9.1			24.1	55.2	20.7					
PHF	.750	.500	.625		.611	.500	.792	.500		.750	1.00	.667	.500		.688	.875	.800	.750		.806		.883	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	07:15 AM													
Peak Hour for Each Approach Begins at:	07:15 AM													
+0 mins.	3	4	2	9	1	4	0	5	1	2	0	3	07:15 AM	8
+15 mins.	2	2	1	5	2	5	1	8	1	4	1	6	07:15 AM	9
+30 mins.	3	0	1	4	0	6	3	9	1	4	0	5	07:15 AM	5
+45 mins.	1	2	1	4	3	4	4	11	1	6	1	8	07:15 AM	7
Total Volume	9	8	5	22	6	19	8	33	4	16	2	22	07:15 AM	29
% App. Total	40.9	36.4	22.7	61.1	18.2	57.6	24.2	75.0	18.2	72.7	9.1	68.8	24.1	20.7
PHF	.750	.500	.625	.611	.500	.792	.500	.750	1.000	.667	.500	.688	.875	.750

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	3	2	6	0	0	1	0	1	0	1	0	0	1	1	0	0	0	1	2	9	11
07:15 AM	0	3	1	1	4	0	0	0	0	0	0	4	1	0	5	0	1	0	0	1	1	10	11
07:30 AM	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	0	6	6
07:45 AM	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	0	5	5
Total	1	8	4	3	13	0	1	1	0	2	0	9	1	0	10	3	2	0	0	5	3	30	33
08:00 AM	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	4	0	0	0	4	0	9	9
08:30 AM	0	2	3	0	5	0	0	1	1	1	0	5	0	0	5	0	1	0	0	1	1	12	13
08:45 AM	1	1	1	0	3	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	0	7	7
Total	2	7	4	0	13	0	1	1	1	2	1	13	0	0	14	4	1	0	0	5	1	34	35
Grand Total	3	15	8	3	26	0	2	2	1	4	1	22	1	0	24	7	3	0	0	10	4	64	68
Approach %	11.5	57.7	30.8			0	50				4.2	91.7	4.2			70	30				5.9	94.1	
Total %	4.7	23.4	12.5		40.6	0	3.1	3.1		6.2	1.6	34.4	1.6		37.5	10.9	4.7		15.6				

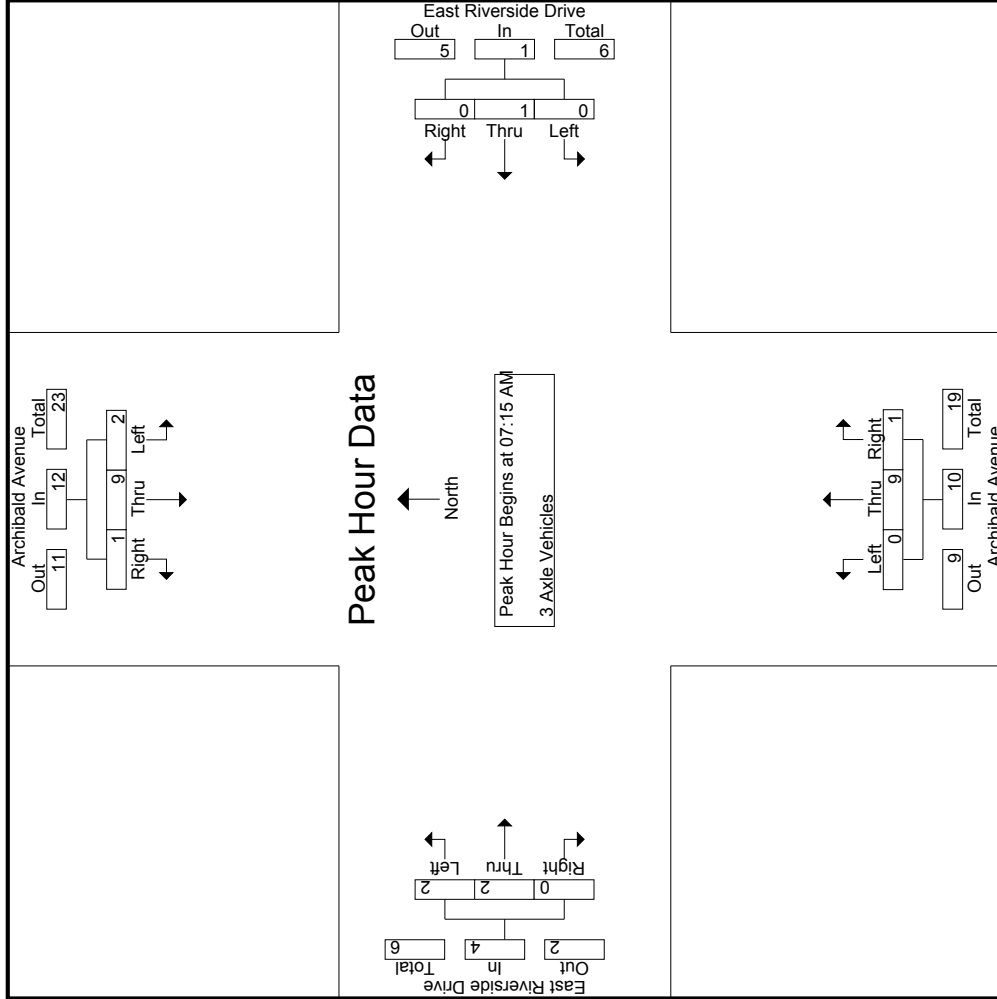
Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	0	3	1		4	0	0	0		0	0	4	1		5	0	1							
07:30 AM	1	1	0		2	0	0	0		0	0	2	0		2	1	1							
07:45 AM	0	1	0		1	0	1	0		0	0	2	0		2	1	0							
08:00 AM	1	4	0		5	0	0	0		0	0	1	0		1	0	0							
Total Volume	2	9	1		12	0	1	1		1	0	9	1		10	2	2							
% App. Total	16.7	75	8.3		8.3	0	100	0		10	0	90	10		50	50	50							
PHF	.500	.563	.250		.600	.000	.250	.000		.250	.000	.563	.250		.500	.500	.000				.500	.500	.675	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
+0 mins.	0	3	1	0	0	0	0	4	0	0	0	1	0	1
+15 mins.	1	1	0	0	0	0	0	2	0	0	1	1	0	2
+30 mins.	0	1	0	0	1	0	0	1	0	0	0	0	0	1
+45 mins.	1	4	0	0	0	0	0	5	0	0	0	0	0	0
Total Volume	2	9	1	0	1	0	1	12	0	1	1	10	2	4
% App. Total	16.7	75	8.3	0	100	0	0	0	0	0	0	50	50	0
PHF	.500	.563	.250	.000	.250	.000	.250	.600	.000	.250	.000	.500	.500	.500
				07:15 AM			07:15 AM			07:15 AM				
				0	0	0	0	0	4	1	0	1	0	1
				0	0	0	0	0	2	0	1	1	0	2
				0	0	0	0	0	2	0	1	0	0	1
				0	0	0	0	0	1	0	0	0	0	0
				0	0	0	0	0	1	0	0	0	0	0
				0	0	0	0	0	9	1	2	2	0	4
				0	0	0	0	0	90	10	50	50	0	0
				.000	.250	.000	.250	.600	.000	.250	.000	.500	.500	.500

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

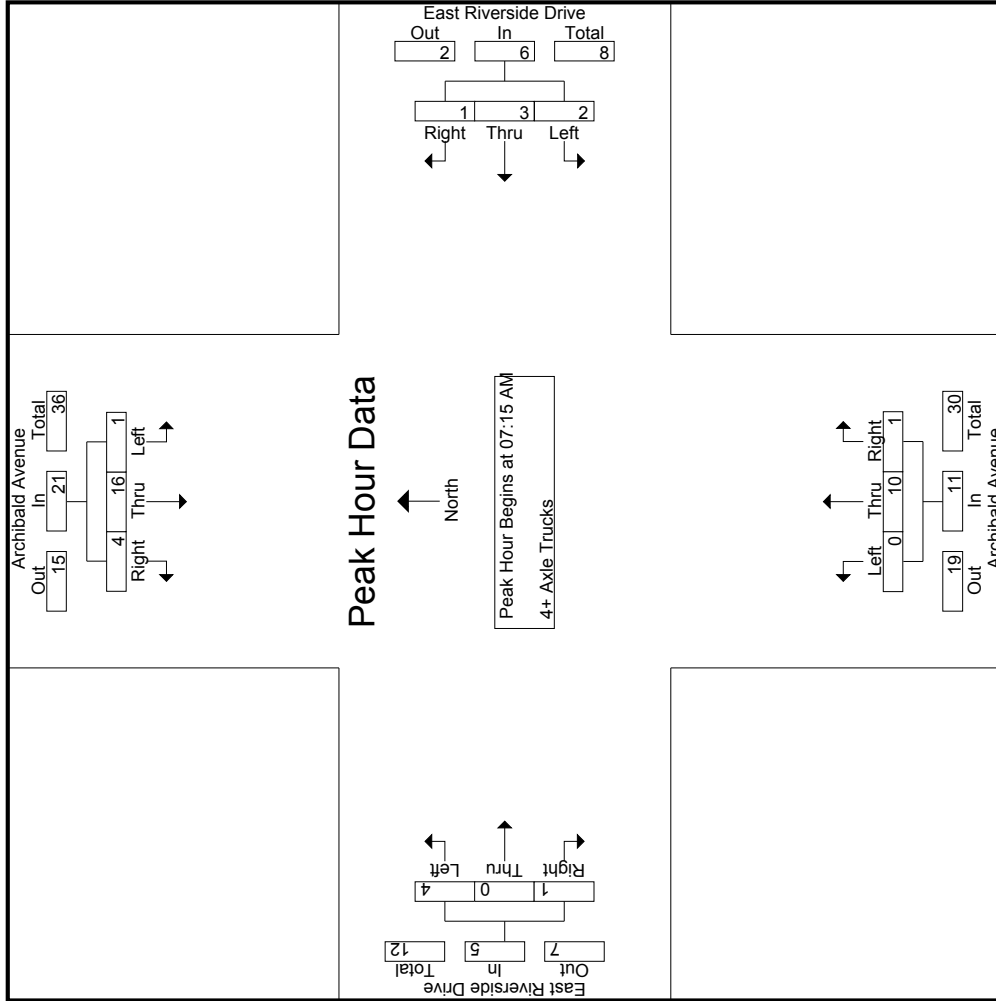
Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
07:00 AM	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	5
07:15 AM	0	5	0	0	5	1	1	0	0	2	0	1	0	0	1	2	0	0	0	2	0	10
07:30 AM	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	1	0	0	0	1	0	7
07:45 AM	1	6	1	0	8	0	1	0	0	1	0	3	0	0	3	1	0	0	0	1	0	13
Total	1	15	1	0	17	1	3	1	0	5	0	8	1	0	9	4	0	0	0	4	0	35
08:00 AM	0	3	3	0	6	1	1	0	0	2	0	4	0	0	4	0	0	1	0	1	0	13
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	3	1	0	0	4	0	8
08:30 AM	0	6	0	0	6	0	2	0	0	2	0	9	0	0	9	6	1	0	0	7	0	24
08:45 AM	0	5	0	0	5	0	0	0	0	0	4	0	0	0	4	2	0	0	0	2	0	11
Total	0	15	3	0	18	1	3	0	0	4	0	20	0	0	20	11	2	1	0	14	0	56
Grand Total	1	30	4	0	35	2	6	1	0	9	0	28	1	0	29	15	2	1	0	18	0	91
Approach %	2.9	85.7	11.4		22.2	66.7	11.1			9.9	0	96.6	3.4		31.9	83.3	11.1	5.6		19.8	0	100
Total %	1.1	33	4.4		2.2	6.6	1.1			9.9	0	30.8	1.1		31.9	16.5	2.2	1.1		19.8	0	100

Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	5	0		5	1	1	0		2	0	1	0		1	2	0	0		2	10
07:30 AM	0	2	0		2	0	0		1	1	0	2	1		3	1	0	0		1	7
07:45 AM	1	6	1		8	0	1		0	3	0	3	0		3	1	0	0		1	13
08:00 AM	0	3	3		6	1	1		0	4	0	4	0		4	0	0	1		1	13
Total Volume	1	16	4		21	2	3		1	6	0	10	1		11	4	0	1		5	43
% App. Total	4.8	76.2	19		33.3	50	16.7			90.9	9.1	80	0		20	80	0	20		20	43
PHF	.250	.667	.333		.656	.500	.750			.750	.000	.625	.250		.688	.500	.000	.250		.625	.827

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARRIAM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

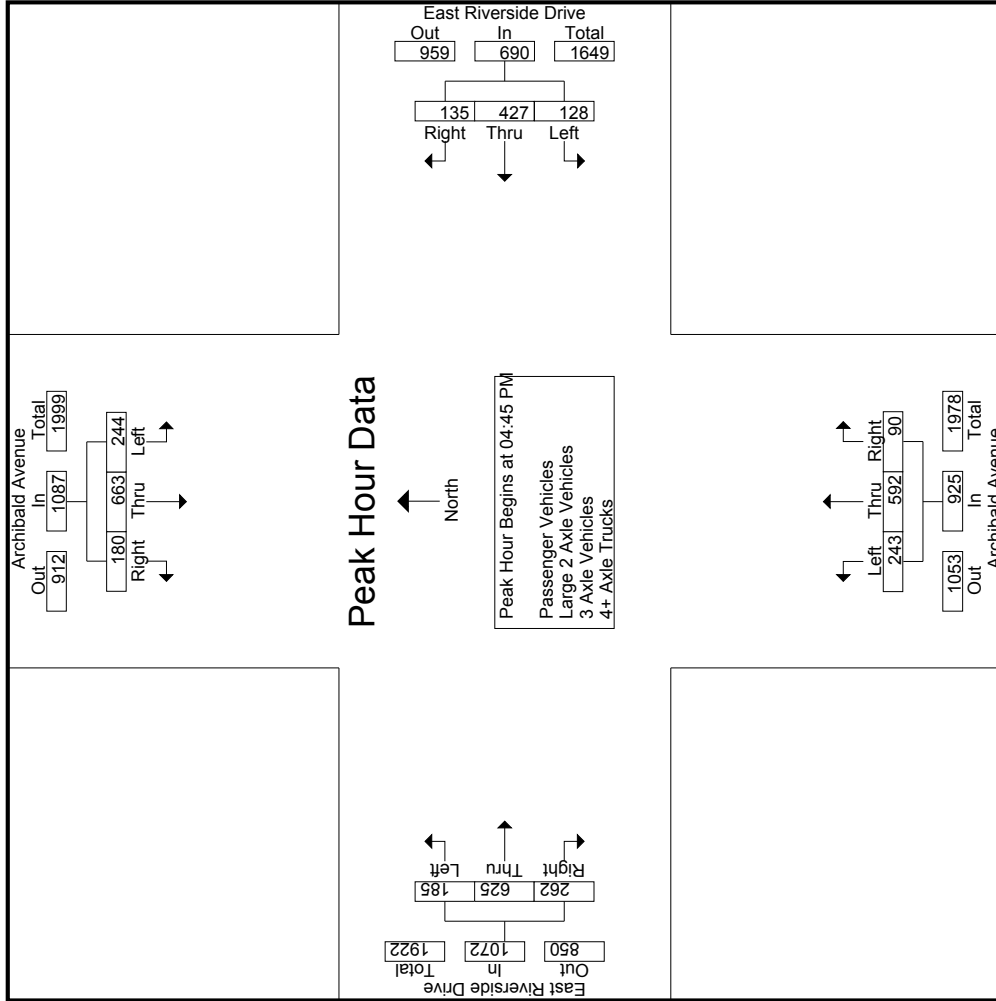
City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1	07:15 AM													
Peak Hour for Each Approach Begins at:	07:15 AM													
+0 mins.	0	5	0	1	1	0	0	0	1	0	0	0	2	2
+15 mins.	0	2	0	0	0	1	1	0	2	1	0	0	1	1
+30 mins.	1	6	1	0	0	0	0	0	3	0	0	0	3	1
+45 mins.	0	3	3	1	1	0	2	0	4	0	0	0	4	1
Total Volume	1	16	4	2	3	1	6	0	10	1	4	0	11	5
% App. Total	4.8	76.2	19	33.3	50	16.7	750	0	90.9	9.1	80	0	688	20
PHF	.250	.667	.333	.500	.750	.250	.750	.000	.625	.250	.500	.000	.625	.250

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 EW: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	05:00 PM													
+0 mins.	61	170	49	30	86	30	53	155	29	52	160	60	237	272
+15 mins.	70	170	38	36	125	44	62	181	24	45	148	79	267	272
+30 mins.	62	177	48	35	112	32	64	140	22	46	171	63	226	280
+45 mins.	69	182	47	23	110	31	59	138	25	42	146	60	222	248
Total Volume	262	699	182	124	433	137	238	614	100	185	625	262	952	1072
% App. Total	22.9	61.2	15.9	17.9	62.4	19.7	25	64.5	10.5	17.3	58.3	24.4	891	957
PHF	.936	.960	.929	.861	.866	.778	.930	.848	.862	.889	.914	.829	.891	.957

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Passenger Vehicles

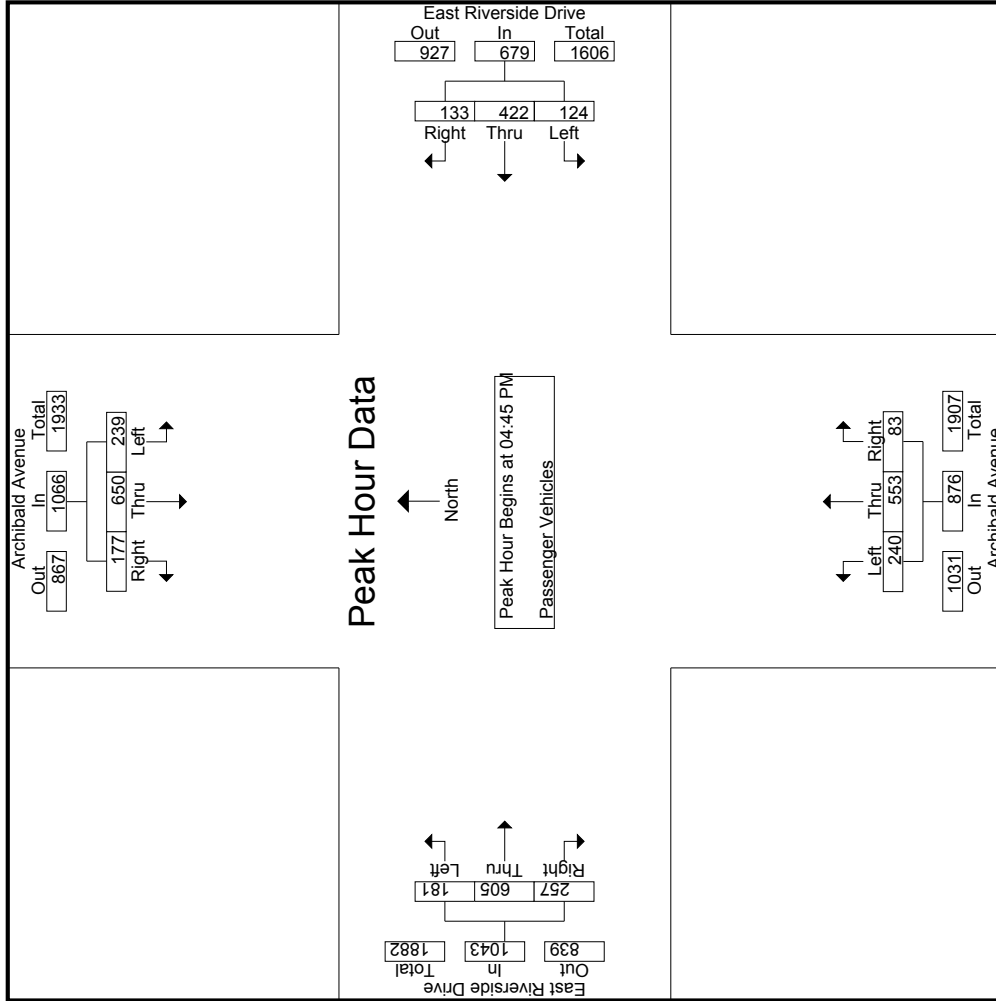
Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	64	132	52	18	248	23	71	32	17	126	52	120	22	6	194	31	133	60	26	224	67	792	859
04:15 PM	70	133	53	14	256	31	96	37	23	164	48	102	23	6	173	45	139	58	21	242	64	835	899
04:30 PM	51	128	57	21	236	34	100	23	8	157	50	149	28	5	227	38	139	47	25	224	59	844	903
04:45 PM	50	142	45	18	237	27	104	29	11	160	60	174	23	5	257	51	154	60	27	265	61	919	980
Total	235	535	207	71	977	115	371	121	59	607	210	545	96	22	851	165	565	225	99	955	251	3390	3641
05:00 PM	59	165	48	14	272	30	84	28	11	142	63	127	20	2	210	44	143	77	22	264	49	888	937
05:15 PM	70	168	36	14	274	35	123	44	16	202	59	125	23	6	207	46	168	61	22	275	58	958	1016
05:30 PM	60	175	48	11	283	32	111	32	14	175	58	127	17	3	202	40	140	59	21	239	49	899	948
05:45 PM	69	181	45	17	295	23	107	30	20	160	61	111	21	9	193	41	125	68	23	234	69	882	951
Total	258	689	177	56	1124	120	425	134	61	679	241	490	81	20	812	171	576	265	88	1012	225	3627	3852
Grand Total	493	1224	384	127	2101	235	796	255	120	1286	451	1035	177	42	1663	336	1141	490	187	1967	476	7017	7493
Approach %	23.5	58.3	18.3		18.3	61.9	19.8			18.3	27.1	62.2	10.6		23.7	17.1	58	24.9		28	6.4	93.6	
Total %	7	17.4	5.5		3.3	11.3	3.6			18.3	6.4	14.7	2.5		4.8	16.3	7						

Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	50	142	45		237	27	104	29		160	60	174	23		257	51	154	60		265	919
05:00 PM	59	165	48		272	30	84	28		142	63	127	20		210	44	143	77		264	888
05:15 PM	70	168	36		274	35	123	44		202	59	125	23		207	46	168	61		275	958
05:30 PM	60	175	48		283	32	111	32		175	58	127	17		202	40	140	59		239	899
Total Volume	239	650	177		1066	124	422	133		679	240	553	83		876	181	605	257		1043	3664
% App. Total	22.4	61	16.6		10.6	18.3	62.2	19.6		19.6	27.4	63.1	9.5		24.6	17.4	58	24.6		28	93.6
PHF	.854	.929	.922		.942	.886	.858	.756		.840	.952	.795	.902		.852	.887	.900	.834		.948	.956

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 EW: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	50	142	45	237	27	104	29	160	60	174	23	257	51	154	60	265
+15 mins.	59	165	48	272	30	84	28	142	63	127	20	210	44	143	77	264
+30 mins.	70	168	36	274	35	123	44	202	59	125	23	207	46	168	61	275
+45 mins.	60	175	48	283	32	111	32	175	58	127	17	202	40	140	59	239
Total Volume	239	650	177	1066	124	422	133	679	240	553	83	876	181	605	257	1043
% App. Total	22.4	61	16.6	.942	18.3	62.2	19.6	.840	27.4	63.1	9.5	.852	17.4	58	24.6	.948
PHF	.854	.929	.922	.942	.886	.858	.756	.840	.952	.795	.902	.852	.887	.900	.834	.948

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	1	4	2	1	7	1	3	1	0	5	0	9	1	1	10	2	23	25
04:15 PM	1	2	0	0	3	0	0	2	2	2	0	7	0	0	7	0	3	1	0	4	2	16	18
04:30 PM	1	2	0	0	3	0	2	0	0	2	2	4	1	0	7	1	1	0	0	2	0	14	14
04:45 PM	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	1	5	0	0	6	0	10	10
Total	2	6	0	0	8	1	6	4	3	11	5	15	2	0	22	2	18	2	1	22	4	63	67
05:00 PM	2	1	0	0	3	0	1	1	0	2	1	6	0	0	7	1	2	2	1	5	1	17	18
05:15 PM	0	0	1	0	1	1	1	0	0	2	0	7	1	0	8	0	1	2	0	3	0	14	14
05:30 PM	2	1	0	0	3	0	0	0	0	0	0	4	0	0	4	2	3	0	0	5	0	12	12
05:45 PM	0	0	1	0	1	0	3	1	1	4	0	4	0	0	4	1	2	0	0	3	1	12	13
Total	4	2	2	0	8	1	5	2	1	8	1	21	1	0	23	4	8	4	1	16	2	55	57
Grand Total	6	8	2	0	16	2	11	6	4	19	6	36	3	0	45	6	26	6	2	38	6	118	124
Approach %	37.5	50	12.5		13.6	10.5	57.9	31.6		16.1	13.3	80	6.7		38.1	15.8	68.4	15.8		32.2	4.8	95.2	
Total %	5.1	6.8	1.7			1.7	9.3	5.1			5.1	30.5	2.5			5.1	22	5.1					

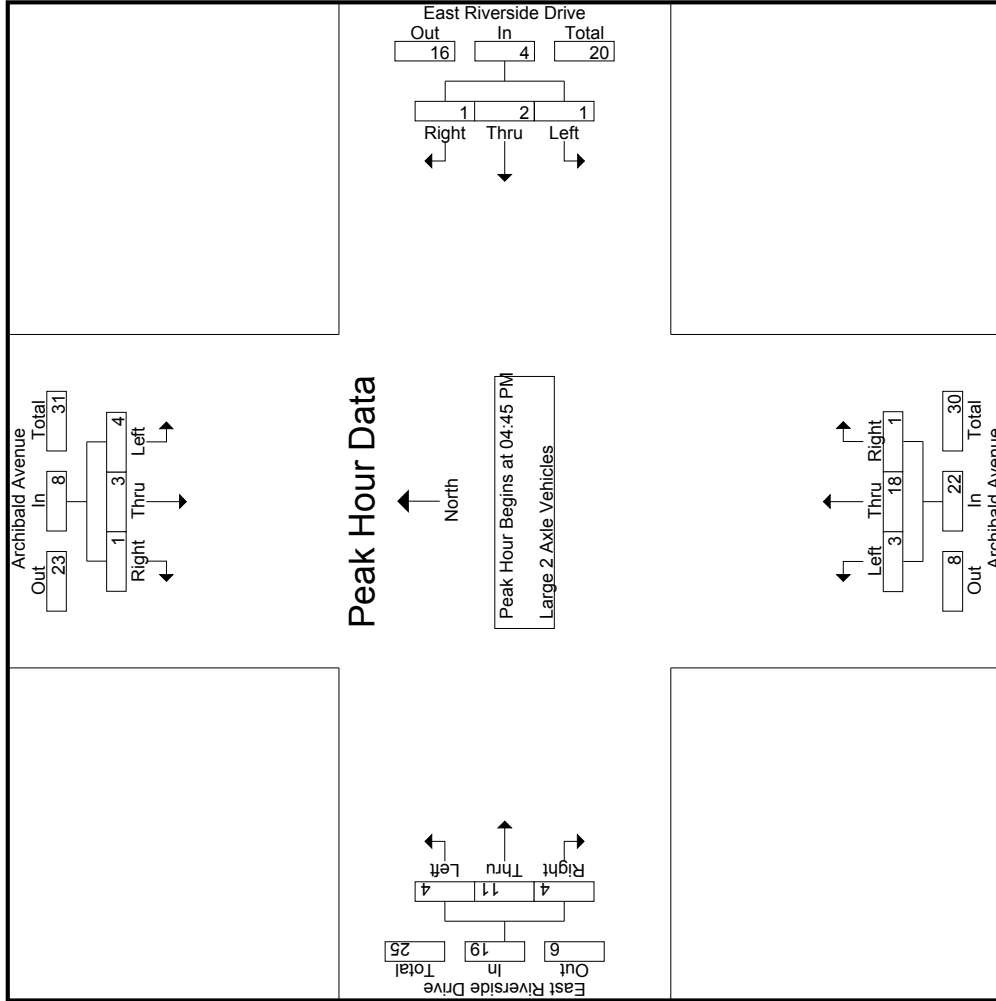
Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	1	0	0	2	1	0	0	3	0	6	10
05:00 PM	2	1	0	0	3	0	1	1	1	2	2	6	0	0	0	1	2	2	0	5	2	5	17
05:15 PM	0	0	0	0	0	1	1	0	0	0	0	7	1	0	1	0	1	0	0	2	0	3	14
05:30 PM	2	1	0	0	3	0	0	0	0	0	0	4	0	0	4	2	3	0	0	6	0	5	12
Total Volume	4	3	0	0	7	1	2	1	1	2	3	18	1	0	11	4	11	4	0	19	4	19	53
% App. Total	50	37.5	12.5		13.6	25	50	25		25	13.6	81.8	4.5		21.1	21.1	57.9	21.1					
PHF	.500	.750	.250		.667	.250	.500	.250		.250	.375	.643	.250		.688	.500	.550	.500		.792			.779

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	6
+15 mins.	2	1	0	3	0	1	1	1	0	0	0	2	2	5
+30 mins.	0	0	1	1	1	0	0	2	0	1	1	0	2	3
+45 mins.	2	1	0	3	0	0	0	0	0	0	0	2	3	5
Total Volume	4	3	1	8	1	2	1	4	3	18	1	4	11	19
% App. Total	50	37.5	12.5	25	50	25	25	13.6	81.8	4.5	21.1	57.9	21.1	
PHF	.500	.750	.250	.667	.250	.500	.250	.375	.643	.250	.688	.550	.500	.792

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound			App. Total	Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
04:45 PM	0	1	0	0	0	0	2	1	0	1	5	0	6	
04:45 PM	2	1	0	0	1	1	1	6	0	1	2	2	5	
04:45 PM	0	0	1	1	1	0	0	7	1	0	1	2	3	
04:45 PM	2	1	0	0	0	0	0	4	0	2	3	0	5	
04:45 PM	4	3	1	1	2	1	3	18	1	4	11	4	19	
04:45 PM	50	37.5	12.5	25	50	25	13.6	81.8	4.5	21.1	57.9	21.1		
04:45 PM	.500	.750	.250	.250	.500	.250	.375	.643	.250	.688	.550	.500	.792	

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	1	1	2	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	1	6	7
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	1	0	0	0	4	4
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	0	0	3	3
Total	0	3	1	1	4	0	0	0	0	0	5	3	0	8	1	1	1	0	3	1	15	16	16
05:00 PM	0	2	0	0	2	0	0	1	0	1	0	1	1	0	2	0	1	0	0	1	0	6	6
05:15 PM	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	0	3	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	0	2	0	0	2	0	5	5
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	3	0	0	3	0	2	1	0	3	4	2	0	6	0	3	0	0	3	0	0	15	15
Grand Total	0	6	1	1	7	0	2	1	0	3	9	5	0	14	1	4	1	0	6	1	30	31	31
Approach %	0	85.7	14.3		23.3	0	66.7	33.3		10	64.3	35.7		46.7	16.7	66.7	16.7		20	3.2	96.8		
Total %	0	20	3.3			0	6.7	3.3			30	16.7			3.3	13.3	3.3						

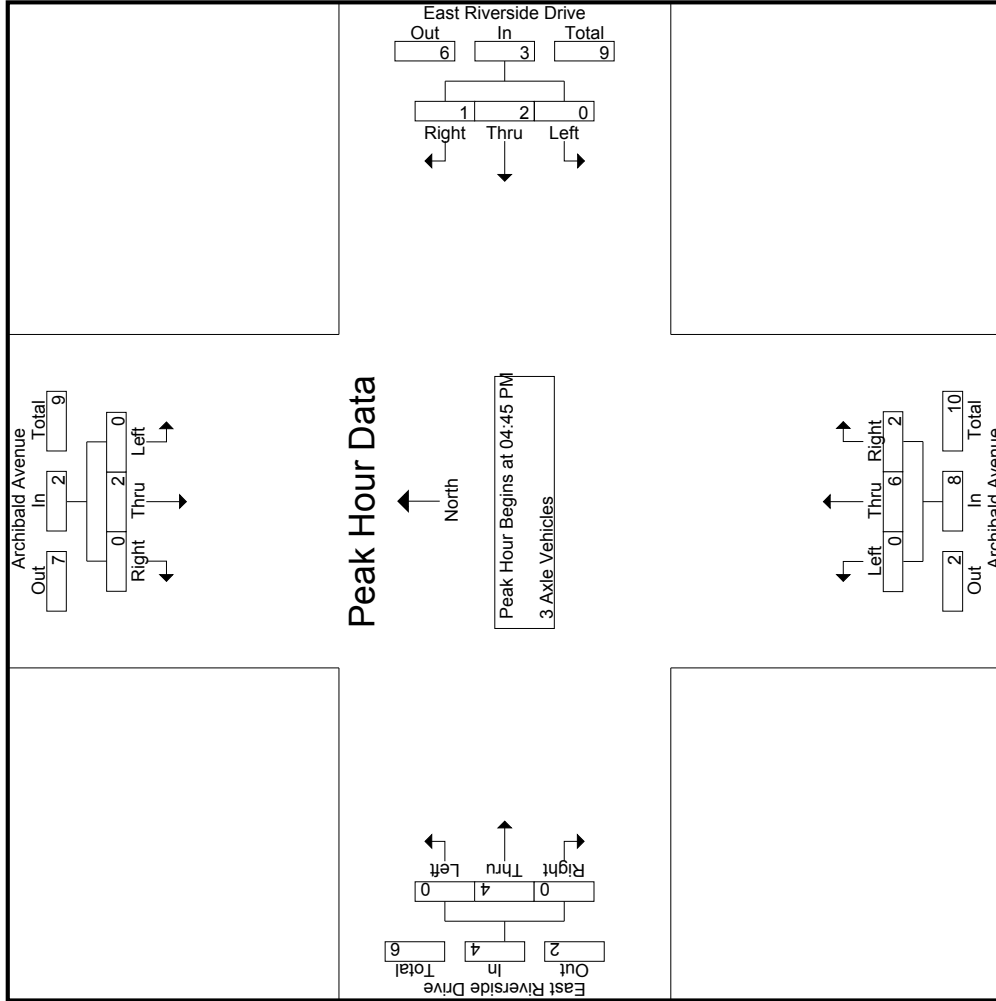
Start Time	Archibald Avenue Southbound					East Riverside Drive Westbound					Archibald Avenue Northbound					East Riverside Drive Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	0	0	1	3
05:00 PM	0	2	0	0	2	0	0	0	0	1	0	1	1	0	2	0	1	0	0	1	0	1	6
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	2	5
Total Volume	0	2	0	0	2	0	0	2	0	3	0	6	2	8	0	4	0	4	0	4	0	4	17
% App. Total	0	100	0	0	100	0	66.7	33.3	0	33.3	0	75	25	100	0	100	0	100	0	0	0	0	17
PHF	.000	.250	.000		.250	.000	.500	.250		.750	.000	.750	.500	1.00	.500	.000	.500	.000	.500	.000	.500	.708	.708

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	04:45 PM			04:45 PM			04:45 PM			04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	2	0	0	1	0	1
+15 mins.	0	2	0	0	0	1	0	0	1	1	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	2	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	0	1	1	0	2	0	2
Total Volume	0	2	0	0	2	1	0	0	6	2	0	4	0	4
% App. Total	0	100	0	0	66.7	33.3	0	0	75	25	0	100	0	0
PHF	.000	.250	.000	.000	.500	.250	.000	.750	.500	.000	.500	.000	1.000	.500

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
04:00 PM	0	4	1	0	0	2	1	0	3	0	1	0	0	0	0	0	0	0	9
04:15 PM	1	6	1	1	0	0	2	1	2	0	0	1	0	1	0	0	1	2	14
04:30 PM	0	1	0	0	1	3	0	0	4	1	2	0	0	3	0	1	0	2	10
04:45 PM	1	3	0	0	0	0	0	0	4	0	4	1	1	5	0	0	0	1	10
Total	2	14	2	1	18	5	3	1	9	1	7	2	1	10	1	1	0	3	43
05:00 PM	0	2	1	0	0	1	0	0	1	0	6	1	0	7	0	2	0	0	13
05:15 PM	0	2	1	0	0	0	0	0	0	0	4	1	0	5	0	2	0	0	10
05:30 PM	0	1	0	0	1	3	0	0	3	0	1	1	0	2	0	1	1	2	9
05:45 PM	0	0	1	0	1	0	0	0	0	1	0	1	0	2	0	1	0	0	4
Total	0	5	3	0	8	3	1	0	4	1	11	4	0	16	0	6	1	1	36
Grand Total	2	19	5	1	26	4	6	3	13	2	18	6	1	26	1	7	2	1	79
Approach %	7.7	73.1	19.2		30.8	46.2	23.1		17.3	7.7	69.2	23.1		34.7	10	70	20		5.1
Total %	2.7	25.3	6.7		5.3	8	4		17.3	2.7	24	8		34.7	1.3	9.3	2.7		94.9

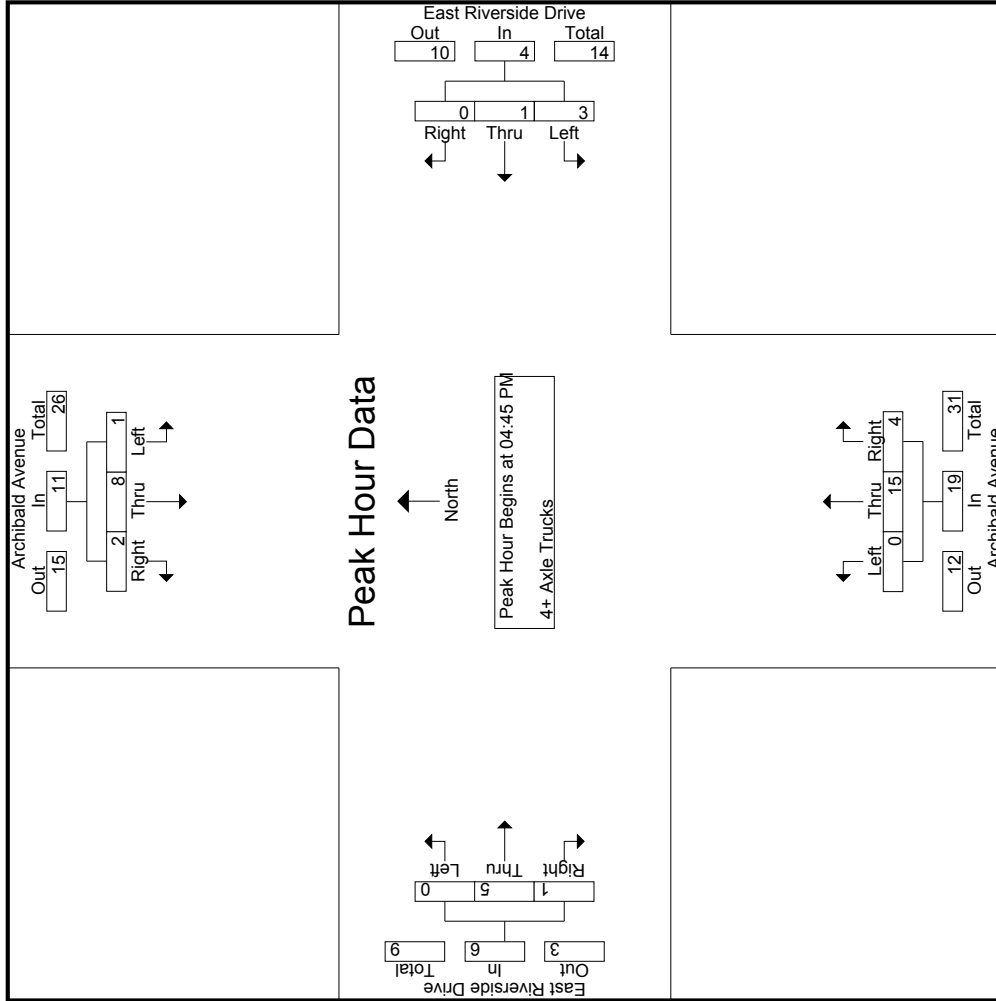
Start Time	Archibald Avenue Southbound				East Riverside Drive Westbound				Archibald Avenue Northbound				East Riverside Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR			
04:45 PM	1	3	0		0	0	0		0	0	4	1		1	5	0	0		9
05:00 PM	0	2	1		0	1	0		0	1	6	1		7	7	0	0		13
05:15 PM	0	2	1		0	0	0		0	0	4	1		5	0	2	0		10
05:30 PM	0	1	0		1	3	0		3	0	1	1		2	0	1	1		8
Total Volume	1	8	2		3	1	1		4	0	15	4		19	0	5	1		40
% App. Total	9.1	72.7	18.2		7.5	25	0		21.1	0	78.9	21.1		83.3	0	16.7			7.69
PHF	.250	.667	.500		.250	.000	.000		.333	.000	.625	1.00		.679	.000	.625	.250		.769

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 2



Counts Unlimited
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive
 Weather: Clear

File Name : ONTARRIPM
 Site Code : 05116658
 Start Date : 12/13/2016
 Page No : 3

Start Time	Archibald Avenue Southbound			East Riverside Drive Westbound			Archibald Avenue Northbound			East Riverside Drive Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	04:45 PM													
+0 mins.	1	3	0	0	0	0	0	0	4	1	0	0	5	0
+15 mins.	0	2	1	0	1	0	0	0	6	1	0	2	7	0
+30 mins.	0	2	1	0	0	0	0	0	4	1	0	2	5	0
+45 mins.	0	1	0	3	0	0	0	0	1	1	0	1	2	0
Total Volume	1	8	2	3	1	0	0	0	15	4	0	5	19	1
% App. Total	9.1	72.7	18.2	75	25	0	0	0	78.9	21.1	0	83.3	16.7	6
PHF	.250	.667	.500	.250	.250	.000	.333	.000	.625	1.000	.000	.625	.679	.250

Location: Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive



Date: 12/13/2016
 Day: Tuesday

PEDESTRIANS

	North Leg Archibald Avenue	East Leg East Riverside Drive	South Leg Archibald Avenue	West Leg East Riverside Drive	TOTAL
7:00 AM	0	1	2	0	3
7:15 AM	1	1	2	1	5
7:30 AM	0	0	0	0	0
7:45 AM	0	0	3	0	3
8:00 AM	3	1	2	2	8
8:15 AM	0	1	1	0	2
8:30 AM	5	5	0	0	10
8:45 AM	0	0	0	2	2
TOTAL VOLUMES:	9	9	10	5	33

	North Leg Archibald Avenue	East Leg East Riverside Drive	South Leg Archibald Avenue	West Leg East Riverside Drive	TOTAL
4:00 PM	2	2	7	2	13
4:15 PM	1	2	0	1	4
4:30 PM	1	3	2	2	8
4:45 PM	4	4	1	1	10
5:00 PM	3	4	1	1	9
5:15 PM	1	3	0	0	4
5:30 PM	0	1	0	5	6
5:45 PM	2	0	0	0	2
TOTAL VOLUMES:	14	19	11	12	56

Location: Ontario
 N/S: Archibald Avenue
 E/W: East Riverside Drive



Date: 12/13/2016
 Day: Tuesday

BICYCLES

	North Leg Archibald Avenue	East Leg East Riverside Drive	South Leg Archibald Avenue	West Leg East Riverside Drive	TOTAL
7:00 AM	2	1	0	3	6
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	0	0
8:45 AM	0	4	0	0	4
TOTAL VOLUMES:	4	5	0	4	13

	North Leg Archibald Avenue	East Leg East Riverside Drive	South Leg Archibald Avenue	West Leg East Riverside Drive	TOTAL
4:00 PM	0	0	0	2	2
4:15 PM	2	2	0	1	5
4:30 PM	0	1	3	0	4
4:45 PM	0	0	1	0	1
5:00 PM	0	1	1	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	4	5	3	14

Counts Unlimited, Inc.

PO Box 1178
 Corona, CA 92878
 Phone: (951) 268-6268
 email: counts@countsunlimited.com

City of Ontario
 Archibald Avenue
 N/ Riverside Drive
 24 Hour Directional Classification Count
 Northbound

ONT001
 Site Code: 051-16658

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle		4 Axle		<5 Axl		5 Axle		>6 Axl		Total
	Bikes	Trailers				Single	Double	Single	Double	Single	Double	Multi	Multi	Double	Multi	
12/07/16	2	82	9	0	1	6	0	0	0	0	0	5	0	0	0	105
01:00	1	38	6	1	0	3	0	0	0	0	0	2	0	0	0	51
02:00	3	37	8	1	2	4	0	0	0	0	0	1	0	0	0	56
03:00	2	94	26	1	4	6	0	0	0	0	0	10	0	0	0	143
04:00	4	281	80	2	10	5	0	0	0	0	0	5	0	0	0	388
05:00	7	307	92	2	25	9	1	3	0	0	0	13	0	2	0	461
06:00	6	564	123	7	18	11	0	10	0	0	0	11	0	1	0	751
07:00	13	1020	180	5	45	15	0	7	0	0	0	13	0	1	0	1301
08:00	9	749	164	3	34	15	0	13	0	0	0	20	0	1	0	1008
09:00	5	544	156	5	39	12	0	8	0	0	0	8	0	0	0	777
10:00	16	490	123	7	38	30	0	4	0	0	0	16	0	0	0	724
11:00	4	516	121	6	43	15	0	7	0	0	0	19	0	0	0	733
12 PM	6	524	126	12	43	20	0	6	0	0	0	14	0	2	0	754
13:00	4	605	144	11	39	22	0	2	0	0	0	10	0	0	0	838
14:00	3	568	187	9	48	12	0	10	0	0	0	14	0	1	0	854
15:00	2	634	192	5	66	7	0	6	0	0	0	5	0	0	0	921
16:00	10	630	158	0	50	6	0	3	0	0	0	6	0	0	0	863
17:00	6	635	182	7	38	10	0	5	0	0	0	8	0	0	0	893
18:00	5	567	114	2	34	7	0	4	0	0	0	7	0	0	0	741
19:00	8	408	90	1	18	4	0	2	0	0	0	1	0	0	0	532
20:00	6	320	80	1	1	5	0	1	0	0	0	4	0	0	0	418
21:00	2	297	61	1	7	6	0	2	0	0	0	8	0	0	0	384
22:00	4	173	29	3	4	7	0	0	0	0	0	3	0	0	0	224
23:00	4	114	13	0	3	5	0	0	0	0	0	3	0	0	0	142
Total	132	10197	2464	92	610	242	4	94	206	4	10	206	4	10	5	14062
Percent	0.9%	72.5%	17.5%	0.7%	4.3%	1.7%	0.0%	0.7%	1.5%	0.0%	0.1%	1.5%	0.0%	0.1%	0.0%	
AM Peak	10:00	07:00	07:00	06:00	07:00	10:00	05:00	08:00	08:00	07:00	05:00	08:00	07:00	07:00	07:00	07:00
Vol.	16	1020	180	7	45	30	1	13	20	1	2	20	1	1	1	1301
PM Peak	16:00	17:00	15:00	12:00	15:00	13:00	15:00	14:00	12:00	14:00	12:00	12:00	12:00	12:00	15:00	15:00
Vol.	10	635	192	12	66	22	2	10	14	1	2	14	1	2	2	921
Grand Total	132	10197	2464	92	610	242	4	94	206	4	10	206	4	10	5	14062
Percent	0.9%	72.5%	17.5%	0.7%	4.3%	1.7%	0.0%	0.7%	1.5%	0.0%	0.1%	1.5%	0.0%	0.1%	0.0%	

Counts Unlimited, Inc.

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ONT001
 Site Code: 051-16658

City of Ontario
 Archibald Avenue
 N/ Riverside Drive
 24 Hour Directional Classification Count
 Southbound

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
	Bikes	Trailers												
12/07/16	4	124	13	0	4	3	0	0	6	0	0	0	0	154
01:00	1	69	10	0	2	0	0	0	4	0	1	0	0	87
02:00	0	66	5	0	1	2	0	0	4	0	0	0	0	78
03:00	2	88	13	0	1	5	0	0	5	0	0	0	0	114
04:00	0	110	20	0	5	4	0	0	7	0	0	0	0	146
05:00	3	285	70	6	9	7	1	4	7	0	1	0	0	393
06:00	6	316	102	7	35	9	0	15	11	0	2	1	0	504
07:00	11	450	100	7	25	15	1	8	17	1	0	0	0	635
08:00	6	451	99	4	30	6	1	11	7	0	0	0	1	616
09:00	5	382	79	7	27	15	0	8	15	0	0	0	0	538
10:00	4	373	100	5	45	11	2	10	20	0	0	0	0	570
11:00	2	504	99	5	43	7	0	6	19	0	1	0	0	686
12 PM	10	545	94	7	25	19	1	4	20	1	2	0	0	728
13:00	5	592	126	9	31	11	1	4	26	0	1	0	0	806
14:00	11	563	123	6	32	8	1	5	13	1	1	0	2	766
15:00	7	597	116	3	30	5	0	2	8	1	1	0	1	771
16:00	5	714	161	1	33	8	1	2	5	1	0	0	0	931
17:00	7	907	163	7	27	10	1	5	10	1	0	0	1	1139
18:00	10	704	101	1	20	11	1	0	3	1	1	0	0	853
19:00	5	649	107	1	14	3	0	3	8	0	0	0	0	790
20:00	4	598	68	1	10	6	0	1	5	0	0	0	0	693
21:00	2	462	55	2	6	2	0	1	4	0	0	0	0	534
22:00	5	353	41	0	2	4	0	0	4	0	0	0	0	409
23:00	2	194	21	0	6	3	0	2	0	0	0	0	0	228
Total	117	10096	1886	79	463	174	11	91	228	7	11	1	5	13169
Percent	0.9%	76.7%	14.3%	0.6%	3.5%	1.3%	0.1%	0.7%	1.7%	0.1%	0.1%	0.0%	0.0%	
AM Peak	07:00	11:00	06:00	06:00	10:00	07:00	10:00	06:00	10:00	07:00	06:00	06:00	08:00	11:00
Vol.	11	504	102	7	45	15	2	15	20	1	2	1	1	686
PM Peak	14:00	17:00	17:00	13:00	16:00	12:00	12:00	14:00	13:00	12:00	12:00	14:00	14:00	17:00
Vol.	11	907	163	9	33	19	1	5	26	1	2	2	2	1139
Grand Total	117	10096	1886	79	463	174	11	91	228	7	11	1	5	13169
Percent	0.9%	76.7%	14.3%	0.6%	3.5%	1.3%	0.1%	0.7%	1.7%	0.1%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.

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ONT001
Site Code: 051-16658

City of Ontario
Archibald Avenue
N/ Riverside Drive
24 Hour Directional Classification Count
Northbound, Southbound

Start Time	Cats & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle		4 Axle		<5 Axl		5 Axle		>6 Axl		>6 Axl		Total
	Bikes	Trailers				Single	Double	Single	Double	Single	Double	Multi	Multi	Double	Double	Multi	Multi	
12/07/16	6	206	22	0	5	9	0	0	0	0	0	11	0	0	0	0	0	259
01:00	2	107	16	1	2	3	0	0	0	0	0	6	0	1	0	0	0	138
02:00	3	103	13	1	3	6	0	0	0	0	0	5	0	0	0	0	0	134
03:00	4	182	39	1	5	11	0	0	0	0	0	15	0	0	0	0	0	257
04:00	4	391	100	2	15	9	0	0	0	0	0	12	0	1	0	0	0	534
05:00	10	592	162	8	34	16	2	7	0	0	0	20	0	3	0	0	0	854
06:00	12	880	225	14	53	20	0	25	0	0	0	22	0	3	1	0	0	1255
07:00	24	1470	280	12	70	30	1	15	0	0	0	30	2	1	0	1	0	1936
08:00	15	1200	263	7	64	21	1	24	0	0	0	27	0	1	0	0	0	1624
09:00	10	926	235	12	66	27	0	16	0	0	0	23	0	0	0	0	0	1315
10:00	20	863	223	12	83	41	2	14	0	0	0	36	0	0	0	0	0	1294
11:00	6	1020	220	11	86	22	0	13	0	0	0	38	1	2	0	0	0	1419
12 PM	16	1069	220	19	68	39	1	10	0	0	0	34	1	4	0	0	0	1482
13:00	9	1197	270	20	70	33	1	6	0	0	0	36	0	1	0	0	0	1644
14:00	14	1131	310	15	80	20	1	15	0	0	0	27	2	2	1	0	0	1620
15:00	9	1231	308	8	96	12	2	8	0	0	0	13	1	1	0	3	0	1692
16:00	15	1344	319	1	83	14	1	5	0	0	0	11	1	0	0	0	0	1794
17:00	13	1542	345	14	65	20	2	10	0	0	0	18	2	0	0	0	0	2032
18:00	15	1271	215	3	54	18	1	4	0	0	0	10	1	1	0	0	0	1594
19:00	13	1057	197	2	32	7	0	5	0	0	0	9	0	0	0	0	0	1322
20:00	10	918	148	2	11	11	0	2	0	0	0	9	0	0	0	0	0	1111
21:00	4	759	116	3	13	8	0	3	0	0	0	12	0	0	0	0	0	918
22:00	9	526	70	3	6	11	0	1	0	0	0	7	0	0	0	0	0	633
23:00	6	308	34	0	9	8	0	2	0	0	0	3	0	0	0	0	0	370
Total	249	20293	4350	171	1073	416	15	185	0.1%	0.7%	0.7%	434	11	21	3	10	0.0%	27231
Percent	0.9%	74.5%	16.0%	0.6%	3.9%	1.5%	0.1%	0.7%	0.1%	0.7%	1.6%	1.6%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	06:00	11:00	10:00	05:00	06:00	06:00	06:00	06:00	11:00	07:00	05:00	06:00	07:00	07:00	07:00
Vol.	24	1470	280	14	86	41	2	25	2	25	38	3	2	3	1	1	1	1936
PM Peak	12:00	17:00	17:00	13:00	15:00	12:00	15:00	14:00	14:00	14:00	13:00	14:00	14:00	12:00	12:00	15:00	15:00	17:00
Vol.	16	1542	345	20	96	39	2	15	2	15	36	2	2	4	1	3	3	2032
Grand Total	249	20293	4350	171	1073	416	15	185	0.1%	0.7%	1.6%	434	11	21	3	10	0.0%	27231
Percent	0.9%	74.5%	16.0%	0.6%	3.9%	1.5%	0.1%	0.7%	0.1%	0.7%	1.6%	1.6%	0.0%	0.1%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Ontario
 Hammer Avenue
 S/ Ontario Ranch Road
 24 Hour Directional Classification Count
 Northbound

ONT003
 Site Code: 051-16658

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
	Bikes	Trailers												
12/07/16	2	30	4	1	1	2	0	0	0	0	0	0	0	40
01:00	0	24	2	0	3	1	0	0	0	0	0	0	0	30
02:00	0	27	8	1	2	0	0	0	0	0	0	0	0	38
03:00	0	58	15	0	9	0	0	0	0	0	0	0	0	82
04:00	2	169	43	0	24	0	0	0	0	0	0	0	0	238
05:00	2	227	74	0	34	0	0	2	0	0	0	0	0	339
06:00	4	445	120	2	49	0	0	3	0	0	0	0	0	623
07:00	13	561	142	0	47	6	0	7	0	0	0	0	0	776
08:00	4	445	130	2	51	3	1	2	1	0	0	0	0	639
09:00	2	335	102	2	21	1	0	3	0	0	0	0	0	466
10:00	5	277	78	2	21	4	0	5	1	0	0	0	0	393
11:00	1	232	83	0	26	3	0	3	0	0	1	0	0	349
12 PM	1	273	98	3	35	3	0	3	2	0	0	0	0	418
13:00	1	310	89	4	42	4	0	3	2	0	0	0	0	455
14:00	1	322	108	3	25	4	0	1	0	0	0	0	0	464
15:00	6	321	108	1	29	3	0	0	0	0	0	0	0	468
16:00	4	311	98	2	24	1	0	0	2	0	0	0	0	442
17:00	2	338	95	4	23	2	0	1	0	0	0	0	0	465
18:00	3	352	77	0	18	6	0	0	1	0	0	0	0	457
19:00	1	211	56	1	13	1	0	0	0	0	0	0	0	283
20:00	2	187	42	1	10	5	0	0	0	0	0	0	0	247
21:00	1	162	33	0	14	1	0	0	0	0	0	0	0	211
22:00	3	92	22	0	1	1	0	0	0	0	0	0	0	119
23:00	3	58	12	0	1	2	0	0	0	0	0	0	0	76
Total	63	5767	1639	29	523	53	1	33	9	0	1	0	0	8118
Percent	0.8%	71.0%	20.2%	0.4%	6.4%	0.7%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	06:00	08:00	07:00	08:00	07:00	08:00	08:00	11:00	08:00	07:00	07:00
Vol.	13	561	142	2	51	6	1	7	1	1	1	1	1	776
PM Peak	15:00	18:00	14:00	13:00	13:00	18:00	18:00	12:00	12:00	12:00	15:00	15:00	15:00	15:00
Vol.	6	352	108	4	42	6	3	3	2	2	468	468	468	
Grand Total	63	5767	1639	29	523	53	1	33	9	0	1	0	0	8118
Percent	0.8%	71.0%	20.2%	0.4%	6.4%	0.7%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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Site Code: 051-16658

City of Ontario
Hammer Avenue
S/ Ontario Ranch Road
24 Hour Directional Classification Count
Southbound
email: counts@countsunlimited.com

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle		4 Axle		<5 Axl Double		5 Axle Double		>6 Axl Double		<6 Axl Multi		6 Axle Multi		>6 Axl Multi		Total
	Bikes	Trailers				Single	Single	Single	Double	Double	Double	Double	Multi	Multi	Multi	Multi	Multi	Multi	Multi			
12/07/16	1	58	27	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	
01:00	0	34	13	0	5	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	55	
02:00	0	33	10	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	
03:00	0	18	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
04:00	0	41	23	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	
05:00	0	78	21	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	
06:00	0	91	43	1	22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158	
07:00	10	145	65	1	27	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	250	
08:00	1	157	99	2	29	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	289	
09:00	2	135	82	3	33	2	0	0	5	1	0	1	0	0	0	0	0	0	0	0	263	
10:00	0	144	68	7	36	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	257	
11:00	1	203	97	0	45	2	0	0	2	2	0	2	0	0	0	0	0	0	0	0	352	
12 PM	4	243	119	1	56	6	0	0	2	2	0	0	0	0	0	0	0	0	0	0	431	
13:00	0	265	133	3	51	5	0	0	1	1	0	3	0	0	0	0	0	0	0	0	461	
14:00	1	314	147	2	52	4	0	0	4	4	0	2	0	0	0	0	0	0	0	0	526	
15:00	4	413	207	2	72	7	0	0	2	2	0	1	0	0	0	0	0	0	0	0	708	
16:00	4	281	385	2	98	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	771	
17:00	1	114	651	2	118	4	0	0	5	2	0	2	0	0	0	0	0	0	0	0	897	
18:00	4	86	573	1	90	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	761	
19:00	0	28	412	1	97	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	539	
20:00	1	17	310	0	107	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	436	
21:00	0	7	232	0	59	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	299	
22:00	0	4	142	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208	
23:00	2	2	77	2	70	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	
Total	36	2911	3943	32	1169	39	0	0	30	13	0	13	0	0	1	0	0	0	0	0	8174	
Percent	0.4%	35.6%	48.2%	0.4%	14.3%	0.5%	0.0%	0.0%	0.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
AM Peak	07:00	11:00	08:00	10:00	11:00	09:00	09:00	09:00	09:00	01:00	01:00	01:00	10:00	10:00	11:00	11:00	11:00	11:00	11:00	11:00	352	
Vol.	10	203	99	7	45	2	2	2	5	2	2	2	1	1	352	352	352	352	352	352		
PM Peak	12:00	15:00	17:00	13:00	17:00	15:00	15:00	15:00	17:00	13:00	13:00	13:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	897	
Vol.	4	413	651	3	118	7	7	7	5	3	3	3	7	7	897	897	897	897	897	897		
Grand Total	36	2911	3943	32	1169	39	0	0	30	13	0	13	0	1	0	0	0	0	0	0	8174	
Percent	0.4%	35.6%	48.2%	0.4%	14.3%	0.5%	0.0%	0.0%	0.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		

Counts Unlimited, Inc.

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City of Ontario
 Hammer Avenue
 S/ Ontario Ranch Road
 24 Hour Directional Classification Count

Northbound, Southbound

Start Time	Cats & Trailers		2 Axle		3 Axle		4 Axle		<5 Axl		5 Axle		>6 Axl		6 Axle		>6 Axl		Total
	Bikes	Trailers	Long	Buses	6 Tire	Single	Single	Single	Double	Double	Double	Double	Multi	Multi	Multi	Multi	Multi		
12/07/16	3	88	31	1	7	2	0	0	0	0	0	0	0	0	0	0	0	0	132
01:00	0	58	15	0	8	2	0	0	0	0	2	0	0	0	0	0	0	0	85
02:00	0	60	18	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	87
03:00	0	76	22	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	110
04:00	2	210	66	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	313
05:00	2	305	95	1	49	0	0	0	2	0	0	0	0	0	0	0	0	0	454
06:00	4	536	163	3	71	1	0	0	3	0	0	0	0	0	0	0	0	0	781
07:00	23	706	207	1	74	7	0	0	8	0	0	0	0	0	0	0	0	0	1026
08:00	5	602	229	4	80	3	1	3	3	1	0	0	0	0	0	0	0	0	928
09:00	4	470	184	5	54	3	0	0	8	1	0	0	0	0	0	0	0	0	729
10:00	5	421	146	9	57	4	0	0	6	1	0	0	0	0	0	0	0	0	650
11:00	2	435	180	0	71	5	0	0	5	2	0	0	0	0	0	0	0	0	701
12 PM	5	516	217	4	91	9	0	0	5	2	0	0	0	0	0	0	0	0	849
13:00	1	575	222	7	93	9	0	0	4	5	0	0	0	0	0	0	0	0	916
14:00	2	636	255	5	77	8	0	0	5	2	0	0	0	0	0	0	0	0	990
15:00	10	734	315	3	101	10	0	0	2	1	0	0	0	0	0	0	0	0	1176
16:00	8	592	483	4	122	2	0	0	0	2	0	0	0	0	0	0	0	0	1213
17:00	3	452	746	6	141	6	0	0	6	2	0	0	0	0	0	0	0	0	1362
18:00	7	438	650	1	108	8	0	0	5	1	0	0	0	0	0	0	0	0	1218
19:00	1	239	468	2	110	1	0	0	1	0	0	0	0	0	0	0	0	0	822
20:00	3	204	352	1	117	6	0	0	0	0	0	0	0	0	0	0	0	0	683
21:00	1	169	265	0	73	2	0	0	0	0	0	0	0	0	0	0	0	0	510
22:00	3	96	164	0	63	1	0	0	0	0	0	0	0	0	0	0	0	0	327
23:00	5	60	89	2	71	3	0	0	0	0	0	0	0	0	0	0	0	0	230
Total	99	8678	5582	61	1692	92	1	63	22	0	0	0	0	0	0	0	0	0	16292
Percent	0.6%	53.3%	34.3%	0.4%	10.4%	0.6%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	10:00	08:00	07:00	08:00	07:00	07:00	01:00	10:00	07:00	07:00	10:00	07:00	07:00	10:00	07:00	07:00
Vol.	23	706	229	9	80	7	1	8	2	1	8	2	1	1	8	2	1	1	1026
PM Peak	15:00	15:00	17:00	13:00	17:00	15:00	15:00	17:00	13:00	13:00	17:00	13:00	17:00	17:00	17:00	13:00	17:00	17:00	17:00
Vol.	10	734	746	7	141	10	10	6	5	6	6	5	5	6	5	5	6	5	1362
Grand Total	99	8678	5582	61	1692	92	1	63	22	0	0	0	0	0	0	0	0	0	16292
Percent	0.6%	53.3%	34.3%	0.4%	10.4%	0.6%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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ONT002
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City of Ontario
 Ontario Ranch Road
 E/ Archibald Avenue
 24 Hour Directional Classification Count
 Eastbound

Start Time	Cars & Trailers	Bikes	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	19	2	4	0	1	6	0	0	1	0	0	0	0	33
01:00	7	0	5	0	2	1	0	0	3	0	0	0	0	18
02:00	15	1	2	0	1	1	0	0	6	0	0	0	0	26
03:00	16	0	5	0	1	0	0	0	9	0	5	0	0	36
04:00	30	2	10	1	6	3	0	0	6	0	2	0	0	60
05:00	66	3	17	0	2	4	0	5	3	0	2	1	0	103
06:00	175	7	29	5	7	13	0	4	7	0	1	0	0	248
07:00	277	7	37	3	16	26	0	5	5	0	1	0	0	377
08:00	184	5	31	6	13	26	0	6	7	0	0	1	0	279
09:00	107	4	24	5	11	22	0	6	3	0	0	0	0	182
10:00	105	3	38	4	19	27	0	7	14	0	2	0	0	219
11:00	84	2	30	3	12	26	1	6	12	0	1	0	0	177
12 PM	86	4	31	8	16	14	0	5	8	1	0	0	0	173
13:00	121	3	54	3	11	18	0	5	5	0	0	0	1	221
14:00	249	7	78	2	25	21	0	5	7	0	1	0	2	397
15:00	352	13	107	5	38	15	0	12	12	0	0	0	0	555
16:00	346	9	83	3	36	18	0	11	6	0	1	0	1	514
17:00	415	8	86	1	18	6	0	11	7	2	0	0	0	554
18:00	287	7	44	0	15	3	0	3	1	0	2	1	0	363
19:00	153	1	21	1	7	1	0	2	7	0	0	0	0	193
20:00	96	0	14	0	4	1	0	3	2	0	0	0	0	120
21:00	65	2	15	0	2	2	0	1	4	0	0	0	0	91
22:00	56	0	7	0	4	1	0	1	3	0	0	0	0	72
23:00	29	0	4	0	1	1	0	0	3	0	0	0	0	38
Total	3340	90	776	50	268	256	1	98	141	3	18	3	5	5049
Percent	66.2%	1.8%	15.4%	1.0%	5.3%	5.1%	0.0%	1.9%	2.8%	0.1%	0.4%	0.1%	0.1%	
AM Peak	07:00	06:00	10:00	08:00	10:00	10:00	11:00	10:00	10:00	03:00	05:00	05:00		07:00
Vol.	277	7	38	6	19	27	1	7	14	5	1	1		377
PM Peak	17:00	15:00	15:00	12:00	15:00	14:00	15:00	15:00	15:00	17:00	18:00	18:00	14:00	15:00
Vol.	415	13	107	8	38	21	1	12	12	2	2	1	2	555
Grand Total	3340	90	776	50	268	256	1	98	141	3	18	3	5	5049
Percent	66.2%	1.8%	15.4%	1.0%	5.3%	5.1%	0.0%	1.9%	2.8%	0.1%	0.4%	0.1%	0.1%	

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City of Ontario
 Ontario Ranch Road
 E/ Archibald Avenue
 24 Hour Directional Classification Count
 Westbound

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle		4 Axle		<5 Axl Double		5 Axle Double		>6 Axl Double		<6 Axl Multi		6 Axle Multi		>6 Axl Multi		Total
	1	15				Single	Single	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	Double	
12/07/16	1	15	2	0	0	1	0	0	0	1	6	0	0	0	0	0	0	0	0	0	26	
01:00	1	8	2	0	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	19	
02:00	0	15	8	0	2	5	0	0	0	0	3	0	0	0	0	0	0	0	0	0	33	
03:00	1	27	16	0	1	7	0	0	0	1	3	0	0	0	0	0	0	0	0	0	56	
04:00	2	122	19	0	5	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	156	
05:00	6	413	95	3	27	6	0	0	0	4	9	0	0	0	0	0	0	0	0	0	564	
06:00	6	310	63	3	29	13	0	0	0	10	7	0	0	0	0	0	0	0	0	0	442	
07:00	2	300	68	1	20	24	5	5	18	14	14	0	0	0	0	0	0	0	0	0	458	
08:00	5	204	45	10	13	22	6	4	11	13	13	0	0	0	0	0	0	0	0	0	330	
09:00	1	108	32	5	21	15	1	1	16	8	8	0	0	0	0	0	0	0	0	0	207	
10:00	1	87	30	4	10	16	2	2	7	14	14	0	0	0	0	0	0	0	0	0	171	
11:00	0	87	22	5	11	16	3	3	3	12	12	1	1	1	1	0	0	0	0	0	162	
12 PM	2	94	33	5	15	16	5	7	7	7	7	0	0	0	0	0	0	0	0	0	186	
13:00	3	133	33	4	6	19	0	4	4	5	5	0	0	0	0	0	0	0	0	0	209	
14:00	3	150	41	4	13	19	0	4	4	10	10	0	0	0	0	0	0	0	0	0	247	
15:00	3	160	35	2	14	8	0	0	2	9	9	0	0	0	0	0	0	0	0	0	234	
16:00	9	241	45	2	15	5	0	0	2	3	3	1	2	2	0	0	0	0	0	0	325	
17:00	3	305	56	2	12	5	0	0	4	7	7	0	0	0	0	0	0	0	0	0	395	
18:00	3	224	23	0	8	2	0	0	1	4	4	0	0	0	0	0	0	0	0	0	265	
19:00	0	108	13	0	4	1	0	0	2	6	6	1	0	0	0	0	0	0	0	0	135	
20:00	0	81	11	0	2	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0	98	
21:00	2	84	7	0	2	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	98	
22:00	1	52	4	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	60	
23:00	0	23	4	0	1	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	33	
Total	55	3351	707	50	231	212	22	22	97	159	159	3	18	2	2	0	0	0	0	0	4909	
Percent	1.1%	68.3%	14.4%	1.0%	4.7%	4.3%	0.4%	0.4%	2.0%	3.2%	3.2%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	05:00	05:00	08:00	06:00	07:00	08:00	08:00	07:00	07:00	07:00	11:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	05:00	
Vol.	6	413	95	10	29	24	6	6	18	14	14	4	4	1	1	1	1	1	1	1	564	
PM Peak	16:00	17:00	17:00	12:00	12:00	13:00	12:00	12:00	12:00	14:00	14:00	16:00	14:00	14:00	17:00	17:00	17:00	17:00	17:00	17:00	17:00	
Vol.	9	305	56	5	15	19	5	5	7	10	10	3	3	3	3	3	3	3	3	3	395	
Grand Total	55	3351	707	50	231	212	22	22	97	159	159	3	18	2	2	0	0	0	0	0	4909	
Percent	1.1%	68.3%	14.4%	1.0%	4.7%	4.3%	0.4%	0.4%	2.0%	3.2%	3.2%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Ontario
 Ontario Ranch Road
 E/ Archibald Avenue
 24 Hour Directional Classification Count
 Eastbound, Westbound

Start Time	Cars & Trailers		2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
	Bikes	Trailer												
12/07/16	3	34	6	0	1	7	0	1	7	0	0	0	0	59
01:00	1	15	7	0	2	3	0	0	9	0	0	0	0	37
02:00	1	30	10	0	3	6	0	0	9	0	0	0	0	59
03:00	1	43	21	0	2	7	0	1	12	0	5	0	0	92
04:00	4	152	29	1	11	5	0	0	12	0	2	0	0	216
05:00	9	479	112	3	29	10	0	9	12	0	3	1	0	667
06:00	13	485	92	8	36	26	0	14	14	0	2	0	0	690
07:00	9	577	105	4	36	50	5	23	19	0	5	1	1	835
08:00	10	388	76	16	26	48	6	17	20	0	1	1	0	609
09:00	5	215	56	10	32	37	1	22	11	0	0	0	0	389
10:00	4	192	68	8	29	43	2	14	28	0	2	0	0	390
11:00	2	171	52	8	23	42	4	9	24	1	2	1	0	339
12 PM	6	180	64	13	31	30	5	12	15	1	2	0	0	359
13:00	6	254	87	7	17	37	0	9	10	0	2	0	1	430
14:00	10	399	119	6	38	40	0	9	17	0	4	0	2	644
15:00	16	512	142	7	52	23	0	14	21	0	1	0	1	789
16:00	18	587	128	5	51	23	0	13	9	1	3	0	1	839
17:00	11	720	142	3	30	11	0	15	14	2	0	0	1	949
18:00	10	511	67	0	23	5	0	4	5	0	2	1	0	628
19:00	1	261	34	1	11	2	0	4	13	1	0	0	0	328
20:00	0	177	25	0	6	3	0	3	4	0	0	0	0	218
21:00	4	149	22	0	4	3	0	1	6	0	0	0	0	189
22:00	1	108	11	0	4	3	0	1	4	0	0	0	0	132
23:00	0	52	8	0	2	4	0	0	5	0	0	0	0	71
Total	145	6691	1483	100	499	468	23	195	300	6	36	5	7	9958
Percent	1.5%	67.2%	14.9%	1.0%	5.0%	4.7%	0.2%	2.0%	3.0%	0.1%	0.4%	0.1%	0.1%	
AM Peak	06:00	07:00	05:00	08:00	06:00	07:00	08:00	07:00	10:00	11:00	03:00	05:00	07:00	07:00
Vol.	13	577	112	16	36	50	6	23	28	1	5	1	1	835
PM Peak	16:00	17:00	15:00	12:00	15:00	14:00	12:00	17:00	15:00	17:00	14:00	18:00	14:00	17:00
Vol.	18	720	142	13	52	40	5	15	21	2	4	1	2	949
Grand Total	145	6691	1483	100	499	468	23	195	300	6	36	5	7	9958
Percent	1.5%	67.2%	14.9%	1.0%	5.0%	4.7%	0.2%	2.0%	3.0%	0.1%	0.4%	0.1%	0.1%	

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APPENDIX 3.2:

EXISTING (2017) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

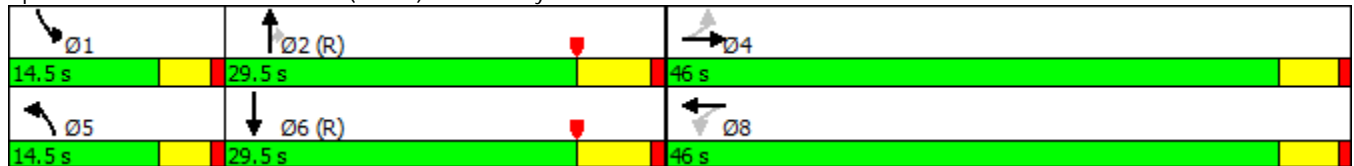


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	8	6	164	46	19	968	106	166	963
Future Volume (vph)	8	6	164	46	19	968	106	166	963
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 1/11/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	164	46	193	19	968	106	166	963	42
Future Volume (veh/h)	8	6	4	164	46	193	19	968	106	166	963	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	8	6	3	171	48	155	20	1008	84	173	1003	41
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	203	144	62	241	61	173	71	1504	673	180	1699	69
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.04	0.44	0.44	0.11	0.51	0.51
Sat Flow, veh/h	522	522	224	661	222	625	1619	3420	1530	1619	3349	137
Grp Volume(v), veh/h	17	0	0	374	0	0	20	1008	84	173	512	532
Grp Sat Flow(s),veh/h/ln	1268	0	0	1507	0	0	1619	1710	1530	1619	1710	1776
Q Serve(g_s), s	0.0	0.0	0.0	20.5	0.0	0.0	1.1	21.1	2.9	9.6	19.0	19.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	21.5	0.0	0.0	1.1	21.1	2.9	9.6	19.0	19.0
Prop In Lane	0.47		0.18	0.46		0.41	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	410	0	0	476	0	0	71	1504	673	180	867	901
V/C Ratio(X)	0.04	0.00	0.00	0.79	0.00	0.00	0.28	0.67	0.12	0.96	0.59	0.59
Avail Cap(c_a), veh/h	663	0	0	744	0	0	180	1504	673	180	867	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.49	0.49	0.49	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	0.0	31.2	0.0	0.0	41.7	20.0	14.9	39.8	15.6	15.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.4	1.2	0.2	55.4	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.1	0.0	0.0	0.5	10.2	1.3	7.0	9.5	9.9
LnGrp Delay(d),s/veh	23.8	0.0	0.0	32.4	0.0	0.0	42.1	21.2	15.1	95.2	18.5	18.4
LnGrp LOS	C			C			D	C	B	F	B	B
Approach Vol, veh/h		17			374			1112			1217	
Approach Delay, s/veh		23.8			32.4			21.1			29.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	45.6		29.9	8.4	51.6		29.9				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	11.6	23.1		2.6	3.1	21.0		23.5				
Green Ext Time (p_c), s	0.0	0.4		1.4	0.0	2.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			26.4									
HCM 2010 LOS			C									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

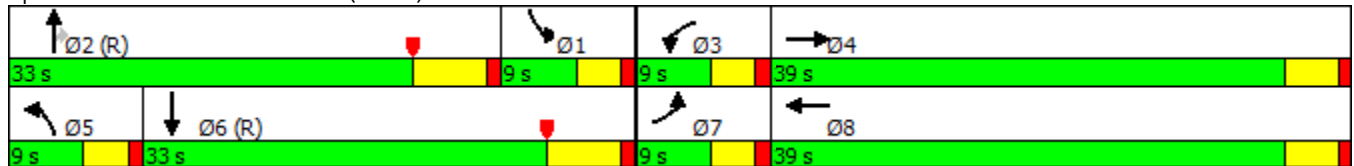


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	136	216	28	635	98	656	24	146	595
Future Volume (vph)	136	216	28	635	98	656	24	146	595
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 73 (81%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

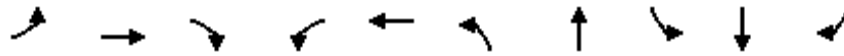
1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	216	25	28	635	253	98	656	24	146	595	313
Future Volume (veh/h)	136	216	25	28	635	253	98	656	24	146	595	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	139	220	24	29	648	236	100	669	16	149	607	281
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	1042	113	46	756	275	90	777	348	294	850	393
Arrive On Green	0.06	0.33	0.33	0.03	0.31	0.31	0.11	0.45	0.45	0.18	0.38	0.38
Sat Flow, veh/h	1619	3114	336	1619	2458	895	1619	3420	1530	1619	2263	1047
Grp Volume(v), veh/h	139	120	124	29	451	433	100	669	16	149	459	429
Grp Sat Flow(s),veh/h/ln	1619	1710	1741	1619	1710	1642	1619	1710	1530	1619	1710	1600
Q Serve(g_s), s	5.0	4.5	4.6	1.6	22.3	22.3	5.0	15.8	0.4	7.5	20.6	20.6
Cycle Q Clear(g_c), s	5.0	4.5	4.6	1.6	22.3	22.3	5.0	15.8	0.4	7.5	20.6	20.6
Prop In Lane	1.00		0.19	1.00		0.54	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	90	572	583	46	526	505	90	777	348	294	642	601
V/C Ratio(X)	1.55	0.21	0.21	0.63	0.86	0.86	1.11	0.86	0.05	0.51	0.71	0.71
Avail Cap(c_a), veh/h	90	656	667	90	656	629	90	1026	459	294	642	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	0.74	0.74	0.74
Uniform Delay (d), s/veh	42.5	21.4	21.4	43.2	29.3	29.3	40.0	23.3	12.8	33.2	24.0	24.0
Incr Delay (d2), s/veh	292.9	0.2	0.2	5.0	7.8	8.1	120.9	10.5	0.2	0.4	5.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	2.2	2.2	0.8	11.7	11.2	5.2	8.4	0.2	3.4	10.6	10.0
LnGrp Delay(d),s/veh	335.4	21.6	21.6	48.3	37.0	37.4	160.9	33.7	13.0	33.6	29.0	29.4
LnGrp LOS	F	C	C	D	D	D	F	C	B	C	C	C
Approach Vol, veh/h		383			913			785			1037	
Approach Delay, s/veh		135.5			37.6			49.5			29.8	
Approach LOS		F			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.3	26.5	6.6	34.6	9.0	39.8	9.0	32.2				
Change Period (Y+Rc), s	6.0	* 6	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	* 27	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	9.5	17.8	3.6	6.6	7.0	22.6	7.0	24.3				
Green Ext Time (p_c), s	0.0	2.7	0.0	4.7	0.0	2.1	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			50.0									
HCM 2010 LOS			D									
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

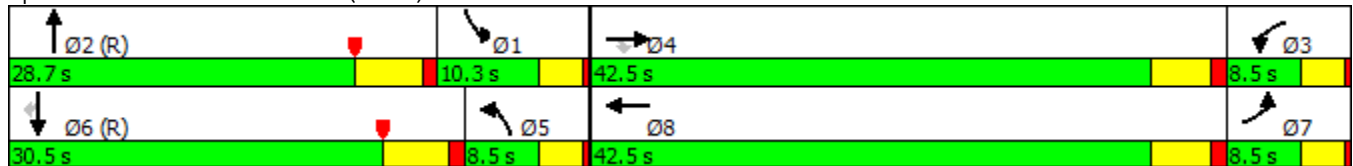


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	66	18	24	178	368	29	515	38	505	75
Future Volume (vph)	66	18	24	178	368	29	515	38	505	75
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.7	10.3	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.9%	11.4%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



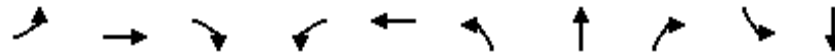
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	18	24	178	368	170	29	515	12	38	505	75
Future Volume (veh/h)	66	18	24	178	368	170	29	515	12	38	505	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	19	24	189	391	168	31	548	12	40	537	71
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	87	108	92	561	422	181	332	659	14	334	662	296
Arrive On Green	0.05	0.06	0.06	0.35	0.35	0.35	0.07	0.06	0.06	0.07	0.06	0.06
Sat Flow, veh/h	1619	1800	1522	1619	1196	514	1619	3422	75	1619	3420	1530
Grp Volume(v), veh/h	70	19	24	189	0	559	31	274	286	40	537	71
Grp Sat Flow(s),veh/h/ln	1619	1800	1522	1619	0	1709	1619	1710	1787	1619	1710	1530
Q Serve(g_s), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	14.2	14.3	2.1	14.0	4.0
Cycle Q Clear(g_c), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	14.2	14.3	2.1	14.0	4.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	87	108	92	561	0	603	332	329	344	334	662	296
V/C Ratio(X)	0.81	0.18	0.26	0.34	0.00	0.93	0.09	0.83	0.83	0.12	0.81	0.24
Avail Cap(c_a), veh/h	90	750	634	561	0	712	332	441	461	334	950	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.73	0.73	0.73	0.44	0.44	0.44
Uniform Delay (d), s/veh	42.1	40.2	40.4	21.8	0.0	28.0	34.1	40.7	40.7	34.3	40.5	35.8
Incr Delay (d2), s/veh	35.9	0.3	0.6	0.1	0.0	15.5	0.0	16.3	15.7	0.0	4.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.5	0.6	3.5	0.0	15.9	0.7	8.2	8.6	0.9	7.1	1.8
LnGrp Delay(d),s/veh	78.1	40.5	40.9	21.9	0.0	43.5	34.1	57.0	56.5	34.3	45.4	36.7
LnGrp LOS	E	D	D	C		D	C	E	E	C	D	D
Approach Vol, veh/h		113			748			591			648	
Approach Delay, s/veh		63.9			38.0			55.5			43.7	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	22.8	34.7	10.4	22.0	22.9	8.3	36.8				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	6.8	23.2	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	4.1	16.3	9.8	3.4	3.6	16.0	5.8	30.3				
Green Ext Time (p_c), s	0.0	1.1	0.0	0.1	0.0	1.5	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			46.1									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

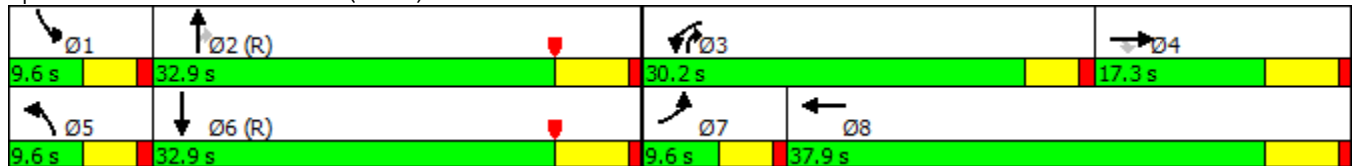


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	5	210	32	849	160	56	572	474	56	630
Future Volume (vph)	5	210	32	849	160	56	572	474	56	630
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	210	32	849	160	57	56	572	474	56	630	14
Future Volume (veh/h)	5	210	32	849	160	57	56	572	474	56	630	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	212	0	858	162	43	57	578	301	57	636	9
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	228	194	841	553	147	70	1068	902	70	1077	15
Arrive On Green	0.01	0.13	0.00	0.28	0.40	0.40	0.04	0.31	0.31	0.09	0.62	0.62
Sat Flow, veh/h	1619	1800	1530	2956	1368	363	1619	3420	1496	1619	3451	49
Grp Volume(v), veh/h	5	212	0	858	0	205	57	578	301	57	315	330
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1731	1619	1710	1496	1619	1710	1790
Q Serve(g_s), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	12.6	9.1	3.1	9.9	9.9
Cycle Q Clear(g_c), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	12.6	9.1	3.1	9.9	9.9
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	11	228	194	841	0	700	70	1068	902	70	534	559
V/C Ratio(X)	0.47	0.93	0.00	1.02	0.00	0.29	0.81	0.54	0.33	0.82	0.59	0.59
Avail Cap(c_a), veh/h	90	228	194	841	0	700	90	1068	902	90	534	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.69	0.69	0.69	0.91	0.91	0.91
Uniform Delay (d), s/veh	44.6	38.9	0.0	32.2	0.0	18.1	42.7	25.6	9.2	40.8	13.5	13.5
Incr Delay (d2), s/veh	11.7	41.1	0.0	36.3	0.0	0.3	20.1	1.4	0.7	25.8	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	0.0	14.6	0.0	3.5	1.8	6.1	3.9	1.9	5.2	5.4
LnGrp Delay(d),s/veh	56.2	80.0	0.0	68.5	0.0	18.4	62.8	27.0	9.8	66.6	17.8	17.6
LnGrp LOS	E	E		F		B	E	C	A	E	B	B
Approach Vol, veh/h		217			1063			936			702	
Approach Delay, s/veh		79.4			58.8			23.6			21.7	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	34.0	30.2	17.3	8.5	34.0	5.2	42.3				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	5.1	14.6	27.6	12.5	5.1	11.9	2.3	9.2				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	4.4	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.1									
HCM 2010 LOS			D									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

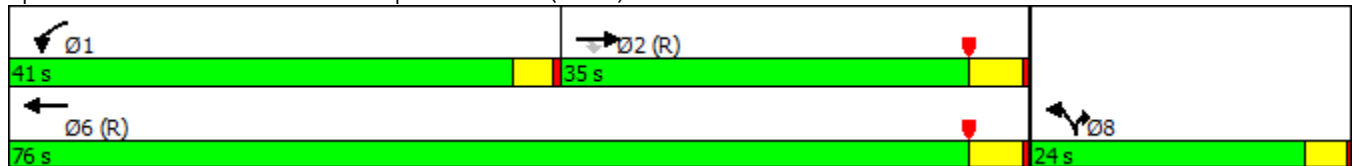


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	487	291	558	944	70	648
Future Volume (vph)	487	291	558	944	70	648
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	35.0	35.0	41.0	76.0	24.0	24.0
Total Split (%)	35.0%	35.0%	41.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated







Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

1/11/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	487	291	558	944	70	648		
Future Volume (veh/h)	487	291	558	944	70	648		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	507	0	581	983	73	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1644	736	607	2975	166	76		
Arrive On Green	0.96	0.00	0.35	0.87	0.05	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	507	0	581	983	73	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	0.8	0.0	33.1	5.2	2.1	0.0		
Cycle Q Clear(g_c), s	0.8	0.0	33.1	5.2	2.1	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1644	736	607	2975	166	76		
V/C Ratio(X)	0.31	0.00	0.96	0.33	0.44	0.00		
Avail Cap(c_a), veh/h	1644	736	643	2975	682	314		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.52	0.52	1.00	0.00		
Uniform Delay (d), s/veh	1.0	0.0	31.5	1.2	46.1	0.0		
Incr Delay (d2), s/veh	0.5	0.0	15.6	0.2	1.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.0	18.3	2.4	1.0	0.0		
LnGrp Delay(d),s/veh	1.5	0.0	47.1	1.3	48.0	0.0		
LnGrp LOS	A		D	A	D			
Approach Vol, veh/h	507			1564	73			
Approach Delay, s/veh	1.5			18.3	48.0			
Approach LOS	A			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	38.9	52.6				91.5		8.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	37.5	30.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	35.1	2.8				7.2		4.1
Green Ext Time (p_c), s	0.3	9.1				10.4		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			15.4					
HCM 2010 LOS			B					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

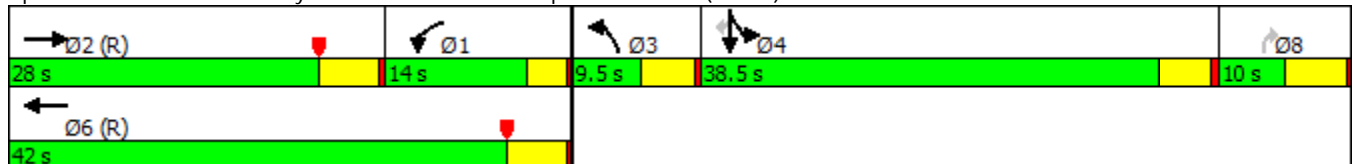


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	749	385	207	60	291	259	20	35
Future Volume (vph)	749	385	207	60	291	259	20	35
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	28.0	14.0	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	28.0%	14.0%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Future Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	823	18	423	227	0	66	0	320	301	0	38
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	787	17	820	2690	0	0	0	0	384	0	178
Arrive On Green	0.00	0.23	0.23	0.85	1.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	0	3510	75	1619	3510	0		0		3238	0	1506
Grp Volume(v), veh/h	0	411	430	423	227	0		0.0		301	0	38
Grp Sat Flow(s),veh/h/ln	0	1710	1785	1619	1710	0				1619	0	1506
Q Serve(g_s), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Cycle Q Clear(g_c), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Prop In Lane	0.00		0.04	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	393	410	820	2690	0				384	0	178
V/C Ratio(X)	0.00	1.05	1.05	0.52	0.08	0.00				0.78	0.00	0.21
Avail Cap(c_a), veh/h	0	393	410	820	2690	0				1101	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.5	4.4	0.0	0.0				42.8	0.0	39.9
Incr Delay (d2), s/veh	0.0	58.0	57.1	0.3	0.1	0.0				2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.1	17.8	3.0	0.0	0.0				4.2	0.0	1.0
LnGrp Delay(d),s/veh	0.0	96.5	95.6	4.6	0.1	0.0				45.5	0.0	40.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		841			650						339	
Approach Delay, s/veh		96.0			3.0						44.9	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.7	28.0		16.3		83.7						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.5	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	9.1	25.0		11.0		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.8		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay				53.5								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	19.5
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	55	142	0	347	198	0	80	100
Future Vol, veh/h	0	55	142	0	347	198	0	80	100
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	64	165	0	403	230	0	93	116
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11.2	25.2	11.5
HCM LOS	B	D	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	0%	44%
Vol Thru, %	72%	64%	0%
Vol Right, %	0%	36%	56%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	197	545	180
LT Vol	55	0	80
Through Vol	142	347	0
RT Vol	0	198	100
Lane Flow Rate	229	634	209
Geometry Grp	1	1	1
Degree of Util (X)	0.342	0.821	0.331
Departure Headway (Hd)	5.372	4.666	5.687
Convergence, Y/N	Yes	Yes	Yes
Cap	669	779	632
Service Time	3.409	2.666	3.731
HCM Lane V/C Ratio	0.342	0.814	0.331
HCM Control Delay	11.2	25.2	11.5
HCM Lane LOS	B	D	B
HCM 95th-tile Q	1.5	9	1.4

Intersection

Int Delay, s/veh 5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	187	74	55	543	133	70
Future Vol, veh/h	187	74	55	543	133	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	205	81	60	597	146	77

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	205
Stage 1	-	-	205
Stage 2	-	-	718
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1378
Stage 1	-	-	834
Stage 2	-	-	487
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1378
Mov Cap-2 Maneuver	-	-	289
Stage 1	-	-	834
Stage 2	-	-	466

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	27.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	374	-	-	1378	-
HCM Lane V/C Ratio	0.596	-	-	0.044	-
HCM Control Delay (s)	27.9	-	-	7.7	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	3.7	-	-	0.1	-

Intersection

Intersection Delay, s/veh98.6

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↑						↓						
Traffic Vol, veh/h	0	0	0	314	0	0	0	0	0	820	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	314	0	0	0	0	0	820	0	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	338	0	0	0	0	0	882	0	0	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	14	131
HCM LOS	B	F

Lane	NBLn1	EBLn1
Vol Left, %	100%	0%
Vol Thru, %	0%	0%
Vol Right, %	0%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	820	314
LT Vol	820	0
Through Vol	0	0
RT Vol	0	314
Lane Flow Rate	882	338
Geometry Grp	1	1
Degree of Util (X)	1.223	0.487
Departure Headway (Hd)	4.992	5.691
Convergence, Y/N	Yes	Yes
Cap	723	638
Service Time	3.059	3.691
HCM Lane V/C Ratio	1.22	0.53
HCM Control Delay	131	14
HCM Lane LOS	F	B
HCM 95th-tile Q	30.5	2.7

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

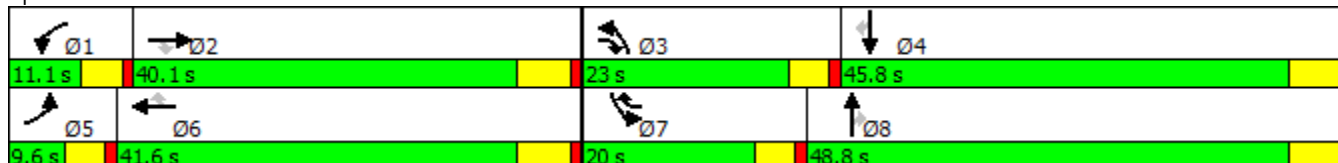


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	9	475	290	64	967	388	429	312	42	129	119	14
Future Volume (vph)	9	475	290	64	967	388	429	312	42	129	119	14
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
 11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	475	290	64	967	388	429	312	42	129	119	14
Future Volume (veh/h)	9	475	290	64	967	388	429	312	42	129	119	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	10	516	303	70	1051	389	466	339	36	140	129	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1286	849	147	1413	739	544	823	363	207	433	194
Arrive On Green	0.01	0.38	0.38	0.05	0.41	0.41	0.18	0.24	0.24	0.07	0.13	0.13
Sat Flow, veh/h	2956	3420	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	10	516	303	70	1051	389	466	339	36	140	129	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.3	8.7	8.7	1.8	20.5	13.9	12.0	6.6	1.5	3.6	2.7	0.6
Cycle Q Clear(g_c), s	0.3	8.7	8.7	1.8	20.5	13.9	12.0	6.6	1.5	3.6	2.7	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	1286	849	147	1413	739	544	823	363	207	433	194
V/C Ratio(X)	0.27	0.40	0.36	0.48	0.74	0.53	0.86	0.41	0.10	0.68	0.30	0.07
Avail Cap(c_a), veh/h	187	1487	937	244	1552	801	689	1864	823	577	1734	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	18.1	9.6	36.5	19.6	14.1	31.2	25.2	23.3	35.8	31.3	30.4
Incr Delay (d2), s/veh	1.5	0.2	0.3	0.9	1.8	0.6	7.2	0.3	0.1	1.4	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.1	3.7	0.8	10.0	5.9	5.5	3.1	0.6	1.5	1.3	0.3
LnGrp Delay(d),s/veh	40.1	18.3	9.8	37.4	21.4	14.7	38.4	25.6	23.4	37.3	31.6	30.5
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		829			1510			841			283	
Approach Delay, s/veh		15.5			20.4			32.6			34.4	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	35.5	19.1	15.8	5.6	38.4	10.1	24.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	3.8	10.7	14.0	4.7	2.3	22.5	5.6	8.6				
Green Ext Time (p_c), s	0.0	15.5	0.5	3.4	0.0	10.1	0.1	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									

Timings
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↘	↑↑↑	↑↑↑
Traffic Volume (vph)	4	488	555	1258	412
Future Volume (vph)	4	488	555	1258	412
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	316	4	488	555	1258	0	0	412	189
Future Volume (veh/h)	0	0	0	316	4	488	555	1258	0	0	412	189
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				351	4	366	617	1398	0	0	458	130
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				433	5	391	633	3014	0	0	773	206
Arrive On Green				0.26	0.26	0.26	0.78	1.00	0.00	0.00	0.16	0.16
Sat Flow, veh/h				1696	19	1530	1619	5076	0	0	5151	1305
Grp Volume(v), veh/h				355	0	366	617	1398	0	0	433	155
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1560
Q Serve(g_s), s				17.5	0.0	21.1	31.4	0.0	0.0	0.0	7.8	8.4
Cycle Q Clear(g_c), s				17.5	0.0	21.1	31.4	0.0	0.0	0.0	7.8	8.4
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.84
Lane Grp Cap(c), veh/h				438	0	391	633	3014	0	0	733	246
V/C Ratio(X)				0.81	0.00	0.94	0.97	0.46	0.00	0.00	0.59	0.63
Avail Cap(c_a), veh/h				438	0	391	633	3014	0	0	1404	471
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.51	0.51	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.4	0.0	32.8	9.4	0.0	0.0	0.0	35.2	35.5
Incr Delay (d2), s/veh				12.2	0.0	30.5	19.4	0.3	0.0	0.0	3.5	11.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.8	0.0	19.2	16.4	0.1	0.0	0.0	3.6	4.4
LnGrp Delay(d),s/veh				43.6	0.0	63.3	28.8	0.3	0.0	0.0	38.7	47.2
LnGrp LOS				D		E	C	A			D	D
Approach Vol, veh/h					721			2015			588	
Approach Delay, s/veh					53.6			9.0			40.9	
Approach LOS					D			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	41.0	20.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		23.1	33.4	10.4						
Green Ext Time (p_c), s		14.1		0.0	0.0	3.1						
Intersection Summary												
HCM 2010 Ctrl Delay				24.3								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	3	351	1418	124	604
Future Volume (vph)	3	351	1418	124	604
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



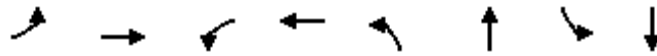
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	3	351	0	0	0	0	1418	389	124	604	0
Future Volume (veh/h)	396	3	351	0	0	0	0	1418	389	124	604	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	426	3	167				0	1525	300	133	649	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	481	3	426				0	2320	456	163	2893	0
Arrive On Green	0.28	0.28	0.28				0.00	0.44	0.44	0.03	0.19	0.00
Sat Flow, veh/h	1703	12	1508				0	5485	1029	1619	5076	0
Grp Volume(v), veh/h	429	0	167				0	1353	472	133	649	0
Grp Sat Flow(s),veh/h/ln	1715	0	1508				0	1548	1618	1619	1638	0
Q Serve(g_s), s	21.5	0.0	8.0				0.0	20.6	20.6	7.3	10.0	0.0
Cycle Q Clear(g_c), s	21.5	0.0	8.0				0.0	20.6	20.6	7.3	10.0	0.0
Prop In Lane	0.99		1.00				0.00		0.64	1.00		0.00
Lane Grp Cap(c), veh/h	484	0	426				0	2059	718	163	2893	0
V/C Ratio(X)	0.89	0.00	0.39				0.00	0.66	0.66	0.81	0.22	0.00
Avail Cap(c_a), veh/h	594	0	523				0	2059	718	270	2893	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.53	0.53	0.77	0.77	0.00
Uniform Delay (d), s/veh	30.9	0.0	26.1				0.0	19.7	19.7	42.7	19.0	0.0
Incr Delay (d2), s/veh	13.0	0.0	0.6				0.0	0.9	2.5	2.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	0.0	3.4				0.0	8.9	9.7	3.4	4.6	0.0
LnGrp Delay(d),s/veh	43.9	0.0	26.6				0.0	20.6	22.2	45.6	19.1	0.0
LnGrp LOS	D		C					C	C	D	B	
Approach Vol, veh/h		596						1825			782	
Approach Delay, s/veh		39.0						21.0			23.6	
Approach LOS		D						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	13.1	45.7				58.8		31.2				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	9.3	22.6				12.0		23.5				
Green Ext Time (p_c), s	0.1	5.0				22.4		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

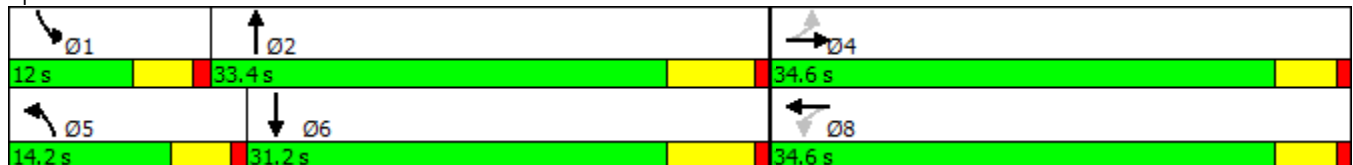


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	37	10	125	28	65	1408	115	530
Future Volume (vph)	37	10	125	28	65	1408	115	530
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 65.5
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

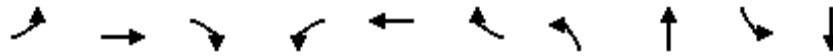
1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	10	22	125	28	234	65	1408	52	115	530	17
Future Volume (veh/h)	37	10	22	125	28	234	65	1408	52	115	530	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	42	11	16	140	31	126	73	1582	57	129	596	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	271	140	204	384	66	266	96	2066	74	160	2271	68
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.42	0.42	0.10	0.46	0.46
Sat Flow, veh/h	1180	657	956	1308	308	1252	1619	4870	175	1619	4900	147
Grp Volume(v), veh/h	42	0	27	140	0	157	73	1064	575	129	398	216
Grp Sat Flow(s),veh/h/ln	1180	0	1614	1308	0	1560	1619	1638	1769	1619	1638	1772
Q Serve(g_s), s	1.9	0.0	0.8	5.6	0.0	5.1	2.6	16.1	16.1	4.5	4.3	4.3
Cycle Q Clear(g_c), s	7.0	0.0	0.8	6.4	0.0	5.1	2.6	16.1	16.1	4.5	4.3	4.3
Prop In Lane	1.00		0.59	1.00		0.80	1.00		0.10	1.00		0.08
Lane Grp Cap(c), veh/h	271	0	343	384	0	332	96	1390	750	160	1518	821
V/C Ratio(X)	0.16	0.00	0.08	0.36	0.00	0.47	0.76	0.77	0.77	0.81	0.26	0.26
Avail Cap(c_a), veh/h	627	0	831	780	0	803	267	1529	826	206	1518	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	18.4	20.9	0.0	20.1	27.0	14.3	14.3	25.7	9.5	9.6
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.6	0.0	1.0	4.5	2.2	4.0	13.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	2.1	0.0	2.3	1.3	7.7	8.6	2.6	2.0	2.1
LnGrp Delay(d),s/veh	23.4	0.0	18.5	21.5	0.0	21.1	31.5	16.5	18.3	38.7	9.6	9.7
LnGrp LOS	C		B	C		C	C	B	B	D	A	A
Approach Vol, veh/h		69			297			1712			743	
Approach Delay, s/veh		21.5			21.3			17.7			14.7	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	30.9		17.0	8.1	33.2		17.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	6.5	18.1		9.0	4.6	6.3		8.4				
Green Ext Time (p_c), s	0.0	6.6		1.7	0.0	13.0		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				17.4								
HCM 2010 LOS				B								

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/16/2017

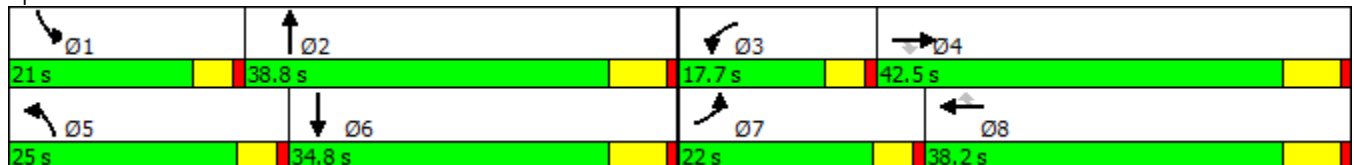


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	185	296	100	115	445	229	216	871	173	352
Future Volume (vph)	185	296	100	115	445	229	216	871	173	352
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	296	100	115	445	229	216	871	122	173	352	193
Future Volume (veh/h)	185	296	100	115	445	229	216	871	122	173	352	193
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	206	329	78	128	494	161	240	968	126	192	391	141
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	235	911	402	154	741	324	269	1260	164	221	926	319
Arrive On Green	0.14	0.27	0.27	0.10	0.22	0.22	0.17	0.29	0.29	0.14	0.26	0.26
Sat Flow, veh/h	1619	3420	1509	1619	3420	1496	1619	4401	571	1619	3609	1242
Grp Volume(v), veh/h	206	329	78	128	494	161	240	720	374	192	353	179
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1496	1619	1638	1696	1619	1638	1576
Q Serve(g_s), s	12.5	7.8	4.0	7.8	13.2	9.5	14.5	20.1	20.2	11.6	9.0	9.5
Cycle Q Clear(g_c), s	12.5	7.8	4.0	7.8	13.2	9.5	14.5	20.1	20.2	11.6	9.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.79
Lane Grp Cap(c), veh/h	235	911	402	154	741	324	269	938	486	221	840	404
V/C Ratio(X)	0.88	0.36	0.19	0.83	0.67	0.50	0.89	0.77	0.77	0.87	0.42	0.44
Avail Cap(c_a), veh/h	281	1240	547	212	1093	478	330	1067	552	265	936	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	29.8	28.4	44.5	35.9	34.4	40.9	32.7	32.7	42.4	31.0	31.2
Incr Delay (d2), s/veh	20.4	0.2	0.2	13.2	1.0	1.2	19.7	3.0	5.8	20.1	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.7	1.7	4.1	6.4	4.0	7.9	9.5	10.2	6.5	4.1	4.2
LnGrp Delay(d),s/veh	62.3	30.0	28.6	57.7	36.9	35.6	60.5	35.7	38.5	62.5	31.4	32.0
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		613			783			1334			724	
Approach Delay, s/veh		40.7			40.1			41.0			39.8	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.2	34.9	14.1	32.9	21.2	31.9	19.1	27.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	13.6	22.2	9.8	9.8	16.5	11.5	14.5	15.2				
Green Ext Time (p_c), s	0.1	6.5	0.0	6.0	0.1	9.0	0.1	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			40.5									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

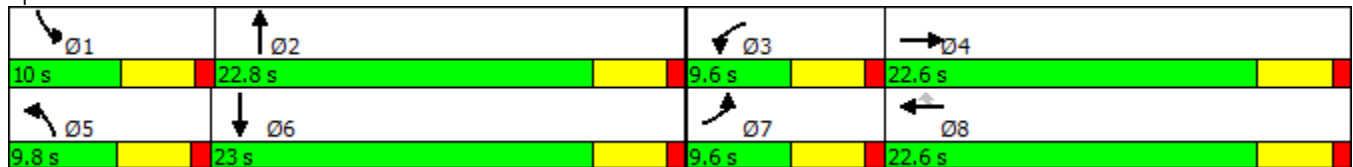


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↑	↗	↙	↑↑↑	↙	↑↑
Traffic Volume (vph)	33	46	23	76	170	58	996	85	468
Future Volume (vph)	33	46	23	76	170	58	996	85	468
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 47.6
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

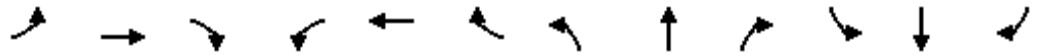
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	46	14	23	76	170	58	996	39	85	468	36
Future Volume (veh/h)	33	46	14	23	76	170	58	996	39	85	468	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	36	51	6	25	84	63	64	1095	39	93	514	35
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	186	22	48	193	164	100	1725	61	125	1201	82
Arrive On Green	0.04	0.12	0.12	0.03	0.11	0.11	0.06	0.35	0.35	0.08	0.37	0.37
Sat Flow, veh/h	1619	1581	186	1619	1800	1530	1619	4872	173	1619	3250	221
Grp Volume(v), veh/h	36	0	57	25	84	63	64	736	398	93	270	279
Grp Sat Flow(s),veh/h/ln	1619	0	1767	1619	1800	1530	1619	1638	1769	1619	1710	1761
Q Serve(g_s), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.2	8.2	2.5	5.2	5.2
Cycle Q Clear(g_c), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.2	8.2	2.5	5.2	5.2
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.10	1.00		0.13
Lane Grp Cap(c), veh/h	66	0	208	48	193	164	100	1160	626	125	632	651
V/C Ratio(X)	0.55	0.00	0.27	0.52	0.44	0.38	0.64	0.63	0.64	0.74	0.43	0.43
Avail Cap(c_a), veh/h	185	0	728	185	741	630	193	1364	737	200	720	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	17.6	20.9	18.3	18.2	20.0	11.8	11.8	19.7	10.3	10.3
Incr Delay (d2), s/veh	7.0	0.0	0.7	8.2	1.5	1.5	6.6	0.7	1.4	8.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.7	0.4	1.0	0.8	0.9	3.8	4.2	1.4	2.5	2.6
LnGrp Delay(d),s/veh	27.6	0.0	18.3	29.1	19.8	19.6	26.7	12.5	13.2	28.1	10.8	10.8
LnGrp LOS	C		B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		93			172			1198			642	
Approach Delay, s/veh		21.9			21.1			13.5			13.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	20.1	5.9	9.8	7.3	20.8	6.4	9.3				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	10.2	2.7	3.3	3.7	7.2	3.0	3.9				
Green Ext Time (p_c), s	0.0	5.3	0.0	0.7	0.0	6.8	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

1/16/2017

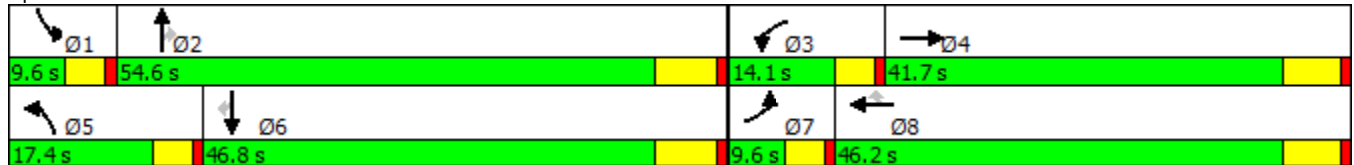


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	31	147	57	177	249	59	171	936	256	36	425	48
Future Volume (vph)	31	147	57	177	249	59	171	936	256	36	425	48
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 84.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	147	57	177	249	59	171	936	256	36	425	48
Future Volume (veh/h)	31	147	57	177	249	59	171	936	256	36	425	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	156	0	188	265	15	182	996	0	38	452	32
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	100	492	220	264	359	305	219	1428	639	60	1094	490
Arrive On Green	0.03	0.14	0.00	0.09	0.20	0.20	0.13	0.42	0.00	0.04	0.32	0.32
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	33	156	0	188	265	15	182	996	0	38	452	32
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	0.8	2.9	0.0	4.3	9.7	0.6	7.7	16.8	0.0	1.6	7.3	1.0
Cycle Q Clear(g_c), s	0.8	2.9	0.0	4.3	9.7	0.6	7.7	16.8	0.0	1.6	7.3	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	492	220	264	359	305	219	1428	639	60	1094	490
V/C Ratio(X)	0.33	0.32	0.00	0.71	0.74	0.05	0.83	0.70	0.00	0.63	0.41	0.07
Avail Cap(c_a), veh/h	210	1728	773	400	1025	871	295	2342	1048	115	1962	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	27.0	0.0	31.1	26.4	22.7	29.6	16.8	0.0	33.3	18.7	16.6
Incr Delay (d2), s/veh	0.7	0.4	0.0	1.3	3.0	0.1	10.6	0.6	0.0	4.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	0.0	1.8	5.1	0.2	4.1	8.0	0.0	0.8	3.4	0.4
LnGrp Delay(d),s/veh	33.9	27.3	0.0	32.4	29.4	22.8	40.2	17.4	0.0	37.3	19.0	16.6
LnGrp LOS	C	C		C	C	C	D	B		D	B	B
Approach Vol, veh/h		189			468			1178			522	
Approach Delay, s/veh		28.5			30.4			21.0			20.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	35.8	10.9	16.3	14.1	29.0	7.0	20.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	3.6	18.8	6.3	4.9	9.7	9.3	2.8	11.7				
Green Ext Time (p_c), s	0.0	10.5	0.1	2.3	0.1	10.7	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									

Timings
 21: Archibald Av. & Eucalyptus Av.

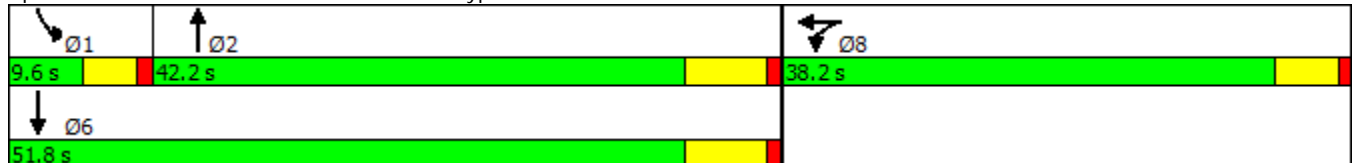


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↕	↗	↕
Traffic Volume (vph)	0	1326	14	650
Future Volume (vph)	0	1326	14	650
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	38.2	42.2	9.6	51.8
Total Split (%)	42.4%	46.9%	10.7%	57.6%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 65.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	50	0	1326	27	14	650	0
Future Volume (veh/h)	0	0	0	10	0	50	0	1326	27	14	650	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				10	0	22	0	1367	27	14	670	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				36	0	78	0	1977	39	29	2354	0
Arrive On Green				0.07	0.00	0.07	0.00	0.58	0.58	0.02	0.69	0.00
Sat Flow, veh/h				495	0	1088	0	3520	68	1619	3510	0
Grp Volume(v), veh/h				32	0	0	0	681	713	14	670	0
Grp Sat Flow(s),veh/h/ln				1583	0	0	0	1710	1788	1619	1710	0
Q Serve(g_s), s				0.9	0.0	0.0	0.0	13.7	13.7	0.4	3.7	0.0
Cycle Q Clear(g_c), s				0.9	0.0	0.0	0.0	13.7	13.7	0.4	3.7	0.0
Prop In Lane				0.31		0.69	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h				114	0	0	0	986	1031	29	2354	0
V/C Ratio(X)				0.28	0.00	0.00	0.00	0.69	0.69	0.49	0.28	0.00
Avail Cap(c_a), veh/h				1070	0	0	0	1250	1307	166	3173	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.5	0.0	0.0	0.0	7.3	7.3	23.8	3.0	0.0
Incr Delay (d2), s/veh				1.3	0.0	0.0	0.0	1.2	1.1	4.7	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.0	6.6	6.9	0.2	1.7	0.0
LnGrp Delay(d),s/veh				22.8	0.0	0.0	0.0	8.4	8.4	28.5	3.0	0.0
LnGrp LOS				C				A	A	C	A	
Approach Vol, veh/h					32			1394			684	
Approach Delay, s/veh					22.8			8.4			3.5	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.5	34.6				40.1		8.7				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	35.7				45.3		33.0				
Max Q Clear Time (g_c+I1), s	2.4	15.7				5.7		2.9				
Green Ext Time (p_c), s	0.0	12.4				18.0		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				7.1								
HCM 2010 LOS				A								

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/25/2017

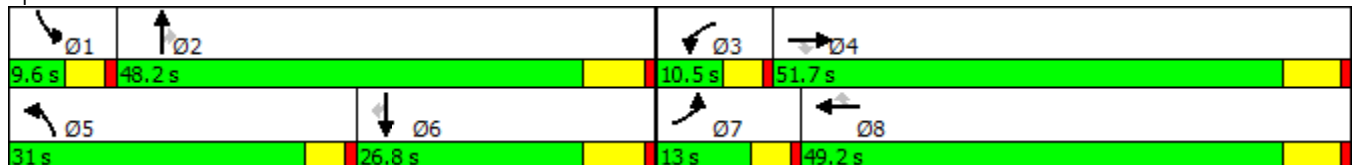


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	163	9	83	99	24	65	387	1112	50	67	406	181
Future Volume (vph)	163	9	83	99	24	65	387	1112	50	67	406	181
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	13.0	51.7	51.7	10.5	49.2	49.2	31.0	48.2	48.2	9.6	26.8	26.8
Total Split (%)	10.8%	43.1%	43.1%	8.8%	41.0%	41.0%	25.8%	40.2%	40.2%	8.0%	22.3%	22.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	9	83	99	24	65	387	1112	50	67	406	181
Future Volume (veh/h)	163	9	83	99	24	65	387	1112	50	67	406	181
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	168	9	34	102	25	4	399	1146	36	69	419	130
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	174	283	240	122	225	191	435	1496	669	147	747	334
Arrive On Green	0.11	0.16	0.16	0.08	0.13	0.13	0.27	0.44	0.44	0.05	0.22	0.22
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	168	9	34	102	25	4	399	1146	36	69	419	130
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	8.1	0.3	1.5	4.9	1.0	0.2	18.7	22.2	1.1	1.8	8.5	5.7
Cycle Q Clear(g_c), s	8.1	0.3	1.5	4.9	1.0	0.2	18.7	22.2	1.1	1.8	8.5	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	283	240	122	225	191	435	1496	669	147	747	334
V/C Ratio(X)	0.97	0.03	0.14	0.83	0.11	0.02	0.92	0.77	0.05	0.47	0.56	0.39
Avail Cap(c_a), veh/h	174	1048	891	122	991	842	547	1825	816	189	888	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	27.9	28.4	35.6	30.3	30.0	27.7	18.6	12.7	36.1	27.2	26.1
Incr Delay (d2), s/veh	57.5	0.0	0.3	35.1	0.2	0.0	16.0	1.6	0.0	0.9	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.2	0.6	3.4	0.5	0.1	10.2	10.7	0.5	0.7	4.1	2.5
LnGrp Delay(d),s/veh	92.2	27.9	28.7	70.7	30.5	30.0	43.7	20.2	12.7	37.0	27.9	26.8
LnGrp LOS	F	C	C	E	C	C	D	C	B	D	C	C
Approach Vol, veh/h		211			131			1581			618	
Approach Delay, s/veh		79.2			61.8			26.0			28.7	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	40.7	10.5	18.5	25.6	23.6	13.0	16.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	41.7	5.9	45.5	26.4	20.3	8.4	43.0				
Max Q Clear Time (g_c+I1), s	3.8	24.2	6.9	3.5	20.7	10.5	10.1	3.0				
Green Ext Time (p_c), s	0.0	9.8	0.0	0.3	0.3	6.5	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.9									
HCM 2010 LOS			C									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017

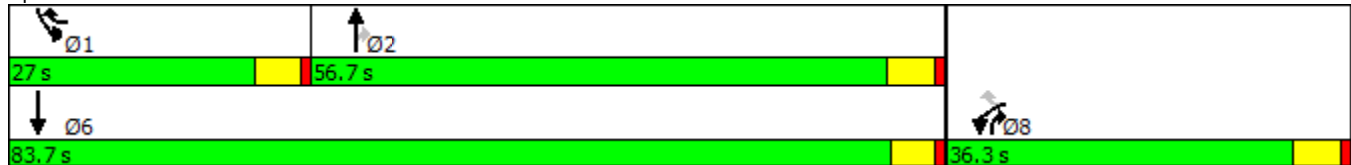














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	371	700	748	280	173	414
Future Volume (vph)	371	700	748	280	173	414
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.2
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	371	700	748	280	173	414		
Future Volume (veh/h)	371	700	748	280	173	414		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	386	664	779	292	180	431		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	521	656	852	1175	214	1165		
Arrive On Green	0.29	0.29	0.45	0.45	0.12	0.61		
Sat Flow, veh/h	1810	1615	1900	1581	1810	1900		
Grp Volume(v), veh/h	386	664	779	292	180	431		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1810	1900		
Q Serve(g_s), s	20.8	31.0	41.2	6.4	10.5	12.2		
Cycle Q Clear(g_c), s	20.8	31.0	41.2	6.4	10.5	12.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	521	656	852	1175	214	1165		
V/C Ratio(X)	0.74	1.01	0.91	0.25	0.84	0.37		
Avail Cap(c_a), veh/h	521	656	908	1221	370	1390		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	31.9	27.7	4.6	46.4	10.4		
Incr Delay (d2), s/veh	4.9	38.1	13.2	0.1	8.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.1	26.4	24.6	5.9	5.8	6.4		
LnGrp Delay(d),s/veh	39.6	70.0	40.9	4.7	55.0	10.5		
LnGrp LOS	D	F	D	A	E	B		
Approach Vol, veh/h	1050		1071			611		
Approach Delay, s/veh	58.8		31.1			23.6		
Approach LOS	E		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.7	53.6				71.3		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	22.0	51.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	12.5	43.2				14.2		33.0
Green Ext Time (p_c), s	0.3	5.0				12.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			40.1					
HCM 2010 LOS			D					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

1/13/2017

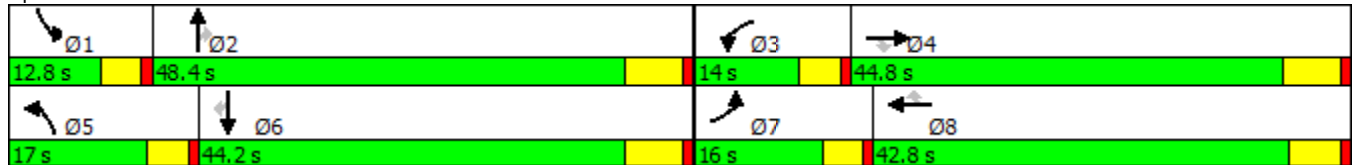


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	322	513	123	177	687	93	344	697	161	102	394	479
Future Volume (vph)	322	513	123	177	687	93	344	697	161	102	394	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	513	123	177	687	93	344	697	161	102	394	479
Future Volume (veh/h)	322	513	123	177	687	93	344	697	161	102	394	479
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	362	576	87	199	772	73	387	783	124	115	443	368
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	390	1487	453	265	1301	397	425	1956	600	176	1589	488
Arrive On Green	0.11	0.29	0.29	0.08	0.25	0.25	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1590	3510	5187	1593
Grp Volume(v), veh/h	362	576	87	199	772	73	387	783	124	115	443	368
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1590	1755	1729	1593
Q Serve(g_s), s	10.5	9.1	4.3	5.7	13.4	3.7	11.2	11.4	5.4	3.3	6.6	21.4
Cycle Q Clear(g_c), s	10.5	9.1	4.3	5.7	13.4	3.7	11.2	11.4	5.4	3.3	6.6	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	1487	453	265	1301	397	425	1956	600	176	1589	488
V/C Ratio(X)	0.93	0.39	0.19	0.75	0.59	0.18	0.91	0.40	0.21	0.65	0.28	0.75
Avail Cap(c_a), veh/h	390	1953	596	322	1872	572	425	2135	654	281	1923	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	29.3	27.6	46.4	33.8	30.2	44.5	23.4	21.6	47.8	27.0	32.1
Incr Delay (d2), s/veh	27.6	0.2	0.2	5.8	0.4	0.2	23.1	0.1	0.2	1.5	0.1	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.4	1.9	3.0	6.5	1.6	6.8	5.5	2.4	1.6	3.2	10.0
LnGrp Delay(d),s/veh	72.7	29.5	27.8	52.3	34.2	30.4	67.6	23.6	21.7	49.3	27.1	36.5
LnGrp LOS	E	C	C	D	C	C	E	C	C	D	C	D
Approach Vol, veh/h		1025			1044			1294			926	
Approach Delay, s/veh		44.6			37.4			36.6			33.6	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	44.9	12.3	35.6	17.0	37.6	16.0	31.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	5.3	13.4	7.7	11.1	13.2	23.4	12.5	15.4				
Green Ext Time (p_c), s	0.0	11.1	0.1	10.4	0.0	8.0	0.0	9.4				
Intersection Summary												
HCM 2010 Ctrl Delay			38.1									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

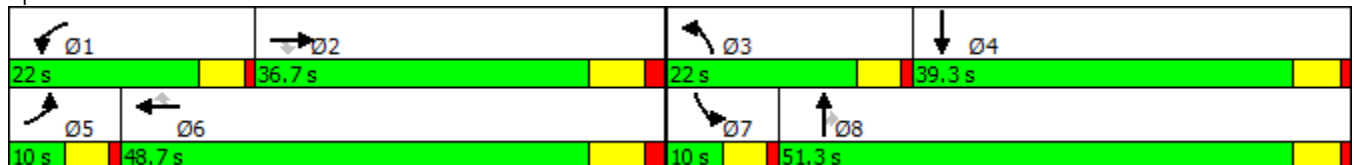


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	19	421	14	135	889	5	129	59	225	22	75
Future Volume (vph)	19	421	14	135	889	5	129	59	225	22	75
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	36.7	36.7	22.0	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	30.6%	30.6%	18.3%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 75.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	421	14	135	889	5	129	59	225	22	75	54
Future Volume (veh/h)	19	421	14	135	889	5	129	59	225	22	75	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	458	13	147	966	5	140	64	211	24	82	38
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	1707	531	187	1473	645	179	376	319	49	154	71
Arrive On Green	0.02	0.33	0.33	0.10	0.41	0.41	0.10	0.20	0.20	0.03	0.13	0.13
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1613	1810	1222	566
Grp Volume(v), veh/h	21	458	13	147	966	5	140	64	211	24	0	120
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1613	1810	0	1788
Q Serve(g_s), s	0.7	4.2	0.4	5.2	14.1	0.1	4.9	1.8	7.9	0.9	0.0	4.1
Cycle Q Clear(g_c), s	0.7	4.2	0.4	5.2	14.1	0.1	4.9	1.8	7.9	0.9	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	44	1707	531	187	1473	645	179	376	319	49	0	225
V/C Ratio(X)	0.48	0.27	0.02	0.79	0.66	0.01	0.78	0.17	0.66	0.49	0.00	0.53
Avail Cap(c_a), veh/h	139	2368	737	473	2314	1014	473	1344	1140	139	0	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	16.1	14.8	28.5	15.6	11.4	28.6	21.7	24.1	31.2	0.0	26.6
Incr Delay (d2), s/veh	3.0	0.1	0.0	2.8	0.5	0.0	2.8	0.2	2.3	2.8	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.0	0.2	2.7	7.1	0.1	2.6	1.0	3.7	0.5	0.0	2.1
LnGrp Delay(d),s/veh	34.3	16.1	14.8	31.2	16.1	11.4	31.5	21.9	26.4	34.0	0.0	28.6
LnGrp LOS	C	B	B	C	B	B	C	C	C	C		C
Approach Vol, veh/h		492			1118			415			144	
Approach Delay, s/veh		16.9			18.0			27.4			29.5	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	28.4	11.4	13.5	6.6	33.5	6.8	18.2				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	17.0	29.7	17.0	34.0	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	7.2	6.2	6.9	6.1	2.7	16.1	2.9	9.9				
Green Ext Time (p_c), s	0.1	10.1	0.1	1.6	0.0	10.5	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			20.3									
HCM 2010 LOS			C									

Timings
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

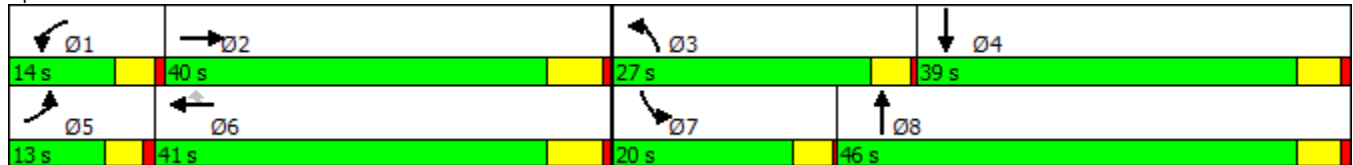


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	74	583	92	703	16	142	158	94	104
Future Volume (vph)	74	583	92	703	16	142	158	94	104
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 62.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	583	26	92	703	16	142	158	199	94	104	72
Future Volume (veh/h)	74	583	26	92	703	16	142	158	199	94	104	72
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	627	20	99	756	11	153	170	140	101	112	50
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	184	1720	55	203	1756	547	197	324	249	131	324	137
Arrive On Green	0.05	0.33	0.33	0.06	0.34	0.34	0.11	0.17	0.17	0.07	0.13	0.13
Sat Flow, veh/h	3510	5165	164	3510	5187	1615	1810	1930	1484	1810	2463	1040
Grp Volume(v), veh/h	80	419	228	99	756	11	153	158	152	101	80	82
Grp Sat Flow(s),veh/h/ln	1755	1729	1871	1755	1729	1615	1810	1805	1609	1810	1805	1697
Q Serve(g_s), s	1.2	4.9	4.9	1.4	6.0	0.2	4.4	4.2	4.6	2.9	2.1	2.3
Cycle Q Clear(g_c), s	1.2	4.9	4.9	1.4	6.0	0.2	4.4	4.2	4.6	2.9	2.1	2.3
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.92	1.00		0.61
Lane Grp Cap(c), veh/h	184	1151	623	203	1756	547	197	303	270	131	237	223
V/C Ratio(X)	0.44	0.36	0.37	0.49	0.43	0.02	0.78	0.52	0.56	0.77	0.34	0.37
Avail Cap(c_a), veh/h	564	2223	1203	631	3432	1069	787	1399	1247	547	1160	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	13.4	13.4	24.1	13.5	11.6	22.9	20.1	20.2	24.1	20.9	21.0
Incr Delay (d2), s/veh	0.6	0.2	0.4	0.7	0.2	0.0	2.5	1.0	1.4	3.6	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.4	2.6	0.7	2.8	0.1	2.3	2.2	2.1	1.6	1.1	1.1
LnGrp Delay(d),s/veh	24.9	13.6	13.8	24.8	13.7	11.7	25.4	21.1	21.6	27.7	21.5	21.7
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		727			866			463			263	
Approach Delay, s/veh		14.9			15.0			22.7			23.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	23.6	9.8	11.9	7.3	23.9	7.8	13.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	3.4	6.9	6.4	4.3	3.2	8.0	4.9	6.6				
Green Ext Time (p_c), s	0.0	10.0	0.1	2.1	0.0	9.9	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				17.5								
HCM 2010 LOS				B								

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

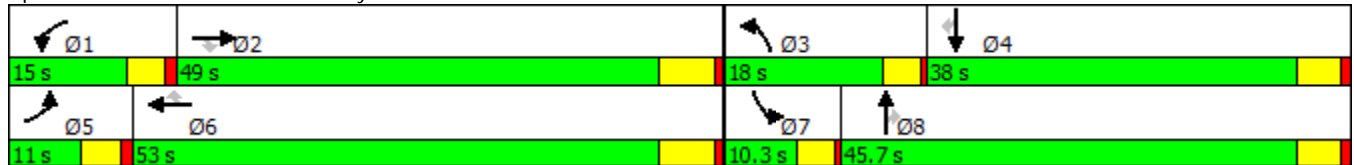


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷	↷	↶	↷	↷
Traffic Volume (vph)	25	838	66	67	642	16	93	109	162	29	144	43
Future Volume (vph)	25	838	66	67	642	16	93	109	162	29	144	43
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 71.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

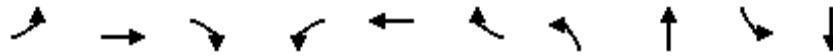
1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	838	66	67	642	16	93	109	162	29	144	43
Future Volume (veh/h)	25	838	66	67	642	16	93	109	162	29	144	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	911	63	73	698	17	101	118	136	32	157	45
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	1573	704	94	1673	748	131	316	268	50	438	185
Arrive On Green	0.02	0.44	0.44	0.05	0.46	0.46	0.07	0.17	0.17	0.03	0.12	0.12
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1524
Grp Volume(v), veh/h	27	911	63	73	698	17	101	118	136	32	157	45
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1524
Q Serve(g_s), s	0.9	11.7	1.4	2.4	7.9	0.3	3.4	3.4	4.7	1.1	2.4	1.6
Cycle Q Clear(g_c), s	0.9	11.7	1.4	2.4	7.9	0.3	3.4	3.4	4.7	1.1	2.4	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	44	1573	704	94	1673	748	131	316	268	50	438	185
V/C Ratio(X)	0.62	0.58	0.09	0.78	0.42	0.02	0.77	0.37	0.51	0.64	0.36	0.24
Avail Cap(c_a), veh/h	192	2537	1135	311	2773	1241	414	1264	1072	186	1947	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	13.0	10.1	28.7	10.9	8.9	27.9	22.7	23.2	29.5	24.7	24.3
Incr Delay (d2), s/veh	5.2	0.3	0.1	5.2	0.2	0.0	3.6	0.5	1.1	5.1	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.8	0.6	1.4	3.9	0.2	1.8	1.8	2.2	0.6	1.2	0.7
LnGrp Delay(d),s/veh	34.8	13.4	10.2	33.8	11.1	8.9	31.5	23.2	24.3	34.6	25.0	24.8
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1001			788			355			234	
Approach Delay, s/veh		13.7			13.1			26.0			26.3	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	32.7	8.4	12.4	6.0	34.4	5.7	15.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	4.4	13.7	5.4	4.4	2.9	9.9	3.1	6.7				
Green Ext Time (p_c), s	0.0	13.0	0.0	1.6	0.0	14.2	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			16.6									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

1/16/2017

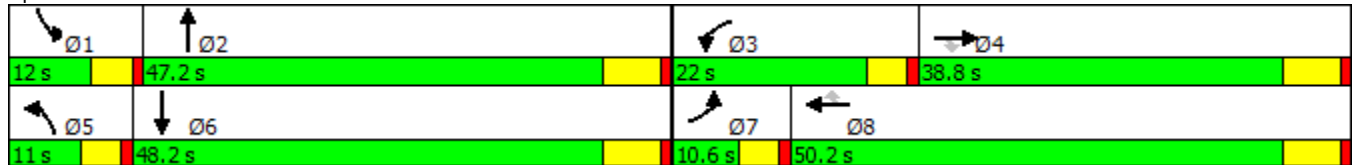


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖
Traffic Volume (vph)	19	286	68	161	461	160	101	420	130	147
Future Volume (vph)	19	286	68	161	461	160	101	420	130	147
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	10.6	38.8	38.8	22.0	50.2	50.2	11.0	47.2	12.0	48.2
Total Split (%)	8.8%	32.3%	32.3%	18.3%	41.8%	41.8%	9.2%	39.3%	10.0%	40.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	286	68	161	461	160	101	420	385	130	147	34
Future Volume (veh/h)	19	286	68	161	461	160	101	420	385	130	147	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	304	46	171	490	117	107	447	364	138	156	27
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	38	406	345	203	579	492	112	383	312	129	639	111
Arrive On Green	0.02	0.21	0.21	0.11	0.30	0.30	0.06	0.39	0.39	0.07	0.40	0.40
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	970	790	1810	1578	273
Grp Volume(v), veh/h	20	304	46	171	490	117	107	0	811	138	0	183
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1761	1810	0	1851
Q Serve(g_s), s	1.1	15.5	2.4	9.6	25.1	5.6	6.1	0.0	41.0	7.4	0.0	6.8
Cycle Q Clear(g_c), s	1.1	15.5	2.4	9.6	25.1	5.6	6.1	0.0	41.0	7.4	0.0	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.15
Lane Grp Cap(c), veh/h	38	406	345	203	579	492	112	0	695	129	0	749
V/C Ratio(X)	0.52	0.75	0.13	0.84	0.85	0.24	0.96	0.00	1.17	1.07	0.00	0.24
Avail Cap(c_a), veh/h	105	597	507	303	805	685	112	0	695	129	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.3	38.2	33.0	45.2	33.8	27.1	48.6	0.0	31.4	48.2	0.0	20.4
Incr Delay (d2), s/veh	4.1	3.0	0.2	8.4	6.1	0.2	71.6	0.0	89.9	99.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.5	1.1	5.3	14.0	2.5	5.2	0.0	37.1	7.2	0.0	3.5
LnGrp Delay(d),s/veh	54.4	41.2	33.2	53.6	39.9	27.3	120.1	0.0	121.3	147.4	0.0	20.6
LnGrp LOS	D	D	C	D	D	C	F		F	F		C
Approach Vol, veh/h		370			778			918			321	
Approach Delay, s/veh		40.9			41.0			121.2			75.1	
Approach LOS		D			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	47.2	16.2	28.4	11.0	48.2	6.8	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	41.0	17.4	32.6	6.4	42.0	6.0	44.0				
Max Q Clear Time (g_c+I1), s	9.4	43.0	11.6	17.5	8.1	8.8	3.1	27.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.3	0.0	7.6	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay			76.4									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

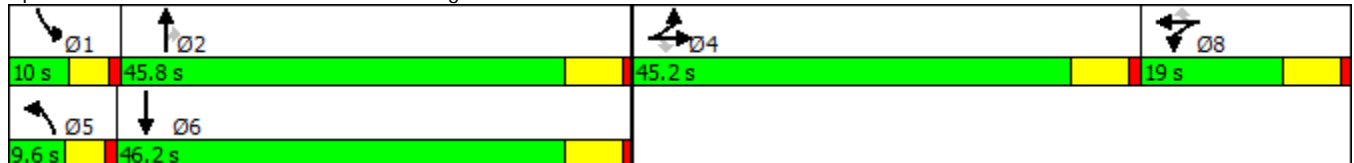


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	344	151	16	113	129	91	12	471	169	42	243
Future Volume (vph)	344	151	16	113	129	91	12	471	169	42	243
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	19.0	19.0	19.0	9.6	45.8	45.8	10.0	46.2
Total Split (%)	37.7%	37.7%	37.7%	15.8%	15.8%	15.8%	8.0%	38.2%	38.2%	8.3%	38.5%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	151	16	113	129	91	12	471	169	42	243	90
Future Volume (veh/h)	344	151	16	113	129	91	12	471	169	42	243	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	362	159	12	119	136	24	13	496	138	44	256	83
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	430	858	375	218	229	195	28	614	522	70	476	154
Arrive On Green	0.24	0.24	0.24	0.12	0.12	0.12	0.02	0.32	0.32	0.04	0.35	0.35
Sat Flow, veh/h	1810	3610	1578	1810	1900	1615	1810	1900	1615	1810	1375	446
Grp Volume(v), veh/h	362	159	12	119	136	24	13	496	138	44	0	339
Grp Sat Flow(s),veh/h/ln	1810	1805	1578	1810	1900	1615	1810	1900	1615	1810	0	1821
Q Serve(g_s), s	15.8	2.9	0.5	5.1	5.6	1.1	0.6	19.8	5.2	2.0	0.0	12.4
Cycle Q Clear(g_c), s	15.8	2.9	0.5	5.1	5.6	1.1	0.6	19.8	5.2	2.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	430	858	375	218	229	195	28	614	522	70	0	630
V/C Ratio(X)	0.84	0.19	0.03	0.55	0.59	0.12	0.46	0.81	0.26	0.63	0.00	0.54
Avail Cap(c_a), veh/h	852	1700	743	280	294	250	109	909	772	118	0	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	25.2	24.2	34.3	34.5	32.5	40.4	25.7	20.7	39.2	0.0	21.8
Incr Delay (d2), s/veh	4.5	0.1	0.0	2.1	2.4	0.3	4.3	3.4	0.3	3.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	1.5	0.2	2.7	3.1	0.5	0.3	10.9	2.4	1.1	0.0	6.3
LnGrp Delay(d),s/veh	34.6	25.3	24.3	36.4	36.9	32.8	44.7	29.1	21.0	42.7	0.0	22.5
LnGrp LOS	C	C	C	D	D	C	D	C	C	D		C
Approach Vol, veh/h		533			279			647			383	
Approach Delay, s/veh		31.6			36.3			27.7			24.8	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	33.0		25.9	5.9	34.9		16.2				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	5.4	39.6		39.0	5.0	40.0		12.8				
Max Q Clear Time (g_c+I1), s	4.0	21.8		17.8	2.6	14.4		7.6				
Green Ext Time (p_c), s	0.0	4.8		1.9	0.0	5.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			29.5									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

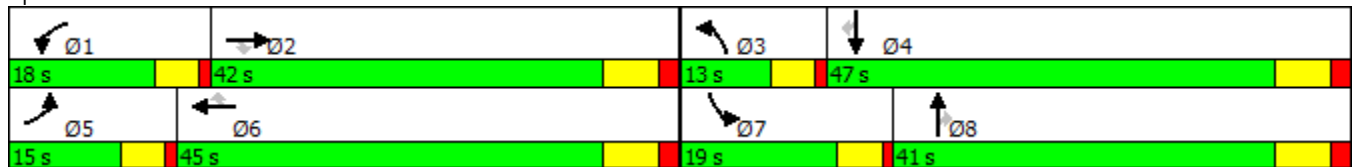


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	153	793	29	220	462	107	121	455	414	253	253	118
Future Volume (vph)	153	793	29	220	462	107	121	455	414	253	253	118
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.4
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

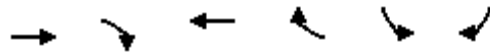
Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	793	29	220	462	107	121	455	414	253	253	118
Future Volume (veh/h)	153	793	29	220	462	107	121	455	414	253	253	118
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	818	24	227	476	72	125	469	309	261	261	69
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	1517	471	297	1130	504	189	1474	451	332	1173	523
Arrive On Green	0.06	0.29	0.29	0.08	0.31	0.31	0.05	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1586	3510	3610	1611
Grp Volume(v), veh/h	158	818	24	227	476	72	125	469	309	261	261	69
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1586	1755	1805	1611
Q Serve(g_s), s	4.3	13.0	1.1	6.2	10.3	3.2	3.4	7.0	17.0	7.1	5.2	3.0
Cycle Q Clear(g_c), s	4.3	13.0	1.1	6.2	10.3	3.2	3.4	7.0	17.0	7.1	5.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	1517	471	297	1130	504	189	1474	451	332	1173	523
V/C Ratio(X)	0.70	0.54	0.05	0.76	0.42	0.14	0.66	0.32	0.69	0.79	0.22	0.13
Avail Cap(c_a), veh/h	357	1848	574	464	1396	623	286	1795	549	500	1470	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	29.2	25.0	44.0	26.7	24.3	45.6	27.7	31.3	43.5	24.1	23.4
Incr Delay (d2), s/veh	1.5	0.6	0.1	1.5	0.5	0.3	1.5	0.3	4.5	2.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.3	0.5	3.1	5.2	1.4	1.7	3.4	8.0	3.6	2.6	1.3
LnGrp Delay(d),s/veh	46.5	29.8	25.1	45.6	27.2	24.6	47.1	27.9	35.7	45.9	24.3	23.6
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1000			775			903			591	
Approach Delay, s/veh		32.4			32.4			33.3			33.8	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	35.7	10.3	38.9	11.3	37.7	14.3	34.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	8.2	15.0	5.4	7.2	6.3	12.3	9.1	19.0				
Green Ext Time (p_c), s	0.1	13.6	0.0	13.6	0.1	16.3	0.1	8.7				
Intersection Summary												
HCM 2010 Ctrl Delay			32.9									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

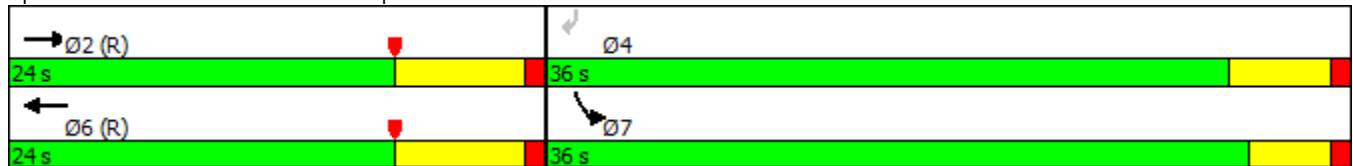


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	546	160	403	64	366	455
Future Volume (vph)	546	160	403	64	366	455
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated

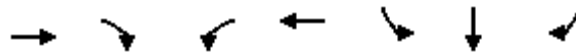
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	546	160	0	403	64	0	0	0	366	0	455
Future Volume (veh/h)	0	546	160	0	403	64	0	0	0	366	0	455
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	575	0	0	424	0				385	0	335
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2826	880	0	1967	880				931	0	428
Arrive On Green	0.00	0.54	0.00	0.00	0.54	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	575	0	0	424	0				385	0	335
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	3.4	0.0	0.0	3.6	0.0				5.4	0.0	11.5
Cycle Q Clear(g_c), s	0.0	3.4	0.0	0.0	3.6	0.0				5.4	0.0	11.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2826	880	0	1967	880				931	0	428
V/C Ratio(X)	0.00	0.20	0.00	0.00	0.22	0.00				0.41	0.00	0.78
Avail Cap(c_a), veh/h	0	2826	880	0	1967	880				1837	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.39	0.00	0.00	0.94	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.0	0.0	0.0	7.0	0.0				18.2	0.0	20.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0				0.3	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	0.0	0.0	1.8	0.0				2.7	0.0	5.5
LnGrp Delay(d),s/veh	0.0	7.1	0.0	0.0	7.3	0.0				18.5	0.0	23.6
LnGrp LOS		A			A					B		C
Approach Vol, veh/h		575			424						720	
Approach Delay, s/veh		7.1			7.3						20.9	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		39.5		20.5		39.5						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		5.4		13.5		5.6						
Green Ext Time (p_c), s		4.6		2.4		4.6						
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔	↑
Traffic Volume (vph)	1115	445	668	565	158	2	429
Future Volume (vph)	1115	445	668	565	158	2	429
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	52.5	52.5	34.0	86.5	23.5	23.5	23.5
Total Split (%)	47.7%	47.7%	30.9%	78.6%	21.4%	21.4%	21.4%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 59 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

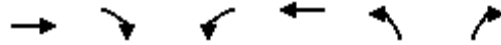
Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1115	445	668	565	0	0	0	0	158	2	429
Future Volume (veh/h)	0	1115	445	668	565	0	0	0	0	158	2	429
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1225	488	734	621	0				117	0	435
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1729	764	800	2699	0				276	0	492
Arrive On Green	0.00	0.48	0.48	0.30	0.99	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3705	1595	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1225	488	734	621	0				117	0	435
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	29.4	25.3	22.2	0.1	0.0				6.4	0.0	14.5
Cycle Q Clear(g_c), s	0.0	29.4	25.3	22.2	0.1	0.0				6.4	0.0	14.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1729	764	800	2699	0				276	0	492
V/C Ratio(X)	0.00	0.71	0.64	0.92	0.23	0.00				0.42	0.00	0.88
Avail Cap(c_a), veh/h	0	1729	764	941	2699	0				296	0	529
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.61	0.61	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.6	21.5	37.3	0.1	0.0				42.3	0.0	45.7
Incr Delay (d2), s/veh	0.0	1.8	3.0	7.5	0.1	0.0				0.4	0.0	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	11.7	11.5	0.1	0.0				3.2	0.0	7.5
LnGrp Delay(d),s/veh	0.0	24.4	24.5	44.9	0.2	0.0				42.6	0.0	60.4
LnGrp LOS		C	C	D	A					D		E
Approach Vol, veh/h		1713			1355						552	
Approach Delay, s/veh		24.4			24.4						56.6	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.6	58.2		22.3		87.7						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	29.5	47.0		18.0		81.0						
Max Q Clear Time (g_c+I1), s	24.2	31.4		16.5		2.1						
Green Ext Time (p_c), s	0.9	8.5		0.2		13.4						
Intersection Summary												
HCM 2010 Ctrl Delay			29.3									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	402	510	380	280	188	160
Future Volume (vph)	402	510	380	280	188	160
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	12.0	16.0	48.0	12.0	12.0
Total Split (%)	53.3%	20.0%	26.7%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 1/30/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	402	510	380	280	188	160		
Future Volume (veh/h)	402	510	380	280	188	160		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	432	443	409	301	202	83		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	826	585	3519	362	161		
Arrive On Green	0.69	0.69	0.17	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	432	443	409	301	202	83		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	1.8	7.9	6.6	1.2	3.2	2.9		
Cycle Q Clear(g_c), s	1.8	7.9	6.6	1.2	3.2	2.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	826	585	3519	362	161		
V/C Ratio(X)	0.20	0.54	0.70	0.09	0.56	0.51		
Avail Cap(c_a), veh/h	2135	826	585	3519	362	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.8	4.8	23.6	3.3	25.7	25.6		
Incr Delay (d2), s/veh	0.2	2.4	6.8	0.0	6.1	11.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	4.4	3.7	0.6	1.9	1.8		
LnGrp Delay(d),s/veh	6.0	7.2	30.4	3.3	31.8	36.8		
LnGrp LOS	A	A	C	A	C	D		
Approach Vol, veh/h	875			710	285			
Approach Delay, s/veh	6.6			18.9	33.3			
Approach LOS	A			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.0	32.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	10.0	24.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	8.6	9.9				3.2		5.2
Green Ext Time (p_c), s	0.2	5.3				6.9		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			15.4					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↙↙	↑↑	↑↑	↘	↙	↕	↘
Traffic Volume (vph)	743	529	1037	354	195	2	325
Future Volume (vph)	743	529	1037	354	195	2	325
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	36.0	86.0	50.0	50.0	24.0	24.0	24.0
Total Split (%)	32.7%	78.2%	45.5%	45.5%	21.8%	21.8%	21.8%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	743	529	0	0	1037	354	195	2	325	0	0	0
Future Volume (veh/h)	743	529	0	0	1037	354	195	2	325	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	826	588	0	0	1152	333	255	0	81			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	895	2911	0	0	1843	813	339	0	151			
Arrive On Green	0.43	1.00	0.00	0.00	0.51	0.51	0.09	0.00	0.09			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1615			
Grp Volume(v), veh/h	826	588	0	0	1152	333	255	0	81			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1615			
Q Serve(g_s), s	24.5	0.0	0.0	0.0	25.2	14.2	7.6	0.0	5.3			
Cycle Q Clear(g_c), s	24.5	0.0	0.0	0.0	25.2	14.2	7.6	0.0	5.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	895	2911	0	0	1843	813	339	0	151			
V/C Ratio(X)	0.92	0.20	0.00	0.00	0.63	0.41	0.75	0.00	0.54			
Avail Cap(c_a), veh/h	1005	2911	0	0	1843	813	609	0	272			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.6	0.0	0.0	0.0	19.4	16.7	48.6	0.0	47.6			
Incr Delay (d2), s/veh	9.0	0.1	0.0	0.0	1.6	1.5	3.4	0.0	2.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.8	0.0	0.0	0.0	12.9	6.5	3.9	0.0	2.5			
LnGrp Delay(d),s/veh	39.6	0.1	0.0	0.0	21.0	18.2	52.0	0.0	50.5			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1414			1485			336				
Approach Delay, s/veh		23.2			20.3			51.6				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		94.2			32.5	61.7		15.8				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		80.5			31.5	44.5		18.5				
Max Q Clear Time (g_c+I1), s		2.0			26.5	27.2		9.6				
Green Ext Time (p_c), s		11.2			1.6	8.1		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				24.8								
HCM 2010 LOS				C								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

1/11/2017

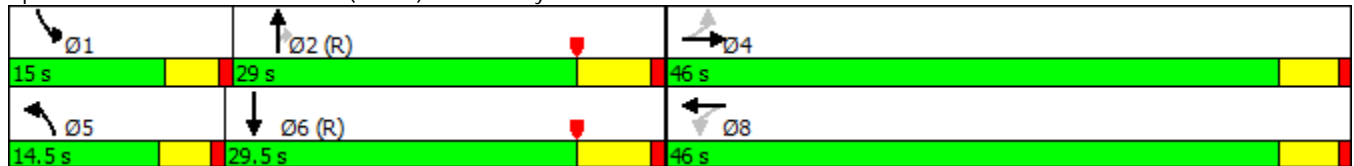


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	5	20	98	0	2	971	182	257	894
Future Volume (vph)	5	20	98	0	2	971	182	257	894
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min





















Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	20	11	98	0	102	2	971	182	257	894	1
Future Volume (veh/h)	5	20	11	98	0	102	2	971	182	257	894	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	22	4	105	0	82	2	1044	167	276	961	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	229	37	189	11	108	9	1864	816	189	2301	2
Arrive On Green	0.17	0.17	0.17	0.17	0.00	0.17	0.01	0.55	0.55	0.12	0.66	0.66
Sat Flow, veh/h	136	1379	225	762	68	648	1619	3420	1497	1619	3506	4
Grp Volume(v), veh/h	31	0	0	187	0	0	2	1044	167	276	469	493
Grp Sat Flow(s),veh/h/ln	1740	0	0	1479	0	0	1619	1710	1497	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	9.5	0.0	0.0	0.1	18.0	5.1	10.5	11.7	11.7
Cycle Q Clear(g_c), s	1.3	0.0	0.0	10.8	0.0	0.0	0.1	18.0	5.1	10.5	11.7	11.7
Prop In Lane	0.16		0.13	0.56		0.44	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	335	0	0	308	0	0	9	1864	816	189	1122	1181
V/C Ratio(X)	0.09	0.00	0.00	0.61	0.00	0.00	0.23	0.56	0.20	1.46	0.42	0.42
Avail Cap(c_a), veh/h	819	0	0	730	0	0	180	1864	816	189	1122	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.55	0.55	0.55	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	0.0	35.7	0.0	0.0	44.6	13.4	10.5	39.8	7.3	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	2.6	0.7	0.3	234.3	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	4.5	0.0	0.0	0.1	8.6	2.2	17.0	5.8	6.1
LnGrp Delay(d),s/veh	31.9	0.0	0.0	36.4	0.0	0.0	47.2	14.1	10.8	274.0	8.5	8.4
LnGrp LOS	C			D			D	B	B	F	A	A
Approach Vol, veh/h		31			187			1213			1238	
Approach Delay, s/veh		31.9			36.4			13.7			67.6	
Approach LOS		C			D			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	55.1		19.9	5.0	65.1		19.9				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	20.0		3.3	2.1	13.7		12.8				
Green Ext Time (p_c), s	0.0	2.6		0.7	0.0	7.4		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				40.5								
HCM 2010 LOS				D								

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

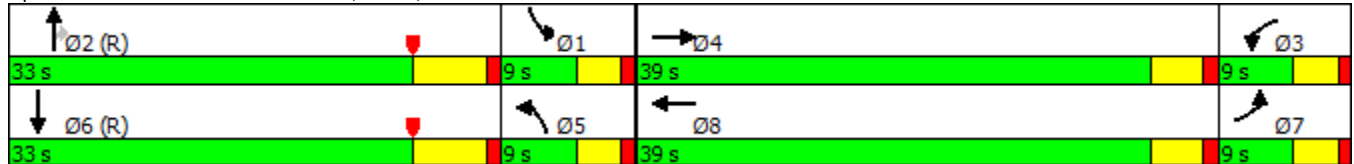


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	310	773	21	226	67	684	24	271	679
Future Volume (vph)	310	773	21	226	67	684	24	271	679
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

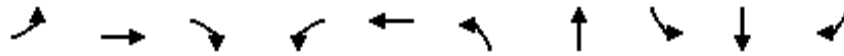
1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	773	48	21	226	121	67	684	24	271	679	83
Future Volume (veh/h)	310	773	48	21	226	121	67	684	24	271	679	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	323	805	46	22	235	92	70	712	10	282	707	68
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	302	966	55	36	314	120	355	815	365	389	817	79
Arrive On Green	0.19	0.29	0.29	0.02	0.13	0.13	0.44	0.48	0.48	0.24	0.26	0.26
Sat Flow, veh/h	1619	3289	188	1619	2425	923	1619	3420	1530	1619	3149	303
Grp Volume(v), veh/h	323	418	433	22	164	163	70	712	10	282	384	391
Grp Sat Flow(s),veh/h/ln	1619	1710	1767	1619	1710	1637	1619	1710	1530	1619	1710	1742
Q Serve(g_s), s	16.8	20.6	20.6	1.2	8.3	8.7	2.4	16.8	0.3	14.4	19.3	19.3
Cycle Q Clear(g_c), s	16.8	20.6	20.6	1.2	8.3	8.7	2.4	16.8	0.3	14.4	19.3	19.3
Prop In Lane	1.00		0.11	1.00		0.56	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	302	502	519	36	222	212	355	815	365	389	444	452
V/C Ratio(X)	1.07	0.83	0.83	0.61	0.74	0.77	0.20	0.87	0.03	0.73	0.86	0.87
Avail Cap(c_a), veh/h	302	656	677	90	656	628	355	1026	459	389	513	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	0.89	0.89	0.89
Uniform Delay (d), s/veh	36.6	29.7	29.7	43.6	37.7	37.9	20.4	22.3	18.0	31.5	31.8	31.8
Incr Delay (d2), s/veh	71.8	7.1	6.9	6.0	1.8	2.2	0.1	10.6	0.1	5.2	17.8	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.6	11.0	0.6	4.0	4.0	1.1	8.9	0.1	7.0	11.3	11.5
LnGrp Delay(d),s/veh	108.4	36.8	36.6	49.6	39.5	40.1	20.5	33.0	18.1	36.6	49.7	49.5
LnGrp LOS	F	D	D	D	D	D	C	C	B	D	D	D
Approach Vol, veh/h		1174			349			792			1057	
Approach Delay, s/veh		56.5			40.4			31.7			46.1	
Approach LOS		E			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.6	27.4	6.0	30.9	23.7	29.4	20.8	16.2				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	16.4	18.8	3.2	22.6	4.4	21.3	18.8	10.7				
Green Ext Time (p_c), s	0.0	2.6	0.0	3.8	0.0	2.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			45.7									
HCM 2010 LOS			D									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

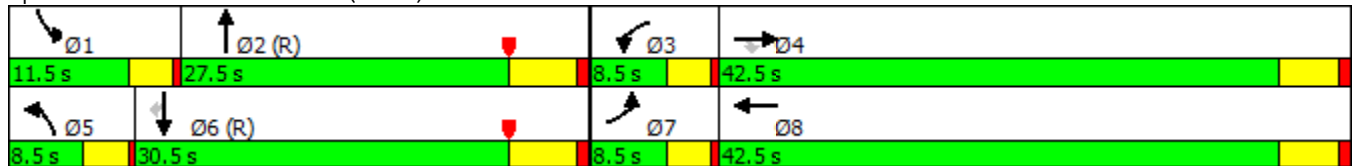


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	67	87	45	32	25	15	651	125	532	55
Future Volume (vph)	67	87	45	32	25	15	651	125	532	55
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	27.5	11.5	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	30.6%	12.8%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



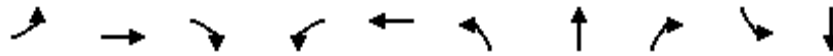
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	87	45	32	25	61	15	651	100	125	532	55
Future Volume (veh/h)	67	87	45	32	25	61	15	651	100	125	532	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	74	97	31	36	28	56	17	723	101	139	591	61
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	184	157	53	43	86	31	1747	244	144	2226	975
Arrive On Green	0.06	0.10	0.10	0.03	0.08	0.08	0.02	0.58	0.58	0.03	0.21	0.21
Sat Flow, veh/h	1619	1800	1530	1619	537	1074	1619	3006	420	1619	3420	1499
Grp Volume(v), veh/h	74	97	31	36	0	84	17	411	413	139	591	61
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	0	1611	1619	1710	1716	1619	1710	1499
Q Serve(g_s), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	11.9	11.9	7.7	13.0	2.9
Cycle Q Clear(g_c), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	11.9	11.9	7.7	13.0	2.9
Prop In Lane	1.00		1.00	1.00		0.67	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	90	184	157	53	0	129	31	994	997	144	2226	975
V/C Ratio(X)	0.82	0.53	0.20	0.67	0.00	0.65	0.55	0.41	0.41	0.97	0.27	0.06
Avail Cap(c_a), veh/h	90	750	637	90	0	671	90	994	997	144	2226	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.60	0.60	0.60
Uniform Delay (d), s/veh	42.1	38.3	37.0	43.0	0.0	40.2	43.7	10.4	10.4	43.5	17.4	13.5
Incr Delay (d2), s/veh	41.2	0.9	0.2	5.4	0.0	2.1	3.3	0.8	0.8	48.3	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.3	0.7	1.0	0.0	2.1	0.4	5.8	5.8	5.4	6.2	1.2
LnGrp Delay(d),s/veh	83.3	39.2	37.2	48.4	0.0	42.3	47.1	11.2	11.2	91.9	17.6	13.6
LnGrp LOS	F	D	D	D		D	D	B	B	F	B	B
Approach Vol, veh/h		202			120			841			791	
Approach Delay, s/veh		55.0			44.1			11.9			30.3	
Approach LOS		E			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	57.8	6.5	14.2	5.2	64.1	8.5	12.2				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	8.0	22.0	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	9.7	13.9	4.0	6.6	2.9	15.0	6.1	6.6				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.6	0.0	3.9	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			25.8									
HCM 2010 LOS			C									

Timings
4: Euclid Av. (SR-83) & Pine Av.

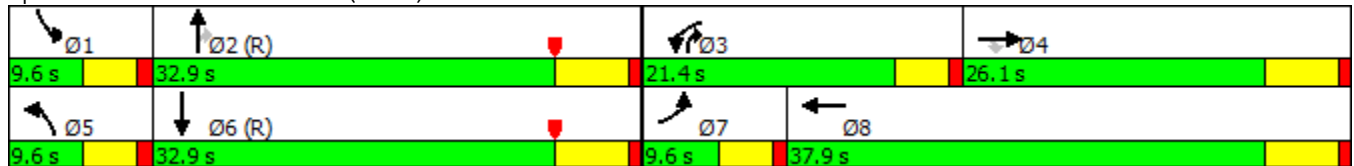


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	326	28	449	72	33	675	1032	56	504
Future Volume (vph)	14	326	28	449	72	33	675	1032	56	504
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.1	26.1	21.4	37.9	9.6	32.9	21.4	9.6	32.9
Total Split (%)	10.7%	29.0%	29.0%	23.8%	42.1%	10.7%	36.6%	23.8%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
 4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	326	28	449	72	29	33	675	1032	56	504	14
Future Volume (veh/h)	14	326	28	449	72	29	33	675	1032	56	504	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	336	0	463	74	24	34	696	631	58	520	10
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	376	319	522	481	156	52	1152	786	72	1199	23
Arrive On Green	0.02	0.21	0.00	0.18	0.37	0.37	0.03	0.34	0.34	0.01	0.12	0.12
Sat Flow, veh/h	1619	1800	1530	2956	1303	423	1619	3420	1530	1619	3431	66
Grp Volume(v), veh/h	14	336	0	463	0	98	34	696	631	58	259	271
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1725	1619	1710	1530	1619	1710	1787
Q Serve(g_s), s	0.8	16.3	0.0	13.8	0.0	3.4	1.9	15.2	30.3	3.2	12.7	12.7
Cycle Q Clear(g_c), s	0.8	16.3	0.0	13.8	0.0	3.4	1.9	15.2	30.3	3.2	12.7	12.7
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	27	376	319	522	0	637	52	1152	786	72	598	624
V/C Ratio(X)	0.53	0.89	0.00	0.89	0.00	0.15	0.66	0.60	0.80	0.81	0.43	0.43
Avail Cap(c_a), veh/h	90	404	343	552	0	637	90	1152	786	90	598	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	43.9	34.6	0.0	36.2	0.0	19.0	43.1	24.8	18.1	44.0	31.5	31.5
Incr Delay (d2), s/veh	5.9	21.4	0.0	14.8	0.0	0.2	0.5	0.2	0.8	27.0	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	10.4	0.0	6.7	0.0	1.7	0.8	7.2	13.1	2.0	6.4	6.7
LnGrp Delay(d),s/veh	49.8	56.0	0.0	50.9	0.0	19.2	43.6	25.1	19.0	71.0	33.7	33.7
LnGrp LOS	D	E		D		B	D	C	B	E	C	C
Approach Vol, veh/h		350			561			1361			588	
Approach Delay, s/veh		55.8			45.4			22.7			37.4	
Approach LOS		E			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	36.2	20.5	24.7	7.5	37.4	6.1	39.1				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.8	20.2	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	5.2	32.3	15.8	18.3	3.9	14.7	2.8	5.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.4	0.0	4.8	0.0	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			34.2									
HCM 2010 LOS			C									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

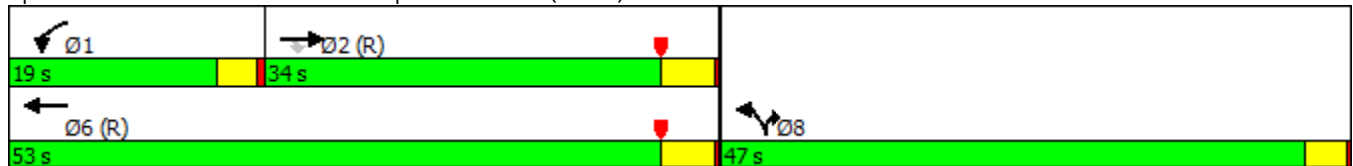


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Traffic Volume (vph)	748	172	291	738	148	1079
Future Volume (vph)	748	172	291	738	148	1079
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	34.0	34.0	19.0	53.0	47.0	47.0
Total Split (%)	34.0%	34.0%	19.0%	53.0%	47.0%	47.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated







Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

1/11/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	748	172	291	738	148	1079		
Future Volume (veh/h)	748	172	291	738	148	1079		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	771	0	300	761	153	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2258	1010	266	2908	232	107		
Arrive On Green	0.22	0.00	0.16	0.85	0.07	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	771	0	300	761	153	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	19.0	0.0	15.5	4.3	4.5	0.0		
Cycle Q Clear(g_c), s	19.0	0.0	15.5	4.3	4.5	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2258	1010	266	2908	232	107		
V/C Ratio(X)	0.34	0.00	1.13	0.26	0.66	0.00		
Avail Cap(c_a), veh/h	2258	1010	266	2908	1447	666		
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.80	0.80	1.00	0.00		
Uniform Delay (d), s/veh	20.7	0.0	42.3	1.4	45.4	0.0		
Incr Delay (d2), s/veh	0.4	0.0	88.9	0.2	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.1	0.0	13.9	2.1	2.2	0.0		
LnGrp Delay(d),s/veh	21.2	0.0	131.2	1.6	48.5	0.0		
LnGrp LOS	C		F	A	D			
Approach Vol, veh/h	771			1061	153			
Approach Delay, s/veh	21.2			38.2	48.5			
Approach LOS	C			D	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	70.5				89.5		10.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	15.5	29.5				48.5		43.5
Max Q Clear Time (g_c+I1), s	17.5	21.0				6.3		6.5
Green Ext Time (p_c), s	0.0	4.9				10.3		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			32.4					
HCM 2010 LOS			C					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

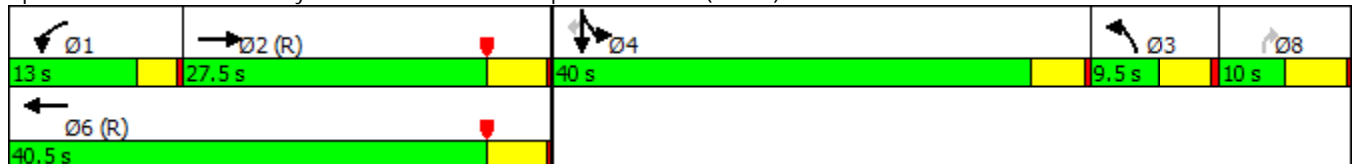


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖	↖	↖
Traffic Volume (vph)	271	98	196	29	15	703	139	152
Future Volume (vph)	271	98	196	29	15	703	139	152
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	27.5	13.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	27.5%	13.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 41 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Future Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	301	47	109	218	0	32	0	17	891	0	169
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1435	222	134	2055	0	0	0	0	985	0	465
Arrive On Green	0.00	0.48	0.48	0.03	0.20	0.00	0.00	0.00	0.00	0.30	0.00	0.30
Sat Flow, veh/h	0	3060	459	1619	3510	0		0		3238	0	1530
Grp Volume(v), veh/h	0	172	176	109	218	0		0.0		891	0	169
Grp Sat Flow(s),veh/h/ln	0	1710	1719	1619	1710	0				1619	0	1530
Q Serve(g_s), s	0.0	5.8	5.9	6.7	5.2	0.0				26.4	0.0	8.6
Cycle Q Clear(g_c), s	0.0	5.8	5.9	6.7	5.2	0.0				26.4	0.0	8.6
Prop In Lane	0.00		0.27	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	826	830	134	2055	0				985	0	465
V/C Ratio(X)	0.00	0.21	0.21	0.81	0.11	0.00				0.90	0.00	0.36
Avail Cap(c_a), veh/h	0	826	830	154	2055	0				1150	0	543
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.9	14.9	47.9	18.1	0.0				33.4	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.6	0.6	21.5	0.1	0.0				8.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	2.9	3.8	2.5	0.0				13.0	0.0	3.7
LnGrp Delay(d),s/veh	0.0	15.4	15.5	69.4	18.2	0.0				42.3	0.0	27.6
LnGrp LOS		B	B	E	B					D		C
Approach Vol, veh/h		348			327						1060	
Approach Delay, s/veh		15.5			35.3						40.0	
Approach LOS		B			D						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.8	53.3		34.9		65.1						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	9.5	22.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.7	7.9		28.4		7.2						
Green Ext Time (p_c), s	0.0	1.7		2.0		2.0						
Intersection Summary												
HCM 2010 Ctrl Delay				34.2								
HCM 2010 LOS				C								
Notes												

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↔		↔			↔	
Traffic Vol, veh/h	0	114	381	0	120	95	0	115	41
Future Vol, veh/h	0	114	381	0	120	95	0	115	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	414	0	130	103	0	125	45
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	18.1	9.9	10.8
HCM LOS	C	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	0%	74%
Vol Thru, %	77%	56%	0%
Vol Right, %	0%	44%	26%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	495	215	156
LT Vol	114	0	115
Through Vol	381	120	0
RT Vol	0	95	41
Lane Flow Rate	538	234	170
Geometry Grp	1	1	1
Degree of Util (X)	0.701	0.307	0.269
Departure Headway (Hd)	4.691	4.731	5.711
Convergence, Y/N	Yes	Yes	Yes
Cap	764	750	632
Service Time	2.768	2.826	3.711
HCM Lane V/C Ratio	0.704	0.312	0.269
HCM Control Delay	18.1	9.9	10.8
HCM Lane LOS	C	A	B
HCM 95th-tile Q	5.8	1.3	1.1

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	564	68	40	153	57	76
Future Vol, veh/h	564	68	40	153	57	76
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	606	73	43	165	61	82

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	608
Stage 1	-	-	608
Stage 2	-	-	251
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	980
Stage 1	-	-	547
Stage 2	-	-	795
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	980
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	546
Stage 2	-	-	760

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	398	-	-	980	-
HCM Lane V/C Ratio	0.359	-	-	0.044	-
HCM Control Delay (s)	19	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

Intersection

Intersection Delay, s/veh56.2

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↗						↘						
Traffic Vol, veh/h	0	0	0	844	0	0	0	0	0	279	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	844	0	0	0	0	0	279	0	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	908	0	0	0	0	0	300	0	0	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach EB NB

Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	69.8	15.2
HCM LOS	F	C

Lane NBLn1 EBLn1

Vol Left, %	100%	0%
Vol Thru, %	0%	0%
Vol Right, %	0%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	279	844
LT Vol	279	0
Through Vol	0	0
RT Vol	0	844
Lane Flow Rate	300	908
Geometry Grp	1	1
Degree of Util (X)	0.5	1.066
Departure Headway (Hd)	6.199	4.227
Convergence, Y/N	Yes	Yes
Cap	585	853
Service Time	4.199	2.277
HCM Lane V/C Ratio	0.513	1.064
HCM Control Delay	15.2	69.8
HCM Lane LOS	C	F
HCM 95th-tile Q	2.8	22.1

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

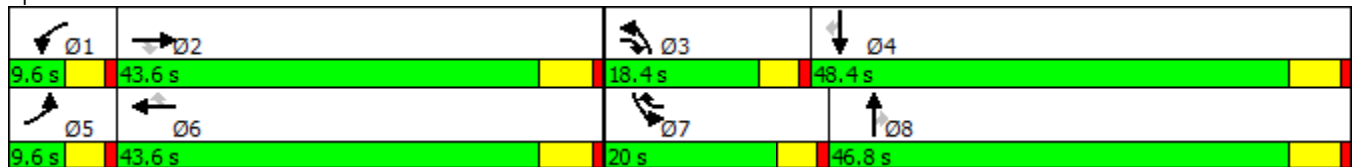


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	1186	387	20	493	138	135	101	31	532	228	15
Future Volume (vph)	9	1186	387	20	493	138	135	101	31	532	228	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1186	387	20	493	138	135	101	31	532	228	15
Future Volume (veh/h)	9	1186	387	20	493	138	135	101	31	532	228	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	9	1223	370	21	508	137	139	104	24	548	235	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	1456	756	68	1496	948	202	420	188	539	809	362
Arrive On Green	0.01	0.43	0.43	0.02	0.44	0.44	0.07	0.12	0.12	0.18	0.24	0.24
Sat Flow, veh/h	2956	3420	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	9	1223	370	21	508	137	139	104	24	548	235	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.3	27.0	13.6	0.6	8.3	3.2	3.9	2.3	1.2	15.4	4.8	0.6
Cycle Q Clear(g_c), s	0.3	27.0	13.6	0.6	8.3	3.2	3.9	2.3	1.2	15.4	4.8	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1456	756	68	1496	948	202	420	188	539	809	362
V/C Ratio(X)	0.27	0.84	0.49	0.31	0.34	0.14	0.69	0.25	0.13	1.02	0.29	0.04
Avail Cap(c_a), veh/h	175	1530	789	175	1530	963	483	1660	742	539	1724	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	21.7	14.3	40.6	15.7	6.7	38.5	33.5	33.0	34.5	26.4	24.8
Incr Delay (d2), s/veh	1.6	4.2	0.5	0.9	0.1	0.1	1.6	0.3	0.3	43.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	13.6	5.8	0.3	3.9	1.4	1.6	1.1	0.5	9.4	2.3	0.3
LnGrp Delay(d),s/veh	43.0	25.9	14.7	41.6	15.8	6.8	40.0	33.8	33.3	77.6	26.6	24.9
LnGrp LOS	D	C	B	D	B	A	D	C	C	F	C	C
Approach Vol, veh/h		1602			666			267			797	
Approach Delay, s/veh		23.4			14.8			37.0			61.7	
Approach LOS		C			B			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	41.8	10.4	25.8	5.6	42.8	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	2.6	29.0	5.9	6.8	2.3	10.3	17.4	4.3				
Green Ext Time (p_c), s	0.0	7.0	0.1	2.2	0.0	16.3	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			31.9									
HCM 2010 LOS			C									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	6	185	377	485	1068
Future Volume (vph)	6	185	377	485	1068
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	339	6	185	377	485	0	0	1068	376
Future Volume (veh/h)	0	0	0	339	6	185	377	485	0	0	1068	376
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				368	7	85	410	527	0	0	1161	269
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				408	8	371	456	3078	0	0	1422	327
Arrive On Green				0.24	0.24	0.24	0.56	1.00	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1684	32	1530	1619	5076	0	0	5322	1166
Grp Volume(v), veh/h				375	0	85	410	527	0	0	1063	367
Grp Sat Flow(s),veh/h/ln				1716	0	1530	1619	1638	0	0	1548	1592
Q Serve(g_s), s				19.1	0.0	4.0	20.2	0.0	0.0	0.0	19.2	19.4
Cycle Q Clear(g_c), s				19.1	0.0	4.0	20.2	0.0	0.0	0.0	19.2	19.4
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.73
Lane Grp Cap(c), veh/h				416	0	371	456	3078	0	0	1303	447
V/C Ratio(X)				0.90	0.00	0.23	0.90	0.17	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				438	0	391	456	3078	0	0	1404	481
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.70	0.70	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.0	0.0	27.3	18.6	0.0	0.0	0.0	30.2	30.3
Incr Delay (d2), s/veh				22.2	0.0	0.7	15.2	0.1	0.0	0.0	5.7	15.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.5	0.0	3.8	10.6	0.0	0.0	0.0	8.9	10.4
LnGrp Delay(d),s/veh				55.2	0.0	28.0	33.8	0.1	0.0	0.0	35.9	45.9
LnGrp LOS				E		C	C	A			D	D
Approach Vol, veh/h					460			937			1430	
Approach Delay, s/veh					50.2			14.8			38.5	
Approach LOS					D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		62.2		27.8	31.1	31.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		21.1	22.2	21.4						
Green Ext Time (p_c), s		3.7		0.8	0.8	3.8						
Intersection Summary												
HCM 2010 Ctrl Delay				32.6								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017

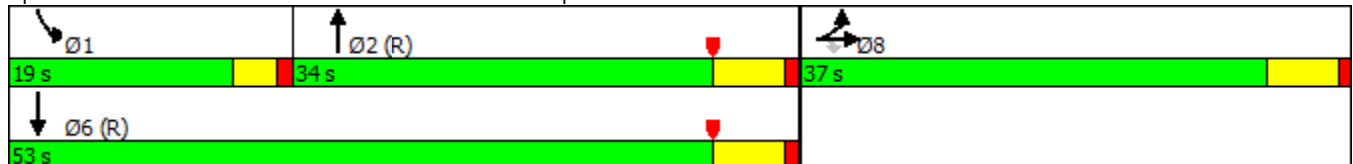


Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	5	405	753	273	1134
Future Volume (vph)	5	405	753	273	1134
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	5	405	0	0	0	0	753	457	273	1134	0
Future Volume (veh/h)	109	5	405	0	0	0	0	753	457	273	1134	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	117	5	234				0	810	320	294	1219	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	302	13	280				0	2214	713	270	3380	0
Arrive On Green	0.18	0.18	0.18				0.00	0.48	0.48	0.06	0.23	0.00
Sat Flow, veh/h	1647	70	1530				0	4896	1496	1619	5076	0
Grp Volume(v), veh/h	122	0	234				0	810	320	294	1219	0
Grp Sat Flow(s),veh/h/ln	1718	0	1530				0	1548	1496	1619	1638	0
Q Serve(g_s), s	5.6	0.0	13.3				0.0	9.9	12.8	15.0	18.8	0.0
Cycle Q Clear(g_c), s	5.6	0.0	13.3				0.0	9.9	12.8	15.0	18.8	0.0
Prop In Lane	0.96		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	315	0	280				0	2214	713	270	3380	0
V/C Ratio(X)	0.39	0.00	0.83				0.00	0.37	0.45	1.09	0.36	0.00
Avail Cap(c_a), veh/h	595	0	530				0	2214	713	270	3380	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.88	0.88	0.46	0.46	0.00
Uniform Delay (d), s/veh	32.3	0.0	35.4				0.0	14.9	15.7	42.5	18.1	0.0
Incr Delay (d2), s/veh	0.8	0.0	6.5				0.0	0.4	1.8	64.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	6.1				0.0	4.3	5.6	11.5	8.6	0.0
LnGrp Delay(d),s/veh	33.1	0.0	41.9				0.0	15.3	17.5	106.6	18.3	0.0
LnGrp LOS	C		D					B	B	F	B	
Approach Vol, veh/h		356						1130			1513	
Approach Delay, s/veh		38.9						15.9			35.4	
Approach LOS		D						B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	48.7				67.7		22.3				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	14.8				20.8		15.3				
Green Ext Time (p_c), s	0.0	10.5				17.6		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.5									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

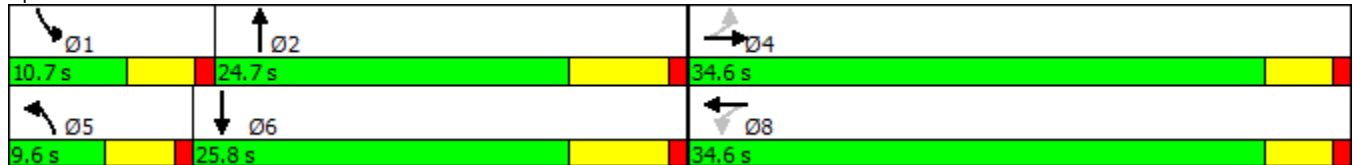


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕↕↕	↖	↕↕↕
Traffic Volume (vph)	17	7	26	13	63	854	110	1190
Future Volume (vph)	17	7	26	13	63	854	110	1190
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	24.7	10.7	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.3%	15.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 48
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

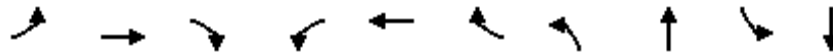
1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	7	30	26	13	64	63	854	28	110	1190	18
Future Volume (veh/h)	17	7	30	26	13	64	63	854	28	110	1190	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	7	5	27	14	13	66	899	29	116	1253	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	363	158	113	378	138	128	103	1903	61	142	2065	30
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.06	0.39	0.39	0.09	0.41	0.41
Sat Flow, veh/h	1318	978	699	1345	858	797	1619	4886	157	1619	4992	72
Grp Volume(v), veh/h	18	0	12	27	0	27	66	602	326	116	822	449
Grp Sat Flow(s),veh/h/ln	1318	0	1677	1345	0	1655	1619	1638	1767	1619	1638	1787
Q Serve(g_s), s	0.5	0.0	0.3	0.7	0.0	0.6	1.7	5.9	5.9	3.0	8.4	8.4
Cycle Q Clear(g_c), s	1.1	0.0	0.3	1.0	0.0	0.6	1.7	5.9	5.9	3.0	8.4	8.4
Prop In Lane	1.00		0.42	1.00		0.48	1.00		0.09	1.00		0.04
Lane Grp Cap(c), veh/h	363	0	270	378	0	267	103	1276	688	142	1355	739
V/C Ratio(X)	0.05	0.00	0.04	0.07	0.00	0.10	0.64	0.47	0.47	0.82	0.61	0.61
Avail Cap(c_a), veh/h	1079	0	1181	1108	0	1165	190	1423	768	232	1507	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	15.1	15.5	0.0	15.2	19.5	9.7	9.7	19.1	9.8	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	0.2	2.5	0.3	0.5	4.3	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.3	0.8	2.6	2.9	1.5	3.9	4.3
LnGrp Delay(d),s/veh	15.8	0.0	15.2	15.6	0.0	15.4	21.9	10.0	10.2	23.4	10.4	10.8
LnGrp LOS	B		B	B		B	C	A	B	C	B	B
Approach Vol, veh/h		30			54			994			1387	
Approach Delay, s/veh		15.5			15.5			10.9			11.6	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	22.8		11.5	7.3	23.8		11.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.1	18.5		30.0	5.0	19.6		30.0				
Max Q Clear Time (g_c+I1), s	5.0	7.9		3.1	3.7	10.4		3.0				
Green Ext Time (p_c), s	0.0	8.1		0.3	0.0	7.2		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			11.4									
HCM 2010 LOS			B									

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/16/2017

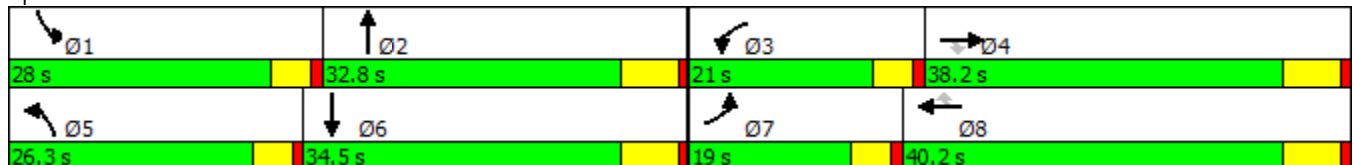


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	162	624	228	181	390	118	217	524	264	687
Future Volume (vph)	162	624	228	181	390	118	217	524	264	687
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	624	228	181	390	118	217	524	131	264	687	188
Future Volume (veh/h)	162	624	228	181	390	118	217	524	131	264	687	188
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	172	664	171	193	415	70	231	557	122	281	731	128
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	198	880	384	220	925	412	259	866	186	308	1027	178
Arrive On Green	0.12	0.26	0.26	0.14	0.27	0.27	0.16	0.21	0.21	0.19	0.24	0.24
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	1619	4045	867	1619	4201	728
Grp Volume(v), veh/h	172	664	171	193	415	70	231	449	230	281	568	291
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1619	1638	1637	1619	1638	1653
Q Serve(g_s), s	11.1	19.1	10.2	12.5	10.7	3.7	14.9	13.3	13.7	18.1	16.9	17.2
Cycle Q Clear(g_c), s	11.1	19.1	10.2	12.5	10.7	3.7	14.9	13.3	13.7	18.1	16.9	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		0.44
Lane Grp Cap(c), veh/h	198	880	384	220	925	412	259	701	350	308	801	404
V/C Ratio(X)	0.87	0.75	0.45	0.88	0.45	0.17	0.89	0.64	0.66	0.91	0.71	0.72
Avail Cap(c_a), veh/h	219	1028	449	249	1092	487	330	818	409	356	871	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	36.5	33.2	45.2	32.3	29.7	43.9	38.1	38.3	42.3	36.8	36.9
Incr Delay (d2), s/veh	25.2	2.7	0.8	24.0	0.3	0.2	18.8	1.3	3.0	23.5	2.5	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	9.4	4.3	7.0	5.1	1.6	8.0	6.1	6.5	10.1	7.9	8.4
LnGrp Delay(d),s/veh	71.0	39.2	34.0	69.1	32.6	29.9	62.6	39.4	41.3	65.8	39.2	42.0
LnGrp LOS	E	D	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1007			678			910			1140	
Approach Delay, s/veh		43.7			42.7			45.8			46.5	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.8	29.0	19.1	33.6	21.6	32.2	17.7	35.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	20.1	15.7	14.5	21.1	16.9	19.2	13.1	12.7				
Green Ext Time (p_c), s	0.1	6.4	0.0	5.3	0.1	5.6	0.0	7.5				
Intersection Summary												
HCM 2010 Ctrl Delay			44.9									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

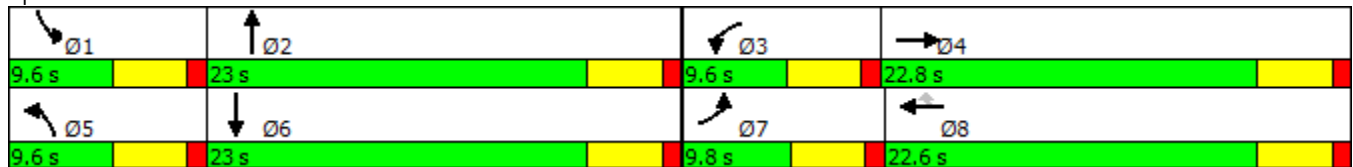


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↕	↗	↙	↕↕↕	↙	↕↕
Traffic Volume (vph)	95	96	15	15	79	30	700	86	837
Future Volume (vph)	95	96	15	15	79	30	700	86	837
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 46.3
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

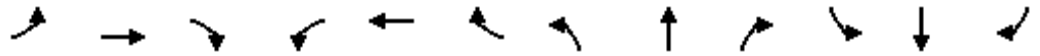
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	96	42	15	15	79	30	700	28	86	837	21
Future Volume (veh/h)	95	96	42	15	15	79	30	700	28	86	837	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	97	98	40	15	15	20	31	714	24	88	854	21
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	197	81	31	184	157	58	1586	53	121	1242	31
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.04	0.32	0.32	0.07	0.36	0.36
Sat Flow, veh/h	1619	1216	496	1619	1800	1530	1619	4879	164	1619	3411	84
Grp Volume(v), veh/h	97	0	138	15	15	20	31	479	259	88	428	447
Grp Sat Flow(s),veh/h/ln	1619	0	1712	1619	1800	1530	1619	1638	1767	1619	1710	1785
Q Serve(g_s), s	2.6	0.0	3.2	0.4	0.3	0.5	0.8	5.1	5.1	2.3	9.3	9.3
Cycle Q Clear(g_c), s	2.6	0.0	3.2	0.4	0.3	0.5	0.8	5.1	5.1	2.3	9.3	9.3
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	128	0	278	31	184	157	58	1065	574	121	622	650
V/C Ratio(X)	0.76	0.00	0.50	0.49	0.08	0.13	0.53	0.45	0.45	0.73	0.69	0.69
Avail Cap(c_a), veh/h	192	0	709	184	737	627	184	1372	740	184	716	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	16.8	21.3	17.8	17.9	20.8	11.7	11.7	19.9	11.9	11.9
Incr Delay (d2), s/veh	9.2	0.0	1.4	11.4	0.2	0.4	7.4	0.3	0.6	8.0	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.6	0.3	0.2	0.2	0.5	2.3	2.5	1.3	4.8	5.0
LnGrp Delay(d),s/veh	29.0	0.0	18.1	32.7	18.0	18.3	28.2	12.0	12.3	27.8	14.2	14.1
LnGrp LOS	C		B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		235			50			769			963	
Approach Delay, s/veh		22.6			22.6			12.8			15.4	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	18.9	5.4	11.7	6.2	20.6	8.1	9.1				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	4.3	7.1	2.4	5.2	2.8	11.3	4.6	2.5				
Green Ext Time (p_c), s	0.0	6.5	0.0	0.6	0.0	4.6	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

1/16/2017

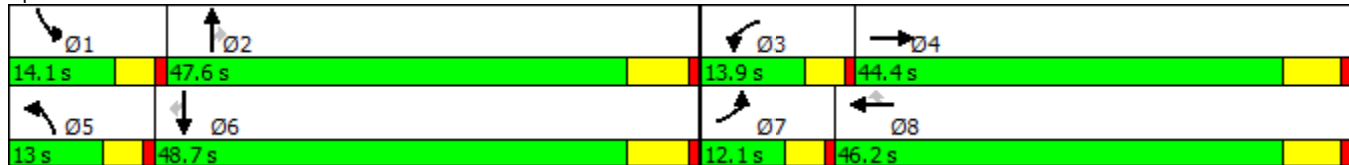


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	109	50	105	222	153	37	63	632	187	37	806	40
Future Volume (vph)	109	50	105	222	153	37	63	632	187	37	806	40
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 75.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	50	105	222	153	37	63	632	187	37	806	40
Future Volume (veh/h)	109	50	105	222	153	37	63	632	187	37	806	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	110	51	0	224	155	17	64	638	0	37	814	31
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	504	226	304	335	284	84	1330	595	60	1280	573
Arrive On Green	0.06	0.15	0.00	0.10	0.19	0.19	0.05	0.39	0.00	0.04	0.37	0.37
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	110	51	0	224	155	17	64	638	0	37	814	31
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	2.4	0.9	0.0	5.0	5.2	0.6	2.6	9.5	0.0	1.5	13.2	0.9
Cycle Q Clear(g_c), s	2.4	0.9	0.0	5.0	5.2	0.6	2.6	9.5	0.0	1.5	13.2	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	504	226	304	335	284	84	1330	595	60	1280	573
V/C Ratio(X)	0.58	0.10	0.00	0.74	0.46	0.06	0.76	0.48	0.00	0.62	0.64	0.05
Avail Cap(c_a), veh/h	328	1930	864	406	1064	904	201	2077	929	227	2133	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	25.0	0.0	29.5	24.5	22.7	31.7	15.5	0.0	32.1	17.4	13.5
Incr Delay (d2), s/veh	1.0	0.1	0.0	2.8	1.0	0.1	5.3	0.3	0.0	3.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.4	0.0	2.1	2.7	0.3	1.3	4.5	0.0	0.7	6.3	0.4
LnGrp Delay(d),s/veh	31.8	25.1	0.0	32.3	25.5	22.8	37.0	15.8	0.0	35.9	17.9	13.6
LnGrp LOS	C	C		C	C	C	D	B		D	B	B
Approach Vol, veh/h		161			396			702			882	
Approach Delay, s/veh		29.6			29.2			17.7			18.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	32.8	11.6	16.2	8.1	31.8	9.0	18.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	3.5	11.5	7.0	2.9	4.6	15.2	4.4	7.2				
Green Ext Time (p_c), s	0.0	10.4	0.1	1.1	0.0	10.1	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

Timings
 21: Archibald Av. & Eucalyptus Av.

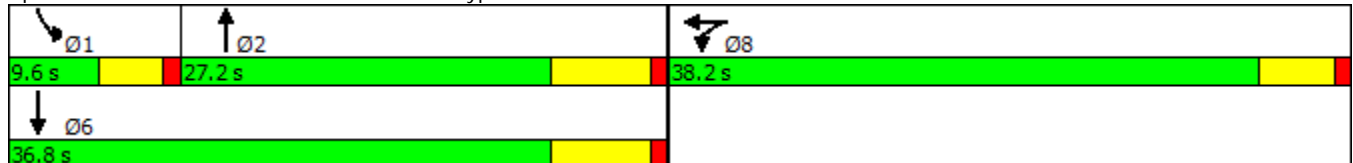


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↕	↕	↗	↕
Traffic Volume (vph)	0	868	47	1093
Future Volume (vph)	0	868	47	1093
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	38.2	27.2	9.6	36.8
Total Split (%)	50.9%	36.3%	12.8%	49.1%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 52.2
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	2	0	22	0	868	30	47	1093	0
Future Volume (veh/h)	0	0	0	2	0	22	0	868	30	47	1093	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	10	0	943	31	51	1188	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				8	0	41	0	1617	53	89	2245	0
Arrive On Green				0.03	0.00	0.03	0.00	0.48	0.48	0.05	0.66	0.00
Sat Flow, veh/h				260	0	1298	0	3469	111	1619	3510	0
Grp Volume(v), veh/h				12	0	0	0	477	497	51	1188	0
Grp Sat Flow(s),veh/h/ln				1558	0	0	0	1710	1780	1619	1710	0
Q Serve(g_s), s				0.3	0.0	0.0	0.0	7.6	7.6	1.2	6.9	0.0
Cycle Q Clear(g_c), s				0.3	0.0	0.0	0.0	7.6	7.6	1.2	6.9	0.0
Prop In Lane				0.17		0.83	0.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h				49	0	0	0	818	852	89	2245	0
V/C Ratio(X)				0.25	0.00	0.00	0.00	0.58	0.58	0.57	0.53	0.00
Avail Cap(c_a), veh/h				1373	0	0	0	945	984	216	2767	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				17.7	0.0	0.0	0.0	7.1	7.1	17.3	3.4	0.0
Incr Delay (d2), s/veh				2.6	0.0	0.0	0.0	0.7	0.7	2.2	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.0	0.0	3.6	3.7	0.6	3.2	0.0
LnGrp Delay(d),s/veh				20.3	0.0	0.0	0.0	7.8	7.7	19.4	3.6	0.0
LnGrp LOS				C				A	A	B	A	
Approach Vol, veh/h					12			974			1239	
Approach Delay, s/veh					20.3			7.7			4.2	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.7	24.4				31.1		6.4				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	20.7				30.3		33.0				
Max Q Clear Time (g_c+I1), s	3.2	9.6				8.9		2.3				
Green Ext Time (p_c), s	0.0	8.4				13.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					5.9							
HCM 2010 LOS					A							

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/25/2017

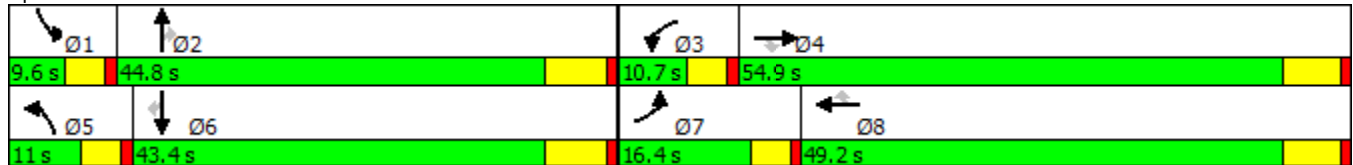


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	25	356	100	8	47	87	579	21	44	936	104
Future Volume (vph)	264	25	356	100	8	47	87	579	21	44	936	104
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	264	25	356	100	8	47	87	579	21	44	936	104
Future Volume (veh/h)	264	25	356	100	8	47	87	579	21	44	936	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	275	26	206	104	8	7	91	603	8	46	975	97
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	240	355	301	124	226	192	113	1407	629	118	1306	584
Arrive On Green	0.15	0.20	0.20	0.08	0.13	0.13	0.07	0.41	0.41	0.04	0.38	0.38
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	275	26	206	104	8	7	91	603	8	46	975	97
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	11.8	0.9	10.0	5.0	0.3	0.3	4.4	10.0	0.2	1.2	19.6	3.3
Cycle Q Clear(g_c), s	11.8	0.9	10.0	5.0	0.3	0.3	4.4	10.0	0.2	1.2	19.6	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	355	301	124	226	192	113	1407	629	118	1306	584
V/C Ratio(X)	1.15	0.07	0.68	0.84	0.04	0.04	0.81	0.43	0.01	0.39	0.75	0.17
Avail Cap(c_a), veh/h	240	1100	935	124	972	826	130	1644	736	186	1584	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	26.1	29.7	36.3	30.6	30.6	36.5	16.8	13.9	37.3	21.3	16.3
Incr Delay (d2), s/veh	103.5	0.1	2.7	35.7	0.1	0.1	23.3	0.2	0.0	0.8	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.5	4.4	3.5	0.2	0.1	2.7	4.7	0.1	0.5	9.5	1.4
LnGrp Delay(d),s/veh	137.4	26.1	32.4	72.0	30.7	30.7	59.9	17.0	13.9	38.1	22.9	16.4
LnGrp LOS	F	C	C	E	C	C	E	B	B	D	C	B
Approach Vol, veh/h		507			119			702			1118	
Approach Delay, s/veh		89.0			66.8			22.5			22.9	
Approach LOS		F			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	39.3	10.7	21.9	10.2	36.9	16.4	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	3.2	12.0	7.0	12.0	6.4	21.6	13.8	2.3				
Green Ext Time (p_c), s	0.0	11.9	0.0	0.8	0.0	8.8	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			38.6									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017

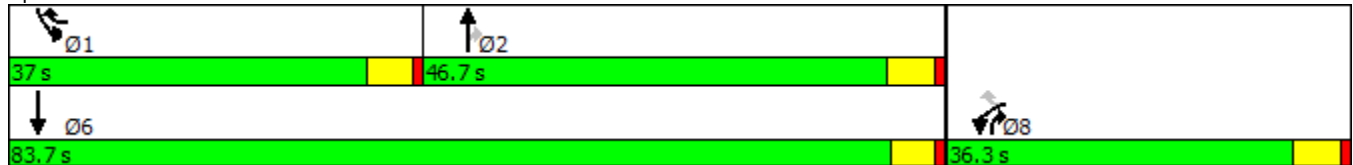














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↙	↑	↘	↙	↑
Traffic Volume (vph)	347	217	587	382	574	743
Future Volume (vph)	347	217	587	382	574	743
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	347	217	587	382	574	743		
Future Volume (veh/h)	347	217	587	382	574	743		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	390	202	660	429	645	835		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	418	820	679	951	500	1287		
Arrive On Green	0.23	0.23	0.36	0.36	0.28	0.68		
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900		
Grp Volume(v), veh/h	390	202	660	429	645	835		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900		
Q Serve(g_s), s	24.5	8.1	39.6	17.2	32.0	29.3		
Cycle Q Clear(g_c), s	24.5	8.1	39.6	17.2	32.0	29.3		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	418	820	679	951	500	1287		
V/C Ratio(X)	0.93	0.25	0.97	0.45	1.29	0.65		
Avail Cap(c_a), veh/h	485	879	679	951	500	1292		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.6	16.0	36.6	13.3	41.9	10.8		
Incr Delay (d2), s/veh	22.0	0.1	27.5	0.4	144.7	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.8	3.7	25.9	12.0	35.9	15.4		
LnGrp Delay(d),s/veh	65.6	16.1	64.1	13.7	186.6	11.7		
LnGrp LOS	E	B	E	B	F	B		
Approach Vol, veh/h	592		1089			1480		
Approach Delay, s/veh	48.7		44.2			87.9		
Approach LOS	D		D			F		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.0	46.7				83.7		32.1
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	32.0	41.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	34.0	41.6				31.3		26.5
Green Ext Time (p_c), s	0.0	0.0				15.0		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			65.5					
HCM 2010 LOS			E					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

1/13/2017

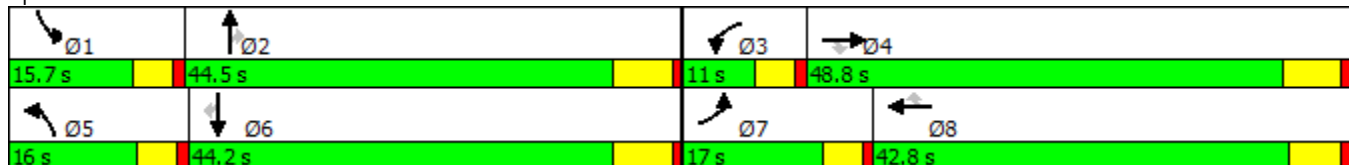


























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (vph)	230	1075	464	103	319	35	221	452	103	168	616	357
Future Volume (vph)	230	1075	464	103	319	35	221	452	103	168	616	357
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Archibald Av. & Schleisman Rd.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1075	464	103	319	35	221	452	103	168	616	357
Future Volume (veh/h)	230	1075	464	103	319	35	221	452	103	168	616	357
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	245	1144	407	110	339	32	235	481	75	179	655	243
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	320	1891	576	176	1679	516	309	1471	448	252	1386	422
Arrive On Green	0.09	0.36	0.36	0.05	0.32	0.32	0.09	0.28	0.28	0.07	0.27	0.27
Sat Flow, veh/h	3510	5187	1579	3510	5187	1595	3510	5187	1580	3510	5187	1578
Grp Volume(v), veh/h	245	1144	407	110	339	32	235	481	75	179	655	243
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1595	1755	1729	1580	1755	1729	1578
Q Serve(g_s), s	6.4	16.9	20.7	2.9	4.4	1.3	6.1	6.9	3.4	4.7	9.9	12.5
Cycle Q Clear(g_c), s	6.4	16.9	20.7	2.9	4.4	1.3	6.1	6.9	3.4	4.7	9.9	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1891	576	176	1679	516	309	1471	448	252	1386	422
V/C Ratio(X)	0.77	0.60	0.71	0.62	0.20	0.06	0.76	0.33	0.17	0.71	0.47	0.58
Avail Cap(c_a), veh/h	464	2353	716	239	2044	628	426	2116	644	415	2099	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	24.3	25.5	43.7	23.0	21.9	41.9	26.6	25.3	42.6	28.9	29.8
Incr Delay (d2), s/veh	2.4	0.3	2.4	1.3	0.1	0.0	3.2	0.1	0.2	1.4	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	8.1	9.4	1.4	2.1	0.6	3.1	3.3	1.5	2.3	4.8	5.6
LnGrp Delay(d),s/veh	44.1	24.6	27.9	45.1	23.0	22.0	45.0	26.7	25.5	44.0	29.1	31.0
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1796			481			791			1077	
Approach Delay, s/veh		28.0			28.0			32.0			32.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	32.8	9.3	40.4	12.9	31.3	13.2	36.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	6.7	8.9	4.9	22.7	8.1	14.5	8.4	6.4				
Green Ext Time (p_c), s	0.1	9.4	0.0	11.2	0.1	8.7	0.2	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			29.8									
HCM 2010 LOS			C									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

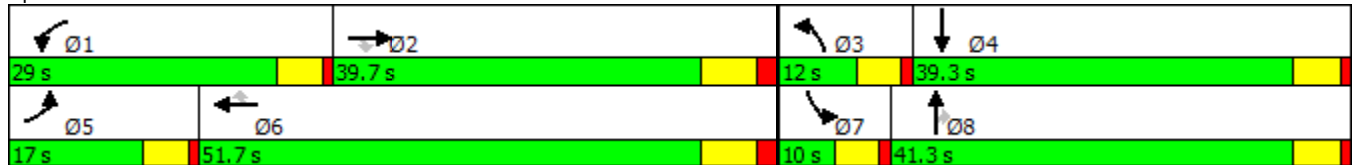


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	76	837	42	201	500	9	38	46	151	12	25
Future Volume (vph)	76	837	42	201	500	9	38	46	151	12	25
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 72.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	837	42	201	500	9	38	46	151	12	25	27
Future Volume (veh/h)	76	837	42	201	500	9	38	46	151	12	25	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	84	930	46	223	556	10	42	51	139	13	28	23
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	112	1770	539	273	1553	695	75	249	208	29	101	83
Arrive On Green	0.06	0.34	0.34	0.15	0.43	0.43	0.04	0.13	0.13	0.02	0.11	0.11
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1590	1810	959	788
Grp Volume(v), veh/h	84	930	46	223	556	10	42	51	139	13	0	51
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1590	1810	0	1748
Q Serve(g_s), s	2.8	8.9	1.2	7.4	6.4	0.2	1.4	1.5	5.1	0.4	0.0	1.7
Cycle Q Clear(g_c), s	2.8	8.9	1.2	7.4	6.4	0.2	1.4	1.5	5.1	0.4	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	112	1770	539	273	1553	695	75	249	208	29	0	184
V/C Ratio(X)	0.75	0.53	0.09	0.82	0.36	0.01	0.56	0.21	0.67	0.44	0.00	0.28
Avail Cap(c_a), veh/h	352	2746	837	703	2613	1169	205	1107	927	146	0	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	16.3	13.8	25.4	11.9	10.1	29.0	24.0	25.6	30.1	0.0	25.5
Incr Delay (d2), s/veh	3.8	0.2	0.1	2.3	0.1	0.0	2.4	0.4	3.7	3.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.3	0.5	3.8	3.2	0.1	0.7	0.8	2.5	0.2	0.0	0.8
LnGrp Delay(d),s/veh	32.3	16.6	13.9	27.7	12.0	10.1	31.4	24.4	29.2	34.0	0.0	26.3
LnGrp LOS	C	B	B	C	B	B	C	C	C	C		C
Approach Vol, veh/h		1060			789			232				64
Approach Delay, s/veh		17.7			16.4			28.6				27.8
Approach LOS		B			B			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	28.1	7.6	11.8	8.8	33.6	6.0	13.4				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	9.4	10.9	3.4	3.7	4.8	8.4	2.4	7.1				
Green Ext Time (p_c), s	0.1	10.2	0.0	0.9	0.0	12.5	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									

Timings
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

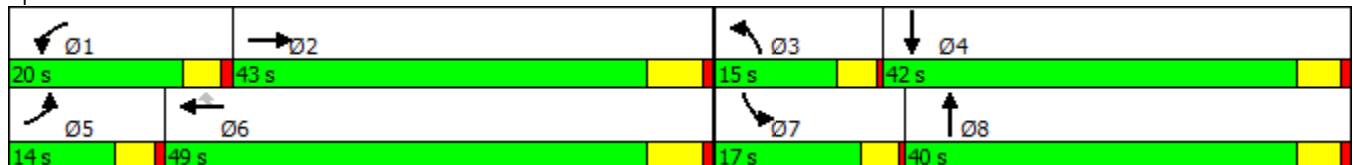


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑↓	↔↔	↑↑↑	↔	↔	↑↓	↔	↑↓
Traffic Volume (vph)	86	804	192	566	50	48	71	70	125
Future Volume (vph)	86	804	192	566	50	48	71	70	125
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 64.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	804	58	192	566	50	48	71	156	70	125	67
Future Volume (veh/h)	86	804	58	192	566	50	48	71	156	70	125	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	829	54	198	584	31	49	73	87	72	129	42
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1821	118	314	2079	647	70	238	212	92	388	121
Arrive On Green	0.05	0.37	0.37	0.09	0.40	0.40	0.04	0.13	0.13	0.05	0.14	0.14
Sat Flow, veh/h	3510	4977	323	3510	5187	1614	1810	1805	1604	1810	2695	842
Grp Volume(v), veh/h	89	575	308	198	584	31	49	73	87	72	85	86
Grp Sat Flow(s),veh/h/ln	1755	1729	1842	1755	1729	1614	1810	1805	1604	1810	1805	1732
Q Serve(g_s), s	1.3	6.8	6.9	2.9	4.1	0.6	1.4	2.0	2.7	2.1	2.3	2.4
Cycle Q Clear(g_c), s	1.3	6.8	6.9	2.9	4.1	0.6	1.4	2.0	2.7	2.1	2.3	2.4
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	192	1265	674	314	2079	647	70	238	212	92	260	250
V/C Ratio(X)	0.46	0.45	0.46	0.63	0.28	0.05	0.70	0.31	0.41	0.78	0.33	0.35
Avail Cap(c_a), veh/h	619	2375	1265	1010	4140	1288	369	1173	1042	437	1240	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	13.0	13.0	23.7	10.9	9.9	25.6	21.2	21.5	25.3	20.7	20.8
Incr Delay (d2), s/veh	0.6	0.3	0.5	0.8	0.1	0.0	4.7	0.5	0.9	5.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.2	3.5	1.4	2.0	0.3	0.8	1.0	1.2	1.2	1.2	1.2
LnGrp Delay(d),s/veh	25.4	13.3	13.5	24.4	11.0	9.9	30.3	21.7	22.4	30.7	21.2	21.4
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h		972			813			209			243	
Approach Delay, s/veh		14.4			14.2			24.0			24.1	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	25.7	6.1	12.8	7.4	27.6	6.7	12.1				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	4.9	8.9	3.4	4.4	3.3	6.1	4.1	4.7				
Green Ext Time (p_c), s	0.2	10.7	0.0	1.4	0.0	11.7	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.3								
HCM 2010 LOS				B								

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

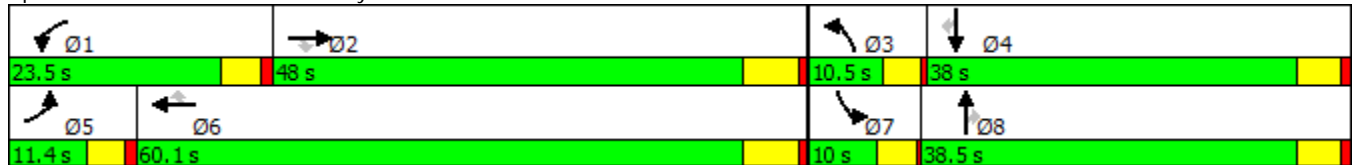


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗↗	↘	↙	↗↗	↘	↙	↗	↘	↙	↗↗	↘
Traffic Volume (vph)	40	954	46	162	799	35	33	26	140	26	72	15
Future Volume (vph)	40	954	46	162	799	35	33	26	140	26	72	15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 71.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

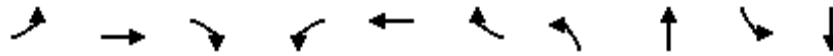
1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	954	46	162	799	35	33	26	140	26	72	15
Future Volume (veh/h)	40	954	46	162	799	35	33	26	140	26	72	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	973	45	165	815	36	34	27	95	27	73	12
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	58	1638	722	208	1936	846	51	199	169	43	362	159
Arrive On Green	0.03	0.45	0.45	0.11	0.54	0.54	0.03	0.10	0.10	0.02	0.10	0.10
Sat Flow, veh/h	1810	3610	1592	1810	3610	1577	1810	1900	1610	1810	3610	1587
Grp Volume(v), veh/h	41	973	45	165	815	36	34	27	95	27	73	12
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1577	1810	1900	1610	1810	1805	1587
Q Serve(g_s), s	1.4	13.0	1.0	5.7	8.7	0.7	1.2	0.8	3.6	1.0	1.2	0.4
Cycle Q Clear(g_c), s	1.4	13.0	1.0	5.7	8.7	0.7	1.2	0.8	3.6	1.0	1.2	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	1638	722	208	1936	846	51	199	169	43	362	159
V/C Ratio(X)	0.70	0.59	0.06	0.79	0.42	0.04	0.66	0.14	0.56	0.63	0.20	0.08
Avail Cap(c_a), veh/h	194	2356	1039	534	3034	1326	183	989	838	169	1851	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	13.2	9.9	27.7	8.9	7.1	31.0	26.2	27.4	31.1	26.6	26.3
Incr Delay (d2), s/veh	5.6	0.3	0.0	2.6	0.1	0.0	5.4	0.2	2.2	5.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.4	0.4	3.0	4.3	0.3	0.7	0.4	1.7	0.5	0.6	0.2
LnGrp Delay(d),s/veh	36.4	13.5	9.9	30.3	9.1	7.1	36.3	26.4	29.6	36.6	26.8	26.4
LnGrp LOS	D	B	A	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		1059			1016			156			112	
Approach Delay, s/veh		14.2			12.5			30.5			29.1	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	35.2	5.8	11.4	6.6	40.5	5.5	11.7				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	7.7	15.0	3.2	3.2	3.4	10.7	3.0	5.6				
Green Ext Time (p_c), s	0.1	14.2	0.0	0.7	0.0	17.5	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.3									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

1/16/2017

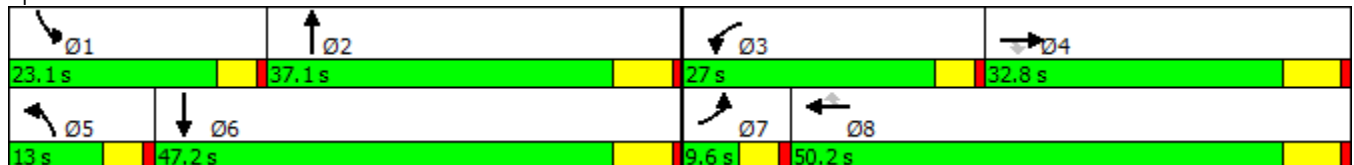


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖
Traffic Volume (vph)	30	384	226	305	265	128	106	220	250	403
Future Volume (vph)	30	384	226	305	265	128	106	220	250	403
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	9.6	32.8	32.8	27.0	50.2	50.2	13.0	37.1	23.1	47.2
Total Split (%)	8.0%	27.3%	27.3%	22.5%	41.8%	41.8%	10.8%	30.9%	19.3%	39.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	384	226	305	265	128	106	220	156	250	403	32
Future Volume (veh/h)	30	384	226	305	265	128	106	220	156	250	403	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	404	102	321	279	66	112	232	155	263	424	29
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	429	357	344	738	628	129	259	173	284	578	40
Arrive On Green	0.03	0.23	0.23	0.19	0.39	0.39	0.07	0.24	0.24	0.16	0.33	0.33
Sat Flow, veh/h	1810	1900	1580	1810	1900	1615	1810	1064	711	1810	1758	120
Grp Volume(v), veh/h	32	404	102	321	279	66	112	0	387	263	0	453
Grp Sat Flow(s),veh/h/ln	1810	1900	1580	1810	1900	1615	1810	0	1775	1810	0	1878
Q Serve(g_s), s	2.1	24.6	6.3	20.6	12.4	3.1	7.2	0.0	24.9	16.9	0.0	25.1
Cycle Q Clear(g_c), s	2.1	24.6	6.3	20.6	12.4	3.1	7.2	0.0	24.9	16.9	0.0	25.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.06
Lane Grp Cap(c), veh/h	50	429	357	344	738	628	129	0	432	284	0	618
V/C Ratio(X)	0.64	0.94	0.29	0.93	0.38	0.11	0.87	0.00	0.90	0.92	0.00	0.73
Avail Cap(c_a), veh/h	77	429	357	344	738	628	129	0	466	284	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.7	44.8	37.7	46.9	25.8	22.9	54.1	0.0	43.1	48.9	0.0	34.9
Incr Delay (d2), s/veh	5.0	29.0	0.4	31.2	0.3	0.1	40.9	0.0	18.9	33.7	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	16.4	2.8	13.2	6.6	1.4	5.1	0.0	14.4	11.1	0.0	13.6
LnGrp Delay(d),s/veh	61.7	73.8	38.1	78.1	26.1	23.0	95.1	0.0	62.0	82.6	0.0	38.9
LnGrp LOS	E	E	D	E	C	C	F		E	F		D
Approach Vol, veh/h		538			666			499			716	
Approach Delay, s/veh		66.3			50.9			69.4			55.0	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.1	34.8	27.0	32.8	13.0	44.9	7.8	52.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	18.5	30.9	22.4	26.6	8.4	41.0	5.0	44.0				
Max Q Clear Time (g_c+I1), s	18.9	26.9	22.6	26.6	9.2	27.1	4.1	14.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	4.0	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			59.4									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	88	82	22	225	120	57	6	336	203	95	625
Future Volume (vph)	88	82	22	225	120	57	6	336	203	95	625
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	17.0	17.0	17.0	9.6	45.4	45.4	12.4	48.2
Total Split (%)	37.7%	37.7%	37.7%	14.2%	14.2%	14.2%	8.0%	37.8%	37.8%	10.3%	40.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.

Ø1	Ø2	Ø4	Ø8
12.4 s	45.4 s	45.2 s	17 s
Ø5	Ø6		
9.6 s	48.2 s		

HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	82	22	225	120	57	6	336	203	95	625	214
Future Volume (veh/h)	88	82	22	225	120	57	6	336	203	95	625	214
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	85	12	234	125	19	6	350	165	99	651	209
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	413	185	226	237	202	14	803	683	127	669	215
Arrive On Green	0.11	0.11	0.11	0.12	0.12	0.12	0.01	0.42	0.42	0.07	0.48	0.48
Sat Flow, veh/h	1810	3610	1615	1810	1900	1615	1810	1900	1615	1810	1379	443
Grp Volume(v), veh/h	92	85	12	234	125	19	6	350	165	99	0	860
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1900	1615	1810	1900	1615	1810	0	1821
Q Serve(g_s), s	4.1	1.8	0.6	10.8	5.3	0.9	0.3	11.3	5.7	4.7	0.0	39.9
Cycle Q Clear(g_c), s	4.1	1.8	0.6	10.8	5.3	0.9	0.3	11.3	5.7	4.7	0.0	39.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	207	413	185	226	237	202	14	803	683	127	0	883
V/C Ratio(X)	0.44	0.21	0.06	1.04	0.53	0.09	0.43	0.44	0.24	0.78	0.00	0.97
Avail Cap(c_a), veh/h	816	1627	728	226	237	202	105	861	732	163	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	34.8	34.2	37.9	35.5	33.5	42.7	17.7	16.1	39.6	0.0	21.7
Incr Delay (d2), s/veh	1.5	0.2	0.1	69.6	2.2	0.2	7.5	0.4	0.2	12.6	0.0	23.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.9	0.3	9.7	3.0	0.4	0.2	6.0	2.6	2.8	0.0	25.7
LnGrp Delay(d),s/veh	37.3	35.0	34.3	107.5	37.6	33.7	50.2	18.0	16.2	52.1	0.0	45.6
LnGrp LOS	D	D	C	F	D	C	D	B	B	D		D
Approach Vol, veh/h		189			378			521			959	
Approach Delay, s/veh		36.1			80.7			17.8			46.3	
Approach LOS		D			F			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	42.8		16.1	5.3	48.2		17.0				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	7.8	39.2		39.0	5.0	42.0		10.8				
Max Q Clear Time (g_c+I1), s	6.7	13.3		6.1	2.3	41.9		12.8				
Green Ext Time (p_c), s	0.0	9.4		0.7	0.0	0.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.5									
HCM 2010 LOS			D									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

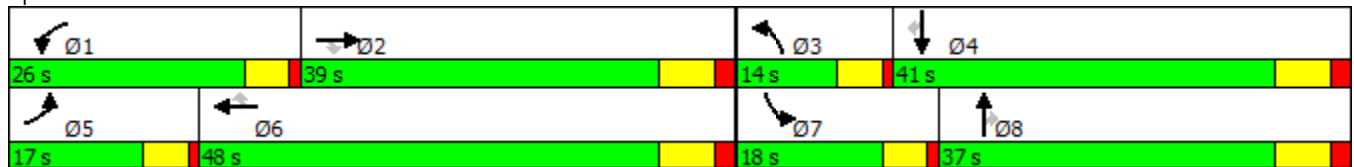


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	214	804	61	428	696	191	140	329	253	224	430	161
Future Volume (vph)	214	804	61	428	696	191	140	329	253	224	430	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.4
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

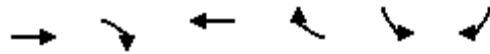
1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	804	61	428	696	191	140	329	253	224	430	161
Future Volume (veh/h)	214	804	61	428	696	191	140	329	253	224	430	161
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	218	820	43	437	710	126	143	336	181	229	439	123
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	287	1527	464	510	1292	577	209	1203	364	299	930	415
Arrive On Green	0.08	0.29	0.29	0.15	0.36	0.36	0.06	0.23	0.23	0.09	0.26	0.26
Sat Flow, veh/h	3510	5187	1577	3510	3610	1611	3510	5187	1571	3510	3610	1611
Grp Volume(v), veh/h	218	820	43	437	710	126	143	336	181	229	439	123
Grp Sat Flow(s),veh/h/ln	1755	1729	1577	1755	1805	1611	1755	1729	1571	1755	1805	1611
Q Serve(g_s), s	6.0	13.1	2.0	12.0	15.5	5.4	3.9	5.3	9.9	6.3	10.1	6.1
Cycle Q Clear(g_c), s	6.0	13.1	2.0	12.0	15.5	5.4	3.9	5.3	9.9	6.3	10.1	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	1527	464	510	1292	577	209	1203	364	299	930	415
V/C Ratio(X)	0.76	0.54	0.09	0.86	0.55	0.22	0.69	0.28	0.50	0.77	0.47	0.30
Avail Cap(c_a), veh/h	427	1682	511	747	1500	669	320	1577	477	462	1244	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	29.2	25.3	41.2	25.3	22.1	45.5	31.1	32.9	44.2	31.0	29.4
Incr Delay (d2), s/veh	1.9	0.6	0.2	4.6	0.8	0.4	1.5	0.3	2.2	1.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.3	0.9	6.2	7.8	2.5	1.9	2.5	4.5	3.1	5.2	2.8
LnGrp Delay(d),s/veh	46.3	29.8	25.4	45.8	26.1	22.5	47.0	31.4	35.1	45.7	31.8	30.3
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1081			1273			660			791	
Approach Delay, s/veh		33.0			32.5			35.8			35.6	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	36.1	10.9	32.4	13.1	42.3	13.4	29.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	14.0	15.1	5.9	12.1	8.0	17.5	8.3	11.9				
Green Ext Time (p_c), s	0.4	13.6	0.0	10.9	0.1	17.8	0.1	9.7				
Intersection Summary												
HCM 2010 Ctrl Delay			33.8									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

1/16/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	454	156	243	181	482	487
Future Volume (vph)	454	156	243	181	482	487
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 34.7
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated

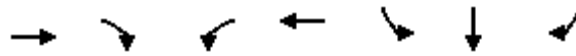
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 1/16/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	454	156	0	243	181	0	0	0	482	0	487
Future Volume (veh/h)	0	454	156	0	243	181	0	0	0	482	0	487
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	493	0	0	264	0				524	0	383
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1292	402	0	899	402				1306	0	601
Arrive On Green	0.00	0.25	0.00	0.00	0.25	0.00				0.37	0.00	0.37
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	493	0	0	264	0				524	0	383
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	2.4	0.0	0.0	1.8	0.0				3.3	0.0	5.9
Cycle Q Clear(g_c), s	0.0	2.4	0.0	0.0	1.8	0.0				3.3	0.0	5.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1292	402	0	899	402				1306	0	601
V/C Ratio(X)	0.00	0.38	0.00	0.00	0.29	0.00				0.40	0.00	0.64
Avail Cap(c_a), veh/h	0	2448	762	0	1704	762				4014	0	1846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.4	0.0	0.0	9.2	0.0				7.0	0.0	7.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	0.0	0.0	0.9	0.0				1.6	0.0	2.7
LnGrp Delay(d),s/veh	0.0	9.6	0.0	0.0	9.3	0.0				7.2	0.0	8.9
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		493			264						907	
Approach Delay, s/veh		9.6			9.3						7.9	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		14.3		15.8		14.3						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		4.4		7.9		3.8						
Green Ext Time (p_c), s		3.1		3.3		3.2						
Intersection Summary												
HCM 2010 Ctrl Delay			8.6									
HCM 2010 LOS			A									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↖↗	↑↑	↖	↕	↑
Traffic Volume (vph)	1232	413	429	980	200	0	620
Future Volume (vph)	1232	413	429	980	200	0	620
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

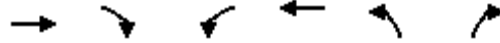
Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖↗	↑↑					↖	↔	↗
Traffic Volume (veh/h)	0	1232	413	429	980	0	0	0	0	200	0	620
Future Volume (veh/h)	0	1232	413	429	980	0	0	0	0	200	0	620
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1270	426	442	1010	0				137	0	626
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1805	808	509	2476	0				387	0	691
Arrive On Green	0.00	0.50	0.50	0.10	0.46	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1615	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1270	426	442	1010	0				137	0	626
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	29.8	19.7	13.7	20.5	0.0				7.1	0.0	20.8
Cycle Q Clear(g_c), s	0.0	29.8	19.7	13.7	20.5	0.0				7.1	0.0	20.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1805	808	509	2476	0				387	0	691
V/C Ratio(X)	0.00	0.70	0.53	0.87	0.41	0.00				0.35	0.00	0.91
Avail Cap(c_a), veh/h	0	1805	808	590	2476	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.80	0.80	0.63	0.63	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	18.7	48.6	14.9	0.0				36.8	0.0	42.1
Incr Delay (d2), s/veh	0.0	1.9	2.0	7.1	0.3	0.0				0.2	0.0	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.3	9.2	7.1	10.3	0.0				3.6	0.0	10.5
LnGrp Delay(d),s/veh	0.0	23.1	20.6	55.7	15.2	0.0				37.0	0.0	54.5
LnGrp LOS		C	C	E	B					D		D
Approach Vol, veh/h		1696			1452						763	
Approach Delay, s/veh		22.5			27.5						51.4	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.4	60.5		29.0		81.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	15.7	31.8		22.8		22.5						
Green Ext Time (p_c), s	0.3	11.0		0.8		17.7						
Intersection Summary												
HCM 2010 Ctrl Delay			30.0									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	477	459	291	259	164	120
Future Volume (vph)	477	459	291	259	164	120
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 1/30/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	477	459	291	259	164	120		
Future Volume (veh/h)	477	459	291	259	164	120		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	497	352	303	270	171	75		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2381	903	419	3519	362	161		
Arrive On Green	0.46	0.46	0.12	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	497	352	303	270	171	75		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	3.4	7.4	5.0	1.1	2.7	2.6		
Cycle Q Clear(g_c), s	3.4	7.4	5.0	1.1	2.7	2.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2381	903	419	3519	362	161		
V/C Ratio(X)	0.21	0.39	0.72	0.08	0.47	0.46		
Avail Cap(c_a), veh/h	2381	903	527	3519	362	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.7	7.5	25.5	3.3	25.5	25.5		
Incr Delay (d2), s/veh	0.2	1.2	3.7	0.0	4.4	9.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	4.3	2.6	0.5	1.5	1.6		
LnGrp Delay(d),s/veh	9.9	8.6	29.1	3.3	29.9	34.8		
LnGrp LOS	A	A	C	A	C	C		
Approach Vol, veh/h	849			573	246			
Approach Delay, s/veh	9.4			17.0	31.4			
Approach LOS	A			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.2	34.8				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	7.0	9.4				3.1		4.7
Green Ext Time (p_c), s	0.2	5.4				6.7		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			15.2					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↔↔	↑↑	↑↑	↔	↔	↕	↔
Traffic Volume (vph)	528	904	1016	168	393	1	652
Future Volume (vph)	528	904	1016	168	393	1	652
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	26.0	72.0	46.0	46.0	38.0	38.0	38.0
Total Split (%)	23.6%	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/13/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	528	904	0	0	1016	168	393	1	652	0	0	0
Future Volume (veh/h)	528	904	0	0	1016	168	393	1	652	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	533	913	0	0	1026	141	535	0	280			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	594	2503	0	0	1744	770	748	0	333			
Arrive On Green	0.34	1.00	0.00	0.00	0.48	0.48	0.21	0.00	0.21			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	533	913	0	0	1026	141	535	0	280			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	22.6	5.5	15.1	0.0	18.3			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	22.6	5.5	15.1	0.0	18.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	594	2503	0	0	1744	770	748	0	333			
V/C Ratio(X)	0.90	0.36	0.00	0.00	0.59	0.18	0.71	0.00	0.84			
Avail Cap(c_a), veh/h	686	2503	0	0	1744	770	1069	0	476			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	0.0	0.0	0.0	20.5	16.1	40.6	0.0	41.9			
Incr Delay (d2), s/veh	9.9	0.3	0.0	0.0	1.5	0.5	1.3	0.0	8.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	11.6	2.5	7.7	0.0	9.0			
LnGrp Delay(d),s/veh	45.4	0.3	0.0	0.0	22.0	16.6	41.9	0.0	50.8			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1446			1167			815				
Approach Delay, s/veh		16.9			21.3			45.0				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		81.8			23.1	58.6		28.2				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		2.0			17.9	24.6		20.3				
Green Ext Time (p_c), s		12.3			0.7	8.2		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				25.1								
HCM 2010 LOS				C								
Notes												

APPENDIX 3.3:

EXISTING (2017) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2017) Conditions - Weekday AM Peak Hour

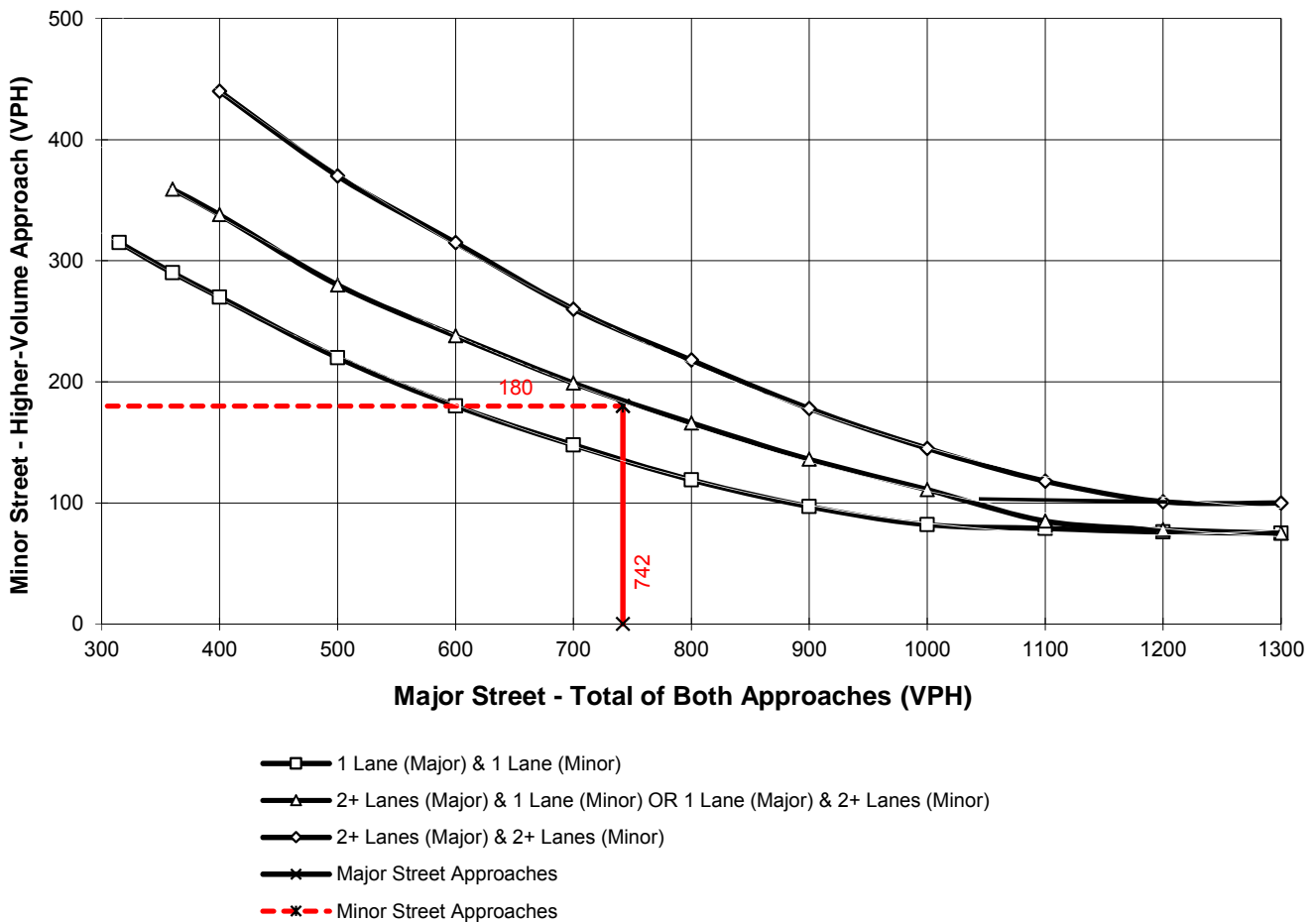
Major Street Name = Grove Avenue

Total of Both Approaches (VPH) = 742
 Number of Approach Lanes Major Street = 1

Minor Street Name = Merrill Avenue

High Volume Approach (VPH) = 180
 Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2017) Conditions - Weekday AM Peak Hour

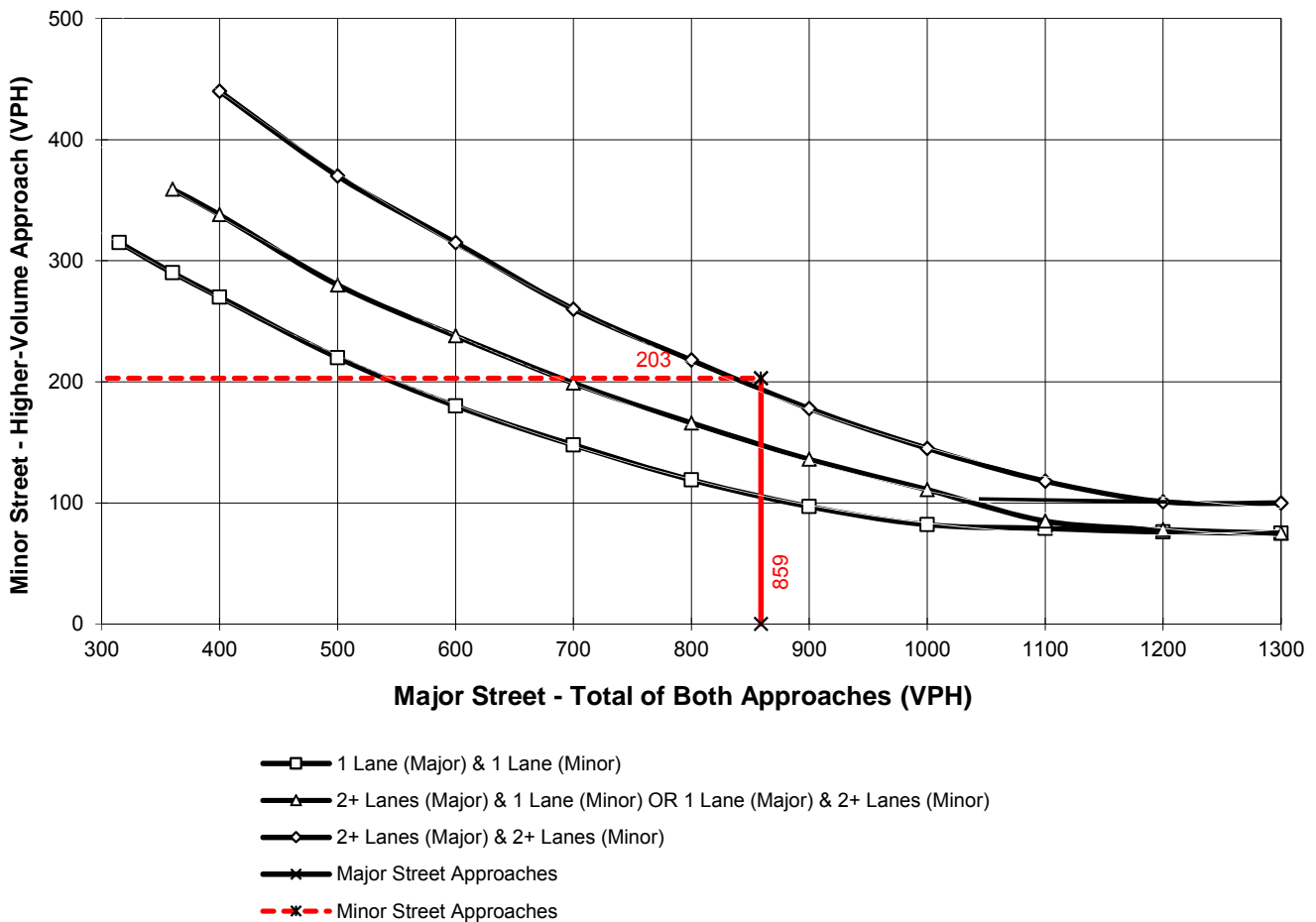
Major Street Name = Flight Avenue

Total of Both Approaches (VPH) = 859
 Number of Approach Lanes Major Street = 1

Minor Street Name = Merrill Avenue

High Volume Approach (VPH) = 203
 Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2017) Conditions - Weekday AM Peak Hour

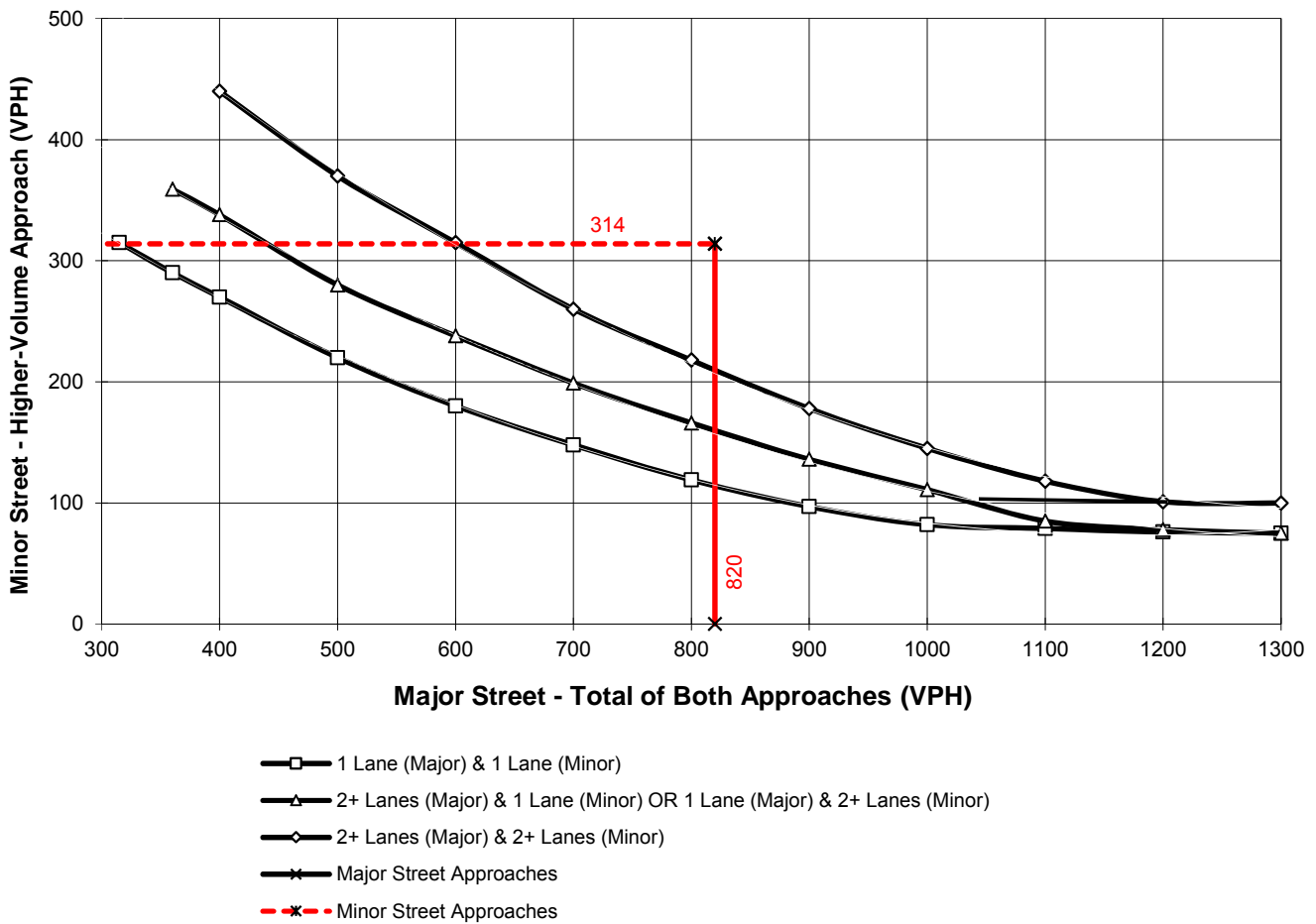
Major Street Name = Hellman Avenue

Total of Both Approaches (VPH) = 820
 Number of Approach Lanes Major Street = 1

Minor Street Name = Kimball Avenue

High Volume Approach (VPH) = 314
 Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

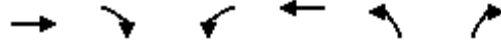
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APPENDIX 3.4:

EXISTING (2017) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	507	303	581	983	73	675
v/c Ratio	0.37	0.38	0.93	0.36	0.18	0.89
Control Delay	11.9	2.9	52.8	3.9	37.8	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	2.9	52.8	3.9	37.8	18.5
Queue Length 50th (ft)	62	13	332	54	22	11
Queue Length 95th (ft)	m85	m18	#556	145	38	#150
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1353	788	655	2728	679	835
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.38	0.89	0.36	0.11	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	841	423	227	66	320	154	153	38
v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.57	0.53	0.09
Control Delay	31.3	714.3	12.2	109.6	20.9	44.3	42.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	714.3	12.2	109.6	20.9	44.3	42.3	0.4
Queue Length 50th (ft)	217	-458	31	43	0	98	97	0
Queue Length 95th (ft)	#438	#650	73	#121	#133	129	128	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1279	169	1761	80	404	521	557	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.30	0.27	0.06

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	355	542	617	1398	668
v/c Ratio	0.81	1.16	0.96	0.46	0.60
Control Delay	47.8	120.0	55.0	17.7	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	120.0	55.0	17.7	29.5
Queue Length 50th (ft)	190	~321	274	215	82
Queue Length 95th (ft)	#331	#522	m#558	304	107
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	468	640	3013	1862
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	1.16	0.96	0.46	0.36

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	429	377	1943	133	649
v/c Ratio	0.83	0.62	0.80	0.66	0.23
Control Delay	43.5	15.2	27.8	42.4	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	15.2	27.8	42.4	20.4
Queue Length 50th (ft)	219	70	278	82	120
Queue Length 95th (ft)	322	157	#407	m124	m160
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	594	664	2441	269	2801
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.57	0.80	0.49	0.23

Intersection Summary

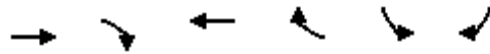
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	575	168	424	67	385	479
v/c Ratio	0.23	0.10	0.25	0.04	0.33	0.78
Control Delay	11.0	0.1	9.3	0.0	14.6	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	0.1	9.3	0.0	14.6	20.4
Queue Length 50th (ft)	41	0	24	0	52	102
Queue Length 95th (ft)	81	0	109	m0	61	154
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2482	1615	1728	1615	1832	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.10	0.25	0.04	0.21	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

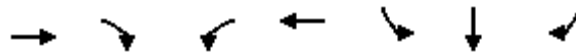


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	432	548	409	301	257	117
v/c Ratio	0.20	0.60	0.70	0.09	0.67	0.46
Control Delay	9.9	7.8	31.3	3.4	30.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	7.8	31.3	3.4	30.9	12.8
Queue Length 50th (ft)	30	0	73	10	38	0
Queue Length 95th (ft)	38	60	#118	17	#80	45
Internal Link Dist (ft)	848		1857		1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	920	583	3518	386	252
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.60	0.70	0.09	0.67	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1225	489	734	621	157	245	245
v/c Ratio	0.69	0.49	0.87	0.22	0.71	0.63	0.60
Control Delay	25.6	5.3	31.2	2.8	63.4	15.2	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	5.3	31.2	2.8	63.4	15.2	11.8
Queue Length 50th (ft)	347	24	172	17	113	13	0
Queue Length 95th (ft)	475	103	233	58	182	95	74
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)				200		400	
Base Capacity (vph)	1768	997	940	2785	280	432	455
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.49	0.78	0.22	0.56	0.57	0.54

Intersection Summary

Queues

37: I-15 NB Ramps & Limonite Av.

1/13/2017

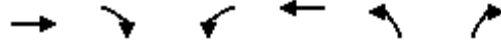


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	826	588	1152	393	195	194	191
v/c Ratio	0.88	0.22	0.72	0.43	0.76	0.53	0.49
Control Delay	32.5	2.6	29.5	3.7	64.1	14.5	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	2.6	29.5	3.7	64.1	14.5	10.4
Queue Length 50th (ft)	278	57	367	0	137	15	0
Queue Length 95th (ft)	266	2	455	59	#225	90	65
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	1002	2709	1591	921	288	392	416
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.22	0.72	0.43	0.68	0.49	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	771	177	300	761	153	1112
v/c Ratio	0.76	0.31	1.13	0.46	0.11	1.25
Control Delay	18.4	3.9	135.6	18.2	17.0	141.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	3.9	135.6	18.2	17.0	141.9
Queue Length 50th (ft)	180	6	~223	162	28	~740
Queue Length 95th (ft)	m217	m15	#389	212	48	#992
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1008	576	265	1658	1442	889
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.31	1.13	0.46	0.11	1.25

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	348	109	218	32	17	461	474	169
v/c Ratio	0.35	0.75	0.15	0.37	0.08	0.90	0.86	0.27
Control Delay	30.1	65.9	19.4	58.6	0.7	54.4	47.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	65.9	19.4	58.6	0.7	54.4	47.8	4.8
Queue Length 50th (ft)	96	70	60	20	0	282	284	0
Queue Length 95th (ft)	140	#155	92	51	0	#468	#458	43
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	985	153	1420	86	226	544	587	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.71	0.15	0.37	0.08	0.85	0.81	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

14: Archibald Av. & SR-60 WB Ramps

1/16/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	375	201	410	527	1570
v/c Ratio	0.88	0.38	0.96	0.17	0.82
Control Delay	55.6	6.4	76.8	19.6	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	6.4	76.8	19.6	31.3
Queue Length 50th (ft)	203	0	195	90	227
Queue Length 95th (ft)	#357	52	#382	124	274
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	540	430	3046	1914
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	0.37	0.95	0.17	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	122	435	1301	294	1219
v/c Ratio	0.24	0.86	0.66	0.84	0.43
Control Delay	24.1	41.8	24.6	39.2	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	41.8	24.6	39.2	18.1
Queue Length 50th (ft)	51	187	160	182	254
Queue Length 95th (ft)	89	#298	200	m#276	302
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	595	583	1971	348	2851
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.75	0.66	0.84	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

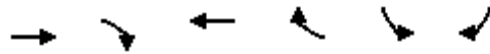
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

1/16/2017

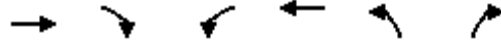


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	493	170	264	197	524	529
v/c Ratio	0.36	0.11	0.28	0.12	0.38	0.70
Control Delay	12.3	0.1	12.3	0.2	8.1	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	0.1	12.3	0.2	8.1	10.2
Queue Length 50th (ft)	25	0	18	0	30	34
Queue Length 95th (ft)	64	0	55	0	62	109
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2228	1615	1550	1615	3230	1498
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.11	0.17	0.12	0.16	0.35

Intersection Summary

Queues

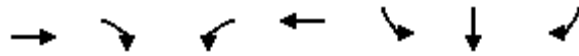
36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	497	478	303	270	204	92
v/c Ratio	0.22	0.49	0.60	0.08	0.55	0.40
Control Delay	11.1	3.3	29.3	3.3	27.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	3.3	29.3	3.3	27.7	12.6
Queue Length 50th (ft)	39	0	53	9	31	0
Queue Length 95th (ft)	58	46	88	16	59	39
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2245	970	525	3518	373	229
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.49	0.58	0.08	0.55	0.40

Intersection Summary

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1270	426	442	1010	185	334	326
v/c Ratio	0.67	0.41	0.82	0.39	0.60	0.87	0.83
Control Delay	23.1	3.3	48.0	1.6	48.5	46.5	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	3.3	48.0	1.6	48.5	46.5	41.1
Queue Length 50th (ft)	348	3	113	3	126	147	132
Queue Length 95th (ft)	480	59	187	27	191	256	232
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)				200	400		
Base Capacity (vph)	1892	1045	591	2600	413	466	478
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.41	0.75	0.39	0.45	0.72	0.68

Intersection Summary

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	533	913	1026	170	357	351	349
v/c Ratio	0.83	0.39	0.68	0.22	0.81	0.72	0.70
Control Delay	41.0	19.4	30.2	4.4	52.8	29.3	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	19.4	30.2	4.4	52.8	29.3	28.2
Queue Length 50th (ft)	192	309	323	0	243	140	132
Queue Length 95th (ft)	259	373	414	44	350	252	237
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	687	2319	1505	764	506	540	551
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.39	0.68	0.22	0.71	0.65	0.63

Intersection Summary

APPENDIX 3.5:

EXISTING (2017) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4082	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2252	Design LOS	
S	57.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	39.4	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4219	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			15
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.930
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1643	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	67.7	x f _p)	
D = v _p / S	24.3	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5550	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.980	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1538	Design LOS	
S	68.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	22.4	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5672	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1258	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	70.0	mph	pc/h/ln
D = v _p / S	18.0	pc/mi/ln	mph
LOS	B	D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6732	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1893	Design LOS	
S	64.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	29.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6498	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1836	Design LOS	
S	65.3	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/11/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5896	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1658	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	67.6	mph	pc/h/ln
D = v _p / S	24.5	pc/mi/ln	S
LOS	C		mph
			D = v _p / S
			pc/mi/ln
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET															
General Information		Site Information													
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>													
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite												
Date Performed	1/11/2017	Jurisdiction	Caltrans												
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)												
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>															
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data												
Flow Inputs															
Volume, V	5349	veh/h	Peak-Hour Factor, PHF												
AADT		veh/day	0.92												
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T												
Peak-Hr Direction Prop, D			7												
DDHV = AADT x K x D		veh/h	%RVs, P _R												
			0												
			General Terrain: <i>Level</i>												
			Grade % Length <i>mi</i>												
			Up/Down %												
Calculate Flow Adjustments															
f _p	1.00	E _R	1.2												
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966													
Speed Inputs		Calc Speed Adj and FFS													
Lane Width	ft	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">f_{LW}</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">f_{LC}</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">TRD Adjustment</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">FFS</td> <td style="padding: 5px;">70.0</td> </tr> <tr> <td style="padding: 5px;">FFS (measured)</td> <td style="padding: 5px;">70.0</td> </tr> <tr> <td style="padding: 5px;">Base free-flow Speed, BFFS</td> <td style="padding: 5px;">mph</td> </tr> </table>		f _{LW}	mph	f _{LC}	mph	TRD Adjustment	mph	FFS	70.0	FFS (measured)	70.0	Base free-flow Speed, BFFS	mph
f _{LW}	mph														
f _{LC}	mph														
TRD Adjustment	mph														
FFS	70.0														
FFS (measured)	70.0														
Base free-flow Speed, BFFS	mph														
Rt-Side Lat. Clearance	ft														
Number of Lanes, N	3														
Total Ramp Density, TRD	ramps/mi														
FFS (measured)	70.0														
Base free-flow Speed, BFFS	mph														
LOS and Performance Measures		Design (N)													
<u>Operational (LOS)</u>		<u>Design (N)</u>													
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2006	pc/h/ln	Design LOS												
S	62.5	mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)												
D = v _p / S	32.1	pc/mi/ln	pc/h/ln												
LOS	D		S												
			mph												
			D = v _p / S												
			pc/mi/ln												
			Required Number of Lanes, N												
Glossary		Factor Location													
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8												
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9												
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11												
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3													
DDHV - Directional design hour volume															

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5872	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2191	Design LOS	
S	58.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	37.4	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/11/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6069	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1333	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	69.8	x f _p)	
S	mph	S	mph
D = v _p / S	19.1	D = v _p / S	pc/mi/ln
19.1	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/11/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5573	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2029	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.0	x f _p)	
S	mph	S	mph
D = v _p / S	32.7	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5006	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1823	Design LOS	
S	65.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.8	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	3279	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1800	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	65.8	x f _p)	
S	mph	S	mph
D = v _p / S	27.3	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4362	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			12
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.943
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1675	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.4	x f _p)	
D = v _p / S	24.9	S	
LOS	C	mph	
		D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5422	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1495	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	69.0	x f _p)	
S	mph	S	mph
D = v _p / S	21.7	D = v _p / S	pc/mi/ln
21.7	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5174	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1142 pc/h/ln	Design LOS	
S	70.0 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	16.3 pc/mi/ln	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service speed	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6281	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.976	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1749	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	66.5	x f _p)	
D = v _p / S	26.3	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6498	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.976	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1810 pc/h/ln	Design LOS	
S	65.7 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.6 pc/mi/ln	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service speed	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/11/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5938	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1662	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	67.5	pc/h/ln	
D = v _p / S	24.6	S	
LOS	C	mph	
		D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5339	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2002	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.5	x f _p)	
S	mph	S	mph
D = v _p / S	32.0	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5354	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2008	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.4	x f _p)	
S	mph	S	mph
D = v _p / S	32.2	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>1/11/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5311</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>2</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.990</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>5</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1166</i>	Design LOS	
S	<i>70.0</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>16.7</i>	S	mph
LOS	<i>B</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/11/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Existing (2017)</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4866	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1781	Design LOS	
S	66.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/11/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5206	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1905	Design LOS	
S	64.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	29.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 3.6:

EXISTING (2017) CONDITIONS RAMP JUNCTION ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} =	1460 ft	Deceleration Lane Length L _D			L _{down} =	ft			
V _u =	269 veh/h	Freeway Volume, V _F	3194		V _D =	veh/h			
		Ramp Volume, V _R	367						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	367	0.92	Level	15	0	0.930	1.00	429	
UpStream	269	0.92	Level	11	0	0.948	1.00	308	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3506 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3935	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3935	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 33.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.497 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 56.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On						
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = ft	Deceleration Lane Length L _D		L _{down} = 1200 ft						
V _u = veh/h	Freeway Volume, V _F	3194	V _D = 521 veh/h						
	Ramp Volume, V _R	367							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	367	0.92	Level	15	0	0.930	1.00	429	
UpStream									
DownStream	521	0.92	Level	1	0	0.995	1.00	569	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3506 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	3935	Exhibit 13-8	No		V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3935	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 33.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.497 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 56.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off						
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$L_{down} =$ 1500 ft						
$V_u =$ veh/h	Acceleration Lane Length, L_A		$V_D =$ 813 veh/h						
	Deceleration Lane Length L_D	0							
	Freeway Volume, V_F	4219							
	Ramp Volume, V_R	651							
	Freeway Free-Flow Speed, S_{FF}	70.0							
	Ramp Free-Flow Speed, S_{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4219	0.92	Level	15	0	0.930	1.00	4930	
Ramp	651	0.92	Level	9	0	0.957	1.00	739	
UpStream									
DownStream	813	0.92	Level	4	0	0.980	1.00	901	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$P_{FM} =$ using Equation (Exhibit 13-6)					$P_{FD} =$ 0.603 using Equation (Exhibit 13-7)				
$V_{12} =$ pc/h					$V_{12} =$ 3265 pc/h				
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)					V_3 or V_{av34} 1665 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$ pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, $V_{12a} =$ pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4930	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4191	Exhibit 13-8	7200	No
					V_R	739	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3265	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 32.3 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.365 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.8 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 74.2 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 64.0 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 808 veh/h	Freeway Volume, V _F = 4864				V _D = veh/h				
	Ramp Volume, V _R = 686								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4864	0.92	Level	3	0	0.985	1.00	5366	
Ramp	686	0.92	Level	7	0	0.966	1.00	772	
UpStream	808	0.92	Level	7	0	0.966	1.00	909	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.121 using Equation (Exhibit 13-6) V ₁₂ = 651 pc/h V ₃ or V _{av34} = 2357 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2146 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6138	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2918	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.2 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.326 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	5672	$L_{down} =$	1970 ft	$V_D =$	686 veh/h
$L_{up} =$	Ramp Number of Lanes, N	1		Ramp Volume, V_R	808				
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0				
	Deceleration Lane Length L_D	0		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5672	0.92	Level	4	0	0.980	1.00	6289	
Ramp	808	0.92	Level	7	0	0.966	1.00	909	
UpStream									
DownStream	686	0.92	Level	7	0	0.966	1.00	772	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	0.436 using Equation (Exhibit 13-7)			
$P_{FM} =$	pc/h				$P_{FD} =$	2844 pc/h			
$V_{12} =$	pc/h (Equation 13-14 or 13-17)				$V_{12} =$	1251 pc/h (Equation 13-14 or 13-17)			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1251 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5346	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	4437	Exhibit 13-8	9600	No
					V_R	909	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2844	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 28.7 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.380 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.4 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 75.8 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 66.1 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald							
Date Performed	1/11/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2060 ft	$V_D =$	516 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200					
$V_u =$	veh/h	Freeway Volume, V_F		Freeway Free-Flow Speed, S_{FF}	70.0					
		Ramp Volume, V_R		Ramp Free-Flow Speed, S_{FR}	45.0					
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	6732	0.92	Level	8	0	0.962	1.00	7610		
Ramp	750	0.92	Level	9	0	0.957	1.00	852		
UpStream										
DownStream	516	0.92	Level	12	0	0.943	1.00	595		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.436 using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3798 pc/h	V_3 or V_{av34}	1906 pc/h (Equation 13-14 or 13-17)		
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)							
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	7610	Exhibit 13-8		9600	No
					$V_{FO} = V_F - V_R$	6758	Exhibit 13-8		9600	No
					V_R	852	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3798	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	35.1 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.375 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	59.5 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.3 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	65.7 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 750 veh/h	Freeway Volume, V _F	5982	V _D = veh/h						
	Ramp Volume, V _R	516							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5982	0.92	Level	7	0	0.966	1.00	6730	
Ramp	516	0.92	Level	12	0	0.943	1.00	595	
UpStream	750	0.92	Level	8	0	0.962	1.00	848	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.143 using Equation (Exhibit 13-6) V ₁₂ = 965 pc/h V ₃ or V _{av34} = 2882 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2692 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	7325	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3287	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.8 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.352 (Exhibit 13-11) S _R = 60.1 mph (Exhibit 13-11) S ₀ = 64.5 mph (Exhibit 13-11) S = 62.5 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5896	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	716			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	150		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5896	0.92	Level	7	0	0.966	1.00	6633	
Ramp	716	0.92	Level	12	0	0.943	1.00	825	
UpStream									
DownStream	134	0.92	Level	15	0	0.930	1.00	157	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3357 pc/h V ₃ or V _{av34} 1638 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6633	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5808	Exhibit 13-8	9600	No
					V _R	825	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3357	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.8 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.372 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	74.3 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	66.0 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 525 veh/h	Freeway Volume, V _F		4824		V _D = veh/h				
	Ramp Volume, V _R		1049						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4824	0.92	Level	6	0	0.971	1.00	5401	
Ramp	1049	0.92	Level	9	0	0.957	1.00	1192	
UpStream	525	0.92	Level	17	0	0.922	1.00	619	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1662.00 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3221 pc/h V ₃ or V _{av34} = 2180 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3221 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6593	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4413	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 35.1 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.582 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 53.7 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.7 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1260 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 307 veh/h	Freeway Volume, V _F	5266	V _D = veh/h						
	Ramp Volume, V _R	803							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5266	0.92	Level	1	0	0.995	1.00	5753	
Ramp	803	0.92	Level	9	0	0.957	1.00	912	
UpStream	307	0.92	Level	11	0	0.948	1.00	352	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3193 pc/h V ₃ or V _{av34} = 2560 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3287 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	6665	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	4199	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.8 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.581 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 53.7 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 62.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.7 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	1058 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200				
$V_u =$	veh/h	Freeway Volume, V_F		Ramp Volume, V_R	491				
		Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5006	0.92	Level	1	0	0.995	1.00	5469	
Ramp	491	0.92	Level	9	0	0.957	1.00	558	
UpStream									
DownStream	1058	0.92	Level	7	0	0.966	1.00	1190	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.598 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3493 pc/h	V_3 or V_{av34}	1976 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)		If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5469	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4911	Exhibit 13-8	7200	No
					V_R	558	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3493	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	32.5 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.348 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	60.2 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.0 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	64.3 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1460 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 971 veh/h	Freeway Volume, V _F	2648	V _D = veh/h						
	Ramp Volume, V _R	565							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	565	0.92	Level	5	0	0.976	1.00	629	
UpStream	971	0.92	Level	4	0	0.980	1.00	1077	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	3522	Exhibit 13-8	No		V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3522	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 29.7 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.429 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 58.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft		Deceleration Lane Length L _D			L _{down} = 1200 ft				
V _u = veh/h		Freeway Volume, V _F	2648		V _D = 66 veh/h				
		Ramp Volume, V _R	565						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	565	0.92	Level	5	0	0.976	1.00	629	
UpStream									
DownStream	66	0.92	Level	8	0	0.962	1.00	75	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3522	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3522	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 29.7 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.429 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 58.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off						
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$L_{down} =$ 1500 ft						
$V_u =$ veh/h	Acceleration Lane Length, L_A		$V_D =$ 459 veh/h						
	Deceleration Lane Length L_D	0							
	Freeway Volume, V_F	4362							
	Ramp Volume, V_R	1157							
	Freeway Free-Flow Speed, S_{FF}	70.0							
	Ramp Free-Flow Speed, S_{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4362	0.92	Level	12	0	0.943	1.00	5026	
Ramp	1157	0.92	Level	8	0	0.962	1.00	1308	
UpStream									
DownStream	459	0.92	Level	2	0	0.990	1.00	504	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)			
$P_{FM} =$					$P_{FD} =$	0.574			
$V_{12} =$	pc/h				$V_{12} =$	3443 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1583 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5026	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	3718	Exhibit 13-8	7200	No
					V_R	1308	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3443	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 33.9 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.416 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 58.4 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 74.5 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 62.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 473 veh/h	Freeway Volume, V _F = 4701				V _D = veh/h				
	Ramp Volume, V _R = 721								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4701	0.92	Level	2	0	0.990	1.00	5161	
Ramp	721	0.92	Level	4	0	0.980	1.00	799	
UpStream	473	0.92	Level	8	0	0.962	1.00	535	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.118 using Equation (Exhibit 13-6) V ₁₂ = 609 pc/h V ₃ or V _{av34} = 2276 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2064 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5960	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2863	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 22.7 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.322 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 61.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	5174	$L_{down} =$	1970 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$V_D =$	Ramp Volume, V_R	473			Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$ veh/h	Acceleration Lane Length, L_A			Deceleration Lane Length L_D	0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5174	0.92	Level	3	0	0.985	1.00	5708	
Ramp	473	0.92	Level	8	0	0.962	1.00	535	
UpStream									
DownStream	721	0.92	Level	4	0	0.980	1.00	799	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	0.436 using Equation (Exhibit 13-7)			
$P_{FM} =$	pc/h				$P_{FD} =$	2417 pc/h			
$V_{12} =$	pc/h (Equation 13-14 or 13-17)				$V_{12} =$	1217 pc/h (Equation 13-14 or 13-17)			
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4852	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	4317	Exhibit 13-8	9600	No
					V_R	535	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2417	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 25.0 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.346 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 60.3 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 75.9 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 67.3 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald							
Date Performed	1/11/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2060 ft	$V_D =$	689 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	6281	Ramp Volume, V_R	472	
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0	
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	6281	0.92	Level	5	0	0.976	1.00	6998		
Ramp	472	0.92	Level	7	0	0.966	1.00	531		
UpStream										
DownStream	689	0.92	Level	5	0	0.976	1.00	768		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)				
$V_{12} =$	pc/h				$V_{12} =$	3351 pc/h				
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1823 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	6998	Exhibit 13-8		9600	No
					$V_{FO} = V_F - V_R$	6467	Exhibit 13-8		9600	No
					V_R	531	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3351	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	31.3 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.346 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	60.3 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.6 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	66.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 472 veh/h	Freeway Volume, V _F	5809	V _D = veh/h						
	Ramp Volume, V _R	689							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5809	0.92	Level	5	0	0.976	1.00	6472	
Ramp	689	0.92	Level	5	0	0.976	1.00	768	
UpStream	472	0.92	Level	7	0	0.966	1.00	531	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.122 using Equation (Exhibit 13-6) V ₁₂ = 788 pc/h V ₃ or V _{av34} = 2842 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2588 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	7240	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3356	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.2 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.360 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 59.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.8 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 62.4 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1150 ft V _D = 147 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	150
	Freeway Volume, V _F	5938		Ramp Volume, V _R	918	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5938	0.92	Level	6	0	0.971	1.00	6648	
Ramp	918	0.92	Level	4	0	0.980	1.00	1018	
UpStream									
DownStream	147	0.92	Level	4	0	0.980	1.00	163	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3473 pc/h V ₃ or V _{av34} 1587 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6648	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5630	Exhibit 13-8	9600	No
					V _R	1018	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3473	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.8 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.390 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.1 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.5 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	675	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1930 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 793 veh/h	Freeway Volume, V _F	4546	V _D = veh/h						
	Ramp Volume, V _R	808							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4546	0.92	Level	7	0	0.966	1.00	5114	
Ramp	808	0.92	Level	7	0	0.966	1.00	909	
UpStream	793	0.92	Level	6	0	0.971	1.00	888	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1540.02 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3050 pc/h V ₃ or V _{av34} = 2064 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3050 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6023	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3959	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 31.7 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.465 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 57.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.4 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 59.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound		Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano	
Date Performed	1/11/2017	Jurisdiction	Caltrans		Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)	
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 242 veh/h	Freeway Volume, V _F		4624		V _D = veh/h				
	Ramp Volume, V _R		687						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4624	0.92	Level	1	0	0.995	1.00	5051	
Ramp	687	0.92	Level	7	0	0.966	1.00	773	
UpStream	242	0.92	Level	12	0	0.943	1.00	279	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2803 pc/h V ₃ or V _{av34} = 2248 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2886 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5824	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3659	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.7 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.472 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 56.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 59.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	1/11/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2017)						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	5206	$L_{down} =$	2010 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$V_D =$	Ramp Volume, V_R	1013			Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$ veh/h	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0				
	Deceleration Lane Length L_D	200		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5206	0.92	Level	2	0	0.990	1.00	5715	
Ramp	1013	0.92	Level	5	0	0.976	1.00	1129	
UpStream									
DownStream	673	0.92	Level	6	0	0.971	1.00	753	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$	(Equation 13-6 or 13-7)			$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 13-12 or 13-13)		
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.565 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	3721 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1994 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5715	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4586	Exhibit 13-8	7200	No
					V_R	1129	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	3721	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 34.5 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.400 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 58.8 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 72.9 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 63.1 mph (Exhibit 13-13)				

APPENDIX 3.7:

**EXISTING (2017) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
 10: Hellman Av. & Kimball Av.

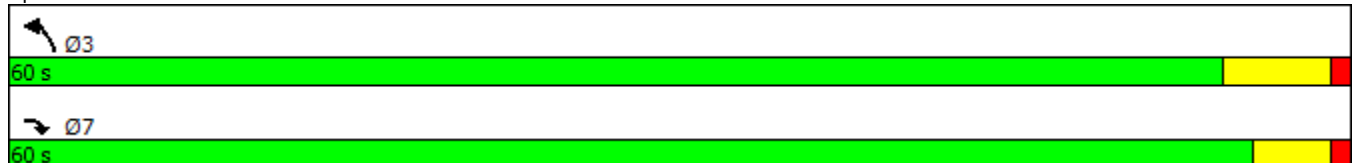
















Lane Group	EBR	NBL
Lane Configurations	↖ ↗	↖ ↗
Traffic Volume (vph)	314	820
Future Volume (vph)	314	820
Turn Type	Prot	Prot
Protected Phases	7	3
Permitted Phases		
Detector Phase	7	3
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	9.5	15.8
Total Split (s)	60.0	60.0
Total Split (%)	100.0%	100.0%
Yellow Time (s)	3.5	4.8
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	4.5	5.8
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	None

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 25.2
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: Hellman Av. & Kimball Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	314	0	0	0	820	0	0	0	0	0
Future Volume (veh/h)	0	0	314	0	0	0	820	0	0	0	0	0
Number	7	4	14				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	0	1800				1700	0	0			
Adj Flow Rate, veh/h	0	0	338				882	0	0			
Adj No. of Lanes	0	0	1				1	0	0			
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	0	0	0				1102	0	0			
Arrive On Green	0.00	0.00	0.00				0.68	0.00	0.00			
Sat Flow, veh/h		0					1619	882				
Grp Volume(v), veh/h		0.0					882	3.4				
Grp Sat Flow(s),veh/h/ln							1619	A				
Q Serve(g_s), s							6.9					
Cycle Q Clear(g_c), s							6.9					
Prop In Lane							1.00					
Lane Grp Cap(c), veh/h							1102					
V/C Ratio(X)							0.80					
Avail Cap(c_a), veh/h							4835					
HCM Platoon Ratio							1.00					
Upstream Filter(I)							1.00					
Uniform Delay (d), s/veh							2.0					
Incr Delay (d2), s/veh							1.4					
Initial Q Delay(d3),s/veh							0.0					
%ile BackOfQ(50%),veh/ln							3.1					
LnGrp Delay(d),s/veh							3.4					
LnGrp LOS							A					
Approach Vol, veh/h												
Approach Delay, s/veh												
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3									
Phs Duration (G+Y+Rc), s			18.2									
Change Period (Y+Rc), s			5.8									
Max Green Setting (Gmax), s			54.2									
Max Q Clear Time (g_c+I1), s			8.9									
Green Ext Time (p_c), s			3.6									
Intersection Summary												
HCM 2010 Ctrl Delay			3.4									
HCM 2010 LOS			A									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017

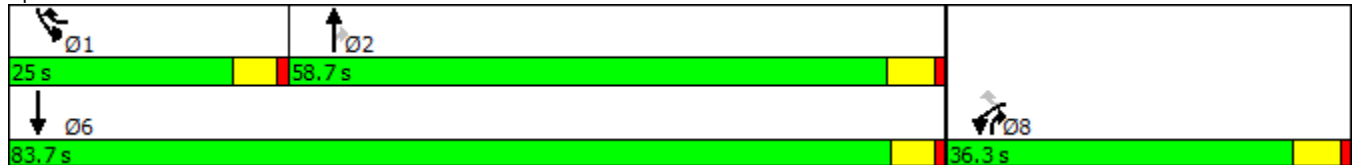














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	371	700	748	280	173	414
Future Volume (vph)	371	700	748	280	173	414
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	25.0	58.7	36.3	25.0	83.7
Total Split (%)	30.3%	20.8%	48.9%	30.3%	20.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.5
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



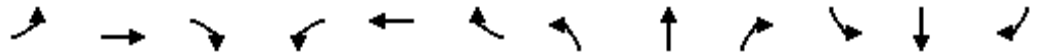
								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	371	700	748	280	173	414		
Future Volume (veh/h)	371	700	748	280	173	414		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	386	664	779	292	180	431		
Adj No. of Lanes	1	1	1	1	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	556	615	882	1231	258	1116		
Arrive On Green	0.31	0.31	0.46	0.46	0.07	0.59		
Sat Flow, veh/h	1810	1615	1900	1581	3510	1900		
Grp Volume(v), veh/h	386	664	779	292	180	431		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1755	1900		
Q Serve(g_s), s	18.9	31.0	37.5	5.2	5.0	12.2		
Cycle Q Clear(g_c), s	18.9	31.0	37.5	5.2	5.0	12.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	556	615	882	1231	258	1116		
V/C Ratio(X)	0.69	1.08	0.88	0.24	0.70	0.39		
Avail Cap(c_a), veh/h	556	615	1006	1334	696	1483		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.7	31.2	24.5	3.2	45.6	11.1		
Incr Delay (d2), s/veh	3.1	59.4	8.8	0.1	3.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.9	27.2	21.6	5.4	2.6	6.4		
LnGrp Delay(d),s/veh	33.9	90.7	33.3	3.3	49.0	11.2		
LnGrp LOS	C	F	C	A	D	B		
Approach Vol, veh/h	1050		1071			611		
Approach Delay, s/veh	69.8		25.2			22.3		
Approach LOS	E		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.4	52.1				64.5		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	20.0	53.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	7.0	39.5				14.2		33.0
Green Ext Time (p_c), s	0.4	7.3				12.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			41.7					
HCM 2010 LOS			D					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

1/30/2017

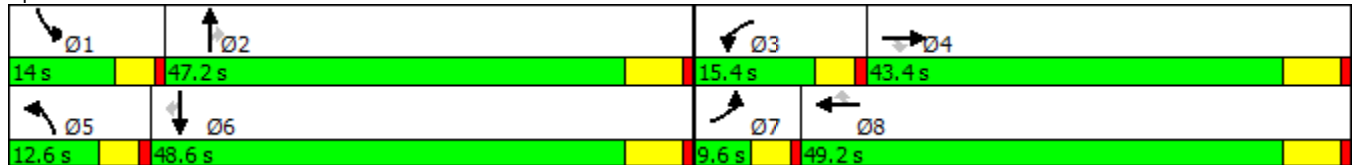


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	19	286	68	161	461	160	101	420	385	130	147	34
Future Volume (vph)	19	286	68	161	461	160	101	420	385	130	147	34
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	43.4	43.4	15.4	49.2	49.2	12.6	47.2	47.2	14.0	48.6	48.6
Total Split (%)	8.0%	36.2%	36.2%	12.8%	41.0%	41.0%	10.5%	39.3%	39.3%	11.7%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 69.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 1/30/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	286	68	161	461	160	101	420	385	130	147	34
Future Volume (veh/h)	19	286	68	161	461	160	101	420	385	130	147	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	304	46	171	490	117	107	447	364	138	156	27
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	82	984	306	271	879	393	237	1636	509	255	1157	517
Arrive On Green	0.02	0.19	0.19	0.08	0.24	0.24	0.07	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1613
Grp Volume(v), veh/h	20	304	46	171	490	117	107	447	364	138	156	27
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1613
Q Serve(g_s), s	0.4	3.2	1.5	3.0	7.4	3.7	1.8	4.0	12.5	2.4	1.9	0.7
Cycle Q Clear(g_c), s	0.4	3.2	1.5	3.0	7.4	3.7	1.8	4.0	12.5	2.4	1.9	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	984	306	271	879	393	237	1636	509	255	1157	517
V/C Ratio(X)	0.24	0.31	0.15	0.63	0.56	0.30	0.45	0.27	0.71	0.54	0.13	0.05
Avail Cap(c_a), veh/h	280	3082	960	606	2480	1109	449	3397	1058	527	2445	1093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	21.8	21.2	28.0	20.7	19.3	28.1	16.1	18.9	28.0	15.1	14.7
Incr Delay (d2), s/veh	0.6	0.2	0.2	0.9	0.6	0.4	0.5	0.1	1.9	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.5	0.7	1.5	3.7	1.7	0.9	1.9	5.8	1.2	1.0	0.3
LnGrp Delay(d),s/veh	30.6	22.0	21.4	28.9	21.3	19.7	28.6	16.1	20.8	28.7	15.2	14.7
LnGrp LOS	C	C	C	C	C	B	C	B	C	C	B	B
Approach Vol, veh/h		370			778			918			321	
Approach Delay, s/veh		22.4			22.7			19.4			20.9	
Approach LOS		C			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	25.9	9.4	18.1	8.8	26.3	6.1	21.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	41.0	10.8	37.2	8.0	42.4	5.0	43.0				
Max Q Clear Time (g_c+I1), s	4.4	14.5	5.0	5.2	3.8	3.9	2.4	9.4				
Green Ext Time (p_c), s	0.1	5.2	0.1	5.8	0.0	5.5	0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay			21.2									
HCM 2010 LOS			C									

Timings
 10: Hellman Av. & Kimball Av.

















Lane Group	EBR	NBL
Lane Configurations		
Traffic Volume (vph)	844	279
Future Volume (vph)	844	279
Turn Type	Prot	Prot
Protected Phases	7	3
Permitted Phases		
Detector Phase	7	3
Switch Phase		
Minimum Initial (s)	5.0	10.0
Minimum Split (s)	9.5	15.8
Total Split (s)	60.0	60.0
Total Split (%)	100.0%	100.0%
Yellow Time (s)	3.5	4.8
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)	0.0	0.0
Total Lost Time (s)	4.5	5.8
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	None

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 24.5
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: Hellman Av. & Kimball Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	844	0	0	0	279	0	0	0	0	0
Future Volume (veh/h)	0	0	844	0	0	0	279	0	0	0	0	0
Number	7	4	14				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	0	1800				1700	0	0			
Adj Flow Rate, veh/h	0	0	908				300	0	0			
Adj No. of Lanes	0	0	1				1	0	0			
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	0	0	0				848	0	0			
Arrive On Green	0.00	0.00	0.00				0.52	0.00	0.00			
Sat Flow, veh/h		0					1619	300				
Grp Volume(v), veh/h		0.0					300	1.9				
Grp Sat Flow(s),veh/h/ln							1619	A				
Q Serve(g_s), s							1.3					
Cycle Q Clear(g_c), s							1.3					
Prop In Lane							1.00					
Lane Grp Cap(c), veh/h							848					
V/C Ratio(X)							0.35					
Avail Cap(c_a), veh/h							7208					
HCM Platoon Ratio							1.00					
Upstream Filter(I)							1.00					
Uniform Delay (d), s/veh							1.7					
Incr Delay (d2), s/veh							0.3					
Initial Q Delay(d3),s/veh							0.0					
%ile BackOfQ(50%),veh/ln							0.6					
LnGrp Delay(d),s/veh							1.9					
LnGrp LOS							A					
Approach Vol, veh/h												
Approach Delay, s/veh												
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3									
Phs Duration (G+Y+Rc), s			12.2									
Change Period (Y+Rc), s			5.8									
Max Green Setting (Gmax), s			54.2									
Max Q Clear Time (g_c+I1), s			3.3									
Green Ext Time (p_c), s			0.9									
Intersection Summary												
HCM 2010 Ctrl Delay			1.9									
HCM 2010 LOS			A									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/25/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↑	↷	↶↷	↓
Traffic Volume (vph)	347	217	587	382	574	743
Future Volume (vph)	347	217	587	382	574	743
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.4	30.0	53.6	36.4	30.0	83.6
Total Split (%)	30.3%	25.0%	44.7%	30.3%	25.0%	69.7%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.1
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	347	217	587	382	574	743		
Future Volume (veh/h)	347	217	587	382	574	743		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	390	202	660	429	645	835		
Adj No. of Lanes	1	1	1	1	2	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	422	712	781	1041	728	1265		
Arrive On Green	0.23	0.23	0.41	0.41	0.21	0.67		
Sat Flow, veh/h	1810	1615	1900	1615	3510	1900		
Grp Volume(v), veh/h	390	202	660	429	645	835		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1755	1900		
Q Serve(g_s), s	22.2	8.4	33.0	13.5	18.8	27.5		
Cycle Q Clear(g_c), s	22.2	8.4	33.0	13.5	18.8	27.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	422	712	781	1041	728	1265		
V/C Ratio(X)	0.92	0.28	0.85	0.41	0.89	0.66		
Avail Cap(c_a), veh/h	535	812	873	1118	834	1420		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	39.4	18.8	27.9	9.1	40.5	10.5		
Incr Delay (d2), s/veh	17.2	0.1	7.3	0.3	10.3	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.1	3.8	18.8	10.1	10.1	14.6		
LnGrp Delay(d),s/veh	56.6	18.9	35.2	9.4	50.8	11.1		
LnGrp LOS	E	B	D	A	D	B		
Approach Vol, veh/h	592		1089			1480		
Approach Delay, s/veh	43.8		25.0			28.4		
Approach LOS	D		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.8	48.5				75.3		29.8
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	25.0	48.3				* 79		31.1
Max Q Clear Time (g_c+I1), s	20.8	35.0				29.5		24.2
Green Ext Time (p_c), s	1.0	8.3				15.2		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			30.1					
HCM 2010 LOS			C					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

1/30/2017

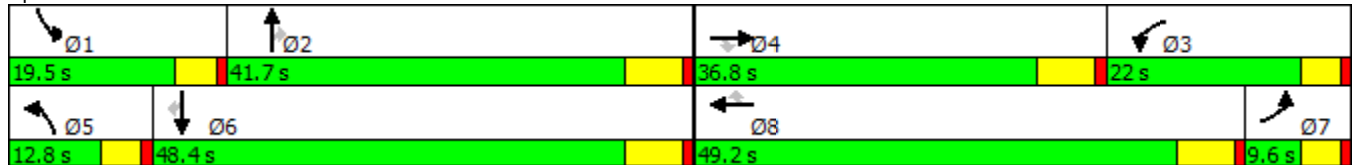


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	30	384	226	305	265	128	106	220	156	250	403	32
Future Volume (vph)	30	384	226	305	265	128	106	220	156	250	403	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	36.8	36.8	22.0	49.2	49.2	12.8	41.7	41.7	19.5	48.4	48.4
Total Split (%)	8.0%	30.7%	30.7%	18.3%	41.0%	41.0%	10.7%	34.8%	34.8%	16.3%	40.3%	40.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 1/30/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	384	226	305	265	128	106	220	156	250	403	32
Future Volume (veh/h)	30	384	226	305	265	128	106	220	156	250	403	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	404	102	321	279	66	112	232	155	263	424	29
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	457	926	282	457	645	288	259	1008	314	391	837	374
Arrive On Green	0.13	0.18	0.18	0.13	0.18	0.18	0.07	0.19	0.19	0.11	0.23	0.23
Sat Flow, veh/h	3510	5187	1579	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	32	404	102	321	279	66	112	232	155	263	424	29
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	0.4	3.9	2.1	4.9	3.9	1.2	1.7	2.1	2.9	4.0	5.7	0.5
Cycle Q Clear(g_c), s	0.4	3.9	2.1	4.9	3.9	1.2	1.7	2.1	2.9	4.0	5.7	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	926	282	457	645	288	259	1008	314	391	837	374
V/C Ratio(X)	0.07	0.44	0.36	0.70	0.43	0.23	0.43	0.23	0.49	0.67	0.51	0.08
Avail Cap(c_a), veh/h	457	2835	863	1091	2772	1240	514	3288	1024	934	2721	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	20.5	9.2	23.3	20.5	7.8	24.8	19.0	7.2	23.9	18.7	5.6
Incr Delay (d2), s/veh	0.0	0.3	0.8	0.7	0.5	0.4	0.4	0.1	1.2	0.8	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.9	1.0	2.4	1.9	0.6	0.8	1.0	1.4	2.0	2.9	0.2
LnGrp Delay(d),s/veh	21.4	20.8	10.0	24.1	20.9	8.2	25.2	19.1	8.4	24.7	19.2	5.7
LnGrp LOS	C	C	A	C	C	A	C	B	A	C	B	A
Approach Vol, veh/h		538			666			499			716	
Approach Delay, s/veh		18.8			21.2			17.2			20.7	
Approach LOS		B			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	17.1	11.9	16.2	8.7	19.2	11.9	16.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	14.9	35.5	17.4	30.6	8.2	42.2	5.0	43.0				
Max Q Clear Time (g_c+I1), s	6.0	4.9	6.9	5.9	3.7	7.7	2.4	5.9				
Green Ext Time (p_c), s	0.3	4.8	0.4	2.7	0.1	4.8	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			19.7									
HCM 2010 LOS			B									

APPENDIX 4.1:
POST PROCESSING WORKSHEETS

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Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Merrill Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		8	8			8	8		
		v	^			v	^		
3 <	IN =	24	<	5	3 <	IN =	24	<	5
3 >	OUT =	24	>	5	3 >	OUT =	24	>	5
		v	^			v	^		
		8	8			8	8		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MIN <			< MUL		MIN <			< MUL
	MIN >			> MUL		MIN >			> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%	0%				0%	0%	
		v	^			v	^		
0%	<			< 0%	0%	<			< 0%
0%	>			> 0%	0%	>			> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		2102	1142				1962	2202	
		v	^			v	^		
0	<			< 155	0	<			< 385
0	>			> 145	0	>			> 265
		v	^			v	^		
		2142	1172			1982	2092		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		2100	1140		24 YEARS		1960	2200	
		v	^			v	^		
0	<			< 160	0	<			< 390
0	>			> 150	0	>			> 270
		v	^			v	^		
		2140	1170			1980	2090		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040					2040		
		2110	1150				1970	2210	
		v	^			v	^		
0	<	IN =	3460	< 170	0	<	IN =	4470	< 400
0	>	OUT =	3460	> 160	0	>	OUT =	4480	> 280
		v	^	*		v	^	*	
		2150	1180			1990	2100		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\[1 Euclid_Merrill-SEMI.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Merrill Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	5	1,093	1,088	21760%	5	1,985	1,980	39600%
	Right	2	83	81	4050%	2	129	127	6350%
	NB Total	8	1,176	1,168	14600%	8	2,114	2,106	26325%
SOUTH BOUND	Left	2	77	75	3750%	2	151	149	7450%
	Through	5	2,037	2,032	40640%	5	1,814	1,809	36180%
	Right	1	0	-1	-100%	1	0	-1	-100%
	SB Total	8	2,114	2,106	26325%	8	1,965	1,957	24463%
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	EB Total	3	0	-3	-100%	3	0	-3	-100%
WEST BOUND	Left	2	113	111	5550%	2	176	174	8700%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	2	57	55	2750%	2	225	223	11150%
	WB Total	5	170	165	3300%	5	401	396	7920%
TOTAL ENTERING VOLUME		24	3,460	3436	14317%	24	4,480	4456	18567%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,114	1,965			
North Leg	Outbound	1,150	2,210			
North Leg	TOTAL	3,264	4,175	7%	8%	49,410
South Leg	Inbound	1,176	2,114			
South Leg	Outbound	2,150	1,990			
South Leg	TOTAL	3,326	4,104	7%	8%	49,387
East Leg	Inbound	170	401			
East Leg	Outbound	160	280			
East Leg	TOTAL	330	681	6%	13%	5,269
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	-
OVERALL TOTAL		6,920	8,960	7%	9%	104,066

U:\UcJobs\10100-10500\10500\10522\Post Processing\[1 Euclid_Merrill-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION: Euclid Avenue (SR-83) / Kimball Avenue													
AM PEAK HOUR					PM PEAK HOUR								
FUTURE MODEL YEAR:					FUTURE MODEL YEAR:								
2040			1939	1105	2040			1824	1899				
			v	^				v	^				
	666	<	IN =	4298	<	819		832	<	IN =	5624	<	975
	524	>	OUT =	4298	>	653		1035	>	OUT =	5624	>	1136
			v	^				v	^				
			1874	1016				1756	1790				
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:								
2040			45,944		2040			45,944					
			N					N					
	17,725	W	LEG	E	22,072			17,725	W	+	E	22,072	
			S					S					
			44,081					44,081					

U:\UcJobs_10100-10500_10500\10522\Post Processing\[2 Euclid_Kimball-SEMI.xls]Input (1)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Kimball Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	124	123	12300%	1	195	194	19400%
	Through	5	746	741	14820%	5	1,317	1,312	26240%
	Right	1	152	151	15100%	1	282	281	28100%
	NB Total	7	1,022	1,015	14500%	7	1,794	1,787	25529%
SOUTH BOUND	Left	1	260	259	25900%	1	325	324	32400%
	Through	5	1,466	1,461	29220%	5	1,272	1,267	25340%
	Right	1	212	211	21100%	1	226	225	22500%
	SB Total	7	1,938	1,931	27586%	7	1,823	1,816	25943%
EAST BOUND	Left	1	131	130	13000%	1	277	276	27600%
	Through	2	239	237	11850%	2	533	531	26550%
	Right	1	150	149	14900%	1	232	231	23100%
	EB Total	4	520	516	12900%	4	1,042	1,038	25950%
WEST BOUND	Left	1	259	258	25800%	1	256	255	25500%
	Through	2	336	334	16700%	2	409	407	20350%
	Right	1	225	224	22400%	1	306	305	30500%
	WB Total	4	820	816	20400%	4	971	967	24175%
TOTAL ENTERING VOLUME		22	4,300	4278	19445%	22	5,630	5608	25491%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,938	1,823			
North Leg	Outbound	1,102	1,900			
North Leg	TOTAL	3,040	3,723	7%	8%	45,944
South Leg	Inbound	1,022	1,794			
South Leg	Outbound	1,875	1,760			
South Leg	TOTAL	2,897	3,554	7%	8%	44,081
East Leg	Inbound	820	971			
East Leg	Outbound	651	1,140			
East Leg	TOTAL	1,471	2,111	7%	10%	22,072
West Leg	Inbound	520	1,042			
West Leg	Outbound	672	830			
West Leg	TOTAL	1,192	1,872	7%	11%	17,725
OVERALL TOTAL		8,600	11,260	7%	9%	129,822

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INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Euclid Avenue (SR-83) / Bickmore Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	1874 1016	2040	1756 1790		
	v ^		v ^		
191 <	IN = 3043 <	126	82 <	IN = 3766 <	272
60 >	OUT = 3043 >	151	286 >	OUT = 3766 >	274
	v ^		v ^		
	1685 982		1620 1453		
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:			
2040	44,081	2040	44,081		
	N		N		
3,568 W	LEG E 6,173	3,568 W	+ E 6,173		
	S		S		
	38,999		38,999		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[3 Euclid_Bickmore-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Bickmore Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		7		7			7		7
		v		^			v		^
3 <	IN =		20 <	3	3 <	IN =		20 <	3
3 >	OUT =		20 >	3	3 >	OUT =		20 >	3
		v		^			v		^
		7		7			7		7
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
		MUL <		< MUL			MUL <		< MUL
		MUL >		> MUL			MUL >		> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%		0%			0%		0%
		v		^			v		^
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v		^			v		^
		0%		0%			0%		0%
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		1863		1013			1753		1783
		v		^			v		^
187 <				< 127	77 <				< 267
57 >				> 147	287 >				> 267
		v		^			v		^
		1673		973			1613		1443
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		1860		1010	24 YEARS		1750		1780
		v		^			v		^
190 <				< 130	80 <				< 270
60 >				> 150	290 >				> 270
		v		^			v		^
		1670		970			1610		1440
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
	2040					2040			
		1870		1020			1760		1795
		v		^			v		^
190 <	IN =		3040 <	130	80 <	IN =		3770 <	270
60 >	OUT =		3040 >	150	290 >	OUT =		3770 >	271
		v		^ *			v		^ *
		1680		980			1624		1450

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Bickmore Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	48	47	4700%	1	15	14	1400%
	Through	5	931	926	18520%	5	1,429	1,424	28480%
	Right	1	41	40	4000%	1	52	51	5100%
	NB Total	7	1,020	1,013	14471%	7	1,496	1,489	21271%
SOUTH BOUND	Left	1	98	97	9700%	1	161	160	16000%
	Through	5	1,616	1,611	32220%	5	1,499	1,494	29880%
	Right	1	115	114	11400%	1	47	46	4600%
	SB Total	7	1,829	1,822	26029%	7	1,707	1,700	24286%
EAST BOUND	Left	1	29	28	2800%	1	175	174	17400%
	Through	1	11	10	1000%	1	58	57	5700%
	Right	1	21	20	2000%	1	60	59	5900%
	EB Total	3	61	58	1933%	3	293	290	9667%
WEST BOUND	Left	1	43	42	4200%	1	65	64	6400%
	Through	1	28	27	2700%	1	18	17	1700%
	Right	1	60	59	5900%	1	190	189	18900%
	WB Total	3	131	128	4267%	3	273	270	9000%
TOTAL ENTERING VOLUME		20	3,041	3021	15105%	20	3,769	3749	18745%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,829	1,707			
North Leg	Outbound	1,020	1,794			
North Leg	TOTAL	2,849	3,501	6%	8%	44,081
South Leg	Inbound	1,020	1,496			
South Leg	Outbound	1,680	1,624			
South Leg	TOTAL	2,700	3,120	7%	8%	38,999
East Leg	Inbound	131	273			
East Leg	Outbound	150	271			
East Leg	TOTAL	281	544	5%	9%	6,173
West Leg	Inbound	61	293			
West Leg	Outbound	191	80			
West Leg	TOTAL	252	373	7%	10%	3,568
OVERALL TOTAL		6,082	7,538	7%	8%	92,821

U:\UcJobs\10100-10500\10500\10522\Post Processing\[3 Euclid_Bickmore-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Euclid Avenue (SR-83) / Pine Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:	
2040	1685 982	2040	1620 1453
	v ^		v ^
694 <	IN = 5015 < 1307	851 <	IN = 6687 < 1697
578 >	OUT = 5016 > 1094	1365 >	OUT = 6688 > 1952
	v ^		v ^
	2245 1446		2431 2005
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:	
2040	38,999	2040	38,999
	N		N
19,883 W	LEG E 37,229	19,883 W	+ E 37,229
	S		S
	55,477		55,477

U:\UcJobs\10100-10500\10500\10522\Post Processing\[4 Euclid_Pine-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Pine Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		7		7			7		7
		v		^			v		^
4 <	IN =		22 <	4	4 <	IN =		22 <	4
4 >	OUT =		22 >	4	4 >	OUT =		22 >	4
		v		^			v		^
		7		7			7		7
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
			0%	0%				0%	0%
			v	^				v	^
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
			v	^				v	^
			0%	0%				0%	0%
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
			1673	973				1613	1443
			v	^				v	^
686 <				< 1306	846 <				< 1696
576 >				> 1086	1356 >				> 1946
			v	^				v	^
			2233	1443				2423	2003
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS			1670	970	24 YEARS			1610	1440
			v	^				v	^
690 <				< 1310	850 <				< 1700
580 >				> 1090	1360 >				> 1950
			v	^				v	^
			2230	1440				2420	2000
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040					2040		
			1680	984				1620	1452
			v	^				v	^
693 <	IN =		5020 <	1310	851 <	IN =		6690 <	1700
580 >	OUT =		5020 >	1094	1360 >	OUT =		6690 >	1953
			v	^ *				v	^ *
			2249	1450				2434	2010

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Pine Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	186	185	18500%	1	212	211	21100%
	Through	5	745	740	14800%	5	1,027	1,022	20440%
	Right	1	518	517	51700%	1	770	769	76900%
	NB Total	7	1,449	1,442	20600%	7	2,009	2,002	28600%
SOUTH BOUND	Left	1	247	246	24600%	1	318	317	31700%
	Through	5	1,345	1,340	26800%	5	1,215	1,210	24200%
	Right	1	89	88	8800%	1	88	87	8700%
	SB Total	7	1,681	1,674	23914%	7	1,621	1,614	23057%
EAST BOUND	Left	1	53	52	5200%	1	128	127	12700%
	Through	2	329	327	16350%	2	865	863	43150%
	Right	1	199	198	19800%	1	367	366	36600%
	EB Total	4	581	577	14425%	4	1,360	1,356	33900%
WEST BOUND	Left	1	705	704	70400%	1	851	850	85000%
	Through	2	418	416	20800%	2	552	550	27500%
	Right	1	187	186	18600%	1	297	296	29600%
	WB Total	4	1,310	1,306	32650%	4	1,700	1,696	42400%
TOTAL ENTERING VOLUME		22	5,021	4999	22723%	22	6,690	6668	30309%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,681	1,621			
North Leg	Outbound	985	1,452			
North Leg	TOTAL	2,666	3,073	7%	8%	38,999
South Leg	Inbound	1,449	2,009			
South Leg	Outbound	2,249	2,433			
South Leg	TOTAL	3,698	4,442	7%	8%	55,477
East Leg	Inbound	1,310	1,700			
East Leg	Outbound	1,094	1,953			
East Leg	TOTAL	2,404	3,653	6%	10%	37,229
West Leg	Inbound	581	1,360			
West Leg	Outbound	693	852			
West Leg	TOTAL	1,274	2,212	6%	11%	19,883
OVERALL TOTAL		10,042	13,380	7%	9%	151,588

U:\UcJobs\10100-10500\10500\10522\Post Processing\[4 Euclid_Pine-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		SR-71 Northbound Ramps / Euclid Avenue (SR-83)			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	0 0	2040	0 0		
	v ^		v ^		
2345	< IN = 3914 < 2266	2587	< IN = 4660 < 2457		
512	> OUT = 3914 > 1469	775	> OUT = 4661 > 2034		
	v ^		v ^		
	100 1137		40 1428		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	0	2040	0		
	N		N		
40,456	W LEG E 55,993	40,456	W + E 55,993		
	S		S		
	21,371		21,371		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[5 SR71NB_Euclid-SEMI.xls]Input (1)

Project: Colony Commerce Center East Specific Plan Job #: 10522
 Scenario: Horizon Year (Post-2040) Analyst: RV
 Date: 1/12/17

LOCATION: SR-71 Northbound Ramps / Euclid Avenue (SR-83)
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	234	233	23300%	1	262	261	26100%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	942	941	94100%	1	1,218	1,217	121700%
	NB Total	2	1,176	1,174	58700%	2	1,480	1,478	73900%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	528	526	26300%	2	817	815	40750%
	Right	1	6	5	500%	1	3	2	200%
	EB Total	3	534	531	17700%	3	820	817	27233%
WEST BOUND	Left	1	94	93	9300%	1	37	36	3600%
	Through	2	2,116	2,114	105700%	2	2,334	2,332	116600%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	3	2,210	2,207	73567%	3	2,371	2,368	78933%
TOTAL ENTERING VOLUME		8	3,920	3912	48900%	8	4,671	4663	58288%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	-
South Leg	Inbound	1,176	1,480			
South Leg	Outbound	100	40			
South Leg	TOTAL	1,276	1,520	6%	7%	21,371
East Leg	Inbound	2,210	2,371			
East Leg	Outbound	1,470	2,035			
East Leg	TOTAL	3,680	4,406	7%	8%	55,993
West Leg	Inbound	534	820			
West Leg	Outbound	2,350	2,596			
West Leg	TOTAL	2,884	3,416	7%	8%	40,456
OVERALL TOTAL		7,840	9,342	7%	8%	117,820

U:\UcJobs\10100-10500\10500\10522\Post Processing\5 SR71NB_Euclid-SEMI.xls\Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		SR-71 Southbound Ramps / Euclid Avenue (SR-83)			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES: 2016		EXISTING TURNING MOVEMENT VOLUMES: 2016			
35 20 256 < v > 0 ^ ^ 0 742 > < 204 16 v v 381 < ^ > 60 0 288		150 138 696 < v > 0 ^ ^ 0 268 > < 194 42 v v 97 < ^ > 29 0 15			
EXISTING YEAR: 2016		EXISTING MODEL YEAR: 2016			
311 0 v ^ 298 < IN = 2001 < 585 758 > OUT = 2001 > 1286 v ^ 417 348		984 0 v ^ 373 < IN = 1629 < 291 310 > OUT = 1629 > 979 v ^ 277 44			
FUTURE MODEL YEAR: 2040		FUTURE MODEL YEAR: 2040			
371 0 v ^ 536 < IN = 3336 < 1599 1018 > OUT = 3333 > 1381 v ^ 1416 348		630 0 v ^ 614 < IN = 2501 < 1268 559 > OUT = 2500 > 767 v ^ 1119 44			
EXISTING (COUNTED) ADTs BY LEG: 2016		EXISTING (COUNTED) ADTs BY LEG: 2016			
12,553 N 8,713 W LEG E 16,202 S 4,095		12,553 N 8,713 W + E 16,202 S 4,095			
REFINED FUTURE ADT'S BY LEG: 2040		REFINED FUTURE ADT'S BY LEG: 2040			
21,582 N 30,141 W LEG E 21,944 S 10,988		21,582 N 30,141 W + E 21,944 S 10,988			

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Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: SR-71 Southbound Ramps / Euclid Avenue (SR-83)

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION										
AM					PM					
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016					
		311		0			984		0	
		v		^			v		^	
	298 <	IN =	2001 <	585			373 <	IN =	1629 <	291
	758 >	OUT =	2001 >	1286			310 >	OUT =	1629 >	979
		v		^			v		^	
		417		348			277		44	
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE					
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach					
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach					
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach					
	MUL <			< MUL			MIN <		< MUL	
	MUL >			> MUL			MUL >		> MIN	
		v		^			v		^	
		MUL		MUL			MUL		MIN	
MINIMUM GROWTH %s					MINIMUM GROWTH %s					
	2016	TO	2040				2016	TO	2040	
				0% 0%					0% 0%	
				v ^					v ^	
	0% <			< 0%			0% <		< 0%	
	0% >			> 0%			0% >		> 0%	
				v ^					v ^	
				0% 0%					0% 0%	
REFINED GROWTH:					ADJUSTED GROWTH:					
	2016	TO	2040				2016	TO	2040	
				60 0					0 0	
				v ^					v ^	
	242 <			< 1015			237 <		< 979	
	263 >			> 95			250 >		> 0	
				v ^					v ^	
				1003 3					843 0	
PRORATED GROWTH:					PRORATED GROWTH:					
	2016	TO	2040				2016	TO	2040	
	24 YEARS			60 0			24 YEARS		0 0	
				v ^					v ^	
	240 <			< 1020			240 <		< 980	
	260 >			> 90			250 >		> 0	
				v ^					v ^	
				1000 0					840 0	
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:					
		2040					2040			
				370 0					980 0	
				v ^					v ^	
	542 <	IN =	3350 <	1610			642 <	IN =	2850 <	1270
	1020 >	OUT =	3350 >	1384			560 >	OUT =	2850 >	1031
				v ^ *					v ^ *	
				1424 350					1178 40	

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: SR-71 Sout 2
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	60	102	43	71%	29	24	-5	-17%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	288	241	-47	-16%	15	16	1	7%
	NB Total	348	343	-5	-1%	44	40	-4	-9%
SOUTH BOUND	Left	256	232	-24	-9%	696	603	-93	-13%
	Through	20	68	48	240%	138	275	137	99%
	Right	35	64	30	86%	150	102	-48	-32%
	SB Total	311	364	54	17%	984	980	-4	0%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	742	911	170	23%	268	412	144	54%
	Right	16	73	57	356%	42	148	106	252%
	EB Total	758	984	227	30%	310	560	250	81%
WEST BOUND	Left	381	1,283	902	237%	97	755	658	678%
	Through	204	376	172	84%	194	515	321	165%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	585	1,659	1,074	184%	291	1,270	979	336%
TOTAL ENTERING VOLUME		2,001	3,350	1349.5	67%	1,629	2,850	1221	75%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	364	980			
North Leg	Outbound	0	0			
North Leg	TOTAL	364	980	2%	5%	21,582
South Leg	Inbound	343	40			
South Leg	Outbound	1,424	1,178			
South Leg	TOTAL	1,767	1,218	16%	11%	10,988
East Leg	Inbound	1,659	1,270			
East Leg	Outbound	1,384	1,031			
East Leg	TOTAL	3,043	2,301	14%	10%	21,944
West Leg	Inbound	984	560			
West Leg	Outbound	542	641			
West Leg	TOTAL	1,526	1,201	5%	4%	30,141
OVERALL TOTAL		6,700	5,700	8%	7%	84,655

U:\UcJobs\10100-10500\10500\10522\Post Processing\6 SR71SB_Euclid.xls]Output (3)

INPUT DATA

Project: =====> Chino Parcel Delivery <==== Job #: 9840
 Scenario: =====> Horizon Year (2040) <==== Analyst: BA
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Grove Avenue / Merrill Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	318 139	2040	205 346		
	v ^		v ^		
	375 < IN = 722 < 124		563 < IN = 1119 < 349		
	281 > OUT = 722 > 208		565 > OUT = 1119 > 210		
	v ^		v ^		
	0 0		0 0		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	6,150	2040	6,150		
	N		N		
	9,815 W LEG E 5,020		9,815 W + E 5,020		
	S		S		
	0		0		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[7 Grove_Merrill-SEMI.xls]Input (1)

Growth Calculations

Project: Chino Parcel Delivery
 Scenario: Horizon Year (2040)

Job #: 9840
 Analyst: BA
 Date: 1/12/17

LOCATION: Grove Avenue / Merrill Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		2	2			2	2		
		v	^			v	^		
3 <	IN =	8 <	3	3 <	IN =	8 <	3	3 <	3
3 >	OUT =	8 >	3	3 >	OUT =	8 >	3	3 >	3
		v	^			v	^		
		0	0			0	0		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <		< MUL		MUL <		< MUL		
	MUL >		> MUL		MUL >		> MUL		
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040		2016	TO	2040		2016	TO
		0%	0%			0%	0%		
		v	^			v	^		
0% <		<	-44%	0% <		<	-44%	0% <	
0% >		>	-44%	0% >		>	-44%	0% >	
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040		2016	TO	2040		2016	TO
		318	138			208	348		
		v	^			v	^		
367 <		<	117	557 <		<	347	557 <	
277 >		>	207	567 >		>	207	567 >	
		v	^			v	^		
		0	0			0	0		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040		2016	TO	2040		2016	TO
24 YEARS		320	140	24 YEARS		210	350	24 YEARS	
		v	^			v	^		
370 <		<	120	560 <		<	350	560 <	
280 >		>	210	570 >		>	210	570 >	
		v	^			v	^		
		0	0			0	0		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
	2040				2040				
		320	140			210	353		
		v	^			v	^		
370 <	IN =	720 <	120	565 <	IN =	1130 <	350	565 <	350
280 >	OUT =	720 >	210	570 >	OUT =	1130 >	212	570 >	212
		v	^ *			v	^ *		
		0	0			0	0		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\7 Grove_Merrill-SEMI.xls\Growth Summary (2)

Project: Chino Parcel Delivery
 Scenario: Horizon Year (2040)

Job #: 9840
 Analyst: BA
 Date: 1/12/17

LOCATION: Grove Avenue / Merrill Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	1	56	55	5500%	1	10	9	900%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	266	265	26500%	1	216	215	21500%
	SB Total	2	322	320	16000%	2	226	224	11200%
EAST BOUND	Left	1	123	122	12200%	1	328	327	32700%
	Through	2	154	152	7600%	2	202	200	10000%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	3	277	274	9133%	3	530	527	17567%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	104	102	5100%	2	349	347	17350%
	Right	1	17	16	1600%	1	25	24	2400%
	WB Total	3	121	118	3933%	3	374	371	12367%
TOTAL ENTERING VOLUME		8	720	712	8900%	8	1,130	1122	14025%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	322	226			
North Leg	Outbound	140	353			
North Leg	TOTAL	462	579	8%	9%	6,150
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	-
East Leg	Inbound	121	374			
East Leg	Outbound	210	212			
East Leg	TOTAL	331	586	7%	12%	5,020
West Leg	Inbound	277	530			
West Leg	Outbound	370	565			
West Leg	TOTAL	647	1,095	7%	11%	9,815
OVERALL TOTAL		1,440	2,260	7%	11%	20,985

U:\UcJobs\10100-10500\10500\10522\Post Processing\[7 Grove_Merrill-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Chino Parcel Delivery <==== Job #: 9840
 Scenario: =====> Horizon Year (2040) <==== Analyst: BA
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Flight Avenue / Merrill Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	89 17	2040	36 100		
	v ^		v ^		
273 <	IN = 588 < 255	319 <	IN = 809 < 361		
174 >	OUT = 588 > 228	356 >	OUT = 809 > 333		
	v ^		v ^		
	70 70		56 56		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	1,128	2040	1,128		
	N		N		
6,166 W	LEG E 6,456	6,166 W	+ E 6,456		
	S		S		
	2,000		2,000		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[8 Flight_Merrill-SEMI.xls]Input (1)

Growth Calculations

Project: Chino Parcel Delivery
 Scenario: Horizon Year (2040)

Job #: 9840
 Analyst: BA
 Date: 1/12/17

LOCATION: Flight Avenue / Merrill Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		4		4			4		4
		v		^			v		^
	4 <	IN =	16 <	4		4 <	IN =	16 <	4
	4 >	OUT =	16 >	4		4 >	OUT =	16 >	4
		v		^			v		^
		4		4			4		4
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
		MUL <		< MUL			MUL <		< MUL
		MUL >		> MUL			MUL >		> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
	2016	TO	2040				2016	TO	2040
				0% 0%					0% 0%
				v ^					v ^
	-29% <			< -23%			-29% <		< -23%
	-29% >			> -23%			-29% >		> -23%
				v ^					v ^
				-29% -29%					-29% -29%
REFINED GROWTH:					ADJUSTED GROWTH:				
	2016	TO	2040				2016	TO	2040
				86 16					36 96
				v ^					v ^
	266 <			< 246			316 <		< 356
	166 >			> 226			356 >		> 326
				v ^					v ^
				66 66					56 56
PRORATED GROWTH:					PRORATED GROWTH:				
	2016	TO	2040				2016	TO	2040
	24 YEARS			90 20			24 YEARS		40 100
				v ^					v ^
	270 <			< 250			320 <		< 360
	170 >			> 230			360 >		> 330
				v ^					v ^
				70 70					60 60
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040		90 20			2040		40 101
				v ^					v ^
	270 <	IN =	580 <	250		324 <	IN =	820 <	360
	170 >	OUT =	590 >	230		360 >	OUT =	820 >	334
				v ^ *					v ^ *
				70 70					61 60

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\8 Flight_Merrill-SEMI.xls\Growth Summary (2)

Project: Chino Parcel Delivery
 Scenario: Horizon Year (2040)

Job #: 9840
 Analyst: BA
 Date: 1/12/17

LOCATION: Flight Avenue / Merrill Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	28	27	2700%	1	22	21	2100%
	Through	2	5	3	150%	2	14	12	600%
	Right	1	38	37	3700%	1	24	23	2300%
	NB Total	4	71	67	1675%	4	60	56	1400%
SOUTH BOUND	Left	1	41	40	4000%	1	18	17	1700%
	Through	2	19	17	850%	2	6	4	200%
	Right	1	31	30	3000%	1	16	15	1500%
	SB Total	4	91	87	2175%	4	40	36	900%
EAST BOUND	Left	1	5	4	400%	1	42	41	4100%
	Through	2	151	149	7450%	2	292	290	14500%
	Right	1	18	17	1700%	1	26	25	2500%
	EB Total	4	174	170	4250%	4	360	356	8900%
WEST BOUND	Left	1	33	32	3200%	1	28	27	2700%
	Through	2	211	209	10450%	2	286	284	14200%
	Right	1	10	9	900%	1	45	44	4400%
	WB Total	4	254	250	6250%	4	359	355	8875%
TOTAL ENTERING VOLUME		16	590	574	3588%	16	819	803	5019%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	91	40			
North Leg	Outbound	20	101			
North Leg	TOTAL	111	141	10%	13%	1,128
South Leg	Inbound	71	60			
South Leg	Outbound	70	60			
South Leg	TOTAL	141	120	7%	6%	2,000
East Leg	Inbound	254	359			
East Leg	Outbound	230	334			
East Leg	TOTAL	484	693	7%	11%	6,456
West Leg	Inbound	174	360			
West Leg	Outbound	270	324			
West Leg	TOTAL	444	684	7%	11%	6,166
OVERALL TOTAL		1,180	1,638	7%	10%	15,750

U:\UcJobs\10100-10500\10500\10522\Post Processing\8 Flight_Merrill-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Hellman Avenue / Merrill Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	164 379	2040	491 296		
	v ^		v ^		
260 <	IN = 872 < 377	371 <	IN = 1262 < 290		
224 >	OUT = 872 > 144	362 >	OUT = 1262 > 486		
	v ^		v ^		
	89 106		109 119		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	7,657	2040	7,657		
	N		N		
6,456 W	LEG E 7,342	6,456 W	+ E 7,342		
	S		S		
	2,586		2,586		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[9 Hellman_Merrill-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Merrill Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION												
AM					PM							
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016							
		4		4			4		4			
		v		^			v		^			
	4 <	IN =	16 <	4		4 <	IN =	16 <	4			
	4 >	OUT =	16 >	4		4 >	OUT =	16 >	4			
		v		^			v		^			
		4		4			4		4			
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE							
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach							
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach							
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach							
	MUL <			< MUL		MUL <			< MUL			
	MUL >			> MUL		MUL >			> MUL			
		v		^			v		^			
		MUL		MUL			MUL		MUL			
MINIMUM GROWTH %s					MINIMUM GROWTH %s							
	2016	TO	2040			2016	TO	2040				
				-64%	-64%				-64%	-64%		
				v	^				v	^		
	-77%	<		<	-72%		-77%	<		<	-72%	
	-77%	>		>	-72%		-77%	>		>	-72%	
				v	^				v	^		
				-80%	-80%				-80%	-80%		
REFINED GROWTH:					ADJUSTED GROWTH:							
	2016	TO	2040			2016	TO	2040				
				156	376				486	296		
				v	^				v	^		
	256	<		<	376		366	<		<	286	
	216	>		>	136		356	>		>	486	
				v	^				v	^		
				86	106				106	116		
PRORATED GROWTH:					PRORATED GROWTH:							
	2016	TO	2040			2016	TO	2040				
	24 YEARS			160	380		24 YEARS		490	300		
				v	^				v	^		
	260	<		<	380		370	<		<	290	
	220	>		>	140		360	>		>	490	
				v	^				v	^		
				90	110				110	120		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:							
		2040		160	380			2040	490	300		
				v	^				v	^		
	260	<	IN =	870	<	380	370	<	IN =	1260	<	290
	220	>	OUT =	870	>	140	360	>	OUT =	1270	>	490
				v	^	*			v	^	*	
				90	110				110	120		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\9 Hellman_Merrill-SEMI.xls\Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Merrill Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	19	18	1800%	1	24	23	2300%
	Through	2	78	76	3800%	2	66	64	3200%
	Right	1	13	12	1200%	1	31	30	3000%
	NB Total	4	110	106	2650%	4	121	117	2925%
SOUTH BOUND	Left	1	47	46	4600%	1	235	234	23400%
	Through	2	44	42	2100%	2	75	73	3650%
	Right	1	69	68	6800%	1	183	182	18200%
	SB Total	4	160	156	3900%	4	493	489	12225%
EAST BOUND	Left	1	122	121	12100%	1	121	120	12000%
	Through	2	80	78	3900%	2	224	222	11100%
	Right	1	19	18	1800%	1	18	17	1700%
	EB Total	4	221	217	5425%	4	363	359	8975%
WEST BOUND	Left	1	28	27	2700%	1	17	16	1600%
	Through	2	172	170	8500%	2	163	161	8050%
	Right	1	180	179	17900%	1	113	112	11200%
	WB Total	4	380	376	9400%	4	293	289	7225%
TOTAL ENTERING VOLUME		16	871	855	5344%	16	1,270	1254	7838%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	160	493			
North Leg	Outbound	380	300			
North Leg	TOTAL	540	793	7%	10%	7,657
South Leg	Inbound	110	121			
South Leg	Outbound	91	110			
South Leg	TOTAL	201	231	8%	9%	2,586
East Leg	Inbound	380	293			
East Leg	Outbound	140	490			
East Leg	TOTAL	520	783	7%	11%	7,342
West Leg	Inbound	221	363			
West Leg	Outbound	260	370			
West Leg	TOTAL	481	733	7%	11%	6,456
OVERALL TOTAL		1,742	2,540	7%	11%	24,041

U:\UcJobs\10100-10500\10500\10522\Post Processing\9 Hellman_Merrill-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Hellman Avenue / Kimball Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	62 133	2040	132 106		
	v ^		v ^		
992 <	IN = 2525 < 1199	1045 <	IN = 3469 < 1370		
743 >	OUT = 2525 > 908	1271 >	OUT = 3469 > 1481		
	v ^		v ^		
	491 521		836 695		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	2,515	2040	2,515		
	N		N		
27,325 W	LEG E 33,374	27,325 W	+ E 33,374		
	S		S		
	14,860		14,860		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[10 Hellman_Kimball-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Kimball Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		4	4			4	4		
		v	^			v	^		
5 <	IN =	18 <	5		5 <	IN =	18 <	5	
5 >	OUT =	18 >	5		5 >	OUT =	18 >	5	
		v	^			v	^		
		4	4			4	4		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
		MUL	MUL			MUL	MUL		
		v	^			v	^		
MUL <			< MUL		MUL <		< MUL		
MUL >			> MUL		MUL >		> MUL		
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		-88%	-88%			-88%	-88%		
		v	^			v	^		
-2% <			< 0%		-2% <		< 0%		
-2% >			> 0%		-2% >		> 0%		
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		56	126			126	106		
		v	^			v	^		
985 <			< 1195		1045 <		< 1365		
735 >			> 905		1265 >		> 1475		
		v	^			v	^		
		486	516			836	696		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		60	130		24 YEARS		130	110	
		v	^			v	^		
990 <			< 1200		1050 <		< 1370		
740 >			> 910		1270 >		> 1480		
		v	^			v	^		
		490	520			840	700		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
	2040					2040			
		60	130			130	110		
		v	^			v	^		
1000 <	IN =	2540 <	1210		1060 <	IN =	3490 <	1380	
750 >	OUT =	2540 >	920		1280 >	OUT =	3500 >	1490	
		v	^ *			v	^ *		
		490	520			840	700		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Kimball Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	163	162	16200%	1	201	200	20000%
	Through	2	60	58	2900%	2	53	51	2550%
	Right	1	298	297	29700%	1	448	447	44700%
	NB Total	4	521	517	12925%	4	702	698	17450%
SOUTH BOUND	Left	1	21	20	2000%	1	43	42	4200%
	Through	2	28	26	1300%	2	69	67	3350%
	Right	1	11	10	1000%	1	19	18	1800%
	SB Total	4	60	56	1400%	4	131	127	3175%
EAST BOUND	Left	1	20	19	1900%	1	20	19	1900%
	Through	3	601	598	19933%	3	999	996	33200%
	Right	1	132	131	13100%	1	269	268	26800%
	EB Total	5	753	748	14960%	5	1,288	1,283	25660%
WEST BOUND	Left	1	331	330	33000%	1	503	502	50200%
	Through	3	825	822	27400%	3	840	837	27900%
	Right	1	50	49	4900%	1	37	36	3600%
	WB Total	5	1,206	1,201	24020%	5	1,380	1,375	27500%
TOTAL ENTERING VOLUME		18	2,540	2522	14011%	18	3,501	3483	19350%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	60	131			
North Leg	Outbound	130	110			
North Leg	TOTAL	190	241	8%	10%	2,515
South Leg	Inbound	521	702			
South Leg	Outbound	491	841			
South Leg	TOTAL	1,012	1,543	7%	10%	14,860
East Leg	Inbound	1,206	1,380			
East Leg	Outbound	920	1,490			
East Leg	TOTAL	2,126	2,870	6%	9%	33,374
West Leg	Inbound	753	1,288			
West Leg	Outbound	999	1,060			
West Leg	TOTAL	1,752	2,348	6%	9%	27,325
OVERALL TOTAL		5,080	7,002	7%	9%	78,074

U:\UcJobs\10100-10500\10500\10522\Post Processing\[10 Hellman_Kimball-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <=== Job #: 10522
 Scenario: =====> Horizon Year (2040) <=== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <=== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <===

LOCATION:		Hellman Avenue / Pine Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	490 521	2040	856 690		
	v ^		v ^		
1181 <	IN = 2278 < 943	1338 <	IN = 3590 < 915		
731 >	OUT = 2278 > 485	1705 >	OUT = 3590 > 1484		
	v ^		v ^		
	92 114		78 115		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	14,881	2040	14,881		
	N		N		
29,289 W	LEG E 21,863	29,289 W	+ E 21,863		
	S		S		
	2,626		2,626		

U:\UcJobs_10100-10500_10500\10522\Post Processing\[11 Hellman_Pine-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Pine Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		4		4			4		4
		v		^			v		^
	4 <	IN =	16 <	4		4 <	IN =	16 <	4
	4 >	OUT =	16 >	4		4 >	OUT =	16 >	4
		v		^			v		^
		4		4			4		4
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL		MUL			MUL		MUL
		v		^			v		^
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s 2016 TO 2040					MINIMUM GROWTH %s 2016 TO 2040				
		-29%		-29%			-29%		-29%
		v		^			v		^
	0% <			< -16%		0% <			< -16%
	0% >			> -16%		0% >			> -16%
		v		^			v		^
		-80%		-80%			-80%		-80%
REFINED GROWTH: 2016 TO 2040					ADJUSTED GROWTH: 2016 TO 2040				
		486		516			856		686
		v		^			v		^
	1176 <			< 936		1336 <			< 916
	726 >			> 486		1696 >			> 1476
		v		^			v		^
		86		106			76		106
PRORATED GROWTH: 2016 TO 2040 24 YEARS					PRORATED GROWTH: 2016 TO 2040 24 YEARS				
		490		520			860		690
		v		^			v		^
	1180 <			< 940		1340 <			< 920
	730 >			> 490		1700 >			> 1480
		v		^			v		^
		90		110			80		110
NEW PROJECTED VOLUMES: 2040					NEW PROJECTED VOLUMES: 2040				
		490		520			860		690
		v		^			v		^
	1180 < IN =	2270 <	940			1340 < IN =	3590 <	920	
	730 > OUT =	2280 >	490			1700 > OUT =	3590 >	1480	
		v		^ *			v		^ *
		90		110			80		110

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hellman Avenue / Pine Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	52	51	5100%	1	46	45	4500%
	Through	2	45	43	2150%	2	40	38	1900%
	Right	1	14	13	1300%	1	24	23	2300%
	NB Total	4	111	107	2675%	4	110	106	2650%
SOUTH BOUND	Left	1	95	94	9400%	1	283	282	28200%
	Through	2	36	34	1700%	2	34	32	1600%
	Right	1	363	362	36200%	1	545	544	54400%
	SB Total	4	494	490	12250%	4	862	858	21450%
EAST BOUND	Left	1	312	311	31100%	1	488	487	48700%
	Through	2	381	379	18950%	2	1,173	1,171	58550%
	Right	1	36	35	3500%	1	35	34	3400%
	EB Total	4	729	725	18125%	4	1,696	1,692	42300%
WEST BOUND	Left	1	19	18	1800%	1	12	11	1100%
	Through	2	765	763	38150%	2	749	747	37350%
	Right	1	164	163	16300%	1	162	161	16100%
	WB Total	4	948	944	23600%	4	923	919	22975%
TOTAL ENTERING VOLUME		16	2,282	2266	14163%	16	3,591	3575	22344%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	494	862			
North Leg	Outbound	521	690			
North Leg	TOTAL	1,015	1,552	7%	10%	14,881
South Leg	Inbound	111	110			
South Leg	Outbound	91	81			
South Leg	TOTAL	202	191	8%	7%	2,626
East Leg	Inbound	948	923			
East Leg	Outbound	490	1,480			
East Leg	TOTAL	1,438	2,403	7%	11%	21,863
West Leg	Inbound	729	1,696			
West Leg	Outbound	1,180	1,340			
West Leg	TOTAL	1,909	3,036	7%	10%	29,289
OVERALL TOTAL		4,564	7,182	7%	10%	68,659

U:\UcJobs\10100-10500\10500\10522\Post Processing\[11 Hellman_Pine-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / SR-60 Westbound Ramps			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES:		EXISTING TURNING MOVEMENT VOLUMES:			
2016	186 388 0	2016	442 1027 0		
	< v >		< v >		
	0 ^ ^ 477		0 ^ ^ 195		
	0 > < 2		0 > < 6		
	0 v v 320		0 v v 350		
	< ^ >		< ^ >		
	527 1152 0		293 547 0		
EXISTING YEAR:		EXISTING MODEL YEAR:			
2016	573 1629	2016	1469 742		
	v ^		v ^		
714 <	IN = 3049 < 798	741 <	IN = 2859 < 550		
0 >	OUT = 3049 > 0	0 >	OUT = 2859 > 0		
	v ^		v ^		
	707 1678		1377 840		
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040	1024 2321	2040	2454 1361		
	v ^		v ^		
932 <	IN = 4447 < 1074	984 <	IN = 4677 < 865		
0 >	OUT = 4423 > 0	0 >	OUT = 4685 > 0		
	v ^		v ^		
	1170 2349		2340 1358		
EXISTING (COUNTED) ADTs BY LEG:		EXISTING (COUNTED) ADTs BY LEG:			
2016	28,200	2016	28,200		
	N		N		
9,453 W	LEG E 7,016	9,453 W	+ E 7,016		
	S		S		
	28,276		28,276		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040	37,491	2040	37,491		
	N		N		
7,352 W	LEG E 9,949	7,352 W	+ E 9,949		
	S		S		
	37,463		37,463		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[14 Archibald_SR-60 WB Ramps.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / SR-60 Westbound Ramps

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		573	1629			1469	742		
		v	^			v	^		
714 <	IN =	3049	<	798	741 <	IN =	2859	<	550
0 >	OUT =	3049	>	0	0 >	OUT =	2859	>	0
		v	^			v	^		
		707	1678			1377	840		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
		MUL	MUL			MUL	MUL		
		v	^			v	^		
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%	0%			0%	0%		
		v	^			v	^		
-22% <				< 0%	-22% <				< 0%
-22% >				> 0%	-22% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		447	692			981	619		
		v	^			v	^		
217 <				< 272	239 <				< 320
0 >				> 0	0 >				> 0
		v	^			v	^		
		463	672			964	520		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		450	690		24 YEARS		980	620	
		v	^			v	^		
220 <				< 270	240 <				< 320
0 >				> 0	0 >				> 0
		v	^			v	^		
		460	670			960	520		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
	2040					2040			
		1020	2330			2450	1360		
		v	^			v	^		
934 <	IN =	4440	<	1070	980 <	IN =	4680	<	870
0 >	OUT =	4440	>	0	0 >	OUT =	4680	>	0
		v	^	*		v	^	*	
		1175	2350			2340	1360		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / SR-60 Westbound Ramps
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	527	649	123	23%	293	351	58	20%
	Through	1,152	1,701	550	48%	547	1,011	464	85%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	1,678	2,350	672	40%	840	1,362	522	62%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	388	737	350	90%	1,027	1,826	799	78%
	Right	186	283	98	53%	442	622	180	41%
	SB Total	573	1,020	447	78%	1,469	2,448	979	67%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	320	438	119	37%	350	514	165	47%
	Through	2	2	1	33%	6	7	1	17%
	Right	477	630	153	32%	195	349	155	79%
	WB Total	798	1,070	272	34%	550	870	320	58%
TOTAL ENTERING VOLUME		3,049	4,440	1391	46%	2,859	4,680	1821	64%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,020	2,448			
North Leg	Outbound	2,331	1,360			
North Leg	TOTAL	3,351	3,808	9%	10%	37,491
South Leg	Inbound	2,350	1,362			
South Leg	Outbound	1,175	2,340			
South Leg	TOTAL	3,525	3,702	9%	10%	37,463
East Leg	Inbound	1,070	870			
East Leg	Outbound	0	0			
East Leg	TOTAL	1,070	870	11%	9%	9,949
West Leg	Inbound	0	0			
West Leg	Outbound	934	980			
West Leg	TOTAL	934	980	13%	13%	7,352
OVERALL TOTAL		8,880	9,360	10%	10%	92,255

U:\UcJobs\10100-10500\10500\10522\Post Processing\14 Archibald_SR-60 WB Ramps.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / SR-60 Eastbound Ramps			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES:		EXISTING TURNING MOVEMENT VOLUMES:			
2016		2016			
0 549 158		0 1053 324			
< v >		< v >			
388 ^ ^ 0		145 ^ ^ 0			
2 > < 0		1 > < 0			
374 v v 0		498 v v 0			
< ^ >		< ^ >			
0 1291 414		0 696 431			
EXISTING YEAR:		EXISTING MODEL YEAR:			
2016		2016			
707 1678		1377 840			
v ^		v ^			
0 < IN = 3175 < 0		0 < IN = 3146 < 0			
764 > OUT = 3175 > 574		643 > OUT = 3146 > 756			
v ^		v ^			
923 1704		1551 1127			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040		2040			
1170 2349		2340 1358			
v ^		v ^			
0 < IN = 4434 < 0		0 < IN = 4590 < 0			
931 > OUT = 4415 > 768		706 > OUT = 4626 > 1021			
v ^		v ^			
1298 2333		2247 1544			
EXISTING (COUNTED) ADTs BY LEG:		EXISTING (COUNTED) ADTs BY LEG:			
2016		2016			
28,276		28,276			
N		N			
8,203 W LEG E 9,638		8,203 W + E 9,638			
S		S			
34,151		34,151			
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040		2040			
37,491		37,491			
N		N			
7,352 W LEG E 9,949		7,352 W + E 9,949			
S		S			
37,463		37,463			

U:\UcJobs_10100-10500_10500\10522\Post Processing\[15 Archibald_SR-60 EB Ramps.xls]Input (1)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / SR-60 Eastbound Ramps
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,291	1,834	544	42%	696	1,123	428	61%
	Right	414	498	85	20%	431	437	6	1%
	NB Total	1,704	2,332	628	37%	1,127	1,560	434	38%
SOUTH BOUND	Left	158	271	113	72%	324	582	259	80%
	Through	549	897	348	63%	1,053	1,772	719	68%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	707	1,168	461	65%	1,377	2,354	978	71%
EAST BOUND	Left	388	521	134	34%	145	237	93	64%
	Through	2	2	0	0%	1	1	0	0%
	Right	374	406	32	9%	498	478	-20	-4%
	EB Total	764	929	166	22%	643	716	73	11%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		3,175	4,429	1254.5	40%	3,146	4,630	1484	47%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,168	2,354			
North Leg	Outbound	2,355	1,360			
North Leg	TOTAL	3,523	3,714	9%	10%	37,491
South Leg	Inbound	2,332	1,560			
South Leg	Outbound	1,303	2,250			
South Leg	TOTAL	3,635	3,810	10%	10%	37,463
East Leg	Inbound	0	0			
East Leg	Outbound	771	1,020			
East Leg	TOTAL	771	1,020	8%	10%	9,949
West Leg	Inbound	929	716			
West Leg	Outbound	0	0			
West Leg	TOTAL	929	716	13%	10%	7,352
OVERALL TOTAL		8,858	9,260	10%	10%	92,255

U:\UcJobs\10100-10500\10500\10522\Post Processing\15 Archibald_SR-60 EB Ramps.xls\Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / Walnut Avenue			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES:		EXISTING TURNING MOVEMENT VOLUMES:			
2016		2016			
17 530 115		18 1190 110			
< v >		< v >			
37 ^ 234		17 ^ 64			
10 > 28		7 > 13			
22 v 125		30 v 26			
< ^ >		< ^ >			
65 1408 52		63 854 28			
EXISTING YEAR:		EXISTING MODEL YEAR:			
2016		2016			
662 1679		1318 935			
v ^		v ^			
110 < IN = 2643 < 387		94 < IN = 2420 < 103			
69 > OUT = 2643 > 177		54 > OUT = 2420 > 145			
v ^		v ^			
677 1525		1246 945			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040		2040			
1037 2308		2014 1352			
v ^		v ^			
110 < IN = 3637 < 410		96 < IN = 3456 < 94			
88 > OUT = 3636 > 186		-22 > OUT = 3456 > 159			
v ^		v ^			
1032 2102		1849 1370			
EXISTING (COUNTED) ADTs BY LEG:		EXISTING (COUNTED) ADTs BY LEG:			
2016		2016			
28,729		28,729			
N		N			
1,882 W LEG E 3,164		1,882 W + E 3,164			
S		S			
27,945		27,945			
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040		2040			
37,970		37,970			
N		N			
6,464 W LEG E 6,270		6,464 W + E 6,270			
S		S			
26,064		26,064			

U:\UcJobs\10100-10500\10522\Post Processing\[16 Archibald_Walnut.xls]Input (1)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald / 2
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	65	66	1	2%	63	68	5	8%
	Through	1,408	2,003	595	42%	854	1,297	443	52%
	Right	52	47	-5	-10%	28	29	1	4%
	NB Total	1,525	2,116	591	39%	945	1,394	449	48%
SOUTH BOUND	Left	115	134	19	17%	110	139	29	26%
	Through	530	878	348	66%	1,190	1,832	642	54%
	Right	17	22	5	29%	18	24	6	33%
	SB Total	662	1,034	372	56%	1,318	1,995	677	51%
EAST BOUND	Left	37	53	16	43%	17	18	1	6%
	Through	10	9	-1	-10%	7	5	-2	-29%
	Right	22	28	6	27%	30	27	-3	-10%
	EB Total	69	90	21	30%	54	50	-4	-7%
WEST BOUND	Left	125	127	2	2%	26	23	-3	-12%
	Through	28	22	-6	-21%	13	10	-3	-23%
	Right	234	261	27	12%	64	68	4	6%
	WB Total	387	410	23	6%	103	101	-2	-2%
TOTAL ENTERING VOLUME		2,643	3,650	1007	38%	2,420	3,540	1120	46%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,034	1,995			
North Leg	Outbound	2,317	1,383			
North Leg	TOTAL	3,351	3,378	9%	9%	37,970
South Leg	Inbound	2,116	1,394			
South Leg	Outbound	1,033	1,882			
South Leg	TOTAL	3,149	3,276	12%	13%	26,064
East Leg	Inbound	410	101			
East Leg	Outbound	190	173			
East Leg	TOTAL	600	274	10%	4%	6,270
West Leg	Inbound	90	50			
West Leg	Outbound	110	102			
West Leg	TOTAL	200	152	3%	2%	6,464
OVERALL TOTAL		7,300	7,080	10%	9%	76,768

U:\UcJobs\10100-10500\10500\10522\Post Processing\16 Archibald_Walnut.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / Riverside Avenue			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES:		EXISTING TURNING MOVEMENT VOLUMES:			
2016		2016			
193 352 173		188 687 264			
< v >		< v >			
185 ^ 229		162 ^ 118			
296 > 445		624 > 390			
100 v 115		228 v 181			
< ^ >		< ^ >			
216 871 122		217 524 131			
EXISTING YEAR:		EXISTING MODEL YEAR:			
2016		2016			
718 1285		1139 804			
v ^		v ^			
854 < IN = 3297 < 789		795 < IN = 3714 < 689			
581 > OUT = 3297 > 591		1014 > OUT = 3714 > 1019			
v ^		v ^			
567 1209		1096 872			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2040		2040			
1073 1862		1742 1229			
v ^		v ^			
589 < IN = 4488 < 791		874 < IN = 5045 < 797			
819 > OUT = 4488 > 890		993 > OUT = 5045 > 1090			
v ^		v ^			
1147 1805		1852 1513			
EXISTING (COUNTED) ADTs BY LEG:		EXISTING (COUNTED) ADTs BY LEG:			
2016		2016			
24,797		24,797			
N		N			
23,070 W LEG E 21,795		23,070 W + E 21,795			
S		S			
25,106		25,106			
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2040		2040			
26,064		26,064			
N		N			
9,301 W LEG E 18,570		9,301 W + E 18,570			
S		S			
31,416		31,416			

U:\UcJobs\10100-10500\10500\10522\Post Processing\[17 Archibald_Riverside.xls]Input (1)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald / 2
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	216	186	-30	-14%	217	326	109	50%
	Through	871	1,389	518	59%	524	952	428	82%
	Right	122	237	115	94%	131	232	101	77%
	NB Total	1,209	1,812	603	50%	872	1,510	638	73%
SOUTH BOUND	Left	173	242	69	40%	264	313	49	19%
	Through	352	712	360	102%	687	1,243	556	81%
	Right	193	120	-73	-38%	188	189	1	1%
	SB Total	718	1,074	356	50%	1,139	1,745	606	53%
EAST BOUND	Left	185	211	26	14%	162	145	-17	-10%
	Through	296	411	115	39%	624	544	-80	-13%
	Right	100	200	100	100%	228	303	75	33%
	EB Total	581	822	241	41%	1,014	992	-22	-2%
WEST BOUND	Left	115	238	123	107%	181	304	123	68%
	Through	445	284	-161	-36%	390	364	-26	-7%
	Right	229	270	41	18%	118	133	15	13%
	WB Total	789	792	3	0%	689	801	112	16%
TOTAL ENTERING VOLUME		3,297	4,500	1203	36%	3,714	5,048	1334	36%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,074	1,745			
North Leg	Outbound	1,870	1,230			
North Leg	TOTAL	2,944	2,975	11%	11%	26,064
South Leg	Inbound	1,812	1,510			
South Leg	Outbound	1,150	1,850			
South Leg	TOTAL	2,962	3,360	9%	11%	31,416
East Leg	Inbound	792	801			
East Leg	Outbound	890	1,089			
East Leg	TOTAL	1,682	1,890	9%	10%	18,570
West Leg	Inbound	822	992			
West Leg	Outbound	590	879			
West Leg	TOTAL	1,412	1,871	15%	20%	9,301
OVERALL TOTAL		9,000	10,096	11%	12%	85,351

U:\UcJobs\10100-10500\10500\10522\Post Processing\17 Archibald_Riverside.xls\Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / Chino Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:	
2040	951 1099	2040	1483 1319
	v ^		v ^
373 <	IN = 2894 <	353	798 < IN = 4103 < 544
601 >	OUT = 2894 >	400	750 > OUT = 4103 > 633
	v ^		v ^
	1022 988		1353 1326
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:	
2040	31,822	2040	31,822
	N		N
14,556 W	LEG E 11,180	14,556 W	+ E 11,180
	S		S
	30,467		30,467

U:\UcJobs_10100-10500_10500\10522\Post Processing\[18 Archibald_Chino-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Chino Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		5	5			5	5		
		v	^			v	^		
4 <	IN =	18	<	4	4 <	IN =	18	<	4
4 >	OUT =	18	>	4	4 >	OUT =	18	>	4
		v	^			v	^		
		5	5			5	5		
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL	MUL			MUL	MUL		
		v	^			v	^		
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s 2016 TO 2040					MINIMUM GROWTH %s 2016 TO 2040				
		0%	0%			0%	0%		
		v	^			v	^		
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH: 2016 TO 2040					ADJUSTED GROWTH: 2016 TO 2040				
		945	1095			1475	1315		
		v	^			v	^		
366 <				< 346	796 <				< 536
596 >				> 396	746 >				> 626
		v	^			v	^		
		1015	985			1345	1325		
PRORATED GROWTH: 2016 TO 2040 24 YEARS					PRORATED GROWTH: 2016 TO 2040 24 YEARS				
		950	1100			1480	1320		
		v	^			v	^		
370 <				< 350	800 <				< 540
600 >				> 400	750 >				> 630
		v	^			v	^		
		1020	990			1350	1330		
NEW PROJECTED VOLUMES: 2040					NEW PROJECTED VOLUMES: 2040				
		960	1110			1490	1330		
		v	^			v	^		
370 <	IN =	2910	<	350	800 <	IN =	4120	<	540
600 >	OUT =	2910	>	400	750 >	OUT =	4120	>	630
		v	^	*		v	^	*	
		1030	1000			1360	1340		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\18 Archibald_Chino-SEMI.xls Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Chino Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	112	111	11100%	1	232	231	23100%
	Through	3	796	793	26433%	3	965	962	32067%
	Right	1	92	91	9100%	1	144	143	14300%
	NB Total	5	1,000	995	19900%	5	1,341	1,336	26720%
SOUTH BOUND	Left	1	96	95	9500%	1	174	173	17300%
	Through	3	747	744	24800%	3	1,035	1,032	34400%
	Right	1	117	116	11600%	1	280	279	27900%
	SB Total	5	960	955	19100%	5	1,489	1,484	29680%
EAST BOUND	Left	1	204	203	20300%	1	232	231	23100%
	Through	2	212	210	10500%	2	312	310	15500%
	Right	1	184	183	18300%	1	206	205	20500%
	EB Total	4	600	596	14900%	4	750	746	18650%
WEST BOUND	Left	1	99	98	9800%	1	118	117	11700%
	Through	2	140	138	6900%	2	288	286	14300%
	Right	1	110	109	10900%	1	133	132	13200%
	WB Total	4	349	345	8625%	4	539	535	13375%
TOTAL ENTERING VOLUME		18	2,909	2891	16061%	18	4,119	4101	22783%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	960	1,489			
North Leg	Outbound	1,110	1,330			
North Leg	TOTAL	2,070	2,819	7%	9%	31,822
South Leg	Inbound	1,000	1,341			
South Leg	Outbound	1,030	1,359			
South Leg	TOTAL	2,030	2,700	7%	9%	30,467
East Leg	Inbound	349	539			
East Leg	Outbound	400	630			
East Leg	TOTAL	749	1,169	7%	10%	11,180
West Leg	Inbound	600	750			
West Leg	Outbound	369	800			
West Leg	TOTAL	969	1,550	7%	11%	14,556
OVERALL TOTAL		5,818	8,238	7%	9%	88,025

U:\UcJobs\10100-10500\10500\10522\Post Processing\[18 Archibald_Chino-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <=== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <=== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <=== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <===

LOCATION: Archibald Avenue / Schaefer Av.											
AM PEAK HOUR					PM PEAK HOUR						
FUTURE MODEL YEAR:					FUTURE MODEL YEAR:						
2040			1022	988	2040			1353	1326		
			v	^				v	^		
22	<	IN =	2200	<	221	49	<	IN =	2923	<	114
40	>	OUT =	2200	>	70	36	>	OUT =	2922	>	245
			v	^				v	^		
			1119	917				1301	1419		
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:						
2040			30,467		2040			30,467			
			N					N			
874	W	LEG	E	3,944	874	W	+	E	3,944		
			S					S			
			30,874					30,874			

U:\UcJobs_10100-10500_10500\10522\Post Processing\[19 Archibald_Schaefer-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Schaefer Av.

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		5	5			5	5		
		v	^			v	^		
4 <	IN =	18	<	4	4 <	IN =	18	<	4
4 >	OUT =	18	>	4	4 >	OUT =	18	>	4
		v	^			v	^		
		5	5			5	5		
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL	MUL			MUL	MUL		
		v	^			v	^		
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s 2016 TO 2040					MINIMUM GROWTH %s 2016 TO 2040				
		0%	0%			0%	0%		
		v	^			v	^		
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH: 2016 TO 2040					ADJUSTED GROWTH: 2016 TO 2040				
		1015	985			1345	1325		
		v	^			v	^		
16 <				< 216	46 <				< 106
36 >				> 66	36 >				> 246
		v	^			v	^		
		1115	915			1295	1415		
PRORATED GROWTH: 2016 TO 2040 24 YEARS					PRORATED GROWTH: 2016 TO 2040 24 YEARS				
		1020	990			1350	1330		
		v	^			v	^		
20 <				< 220	50 <				< 110
40 >				> 70	40 >				> 250
		v	^			v	^		
		1120	920			1300	1420		
NEW PROJECTED VOLUMES: 2040					NEW PROJECTED VOLUMES: 2040				
		1030	1000			1360	1340		
		v	^			v	^		
20 <	IN =	2220	<	220	50 <	IN =	2940	<	110
40 >	OUT =	2220	>	70	40 >	OUT =	2950	>	250
		v	^	*		v	^	*	
		1130	930			1310	1430		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\19 Archibald_Schaefer-SEMI.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Schaefer Av.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	7	6	600%	1	23	22	2200%
	Through	3	887	884	29467%	3	1,278	1,275	42500%
	Right	1	33	32	3200%	1	127	126	12600%
	NB Total	5	927	922	18440%	5	1,428	1,423	28460%
SOUTH BOUND	Left	1	31	30	3000%	1	111	110	11000%
	Through	3	995	992	33067%	3	1,241	1,238	41267%
	Right	1	6	5	500%	1	20	19	1900%
	SB Total	5	1,032	1,027	20540%	5	1,372	1,367	27340%
EAST BOUND	Left	1	16	15	1500%	1	13	12	1200%
	Through	2	5	3	150%	2	12	10	500%
	Right	1	19	18	1800%	1	15	14	1400%
	EB Total	4	40	36	900%	4	40	36	900%
WEST BOUND	Left	1	116	115	11500%	1	54	53	5300%
	Through	2	7	5	250%	2	8	6	300%
	Right	1	97	96	9600%	1	49	48	4800%
	WB Total	4	220	216	5400%	4	111	107	2675%
TOTAL ENTERING VOLUME		18	2,219	2201	12228%	18	2,951	2933	16294%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,032	1,372			
North Leg	Outbound	1,000	1,340			
North Leg	TOTAL	2,032	2,712	7%	9%	30,467
South Leg	Inbound	927	1,428			
South Leg	Outbound	1,130	1,310			
South Leg	TOTAL	2,057	2,738	7%	9%	30,874
East Leg	Inbound	220	111			
East Leg	Outbound	69	250			
East Leg	TOTAL	289	361	7%	9%	3,944
West Leg	Inbound	40	40			
West Leg	Outbound	20	51			
West Leg	TOTAL	60	91	7%	10%	874
OVERALL TOTAL		4,438	5,902	7%	9%	66,159

U:\UcJobs\10100-10500\10500\10522\Post Processing\19 Archibald_Schaefer-SEMI.xls\Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION: Archibald Avenue / Ontario Ranch Road													
AM PEAK HOUR					PM PEAK HOUR								
FUTURE MODEL YEAR:					FUTURE MODEL YEAR:								
2040			1125	902	2040			1289	1434				
			v	^				v	^				
	1134	<	IN =	4084	<	702		1660	<	IN =	5983	<	1182
	1165	>	OUT =	4083	>	771		1938	>	OUT =	5983	>	1408
			v	^				v	^				
			1276	1092				1480	1573				
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:								
2040			30,857		2040			30,857					
			N					N					
	34,730	W	LEG	E	22,384			34,730	W	+	E	22,384	
			S					S					
			34,613					34,613					

U:\UcJobs_10100-10500_10500\10522\Post Processing\[20 Archibald_Ontario Ranch-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Ontario Ranch Road

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		5	5			5	5		
		v	^			v	^		
4 <	IN =	18	<	4	4 <	IN =	18	<	4
4 >	OUT =	18	>	4	4 >	OUT =	18	>	4
		v	^			v	^		
		5	5			5	5		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%	0%			0%	0%		
		v	^			v	^		
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		1125	895			1285	1425		
		v	^			v	^		
1126 <				< 696	1656 <				< 1176
1156 >				> 766	1936 >				> 1406
		v	^			v	^		
		1275	1085			1475	1565		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		1130	900		24 YEARS		1290	1430	
		v	^			v	^		
1130 <				< 700	1660 <				< 1180
1160 >				> 770	1940 >				> 1410
		v	^			v	^		
		1280	1090			1480	1570		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040				2040			
		1140	910			1300	1440		
		v	^			v	^		
1130 <	IN =	4100	<	700	1660 <	IN =	6000	<	1180
1160 >	OUT =	4100	>	770	1940 >	OUT =	6000	>	1410
		v	^	*		v	^	*	
		1290	1100			1490	1580		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\20 Archibald_Ontario Ranch-SEMI.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Ontario Ranch Road
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	371	370	37000%	1	486	485	48500%
	Through	3	587	584	19467%	3	862	859	28633%
	Right	1	142	141	14100%	1	232	231	23100%
	NB Total	5	1,100	1,095	21900%	5	1,580	1,575	31500%
SOUTH BOUND	Left	1	108	107	10700%	1	169	168	16800%
	Through	3	749	746	24867%	3	776	773	25767%
	Right	1	283	282	28200%	1	354	353	35300%
	SB Total	5	1,140	1,135	22700%	5	1,299	1,294	25880%
EAST BOUND	Left	1	239	238	23800%	1	416	415	41500%
	Through	2	520	518	25900%	2	1,009	1,007	50350%
	Right	1	401	400	40000%	1	514	513	51300%
	EB Total	4	1,160	1,156	28900%	4	1,939	1,935	48375%
WEST BOUND	Left	1	140	139	13900%	1	199	198	19800%
	Through	2	476	474	23700%	2	819	817	40850%
	Right	1	84	83	8300%	1	161	160	16000%
	WB Total	4	700	696	17400%	4	1,179	1,175	29375%
TOTAL ENTERING VOLUME		18	4,100	4082	22678%	18	5,997	5979	33217%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,140	1,299			
North Leg	Outbound	910	1,439			
North Leg	TOTAL	2,050	2,738	7%	9%	30,857
South Leg	Inbound	1,100	1,580			
South Leg	Outbound	1,290	1,489			
South Leg	TOTAL	2,390	3,069	7%	9%	34,613
East Leg	Inbound	700	1,179			
East Leg	Outbound	770	1,410			
East Leg	TOTAL	1,470	2,589	7%	12%	22,384
West Leg	Inbound	1,160	1,939			
West Leg	Outbound	1,130	1,659			
West Leg	TOTAL	2,290	3,598	7%	10%	34,730
OVERALL TOTAL		8,200	11,994	7%	10%	122,584

U:\UcJobs\10100-10500\10500\10522\Post Processing\[20 Archibald_Ontario Ranch-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		Archibald Avenue / Eucalyptus Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:	
2040	1276 1092	2040	1480 1573
	v ^		v ^
62 <	IN = 2571 < 122	91 <	IN = 3375 < 139
63 >	OUT = 2571 > 110	139 >	OUT = 3375 > 193
	v ^		v ^
	1308 1110		1518 1617
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:	
2040	34,613	2040	34,613
	N		N
1,895 W	LEG E 3,170	1,895 W	+ E 3,170
	S		S
	35,421		35,421

U:\UcJobs_10100-10500_10500\10522\Post Processing\[21 Archibald_Eucalyptus-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Eucalyptus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		5	5			5	5		
		v	^			v	^		
4 <	IN =	18	<	4	4 <	IN =	18	<	4
4 >	OUT =	18	>	4	4 >	OUT =	18	>	4
		v	^			v	^		
		5	5			5	5		
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL	MUL			MUL	MUL		
		v	^			v	^		
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s 2016 TO 2040					MINIMUM GROWTH %s 2016 TO 2040				
		0%	0%			0%	0%		
		v	^			v	^		
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH: 2016 TO 2040					ADJUSTED GROWTH: 2016 TO 2040				
		1275	1085			1475	1565		
		v	^			v	^		
56 <				< 116	86 <				< 136
56 >				> 106	136 >				> 186
		v	^			v	^		
		1305	1105			1515	1615		
PRORATED GROWTH: 2016 TO 2040 24 YEARS					PRORATED GROWTH: 2016 TO 2040 24 YEARS				
		1280	1090			1480	1570		
		v	^			v	^		
60 <				< 120	90 <				< 140
60 >				> 110	140 >				> 190
		v	^			v	^		
		1310	1110			1520	1620		
NEW PROJECTED VOLUMES: 2040					NEW PROJECTED VOLUMES: 2040				
		1290	1100			1490	1585		
		v	^			v	^		
60 <	IN =	2590	<	120	90 <	IN =	3400	<	140
60 >	OUT =	2590	>	110	140 >	OUT =	3400	>	191
		v	^	*		v	^	*	
		1320	1120			1535	1630		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\21 Archibald_Eucalyptus-SEMI.xls Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Eucalyptus Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	26	25	2500%	1	43	42	4200%
	Through	3	1,033	1,030	34333%	3	1,479	1,476	49200%
	Right	1	54	53	5300%	1	92	91	9100%
	NB Total	5	1,113	1,108	22160%	5	1,614	1,609	32180%
SOUTH BOUND	Left	1	46	45	4500%	1	70	69	6900%
	Through	3	1,228	1,225	40833%	3	1,403	1,400	46667%
	Right	1	23	22	2200%	1	33	32	3200%
	SB Total	5	1,297	1,292	25840%	5	1,506	1,501	30020%
EAST BOUND	Left	1	21	20	2000%	1	50	49	4900%
	Through	2	10	8	400%	2	28	26	1300%
	Right	1	29	28	2800%	1	62	61	6100%
	EB Total	4	60	56	1400%	4	140	136	3400%
WEST BOUND	Left	1	63	62	6200%	1	70	69	6900%
	Through	2	11	9	450%	2	15	13	650%
	Right	1	46	45	4500%	1	56	55	5500%
	WB Total	4	120	116	2900%	4	141	137	3425%
TOTAL ENTERING VOLUME		18	2,590	2572	14289%	18	3,401	3383	18794%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,297	1,506			
North Leg	Outbound	1,100	1,585			
North Leg	TOTAL	2,397	3,091	7%	9%	34,613
South Leg	Inbound	1,113	1,614			
South Leg	Outbound	1,320	1,535			
South Leg	TOTAL	2,433	3,149	7%	9%	35,421
East Leg	Inbound	120	141			
East Leg	Outbound	110	190			
East Leg	TOTAL	230	331	7%	10%	3,170
West Leg	Inbound	60	140			
West Leg	Outbound	60	91			
West Leg	TOTAL	120	231	6%	12%	1,895
OVERALL TOTAL		5,180	6,802	7%	9%	75,099

U:\UcJobs\10100-10500\10500\10522\Post Processing\[21 Archibald_Eucalyptus-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION: Euclid Avenue (SR-83) / Merrill Avenue													
AM PEAK HOUR					PM PEAK HOUR								
FUTURE MODEL YEAR:					FUTURE MODEL YEAR:								
2040			1306	1068	2040			1476	1658				
			v	^				v	^				
	448	<	IN =	3143	<	258		375	<	IN =	4164	<	226
	180	>	OUT =	3143	>	136		455	>	OUT =	4164	>	351
			v	^				v	^				
			1491	1399				1780	2006				
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:								
2040			35,607		2040			35,607					
			N					N					
	8,917	W	LEG	E	6,081			8,917	W	+	E	6,081	
			S					S					
			42,118					42,118					

U:\UcJobs_10100-10500_10500\10522\Post Processing\[22 Archibald_Merrill-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Merrill Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		5	5			5	5		
		v	^			v	^		
4 <	IN =	18 <	4	4 <	IN =	18 <	4	4 <	4
4 >	OUT =	18 >	4	4 >	OUT =	18 >	4	4 >	4
		v	^			v	^		
		5	5			5	5		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%	0%			0%	0%		
		v	^			v	^		
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		1305	1065			1475	1655		
		v	^			v	^		
446 <				< 256	366 <				< 226
176 >				> 136	456 >				> 346
		v	^			v	^		
		1485	1395			1775	2005		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		1310	1070		24 YEARS		1480	1660	
		v	^			v	^		
450 <				< 260	370 <				< 230
180 >				> 140	460 >				> 350
		v	^			v	^		
		1490	1400			1780	2010		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
	2040					2040			
		1320	1080			1490	1678		
		v	^			v	^		
450 <	IN =	3170 <	260	372 <	IN =	4200 <	230		
180 >	OUT =	3170 >	140	460 >	OUT =	4200 >	352		
		v	^ *			v	^ *		
		1500	1410			1799	2020		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Euclid Avenue (SR-83) / Merrill Avenue
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	276	275	27500%	1	240	239	23900%
	Through	3	1,012	1,009	33633%	3	1,545	1,542	51400%
	Right	1	88	87	8700%	1	193	192	19200%
	NB Total	5	1,376	1,371	27420%	5	1,978	1,973	39460%
SOUTH BOUND	Left	1	27	26	2600%	1	58	57	5700%
	Through	3	1,236	1,233	41100%	3	1,397	1,394	46467%
	Right	1	87	86	8600%	1	72	71	7100%
	SB Total	5	1,350	1,345	26900%	5	1,527	1,522	30440%
EAST BOUND	Left	1	32	31	3100%	1	90	89	8900%
	Through	2	25	23	1150%	2	101	99	4950%
	Right	1	125	124	12400%	1	273	272	27200%
	EB Total	4	182	178	4450%	4	464	460	11500%
WEST BOUND	Left	1	139	138	13800%	1	129	128	12800%
	Through	2	87	85	4250%	2	60	58	2900%
	Right	1	36	35	3500%	1	43	42	4200%
	WB Total	4	262	258	6450%	4	232	228	5700%
TOTAL ENTERING VOLUME		18	3,170	3152	17511%	18	4,201	4183	23239%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,350	1,527			
North Leg	Outbound	1,080	1,678			
North Leg	TOTAL	2,430	3,205	7%	9%	35,607
South Leg	Inbound	1,376	1,978			
South Leg	Outbound	1,500	1,799			
South Leg	TOTAL	2,876	3,777	7%	9%	42,118
East Leg	Inbound	262	232			
East Leg	Outbound	140	352			
East Leg	TOTAL	402	584	7%	10%	6,081
West Leg	Inbound	182	464			
West Leg	Outbound	450	372			
West Leg	TOTAL	632	836	7%	9%	8,917
OVERALL TOTAL		6,340	8,402	7%	9%	92,723

U:\Jobs\10100-10500\10500\10522\Post Processing\22 Archibald_Merrill-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION:		Archibald Avenue / Limonite Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2035		1978	2420	2911	2891
		v	^	v	^
988	<	IN =	6593	<	1798
932	>	OUT =	6594	>	1755
		v	^	v	^
		1431	1885	2122	1892
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:			
2035		60,359		60,359	
		N		N	
24,634	W	LEG	E	+	E
		S		S	
		42,229		42,229	

U:\UcJobs\10100-10500\10500\10522\Post Processing\[26 Archibald_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION											
AM						PM					
EXISTING COUNT YEAR: 2016						EXISTING COUNT YEAR: 2016					
$\begin{array}{r} 5 \quad 5 \\ v \quad \wedge \\ 4 < IN = 18 < 4 \\ 4 > OUT = 18 > 4 \\ v \quad \wedge \\ 5 \quad 5 \end{array}$						$\begin{array}{r} 5 \quad 5 \\ v \quad \wedge \\ 4 < IN = 18 < 4 \\ 4 > OUT = 18 > 4 \\ v \quad \wedge \\ 5 \quad 5 \end{array}$					
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach						MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					
$\begin{array}{r} MUL \quad MUL \\ v \quad \wedge \\ MUL < \quad < MUL \\ MUL > \quad > MUL \\ v \quad \wedge \\ MUL \quad MUL \end{array}$						$\begin{array}{r} MUL \quad MUL \\ v \quad \wedge \\ MUL < \quad < MUL \\ MUL > \quad > MUL \\ v \quad \wedge \\ MUL \quad MUL \end{array}$					
MINIMUM GROWTH %s 2016 TO 2035						MINIMUM GROWTH %s 2016 TO 2035					
$\begin{array}{r} 0\% \quad 0\% \\ v \quad \wedge \\ 0\% < \quad < 0\% \\ 0\% > \quad > 0\% \\ v \quad \wedge \\ 0\% \quad 0\% \end{array}$						$\begin{array}{r} 0\% \quad 0\% \\ v \quad \wedge \\ 0\% < \quad < 0\% \\ 0\% > \quad > 0\% \\ v \quad \wedge \\ 0\% \quad 0\% \end{array}$					
REFINED GROWTH: 2016 TO 2035						ADJUSTED GROWTH: 2016 TO 2035					
$\begin{array}{r} 1975 \quad 2415 \\ v \quad \wedge \\ 986 < \quad < 1796 \\ 926 > \quad > 1756 \\ v \quad \wedge \\ 1425 \quad 1885 \end{array}$						$\begin{array}{r} 2905 \quad 2885 \\ v \quad \wedge \\ 916 < \quad < 2216 \\ 1066 > \quad > 2156 \\ v \quad \wedge \\ 2115 \quad 1885 \end{array}$					
PRORATED GROWTH: 2016 TO 2035 19 YEARS						PRORATED GROWTH: 2016 TO 2035 19 YEARS					
$\begin{array}{r} 1980 \quad 2420 \\ v \quad \wedge \\ 990 < \quad < 1800 \\ 930 > \quad > 1760 \\ v \quad \wedge \\ 1430 \quad 1890 \end{array}$						$\begin{array}{r} 2910 \quad 2890 \\ v \quad \wedge \\ 920 < \quad < 2220 \\ 1070 > \quad > 2160 \\ v \quad \wedge \\ 2120 \quad 1890 \end{array}$					
NEW PROJECTED VOLUMES: 2035						NEW PROJECTED VOLUMES: 2035					
$\begin{array}{r} 1990 \quad 2430 \\ v \quad \wedge \\ 990 < IN = 6620 < 1800 \\ 930 > OUT = 6620 > 1760 \\ v \quad \wedge \quad * \\ 1440 \quad 1900 \end{array}$						$\begin{array}{r} 2920 \quad 2900 \\ v \quad \wedge \\ 920 < IN = 8110 < 2220 \\ 1070 > OUT = 8110 > 2160 \\ v \quad \wedge \quad * \\ 2130 \quad 1900 \end{array}$					

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Archibald Avenue / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	120	119	11900%	1	82	81	8100%
	Through	3	1,376	1,373	45767%	3	1,439	1,436	47867%
	Right	1	404	403	40300%	1	380	379	37900%
	NB Total	5	1,900	1,895	37900%	5	1,901	1,896	37920%
SOUTH BOUND	Left	1	748	747	74700%	1	1,103	1,102	110200%
	Through	3	1,019	1,016	33867%	3	1,578	1,575	52500%
	Right	1	223	222	22200%	1	237	236	23600%
	SB Total	5	1,990	1,985	39700%	5	2,918	2,913	58260%
EAST BOUND	Left	1	230	229	22900%	1	285	284	28400%
	Through	2	608	606	30300%	2	677	675	33750%
	Right	1	92	91	9100%	1	108	107	10700%
	EB Total	4	930	926	23150%	4	1,070	1,066	26650%
WEST BOUND	Left	1	329	328	32800%	1	444	443	44300%
	Through	2	647	645	32250%	2	601	599	29950%
	Right	1	824	823	82300%	1	1,176	1,175	117500%
	WB Total	4	1,800	1,796	44900%	4	2,221	2,217	55425%
TOTAL ENTERING VOLUME		18	6,620	6602	36678%	18	8,110	8092	44956%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,990	2,918			
North Leg	Outbound	2,430	2,900			
North Leg	TOTAL	4,420	5,818	7%	10%	60,359
South Leg	Inbound	1,900	1,901			
South Leg	Outbound	1,440	2,130			
South Leg	TOTAL	3,340	4,031	8%	10%	42,229
East Leg	Inbound	1,800	2,221			
East Leg	Outbound	1,760	2,160			
East Leg	TOTAL	3,560	4,381	7%	9%	48,416
West Leg	Inbound	930	1,070			
West Leg	Outbound	990	920			
West Leg	TOTAL	1,920	1,990	8%	8%	24,634
OVERALL TOTAL		13,240	16,220	8%	9%	175,638

U:\UcJobs\10100-10500\10500\10522\Post Processing\26 Archibald_Limonite-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific |<==== Job #: 10522
 Scenario: =====> 2040 With Project <==== Analyst: RV
 Existing Conditions Model Run ID: ==> 2008 RivTAM <==== Date: 1/13/17
 Future Conditions Model Run ID: ==> 2035 RivTAM <====

LOCATION:		Archibald Avenue / Schleisman Road			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES:		EXISTING TURNING MOVEMENT VOLUMES:			
2016	161 697 344	2016	103 452 221		
	< v >		< v >		
	322 ^ 93		230 ^ 35		
	513 > 687		1075 > 319		
	123 v 177		464 v 103		
	< ^ >		< ^ >		
4092	102 394 479	4143	168 616 357		
EXISTING MODEL YEAR:		EXISTING MODEL YEAR:			
2012	419 440	2012	482 506		
	v ^		v ^		
	737 < IN = 1677 < 477		510 < IN = 2156 < 377		
	234 > OUT = 1677 > 177		820 > OUT = 2158 > 557		
	v ^		v ^		
	323 547		585 477		
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2035	1322 1505	2035	1903 1840		
	v ^		v ^		
	1228 < IN = 6087 < 1635		1954 < IN = 7710 < 2344		
	1573 > OUT = 6087 > 1937		1770 > OUT = 7710 > 2094		
	v ^		v ^		
	1417 1557		1822 1693		
EXISTING (COUNTED) ADTs BY LEG:		EXISTING (COUNTED) ADTs BY LEG:			
2016	24,971	2016	24,971		
	N		N		
	34,003 W LEG E 22,986		34,003 W + E 22,986		
	S		S		
	25,082		25,082		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2035	37,211	2035	37,211		
	N		N		
	40,332 W LEG E 48,938		40,332 W + E 48,938		
	S		S		
	37,308		37,308		

U:\UcJobs_10100-10500_10500\10522\Post Processing\[27 Archibald_Schleisman.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan (JN 10522)
 Scenario: 2040 With Project

Job #: 10522
 Analyst: RV
 Date: 1/13/17

LOCATION: Archibald Avenue / Schleisman Road

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		1202	809				776	881	
		v	^				v	^	
	950 <	IN =	4092 <	957		590 <	IN =	4143 <	457
	958 >	OUT =	4092 >	1336		1769 >	OUT =	4143 >	1653
		v	^				v	^	
		997	975				1019	1141	
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	ADD <			< ADD		ADD <			< ADD
	ADD >			> ADD		ADD >			> ADD
		v	^				v	^	
		ADD	ADD				ADD	ADD	
MINIMUM GROWTH %s 2012 TO 2035					MINIMUM GROWTH %s 2012 TO 2035				
		0%	0%				0%	0%	
		v	^				v	^	
	0% <			< 0%		0% <			< 0%
	0% >			> 0%		0% >			> 0%
		v	^				v	^	
		0%	0%				0%	0%	
REFINED GROWTH: 2012 TO 2035					ADJUSTED GROWTH: 2012 TO 2035				
		900	1070				1420	1330	
		v	^				v	^	
	490 <			< 1160		1440 <			< 1970
	1340 >			> 1760		950 >			> 1540
		v	^				v	^	
		1090	1010				1240	1220	
PRORATED GROWTH: 2016 TO 2035					PRORATED GROWTH: 2016 TO 2035				
19 YEARS					19 YEARS				
		740	880				1170	1100	
		v	^				v	^	
	400 <			< 960		1190 <			< 1630
	1110 >			> 1450		780 >			> 1270
		v	^				v	^	
		900	830				1020	1010	
NEW PROJECTED VOLUMES: 2035					NEW PROJECTED VOLUMES: 2035				
		1940	1692				1950	1985	
		v	^				v	^	
	1352 <	IN =	7740 <	1920		1784 <	IN =	8740 <	2090
	2070 >	OUT =	7740 >	2794		2550 >	OUT =	8740 >	2927
		v	^	*			v	^	*
		1902	1810				2045	2150	

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\Ucjobs_10100-10500_10500\10522\Post Processing\[27 Archibald_Schleisman.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan (, Job #: 10522
 Scenario: 2040 With Project Analyst: RV
 Date: 1/13/17

LOCATION: Archibald Avenue / Schleisman Road
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	102	99	-3	-3%	168	207	39	23%
	Through	394	736	342	87%	616	1,312	696	113%
	Right	479	978	499	104%	357	632	275	77%
	NB Total	975	1,813	838	86%	1,141	2,151	1,010	89%
SOUTH BOUND	Left	344	652	308	90%	221	681	460	208%
	Through	697	1,142	445	64%	452	1,048	596	132%
	Right	161	145	-16	-10%	103	221	118	115%
	SB Total	1,202	1,939	737	61%	776	1,950	1,174	151%
EAST BOUND	Left	322	668	346	107%	230	415	185	80%
	Through	513	1,164	651	127%	1,075	1,613	538	50%
	Right	123	241	118	96%	464	523	59	13%
	EB Total	958	2,073	1,115	116%	1,769	2,551	782	44%
WEST BOUND	Left	177	519	342	193%	103	474	371	360%
	Through	687	1,108	421	61%	319	1,357	1,038	325%
	Right	93	289	196	211%	35	258	223	637%
	WB Total	957	1,916	959	100%	457	2,089	1,632	357%
TOTAL ENTERING VOLUME		4,092	7,741	3649	89%	4,143	8,741	4598	111%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,939	1,950			
North Leg	Outbound	1,693	1,985			
North Leg	TOTAL	3,632	3,935	10%	11%	37,211
South Leg	Inbound	1,813	2,151			
South Leg	Outbound	1,902	2,045			
South Leg	TOTAL	3,715	4,196	10%	11%	37,308
East Leg	Inbound	1,916	2,089			
East Leg	Outbound	2,794	2,926			
East Leg	TOTAL	4,710	5,015	10%	10%	48,938
West Leg	Inbound	2,073	2,551			
West Leg	Outbound	1,352	1,785			
West Leg	TOTAL	3,425	4,336	8%	11%	40,332
OVERALL TOTAL		15,482	17,482	9%	11%	163,789

U:\UcJobs_10100-10500_10500\10522\Post Processing\[27 Archibald_Schleisman.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION: Harrison Avenue / Limonite Avenue									
AM PEAK HOUR					PM PEAK HOUR				
FUTURE MODEL YEAR:					FUTURE MODEL YEAR:				
2035					2035				
			330	207				311	234
			v	^				v	^
	1798	<	IN =	4050	<	1670		2167	<
	1734	>	OUT =	4050	>	1942		2174	>
			v	^				v	^
			103	316				565	350
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:				
2035					2035				
			6,871				6,871		
			N				N		
	48,076	W	LEG	E	49,085		48,076	W	+
			S				S		E
			7,005				7,005		49,085

U:\UcJobs\10100-10500\10500\10522\Post Processing\[28 Harrison_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Harrison Avenue / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION											
AM						PM					
EXISTING COUNT YEAR: 2016						EXISTING COUNT YEAR: 2016					
$\begin{matrix} & & 3 & & 3 & \\ & & v & & ^ & \\ 4 < & IN = & & & 14 < & 4 \\ 4 > & OUT = & & & 14 > & 4 \\ & & v & & ^ & \\ & & 3 & & 3 & \end{matrix}$						$\begin{matrix} & & 3 & & 3 & \\ & & v & & ^ & \\ 4 < & IN = & & & 14 < & 4 \\ 4 > & OUT = & & & 14 > & 4 \\ & & v & & ^ & \\ & & 3 & & 3 & \end{matrix}$					
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach						MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					
$\begin{matrix} & & MUL & & MUL & \\ & & v & & ^ & \\ MUL < & & & & & < MUL \\ MUL > & & & & & > MUL \\ & & v & & ^ & \\ & & MUL & & MUL & \end{matrix}$						$\begin{matrix} & & MUL & & MUL & \\ & & v & & ^ & \\ MUL < & & & & & < MUL \\ MUL > & & & & & > MUL \\ & & v & & ^ & \\ & & MUL & & MUL & \end{matrix}$					
MINIMUM GROWTH %s 2016 TO 2035						MINIMUM GROWTH %s 2016 TO 2035					
$\begin{matrix} & & 0\% & & 0\% & \\ & & v & & ^ & \\ 0\% < & & & & & < 0\% \\ 0\% > & & & & & > 0\% \\ & & v & & ^ & \\ & & 0\% & & 0\% & \end{matrix}$						$\begin{matrix} & & 0\% & & 0\% & \\ & & v & & ^ & \\ 0\% < & & & & & < 0\% \\ 0\% > & & & & & > 0\% \\ & & v & & ^ & \\ & & 0\% & & 0\% & \end{matrix}$					
REFINED GROWTH: 2016 TO 2035						ADJUSTED GROWTH: 2016 TO 2035					
$\begin{matrix} & & 327 & & 207 & \\ & & v & & ^ & \\ 1796 < & & & & & < 1666 \\ 1726 > & & & & & > 1936 \\ & & v & & ^ & \\ & & 97 & & 317 & \end{matrix}$						$\begin{matrix} & & 307 & & 227 & \\ & & v & & ^ & \\ 2166 < & & & & & < 2286 \\ 2166 > & & & & & > 2156 \\ & & v & & ^ & \\ & & 567 & & 347 & \end{matrix}$					
PRORATED GROWTH: 2016 TO 2035 19 YEARS						PRORATED GROWTH: 2016 TO 2035 19 YEARS					
$\begin{matrix} & & 330 & & 210 & \\ & & v & & ^ & \\ 1800 < & & & & & < 1670 \\ 1730 > & & & & & > 1940 \\ & & v & & ^ & \\ & & 100 & & 320 & \end{matrix}$						$\begin{matrix} & & 310 & & 230 & \\ & & v & & ^ & \\ 2170 < & & & & & < 2290 \\ 2170 > & & & & & > 2160 \\ & & v & & ^ & \\ & & 570 & & 350 & \end{matrix}$					
NEW PROJECTED VOLUMES: 2035						NEW PROJECTED VOLUMES: 2035					
$\begin{matrix} & & 330 & & 210 & \\ & & v & & ^ & \\ 1800 < & IN = & & & 4050 < & 1670 \\ 1730 > & OUT = & & & 4050 > & 1940 \\ & & v & & ^ & * \\ & & 100 & & 320 & \end{matrix}$						$\begin{matrix} & & 310 & & 230 & \\ & & v & & ^ & \\ 2170 < & IN = & & & 5120 < & 2290 \\ 2170 > & OUT = & & & 5130 > & 2160 \\ & & v & & ^ & * \\ & & 570 & & 350 & \end{matrix}$					

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Harrison Avenue / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	119	118	11800%	1	135	134	13400%
	Through	1	57	56	5600%	1	58	57	5700%
	Right	1	144	143	14300%	1	157	156	15600%
	NB Total	3	320	317	10567%	3	350	347	11567%
SOUTH BOUND	Left	1	164	163	16300%	1	109	108	10800%
	Through	1	30	29	2900%	1	109	108	10800%
	Right	1	136	135	13500%	1	93	92	9200%
	SB Total	3	330	327	10900%	3	311	308	10267%
EAST BOUND	Left	1	71	70	7000%	1	78	77	7700%
	Through	2	1,632	1,630	81500%	2	1,894	1,892	94600%
	Right	1	33	32	3200%	1	210	209	20900%
	EB Total	4	1,736	1,732	43300%	4	2,182	2,178	54450%
WEST BOUND	Left	1	38	37	3700%	1	251	250	25000%
	Through	2	1,545	1,543	77150%	2	1,942	1,940	97000%
	Right	1	82	81	8100%	1	93	92	9200%
	WB Total	4	1,665	1,661	41525%	4	2,286	2,282	57050%
TOTAL ENTERING VOLUME		14	4,051	4037	28836%	14	5,129	5115	36536%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	330	311			
North Leg	Outbound	210	229			
North Leg	TOTAL	540	540	8%	8%	6,871
South Leg	Inbound	320	350			
South Leg	Outbound	101	570			
South Leg	TOTAL	421	920	6%	13%	7,005
East Leg	Inbound	1,665	2,286			
East Leg	Outbound	1,940	2,160			
East Leg	TOTAL	3,605	4,446	7%	9%	49,085
West Leg	Inbound	1,736	2,182			
West Leg	Outbound	1,800	2,170			
West Leg	TOTAL	3,536	4,352	7%	9%	48,076
OVERALL TOTAL		8,102	10,258	7%	9%	111,037

U:\UcJobs\10100-10500\10500\10522\Post Processing\28 Harrison_Limonite-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION:		Sumner Avenue / Limonite Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR: 2035		FUTURE MODEL YEAR: 2035	
	4 0		3 155
	v ^		v ^
1670	< IN = 4035 < 1431	2287	< IN = 5369 < 2393
1942	> OUT = 4035 > 1909	2156	> OUT = 5369 > 1899
	v ^		v ^
	456 658		1028 817
REFINED FUTURE ADTs BY LEG: 2035		REFINED FUTURE ADTs BY LEG: 2035	
	574		574
	N		N
49,085	W LEG E 48,155	49,085	W + E 48,155
	S		S
	14,464		14,464

U:\UcJobs\10100-10500\10500\10522\Post Processing\[29 Sumner_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Sumner Avenue / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		3		3			3		3
		v		^			v		^
4 <	IN =	14	<	4	4 <	IN =	14	<	4
4 >	OUT =	14	>	4	4 >	OUT =	14	>	4
		v		^			v		^
		3		3			3		3
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MIN		MIN			MIN		MUL
		v		^			v		^
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s 2016 TO 2035					MINIMUM GROWTH %s 2016 TO 2035				
		0%		0%			0%		0%
		v		^			v		^
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v		^			v		^
		0%		0%			0%		0%
REFINED GROWTH: 2016 TO 2035					ADJUSTED GROWTH: 2016 TO 2035				
		0		0			0		157
		v		^			v		^
1666 <				< 1426	2286 <				< 2386
1936 >				> 1906	2156 >				> 1896
		v		^			v		^
		457		657			1027		817
PRORATED GROWTH: 2016 TO 2035 19 YEARS					PRORATED GROWTH: 2016 TO 2035 19 YEARS				
		0		0			0		160
		v		^			v		^
1670 <				< 1430	2290 <				< 2390
1940 >				> 1910	2160 >				> 1900
		v		^			v		^
		460		660			1030		820
NEW PROJECTED VOLUMES: 2035					NEW PROJECTED VOLUMES: 2035				
		0		0			0		160
		v		^			v		^
1670 <	IN =	4030	<	1430	2290 <	IN =	5370	<	2390
1940 >	OUT =	4040	>	1910	2160 >	OUT =	5380	>	1900
		v		^ *			v		^ *
		460		660			1030		820

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\[29 Sumner_Limonite-SEMI.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Sumner Avenue / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	388	387	38700%	1	422	421	42100%
	Through	1	0	-1	-100%	1	79	78	7800%
	Right	1	276	275	27500%	1	321	320	32000%
	NB Total	3	664	661	22033%	3	822	819	27300%
SOUTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	SB Total	3	0	-3	-100%	3	0	-3	-100%
EAST BOUND	Left	1	0	-1	-100%	1	43	42	4200%
	Through	2	1,634	1,632	81600%	2	1,579	1,577	78850%
	Right	1	295	294	29400%	1	541	540	54000%
	EB Total	4	1,929	1,925	48125%	4	2,163	2,159	53975%
WEST BOUND	Left	1	165	164	16400%	1	489	488	48800%
	Through	2	1,282	1,280	64000%	2	1,868	1,866	93300%
	Right	1	0	-1	-100%	1	39	38	3800%
	WB Total	4	1,447	1,443	36075%	4	2,396	2,392	59800%
TOTAL ENTERING VOLUME		14	4,040	4026	28757%	14	5,381	5367	38336%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	0	161			
North Leg	TOTAL	0	161	0%	28%	574
South Leg	Inbound	664	822			
South Leg	Outbound	460	1,030			
South Leg	TOTAL	1,124	1,852	8%	13%	14,464
East Leg	Inbound	1,447	2,396			
East Leg	Outbound	1,910	1,900			
East Leg	TOTAL	3,357	4,296	7%	9%	48,155
West Leg	Inbound	1,929	2,163			
West Leg	Outbound	1,670	2,290			
West Leg	TOTAL	3,599	4,453	7%	9%	49,085
OVERALL TOTAL		8,080	10,762	7%	10%	112,278

U:\UcJobs\10100-10500\10500\10522\Post Processing\29 Sumner_Limonite-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION:		Scholar Way / Limonite Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:	
2035	86 68	2035	91 97
	v ^		v ^
1431 <	IN = 3374 < 1263	2393 <	IN = 4343 < 2023
1909 >	OUT = 3373 > 1786	1899 >	OUT = 4343 > 1594
	v ^		v ^
	88 116		259 330
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:	
2035	2,294	2035	2,294
	N		N
48,155 W	LEG E 42,913	48,155 W	+ E 42,913
	S		S
	3,893		3,893

U:\UcJobs\10100-10500\10500\10522\Post Processing\[30 Scholar_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Scholar Way / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		3		3			3		3
		v		^			v		^
4 <	IN =	14	<	4	4 <	IN =	14	<	4
4 >	OUT =	14	>	4	4 >	OUT =	14	>	4
		v		^			v		^
		3		3			3		3
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL		MUL			MUL		MUL
		v		^			v		^
MUL <				< MUL	MUL <				< MUL
MUL >				> MUL	MUL >				> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s 2016 TO 2035					MINIMUM GROWTH %s 2016 TO 2035				
		0%		0%			0%		0%
		v		^			v		^
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v		^			v		^
		0%		0%			0%		0%
REFINED GROWTH: 2016 TO 2035					ADJUSTED GROWTH: 2016 TO 2035				
		87		67			87		97
		v		^			v		^
1426 <				< 1256	2386 <				< 2016
1906 >				> 1786	1896 >				> 1586
		v		^			v		^
		87		117			257		327
PRORATED GROWTH: 2016 TO 2035 19 YEARS					PRORATED GROWTH: 2016 TO 2035 19 YEARS				
		90		70			90		100
		v		^			v		^
1430 <				< 1260	2390 <				< 2020
1910 >				> 1790	1900 >				> 1590
		v		^			v		^
		90		120			260		330
NEW PROJECTED VOLUMES: 2035					NEW PROJECTED VOLUMES: 2035				
		90		70			90		100
		v		^			v		^
1430 <	IN =	3380	<	1260	2390 <	IN =	4340	<	2020
1910 >	OUT =	3380	>	1790	1900 >	OUT =	4340	>	1590
		v		^ *			v		^ *
		90		120			260		330

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\30 Scholar_Limonite-SEMI.xls Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Scholar Way / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	78	77	7700%	1	271	270	27000%
	Through	1	9	8	800%	1	19	18	1800%
	Right	1	36	35	3500%	1	50	49	4900%
	NB Total	3	123	120	4000%	3	340	337	11233%
SOUTH BOUND	Left	1	27	26	2600%	1	12	11	1100%
	Through	1	8	7	700%	1	14	13	1300%
	Right	1	57	56	5600%	1	66	65	6500%
	SB Total	3	92	89	2967%	3	92	89	2967%
EAST BOUND	Left	1	45	44	4400%	1	65	64	6400%
	Through	2	1,727	1,725	86250%	2	1,528	1,526	76300%
	Right	1	60	59	5900%	1	197	196	19600%
	EB Total	4	1,832	1,828	45700%	4	1,790	1,786	44650%
WEST BOUND	Left	1	21	20	2000%	1	49	48	4800%
	Through	2	1,295	1,293	64650%	2	2,053	2,051	102550%
	Right	1	16	15	1500%	1	16	15	1500%
	WB Total	4	1,332	1,328	33200%	4	2,118	2,114	52850%
TOTAL ENTERING VOLUME		14	3,379	3365	24036%	14	4,340	4326	30900%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	92	92			
North Leg	Outbound	70	100			
North Leg	TOTAL	162	192	7%	8%	2,294
South Leg	Inbound	123	340			
South Leg	Outbound	89	260			
South Leg	TOTAL	212	600	5%	15%	3,893
East Leg	Inbound	1,332	2,118			
East Leg	Outbound	1,790	1,590			
East Leg	TOTAL	3,122	3,708	7%	9%	42,913
West Leg	Inbound	1,832	1,790			
West Leg	Outbound	1,430	2,390			
West Leg	TOTAL	3,262	4,180	7%	9%	48,155
OVERALL TOTAL		6,758	8,680	7%	9%	97,255

U:\UcJobs\10100-10500\10500\10522\Post Processing\[30 Scholar_Limonite-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION: Hamner Avenue / Ontario Ranch Road														
AM PEAK HOUR					PM PEAK HOUR									
FUTURE MODEL YEAR: 2040					FUTURE MODEL YEAR: 2040									
			632	879				1688	944					
			v	^				v	^					
	575	<	IN =	2667	<	1040		923	<	IN =	4545	<	1267	
	665	>	OUT =	2667	>	900		1168	>	OUT =	4545	>	2022	
			v	^				v	^					
			314	330				655	423					
EXISTING INITIAL % FOR EACH APPROACH					EXISTING INITIAL % FOR EACH APPROACH									
			20%	60%	20%				20%	60%	20%			
			<	v	>				<	v	>			
	25%	^		N		25%		25%	^		N		25%	
	50%	>	W	LEG	E	<	50%	50%	>	W	LEG	E	<	50%
	25%	v		S		25%		25%	v		S		25%	
			<	^	>				<	^	>			
			20%	60%	20%				20%	60%	20%			
EXISTING (COUNTED) ADTs BY LEG:					EXISTING (COUNTED) ADTs BY LEG:									
2016					2016									
			13,542					13,542						
			N					N						
	13,280	W	LEG	E	18,951		13,280	W	+	E	18,951			
			S					S						
			18,039					18,039						
REFINED FUTURE ADTs BY LEG:					REFINED FUTURE ADTs BY LEG:									
2040					2040									
			26,243					26,243						
			N					N						
	20,975	W	LEG	E	31,842		20,975	W	+	E	31,842			
			S					S						
			11,315					11,315						

U:\UcJobs\10100-10500\10500\10522\Post Processing\31 Hamner_Ontario Ranch-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hamner Avenue / Ontario Ranch Road

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION											
AM						PM					
EXISTING COUNT YEAR: 2016						EXISTING COUNT YEAR: 2016					
5 5 v ^ 4 < IN = 18 < 4 4 > OUT = 18 > 4 v ^ 5 5						5 5 v ^ 4 < IN = 18 < 4 4 > OUT = 18 > 4 v ^ 5 5					
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach						MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					
MUL < MUL MUL > < MUL > MUL v ^ MUL MUL						MUL < MUL MUL > < MUL > MUL v ^ MUL MUL					
MINIMUM GROWTH %s 2016 TO 2040 0% 0% v ^ 0% < < 0% 0% > > 0% v ^ -37% -37%						0% 0% v ^ 0% < < 0% 0% > > 0% v ^ -37% -37%					
REFINED GROWTH: 2016 TO 2040 625 875 v ^ 576 < < 1036 666 > > 896 v ^ 305 325						ADJUSTED GROWTH: 2016 TO 2040 1685 935 v ^ 916 < < 1266 1166 > > 2016 v ^ 655 415					
PRORATED GROWTH: 2016 TO 2040 24 YEARS 630 880 v ^ 580 < < 1040 670 > > 900 v ^ 310 330						PRORATED GROWTH: 2016 TO 2040 24 YEARS 1690 940 v ^ 920 < < 1270 1170 > > 2020 v ^ 660 420					
NEW PROJECTED VOLUMES: 2040 640 890 v ^ 580 < IN = 2690 < 1040 670 > OUT = 2690 > 900 v ^ * 320 340						NEW PROJECTED VOLUMES: 2040 1700 952 v ^ 922 < IN = 4570 < 1270 1170 > OUT = 4570 > 2024 v ^ * 671 430					

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\31 Hamner_Ontario Ranch-SEMI.xls Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hamner Avenue / Ontario Ranch Road
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	24	23	2300%	1	36	35	3500%
	Through	3	237	234	7800%	3	257	254	8467%
	Right	1	79	78	7800%	1	137	136	13600%
	NB Total	5	340	335	6700%	5	430	425	8500%
SOUTH BOUND	Left	1	341	340	34000%	1	962	961	96100%
	Through	3	195	192	6400%	3	485	482	16067%
	Right	1	104	103	10300%	1	253	252	25200%
	SB Total	5	640	635	12700%	5	1,700	1,695	33900%
EAST BOUND	Left	1	160	159	15900%	1	193	192	19200%
	Through	2	480	478	23900%	2	925	923	46150%
	Right	1	31	30	3000%	1	52	51	5100%
	EB Total	4	671	667	16675%	4	1,170	1,166	29150%
WEST BOUND	Left	1	94	93	9300%	1	135	134	13400%
	Through	2	452	450	22500%	2	633	631	31550%
	Right	1	493	492	49200%	1	502	501	50100%
	WB Total	4	1,039	1,035	25875%	4	1,270	1,266	31650%
TOTAL ENTERING VOLUME		18	2,690	2672	14844%	18	4,570	4552	25289%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	640	1,700			
North Leg	Outbound	890	952			
North Leg	TOTAL	1,530	2,652	6%	10%	26,243
South Leg	Inbound	340	430			
South Leg	Outbound	320	672			
South Leg	TOTAL	660	1,102	6%	10%	11,315
East Leg	Inbound	1,039	1,270			
East Leg	Outbound	900	2,024			
East Leg	TOTAL	1,939	3,294	6%	10%	31,842
West Leg	Inbound	671	1,170			
West Leg	Outbound	580	922			
West Leg	TOTAL	1,251	2,092	6%	10%	20,975
OVERALL TOTAL		5,380	9,140	6%	10%	90,375

U:\UcJobs_10100-10500_10500\10522\Post Processing\[31 Hamner_Ontario Ranch-SEMI.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION: Archibald Avenue / Bellegrave Avenue															
AM PEAK HOUR					PM PEAK HOUR										
FUTURE MODEL YEAR: 2040					FUTURE MODEL YEAR: 2040										
			590	713				1249	1008						
			v	^				v	^						
	318	<	IN =	2285	<	589		374	<	IN =	3596	<	621		
	242	>	OUT =	2285	>	472		462	>	OUT =	3596	>	790		
			v	^				v	^						
			782	864				1424	1264						
EXISTING INITIAL % FOR EACH APPROACH					EXISTING INITIAL % FOR EACH APPROACH										
			20%	60%	20%				20%	60%	20%				
			<	v	>				<	v	>				
	25%	^		N		^	25%		25%	^		N		^	25%
	50%	>	W	LEG	E	<	50%		50%	>	W	LEG	E	<	50%
	25%	v		S		v	25%		25%	v		S		v	25%
			<	^	>				<	^	>				
			20%	60%	20%				20%	60%	20%				
EXISTING (COUNTED) ADTs BY LEG: 2016					EXISTING (COUNTED) ADTs BY LEG: 2016										
			0					0							
			N					N							
	0	W	LEG	E	0			0	W	+	E	0			
			S					S							
			0					0							
REFINED FUTURE ADTs BY LEG: 2040					REFINED FUTURE ADTs BY LEG: 2040										
			22,505					22,505							
			N					N							
	8,312	W	LEG	E	17,167			8,312	W	+	E	17,167			
			S					S							
			28,600					28,600							

U:\UcJobs\10100-10500\10500\10522\Post Processing\32 Hamner_Bellegrave-SEMI.xls\Input (1)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION:		Hamner Avenue / Limonite Avenue	
AM PEAK HOUR		PM PEAK HOUR	
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:	
2035	1363 1482	2035	2033 1992
	v ^		v ^
1263 <	IN = 5791 < 1543	2023 <	IN = 7613 < 2376
1786 >	OUT = 5792 > 2347	1594 >	OUT = 7614 > 2072
	v ^		v ^
	700 1099		1527 1610
REFINED FUTURE ADTs BY LEG:		REFINED FUTURE ADTs BY LEG:	
2035	36,899	2035	36,899
	N		N
42,913 W	LEG E 54,466	42,913 W	+ E 54,466
	S		S
	23,228		23,228

U:\UcJobs\10100-10500\10500\10522\Post Processing\[33 Hamner_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hamner Avenue / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		4		4			4		4
		v		^			v		^
	4 <	IN =	16 <	4		4 <	IN =	16 <	4
	4 >	OUT =	16 >	4		4 >	OUT =	16 >	4
		v		^			v		^
		4		4			4		4
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach					MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach				
		MUL		MUL			MUL		MUL
		v		^			v		^
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v		^			v		^
		MUL		MUL			MUL		MUL
MINIMUM GROWTH %s 2016 TO 2035					MINIMUM GROWTH %s 2016 TO 2035				
		0%		0%			0%		0%
		v		^			v		^
	0% <			< 0%		0% <			< 0%
	0% >			> 0%		0% >			> 0%
		v		^			v		^
		0%		0%			0%		0%
REFINED GROWTH: 2016 TO 2035					ADJUSTED GROWTH: 2016 TO 2035				
		1356		1476			2026		1986
		v		^			v		^
	1256 <			< 1536		2016 <			< 2376
	1786 >			> 2346		1586 >			> 2066
		v		^			v		^
		696		1096			1526		1606
PRORATED GROWTH: 2016 TO 2035 19 YEARS					PRORATED GROWTH: 2016 TO 2035 19 YEARS				
		1360		1480			2030		1990
		v		^			v		^
	1260 <			< 1540		2020 <			< 2380
	1790 >			> 2350		1590 >			> 2070
		v		^			v		^
		700		1100			1530		1610
NEW PROJECTED VOLUMES: 2035					NEW PROJECTED VOLUMES: 2035				
		1360		1480			2030		1990
		v		^			v		^
	1260 < IN =	5790 <	1540			2020 < IN =	7610 <	2380	
	1790 > OUT =	5790 >	2350			1590 > OUT =	7610 >	2070	
		v		^ *			v		^ *
		700		1100			1530		1610

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs\10100-10500\10500\10522\Post Processing\33 Hamner_Limonite-SEMI.xls] Growth Summary (2)

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: Hamner Avenue / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	126	125	12500%	1	237	236	23600%
	Through	2	657	655	32750%	2	1,010	1,008	50400%
	Right	1	317	316	31600%	1	363	362	36200%
	NB Total	4	1,100	1,096	27400%	4	1,610	1,606	40150%
SOUTH BOUND	Left	1	660	659	65900%	1	633	632	63200%
	Through	2	437	435	21750%	2	983	981	49050%
	Right	1	262	261	26100%	1	413	412	41200%
	SB Total	4	1,359	1,355	33875%	4	2,029	2,025	50625%
EAST BOUND	Left	1	317	316	31600%	1	332	331	33100%
	Through	2	1,373	1,371	68550%	2	1,073	1,071	53550%
	Right	1	101	100	10000%	1	185	184	18400%
	EB Total	4	1,791	1,787	44675%	4	1,590	1,586	39650%
WEST BOUND	Left	1	162	161	16100%	1	362	361	36100%
	Through	2	872	870	43500%	2	1,369	1,367	68350%
	Right	1	506	505	50500%	1	648	647	64700%
	WB Total	4	1,540	1,536	38400%	4	2,379	2,375	59375%
TOTAL ENTERING VOLUME		16	5,790	5774	36088%	16	7,608	7592	47450%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,359	2,029			
North Leg	Outbound	1,480	1,990			
North Leg	TOTAL	2,839	4,019	8%	11%	36,899
South Leg	Inbound	1,100	1,610			
South Leg	Outbound	700	1,530			
South Leg	TOTAL	1,800	3,140	8%	14%	23,228
East Leg	Inbound	1,540	2,379			
East Leg	Outbound	2,350	2,069			
East Leg	TOTAL	3,890	4,448	7%	8%	54,466
West Leg	Inbound	1,791	1,590			
West Leg	Outbound	1,260	2,019			
West Leg	TOTAL	3,051	3,609	7%	8%	42,913
OVERALL TOTAL		11,580	15,216	7%	10%	157,506

U:\UcJobs\10100-10500\10500\10522\Post Processing\33 Hamner_Limonite-SEMI.xls\Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		I-15 Southbound Ramps / Cantu Galleano Ranch Road			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES: 2016		EXISTING TURNING MOVEMENT VOLUMES: 2016			
	455 0 366		487 0 482		
	< v >		< v >		
	0 ^ ^ 64		0 ^ ^ 181		
	546 > < 403		454 > < 243		
	160 v v 0		156 v v 0		
	< ^ >		< ^ >		
	0 0 0		0 0 0		
EXISTING YEAR: 2016		EXISTING MODEL YEAR: 2016			
	821 64		969 181		
	v ^		v ^		
	858 < IN = 1994 < 467		730 < IN = 2003 < 424		
	706 > OUT = 1994 > 912		610 > OUT = 2003 > 936		
	v ^		v ^		
	160 0		156 0		
FUTURE MODEL YEAR: 2040		FUTURE MODEL YEAR: 2040			
	901 94		1007 254		
	v ^		v ^		
	1131 < IN = 2937 < 711		1089 < IN = 2799 < 833		
	1325 > OUT = 2936 > 1355		959 > OUT = 2797 > 1742		
	v ^		v ^		
	356 0		-288 0		
EXISTING (COUNTED) ADTs BY LEG: 2016		EXISTING (COUNTED) ADTs BY LEG: 2016			
	14,652		14,652		
	N		N		
	17,076 W LEG E 17,331		17,076 W + E 17,331		
	S		S		
	1,984		1,984		
REFINED FUTURE ADT'S BY LEG: 2040		REFINED FUTURE ADT'S BY LEG: 2040			
	10,698		10,698		
	N		N		
	31,842 W LEG E 20,640		31,842 W + E 20,640		
	S		S		
	6,274		6,274		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[34 I15SB_Cantu Galleano Ranch.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Southbound Ramps / Cantu Galleano Ranch Road

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		821	64				969	181	
		v	^				v	^	
	858 <	IN =	1994 <	467		730 <	IN =	2003 <	424
	706 >	OUT =	1994 >	912		610 >	OUT =	2003 >	936
		v	^				v	^	
		160	0				156	0	
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v	^				v	^	
		MUL	MUL				MIN	MUL	
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
	2016	TO	2040			2016	TO	2040	
				-27%	-27%				-27%
				v	^				v
	0% <			<	0%		0% <		<
	0% >			>	0%		0% >		>
				v	^				v
				0%	0%				0%
REFINED GROWTH:					ADJUSTED GROWTH:				
	2016	TO	2040			2016	TO	2040	
				79	26				41
				v	^				v
	272 <			<	243		360 <		<
	624 >			>	448		350 >		>
				v	^				v
				200	0				0
PRORATED GROWTH:					PRORATED GROWTH:				
	2016	TO	2040			2016	TO	2040	
	24 YEARS			80	30		24 YEARS		40
				v	^				v
	270 <			<	240		360 <		<
	620 >			>	450		350 >		>
				v	^				v
				200	0				0
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040		900	90			2040	1010
				v	^				v
	1130 <	IN =	2940 <	710		1090 <	IN =	2800 <	830
	1330 >	OUT =	2940 >	1360		960 >	OUT =	3240 >	1740
				v	^				v
				360	0				160

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Southl 2
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	366	389	23	6%	482	776	294	61%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	455	510	55	12%	487	395	-92	-19%
	SB Total	821	899	78	10%	969	1,171	202	21%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	546	971	425	78%	454	964	510	112%
	Right	160	360	200	125%	156	160	4	3%
	EB Total	706	1,331	625	89%	610	1,124	514	84%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	403	620	217	54%	243	695	452	186%
	Right	64	90	26	41%	181	250	69	38%
	WB Total	467	710	243	52%	424	945	521	123%
TOTAL ENTERING VOLUME		1,994	2,940	946	47%	2,003	3,240	1237	62%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	899	1,171			
North Leg	Outbound	90	250			
North Leg	TOTAL	989	1,421	9%	13%	10,698
South Leg	Inbound	0	0			
South Leg	Outbound	360	160			
South Leg	TOTAL	360	160	6%	3%	6,274
East Leg	Inbound	710	945			
East Leg	Outbound	1,360	1,740			
East Leg	TOTAL	2,070	2,685	10%	13%	20,640
West Leg	Inbound	1,331	1,124			
West Leg	Outbound	1,130	1,090			
West Leg	TOTAL	2,461	2,214	8%	7%	31,842
OVERALL TOTAL		5,880	6,480	8%	9%	69,454

U:\UcJobs\10100-10500\10500\10522\Post Processing\34 I15SB_Cantu Galleano Ranch.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year <==== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <====

LOCATION:		I-15 Southbound Ramps / Limonite Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2035	655 0	2035	1001 0		
	v ^		v ^		
1708	< IN = 5932 < 2535	2709	< IN = 6448 < 3116		
2742	> OUT = 5932 > 2380	2331	> OUT = 6448 > 2139		
	v ^		v ^		
	1844 0		1600 0		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2035	10,602	2035	10,602		
	N		N		
62,094	W LEG E 64,997	62,094	W + E 64,997		
	S		S		
	21,382		21,382		

U:\UcJobs\10100-10500\10500\10522\Post Processing\[35 I15SB_Limonite-SEMI.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Southbound Ramps / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		2	0			2	0		
		v	^			v	^		
3 <	IN =	8	<	3	3 <	IN =	8	<	3
3 >	OUT =	8	>	3	3 >	OUT =	8	>	3
		v	^			v	^		
		2	0			2	0		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v	^				v	^	
		MUL	MUL				MUL	MUL	
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2035			2016	TO	2035		
		0%	0%				0%	0%	
		v	^				v	^	
0% <				< 0%	0% <				< 0%
0% >				> 0%	0% >				> 0%
		v	^				v	^	
		0%	0%				0%	0%	
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2035			2016	TO	2035		
		658	0				998	0	
		v	^				v	^	
1707 <				< 2537	2707 <				< 3117
2737 >				> 2377	2327 >				> 2137
		v	^				v	^	
		1838	0				1598	0	
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2035			2016	TO	2035		
19 YEARS		660	0		19 YEARS		1000	0	
		v	^				v	^	
1710 <				< 2540	2710 <				< 3120
2740 >				> 2380	2330 >				> 2140
		v	^				v	^	
		1840	0				1600	0	
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2035					2035		
		660	0				1000	0	
		v	^				v	^	
1713 <	IN =	5940	<	2540	2710 <	IN =	6450	<	3120
2740 >	OUT =	5940	>	2384	2330 >	OUT =	6450	>	2140
		v	^	*			v	^	*
		1843	0				1600	0	

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Southbound Ramps / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	1	424	423	42300%	1	497	496	49600%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	237	236	23600%	1	503	502	50200%
	SB Total	2	661	659	32950%	2	1,000	998	49900%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	1,960	1,958	97900%	2	1,643	1,641	82050%
	Right	1	786	785	78500%	1	687	686	68600%
	EB Total	3	2,746	2,743	91433%	3	2,330	2,327	77567%
WEST BOUND	Left	1	1,057	1,056	105600%	1	913	912	91200%
	Through	2	1,476	1,474	73700%	2	2,207	2,205	110250%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	3	2,533	2,530	84333%	3	3,120	3,117	103900%
TOTAL ENTERING VOLUME		8	5,940	5932	74150%	8	6,450	6442	80525%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	661	1,000			
North Leg	Outbound	0	0			
North Leg	TOTAL	661	1,000	6%	9%	10,602
South Leg	Inbound	0	0			
South Leg	Outbound	1,843	1,600			
South Leg	TOTAL	1,843	1,600	9%	7%	21,382
East Leg	Inbound	2,533	3,120			
East Leg	Outbound	2,384	2,140			
East Leg	TOTAL	4,917	5,260	8%	8%	64,997
West Leg	Inbound	2,746	2,330			
West Leg	Outbound	1,713	2,710			
West Leg	TOTAL	4,459	5,040	7%	8%	62,094
OVERALL TOTAL		11,880	12,900	7%	8%	159,075

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INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <==== Job #: 10522
 Scenario: =====> Horizon Year (Post-2040) <==== Analyst: RV
 Existing Conditions Model Run ID: ==> SBTAM 2012 <==== Date: 1/12/17
 Future Conditions Model Run ID: ==> SBTAM 2040 <====

LOCATION:		I-15 Northbound Ramps / Cantu Galleano Ranch Road			
AM PEAK HOUR		PM PEAK HOUR			
EXISTING TURNING MOVEMENT VOLUMES: 2016		EXISTING TURNING MOVEMENT VOLUMES: 2016			
0 0 0 < v > 0 ^ ^ 0 402 > < 280 510 v v 380 < ^ > 188 0 160		0 0 0 < v > 0 ^ ^ 0 477 > < 259 459 v v 291 < ^ > 164 0 120			
EXISTING YEAR: 2016		EXISTING MODEL YEAR: 2016			
0 0 v ^ 468 < IN = 1920 < 660 912 > OUT = 1920 > 562 v ^ 890 348		0 0 v ^ 423 < IN = 1770 < 550 936 > OUT = 1770 > 597 v ^ 750 284			
FUTURE MODEL YEAR: 2040		FUTURE MODEL YEAR: 2040			
0 0 v ^ 712 < IN = 2575 < 848 1355 > OUT = 2575 > 627 v ^ 1236 372		0 0 v ^ 832 < IN = 3089 < 856 1742 > OUT = 3091 > 903 v ^ 1356 491			
EXISTING (COUNTED) ADTs BY LEG: 2016		EXISTING (COUNTED) ADTs BY LEG: 2016			
0 N 17,331 W LEG E 14,620 S 13,185		0 N 17,331 W + E 14,620 S 13,185			
REFINED FUTURE ADT'S BY LEG: 2040		REFINED FUTURE ADT'S BY LEG: 2040			
0 N 20,640 W LEG E 9,781 S 15,592		0 N 20,640 W + E 9,781 S 15,592			

U:\UcJobs\10100-10500\10500\10522\Post Processing\[36 I15NB_Cantu Galleano Ranch.xls]Input (1)

Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Northbound Ramps / Cantu Galleano Ranch Road

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		0	0			0	0		
		v	^			v	^		
468 <	IN =	1920 <	660		423 <	IN =	1770 <	550	
912 >	OUT =	1920 >	562		936 >	OUT =	1770 >	597	
		v	^			v	^		
		890	348			750	284		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <			< MUL		MUL <			< MUL
	MUL >			> MUL		MUL >			> MUL
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2040			2016	TO	2040		
		0%	0%				0%	0%	
		v	^				v	^	
0% <				< -33%	0% <				< -33%
0% >				> -33%	0% >				> -33%
		v	^				v	^	
		0%	0%				0%	0%	
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2040			2016	TO	2040		
		0	0				0	0	
		v	^				v	^	
242 <				< 190	407 <				< 310
448 >				> 68	804 >				> 303
		v	^				v	^	
		350	22				610	206	
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2040			2016	TO	2040		
24 YEARS		0	0		24 YEARS		0	0	
		v	^				v	^	
240 <				< 190	410 <				< 310
450 >				> 70	800 >				> 300
		v	^				v	^	
		350	20				610	210	
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2040					2040		
		0	0				0	0	
		v	^				v	^	
710 <	IN =	2580 <	850		830 <	IN =	3090 <	860	
1360 >	OUT =	2580 >	630		1740 >	OUT =	3090 >	900	
		v	^ *				v	^ *	
		1240	370				1360	490	

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year (Post-2040)

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Northl 2
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	188	258	70	37%	164	352	188	115%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	160	112	-48	-30%	120	138	18	15%
	NB Total	348	370	22	6%	284	490	206	73%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	402	518	116	29%	477	762	285	60%
	Right	510	841	331	65%	459	977	518	113%
	EB Total	912	1,359	447	49%	936	1,739	803	86%
WEST BOUND	Left	380	399	19	5%	291	383	92	32%
	Through	280	452	172	61%	259	478	219	85%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	660	851	191	29%	550	861	311	57%
TOTAL ENTERING VOLUME		1,920	2,580	660	34%	1,770	3,090	1320	75%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	-
South Leg	Inbound	370	490			
South Leg	Outbound	1,240	1,360			
South Leg	TOTAL	1,610	1,850	10%	12%	15,592
East Leg	Inbound	851	861			
East Leg	Outbound	630	900			
East Leg	TOTAL	1,481	1,761	15%	18%	9,781
West Leg	Inbound	1,359	1,739			
West Leg	Outbound	710	830			
West Leg	TOTAL	2,069	2,569	10%	12%	20,640
OVERALL TOTAL		5,160	6,180	11%	13%	46,013

U:\UcJobs\10100-10500\10500\10522\Post Processing\36 I15NB_Cantu Galleano Ranch.xls]Output (3)

INPUT DATA

Project: =====> Colony Commerce Center East Specific Plan <=== Job #: 10522
 Scenario: =====> Horizon Year <=== Analyst: RV
 Existing Conditions Model Run ID: ==> RivTAM 2008 <=== Date: 1/12/17
 Future Conditions Model Run ID: ==> RivTAM 2035 <===

LOCATION:		I-15 Northbound Ramps / Limonite Avenue			
AM PEAK HOUR		PM PEAK HOUR			
FUTURE MODEL YEAR:		FUTURE MODEL YEAR:			
2035	0 803	2035	0 715		
	v ^		v ^		
2535	< IN = 5988 < 2362	3116	< IN = 6656 < 3014		
2380	> OUT = 5989 > 2651	2139	> OUT = 6656 > 2825		
	v ^		v ^		
	0 1246		0 1503		
REFINED FUTURE ADT'S BY LEG:		REFINED FUTURE ADT'S BY LEG:			
2035	8,930	2035	8,930		
	N		N		
64,997	W LEG E 67,899	64,997	W + E 67,899		
	S		S		
	19,142		19,142		

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Growth Calculations

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Northbound Ramps / Limonite Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION									
AM					PM				
EXISTING COUNT YEAR: 2016					EXISTING COUNT YEAR: 2016				
		0	2			0	2		
		v	^			v	^		
3 <	IN =	8 <	3	3 <	IN =	8 <	3	3 <	3
3 >	OUT =	8 >	3	3 >	OUT =	8 >	3	3 >	3
		v	^			v	^		
		0	2			0	2		
GROWTH CALCULATION DECISION RULE					GROWTH CALCULATION DECISION RULE				
MIN = Minimum Count Growth Approach					MIN = Minimum Count Growth Approach				
ADD = Additive (Growth Increment) Approach					ADD = Additive (Growth Increment) Approach				
MUL = Multiplicative (Ratio) Approach					MUL = Multiplicative (Ratio) Approach				
	MUL <		< MUL		MUL <		< MUL		
	MUL >		> MUL		MUL >		> MUL		
		v	^			v	^		
		MUL	MUL			MUL	MUL		
MINIMUM GROWTH %s					MINIMUM GROWTH %s				
2016	TO	2035		2016	TO	2035			
		-7%	-7%			-7%	-7%		
		v	^			v	^		
0% <			< 0%	0% <			< 0%		
0% >			> 0%	0% >			> 0%		
		v	^			v	^		
		0%	0%			0%	0%		
REFINED GROWTH:					ADJUSTED GROWTH:				
2016	TO	2035		2016	TO	2035			
		0	798			0	718		
		v	^			v	^		
2537 <			< 2357	3117 <			< 3007		
2377 >			> 2647	2137 >			> 2827		
		v	^			v	^		
		0	1248			0	1498		
PRORATED GROWTH:					PRORATED GROWTH:				
2016	TO	2035		2016	TO	2035			
19 YEARS		0	800	19 YEARS		0	720		
		v	^			v	^		
2540 <			< 2360	3120 <			< 3010		
2380 >			> 2650	2140 >			> 2830		
		v	^			v	^		
		0	1250			0	1500		
NEW PROJECTED VOLUMES:					NEW PROJECTED VOLUMES:				
		2035				2035			
		0	800			0	720		
		v	^			v	^		
2540 <	IN =	5990 <	2360	3120 <	IN =	6650 <	3010		
2380 >	OUT =	5990 >	2650	2140 >	OUT =	6670 >	2830		
		v	^ *			v	^ *		
		0	1250			0	1500		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

Project: Colony Commerce Center East Specific Plan
 Scenario: Horizon Year

Job #: 10522
 Analyst: RV
 Date: 1/12/17

LOCATION: I-15 Northbound Ramps / Limonite Avenue
 FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	596	595	59500%	1	597	596	59600%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	654	653	65300%	1	910	909	90900%
	NB Total	2	1,250	1,248	62400%	2	1,507	1,505	75250%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	1	387	386	38600%	1	240	239	23900%
	Through	2	1,996	1,994	99700%	2	1,920	1,918	95900%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	3	2,383	2,380	79333%	3	2,160	2,157	71900%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	1,944	1,942	97100%	2	2,523	2,521	126050%
	Right	1	413	412	41200%	1	480	479	47900%
	WB Total	3	2,357	2,354	78467%	3	3,003	3,000	100000%
TOTAL ENTERING VOLUME		8	5,990	5982	74775%	8	6,670	6662	83275%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	800	720			
North Leg	TOTAL	800	720	9%	8%	8,930
South Leg	Inbound	1,250	1,507			
South Leg	Outbound	0	0			
South Leg	TOTAL	1,250	1,507	7%	8%	19,142
East Leg	Inbound	2,357	3,003			
East Leg	Outbound	2,650	2,830			
East Leg	TOTAL	5,007	5,833	7%	9%	67,899
West Leg	Inbound	2,383	2,160			
West Leg	Outbound	2,540	3,120			
West Leg	TOTAL	4,923	5,280	8%	8%	64,997
OVERALL TOTAL		11,980	13,340	7%	8%	160,968

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APPENDIX 5.1:

E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	8	6	171	46	19	968	130	182	963
Future Volume (vph)	8	6	171	46	19	968	130	182	963
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

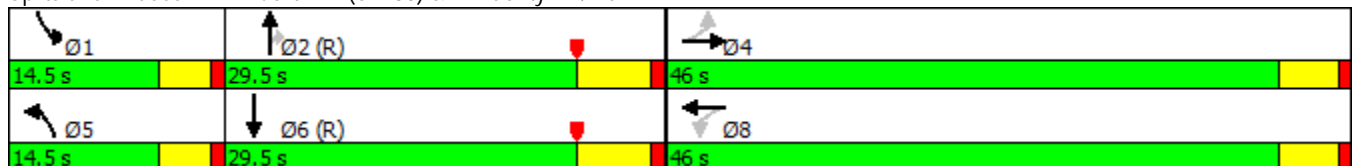
Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow




















Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	171	46	198	19	968	130	182	963	42
Future Volume (veh/h)	8	6	4	171	46	198	19	968	130	182	963	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	8	6	3	178	48	160	20	1008	109	190	1003	41
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	208	148	64	249	61	178	71	1476	660	180	1671	68
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.04	0.43	0.43	0.11	0.50	0.50
Sat Flow, veh/h	524	519	224	669	212	624	1619	3420	1530	1619	3349	137
Grp Volume(v), veh/h	17	0	0	386	0	0	20	1008	109	190	512	532
Grp Sat Flow(s),veh/h/ln	1267	0	0	1506	0	0	1619	1710	1530	1619	1710	1776
Q Serve(g_s), s	0.0	0.0	0.0	21.3	0.0	0.0	1.1	21.4	3.9	10.0	19.3	19.3
Cycle Q Clear(g_c), s	0.6	0.0	0.0	22.2	0.0	0.0	1.1	21.4	3.9	10.0	19.3	19.3
Prop In Lane	0.47		0.18	0.46		0.41	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	420	0	0	488	0	0	71	1476	660	180	853	886
V/C Ratio(X)	0.04	0.00	0.00	0.79	0.00	0.00	0.28	0.68	0.17	1.06	0.60	0.60
Avail Cap(c_a), veh/h	661	0	0	743	0	0	180	1476	660	180	853	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	30.9	0.0	0.0	41.7	20.6	15.7	40.0	16.1	16.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	0.0	0.4	1.3	0.3	82.7	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.4	0.0	0.0	0.5	10.3	1.7	8.6	9.7	10.0
LnGrp Delay(d),s/veh	23.2	0.0	0.0	32.5	0.0	0.0	42.1	21.9	15.9	122.8	19.2	19.1
LnGrp LOS	C			C			D	C	B	F	B	B
Approach Vol, veh/h		17			386			1137			1234	
Approach Delay, s/veh		23.2			32.5			21.7			35.1	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	44.8		30.7	8.4	50.9		30.7				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	23.4		2.6	3.1	21.3		24.2				
Green Ext Time (p_c), s	0.0	0.1		1.5	0.0	1.9		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			29.2									
HCM 2010 LOS			C									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

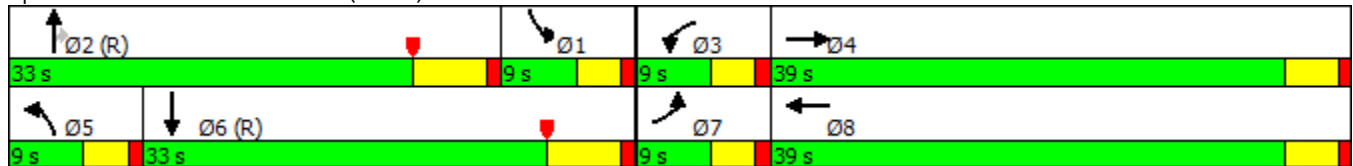


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	136	221	28	637	98	680	24	146	602
Future Volume (vph)	136	221	28	637	98	680	24	146	602
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 82 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated


























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

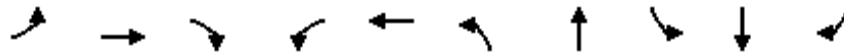
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	136	221	25	28	637	253	98	680	24	146	602	313
Future Volume (veh/h)	136	221	25	28	637	253	98	680	24	146	602	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	139	226	24	29	650	236	100	694	16	149	614	281
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	1048	110	46	759	275	90	829	371	268	852	389
Arrive On Green	0.06	0.34	0.34	0.03	0.31	0.31	0.06	0.24	0.24	0.17	0.37	0.37
Sat Flow, veh/h	1619	3124	328	1619	2460	893	1619	3420	1530	1619	2272	1039
Grp Volume(v), veh/h	139	123	127	29	452	434	100	694	16	149	462	433
Grp Sat Flow(s),veh/h/ln	1619	1710	1742	1619	1710	1642	1619	1710	1530	1619	1710	1601
Q Serve(g_s), s	5.0	4.6	4.7	1.6	22.3	22.4	5.0	17.4	0.6	7.6	20.8	20.9
Cycle Q Clear(g_c), s	5.0	4.6	4.7	1.6	22.3	22.4	5.0	17.4	0.6	7.6	20.8	20.9
Prop In Lane	1.00		0.19	1.00		0.54	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	90	574	584	46	528	507	90	829	371	268	641	600
V/C Ratio(X)	1.55	0.21	0.22	0.63	0.86	0.86	1.11	0.84	0.04	0.56	0.72	0.72
Avail Cap(c_a), veh/h	90	656	668	90	656	630	90	1026	459	268	641	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	0.73	0.73	0.73
Uniform Delay (d), s/veh	42.5	21.4	21.4	43.2	29.2	29.2	42.5	32.4	17.4	34.5	24.1	24.1
Incr Delay (d2), s/veh	292.9	0.2	0.2	5.0	7.8	8.1	120.0	8.4	0.2	1.1	5.1	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	2.2	2.3	0.8	11.7	11.3	5.2	9.2	0.3	3.5	10.7	10.1
LnGrp Delay(d),s/veh	335.4	21.6	21.6	48.3	37.0	37.4	162.6	40.8	17.5	35.6	29.2	29.6
LnGrp LOS	F	C	C	D	D	D	F	D	B	D	C	C
Approach Vol, veh/h		389			915			810			1044	
Approach Delay, s/veh		133.7			37.5			55.3			30.3	
Approach LOS		F			D			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.9	27.8	6.6	34.7	9.0	39.7	9.0	32.3				
Change Period (Y+Rc), s	6.0	* 6	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	* 27	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	9.6	19.4	3.6	6.7	7.0	22.9	7.0	24.4				
Green Ext Time (p_c), s	0.0	2.5	0.0	4.7	0.0	2.0	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				51.6								
HCM 2010 LOS				D								
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

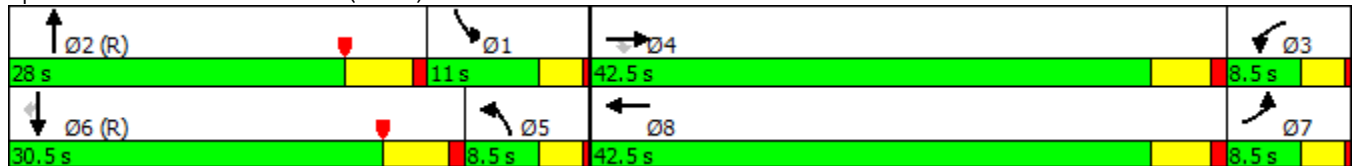


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↖	↑↑	↗
Traffic Volume (vph)	66	18	24	178	368	29	539	38	512	75
Future Volume (vph)	66	18	24	178	368	29	539	38	512	75
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



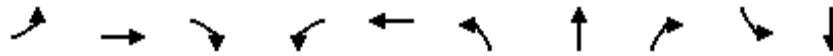
HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	18	24	178	368	170	29	539	12	38	512	75
Future Volume (veh/h)	66	18	24	178	368	170	29	539	12	38	512	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	19	24	189	391	168	31	573	12	40	545	71
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	87	108	92	561	422	181	328	681	14	324	670	300
Arrive On Green	0.05	0.06	0.06	0.35	0.35	0.35	0.07	0.07	0.07	0.07	0.06	0.06
Sat Flow, veh/h	1619	1800	1522	1619	1196	514	1619	3426	72	1619	3420	1530
Grp Volume(v), veh/h	70	19	24	189	0	559	31	286	299	40	545	71
Grp Sat Flow(s),veh/h/ln	1619	1800	1522	1619	0	1709	1619	1710	1787	1619	1710	1530
Q Serve(g_s), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	14.9	14.9	2.1	14.2	4.0
Cycle Q Clear(g_c), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	14.9	14.9	2.1	14.2	4.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	87	108	92	561	0	603	328	340	355	324	670	300
V/C Ratio(X)	0.81	0.18	0.26	0.34	0.00	0.93	0.09	0.84	0.84	0.12	0.81	0.24
Avail Cap(c_a), veh/h	90	750	634	561	0	712	328	428	447	324	950	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.70	0.70	0.70	0.43	0.43	0.43
Uniform Delay (d), s/veh	42.1	40.2	40.4	21.8	0.0	28.0	34.2	40.6	40.7	34.6	40.5	35.7
Incr Delay (d2), s/veh	35.9	0.3	0.6	0.1	0.0	15.5	0.0	16.1	15.6	0.0	4.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.5	0.6	3.5	0.0	15.9	0.7	8.6	8.9	0.9	7.2	1.7
LnGrp Delay(d),s/veh	78.1	40.5	40.9	21.9	0.0	43.5	34.3	56.8	56.3	34.6	45.2	36.5
LnGrp LOS	E	D	D	C		D	C	E	E	C	D	D
Approach Vol, veh/h		113			748			616			656	
Approach Delay, s/veh		63.9			38.0			55.4			43.6	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.5	23.4	34.7	10.4	21.8	23.1	8.3	36.8				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	4.1	16.9	9.8	3.4	3.6	16.2	5.8	30.3				
Green Ext Time (p_c), s	0.0	1.0	0.0	0.1	0.0	1.5	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			46.1									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

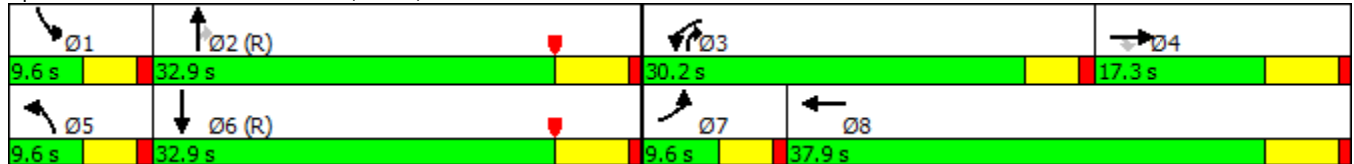


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	5	210	32	852	160	56	596	482	56	637
Future Volume (vph)	5	210	32	852	160	56	596	482	56	637
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

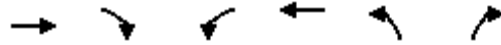
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	210	32	852	160	57	56	596	482	56	637	14
Future Volume (veh/h)	5	210	32	852	160	57	56	596	482	56	637	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	212	0	861	162	43	57	602	309	57	643	9
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	228	194	841	553	147	70	1068	902	70	1078	15
Arrive On Green	0.01	0.13	0.00	0.28	0.40	0.40	0.04	0.31	0.31	0.09	0.62	0.62
Sat Flow, veh/h	1619	1800	1530	2956	1368	363	1619	3420	1496	1619	3452	48
Grp Volume(v), veh/h	5	212	0	861	0	205	57	602	309	57	318	334
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1731	1619	1710	1496	1619	1710	1790
Q Serve(g_s), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	13.2	9.4	3.1	10.0	10.0
Cycle Q Clear(g_c), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	13.2	9.4	3.1	10.0	10.0
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	11	228	194	841	0	700	70	1068	902	70	534	559
V/C Ratio(X)	0.47	0.93	0.00	1.02	0.00	0.29	0.81	0.56	0.34	0.82	0.60	0.60
Avail Cap(c_a), veh/h	90	228	194	841	0	700	90	1068	902	90	534	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.66	0.66	0.66	0.91	0.91	0.91
Uniform Delay (d), s/veh	44.6	38.9	0.0	32.2	0.0	18.1	42.7	25.8	9.2	40.8	13.5	13.5
Incr Delay (d2), s/veh	11.7	41.1	0.0	37.3	0.0	0.3	19.3	1.4	0.7	25.7	4.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	0.0	14.7	0.0	3.5	1.8	6.4	4.1	1.9	5.2	5.5
LnGrp Delay(d),s/veh	56.2	80.0	0.0	69.5	0.0	18.4	62.0	27.2	9.9	66.5	17.9	17.7
LnGrp LOS	E	E		F		B	E	C	A	E	B	B
Approach Vol, veh/h		217			1066			968			709	
Approach Delay, s/veh		79.4			59.6			23.8			21.7	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	34.0	30.2	17.3	8.5	34.0	5.2	42.3				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	5.1	15.2	27.6	12.5	5.1	12.0	2.3	9.2				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	4.5	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.3									
HCM 2010 LOS			D									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017

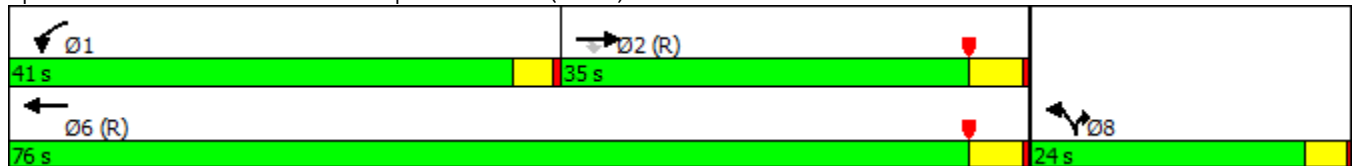


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	487	291	558	954	70	681
Future Volume (vph)	487	291	558	954	70	681
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	35.0	35.0	41.0	76.0	24.0	24.0
Total Split (%)	35.0%	35.0%	41.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 64 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

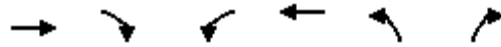
Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	487	291	558	954	70	681		
Future Volume (veh/h)	487	291	558	954	70	681		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	507	0	581	994	73	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1644	736	607	2975	166	76		
Arrive On Green	0.16	0.00	0.35	0.87	0.05	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	507	0	581	994	73	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	13.1	0.0	33.1	5.3	2.1	0.0		
Cycle Q Clear(g_c), s	13.1	0.0	33.1	5.3	2.1	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1644	736	607	2975	166	76		
V/C Ratio(X)	0.31	0.00	0.96	0.33	0.44	0.00		
Avail Cap(c_a), veh/h	1644	736	643	2975	682	314		
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.51	0.51	1.00	0.00		
Uniform Delay (d), s/veh	27.4	0.0	31.5	1.2	46.1	0.0		
Incr Delay (d2), s/veh	0.5	0.0	15.4	0.2	1.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.3	0.0	18.3	2.4	1.0	0.0		
LnGrp Delay(d),s/veh	27.8	0.0	46.9	1.3	48.0	0.0		
LnGrp LOS	C		D	A	D			
Approach Vol, veh/h	507			1575	73			
Approach Delay, s/veh	27.8			18.2	48.0			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	38.9	52.6				91.5		8.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	37.5	30.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	35.1	15.1				7.3		4.1
Green Ext Time (p_c), s	0.3	7.2				10.6		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			21.5					
HCM 2010 LOS			C					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

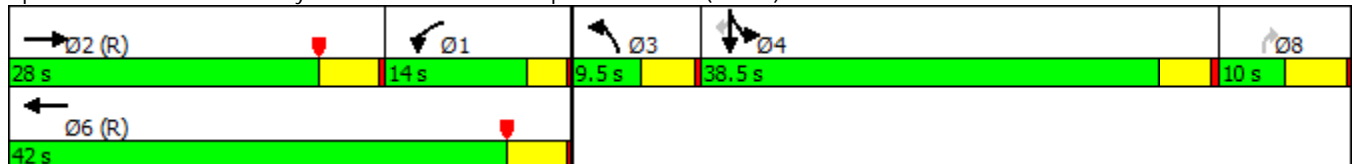


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	749	385	207	60	291	259	20	35
Future Volume (vph)	749	385	207	60	291	259	20	35
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	28.0	14.0	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	28.0%	14.0%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Future Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	823	18	423	227	0	66	0	320	301	0	38
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	787	17	820	2690	0	0	0	0	384	0	178
Arrive On Green	0.00	0.23	0.23	0.85	1.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	0	3510	75	1619	3510	0		0		3238	0	1506
Grp Volume(v), veh/h	0	411	430	423	227	0		0.0		301	0	38
Grp Sat Flow(s),veh/h/ln	0	1710	1785	1619	1710	0				1619	0	1506
Q Serve(g_s), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Cycle Q Clear(g_c), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Prop In Lane	0.00		0.04	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	393	410	820	2690	0				384	0	178
V/C Ratio(X)	0.00	1.05	1.05	0.52	0.08	0.00				0.78	0.00	0.21
Avail Cap(c_a), veh/h	0	393	410	820	2690	0				1101	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.5	4.4	0.0	0.0				42.8	0.0	39.9
Incr Delay (d2), s/veh	0.0	58.0	57.1	0.3	0.1	0.0				2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.1	17.8	3.0	0.0	0.0				4.2	0.0	1.0
LnGrp Delay(d),s/veh	0.0	96.5	95.6	4.6	0.1	0.0				45.5	0.0	40.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		841			650						339	
Approach Delay, s/veh		96.0			3.0						44.9	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.7	28.0		16.3		83.7						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.5	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	9.1	25.0		11.0		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.8		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay				53.5								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	23.1
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	55	183	0	359	203	0	96	100
Future Vol, veh/h	0	55	183	0	359	203	0	96	100
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	64	213	0	417	236	0	112	116
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	12.6	31.3	12.5
HCM LOS	B	D	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	0%	49%
Vol Thru, %	77%	64%	0%
Vol Right, %	0%	36%	51%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	238	562	196
LT Vol	55	0	96
Through Vol	183	359	0
RT Vol	0	203	100
Lane Flow Rate	277	653	228
Geometry Grp	1	1	1
Degree of Util (X)	0.423	0.872	0.375
Departure Headway (Hd)	5.507	4.806	5.918
Convergence, Y/N	Yes	Yes	Yes
Cap	653	752	606
Service Time	3.552	2.84	3.965
HCM Lane V/C Ratio	0.424	0.868	0.376
HCM Control Delay	12.6	31.3	12.5
HCM Lane LOS	B	D	B
HCM 95th-tile Q	2.1	10.7	1.7

Intersection

Int Delay, s/veh 6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	244	74	55	560	133	70
Future Vol, veh/h	244	74	55	560	133	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	268	81	60	615	146	77

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	268
Stage 1	-	-	268
Stage 2	-	-	736
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1307
Stage 1	-	-	782
Stage 2	-	-	477
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1307
Mov Cap-2 Maneuver	-	-	273
Stage 1	-	-	782
Stage 2	-	-	455

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	31.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	352	-	-	1307	-
HCM Lane V/C Ratio	0.634	-	-	0.046	-
HCM Control Delay (s)	31.3	-	-	7.9	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.1	-	-	0.1	-

Intersection

Intersection Delay, s/veh 101.6

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↑						↓						
Traffic Vol, veh/h	0	0	0	324	0	0	0	0	0	823	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	324	0	0	0	0	0	823	0	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	348	0	0	0	0	0	885	0	0	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	14.3	136
HCM LOS	B	F

Lane	NBLn1	EBLn1
Vol Left, %	100%	0%
Vol Thru, %	0%	0%
Vol Right, %	0%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	823	324
LT Vol	823	0
Through Vol	0	0
RT Vol	0	324
Lane Flow Rate	885	348
Geometry Grp	1	1
Degree of Util (X)	1.235	0.502
Departure Headway (Hd)	5.022	5.714
Convergence, Y/N	Yes	Yes
Cap	717	634
Service Time	3.089	3.714
HCM Lane V/C Ratio	1.234	0.549
HCM Control Delay	136	14.3
HCM Lane LOS	F	B
HCM 95th-tile Q	31.3	2.8

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

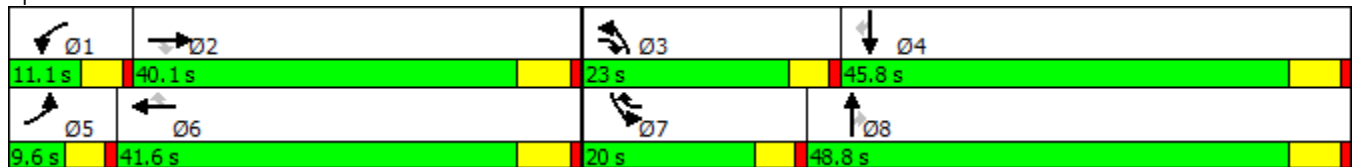


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	9	485	290	65	970	391	429	312	44	139	119	14
Future Volume (vph)	9	485	290	65	970	391	429	312	44	139	119	14
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
 11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	485	290	65	970	391	429	312	44	139	119	14
Future Volume (veh/h)	9	485	290	65	970	391	429	312	44	139	119	14
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	10	527	303	71	1054	392	466	339	38	151	129	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1287	849	148	1415	747	543	807	357	220	433	194
Arrive On Green	0.01	0.38	0.38	0.05	0.41	0.41	0.18	0.24	0.24	0.07	0.13	0.13
Sat Flow, veh/h	2956	3420	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	10	527	303	71	1054	392	466	339	38	151	129	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.3	9.0	8.7	1.8	20.6	13.9	12.1	6.6	1.6	3.9	2.7	0.6
Cycle Q Clear(g_c), s	0.3	9.0	8.7	1.8	20.6	13.9	12.1	6.6	1.6	3.9	2.7	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	1287	849	148	1415	747	543	807	357	220	433	194
V/C Ratio(X)	0.27	0.41	0.36	0.48	0.74	0.52	0.86	0.42	0.11	0.69	0.30	0.07
Avail Cap(c_a), veh/h	187	1485	936	243	1550	807	689	1862	822	576	1732	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	18.2	9.6	36.5	19.6	13.9	31.2	25.6	23.6	35.7	31.3	30.4
Incr Delay (d2), s/veh	1.5	0.2	0.3	0.9	1.8	0.6	7.3	0.3	0.1	1.4	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.3	3.7	0.8	10.0	5.9	5.5	3.1	0.7	1.7	1.3	0.3
LnGrp Delay(d),s/veh	40.1	18.4	9.8	37.4	21.4	14.5	38.5	25.9	23.8	37.1	31.7	30.6
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		840			1517			843			294	
Approach Delay, s/veh		15.5			20.4			32.8			34.4	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	35.5	19.1	15.8	5.6	38.5	10.5	24.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	3.8	11.0	14.1	4.7	2.3	22.6	5.9	8.6				
Green Ext Time (p_c), s	0.0	15.5	0.5	3.4	0.0	10.1	0.2	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	284	29	0	609	0	12
Future Vol, veh/h	284	29	0	609	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	309	32	0	662	0	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	324
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	722
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	722
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	722	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-
HCM Control Delay (s)	10.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Timings
13: Driveway 2 & Merrill Av.

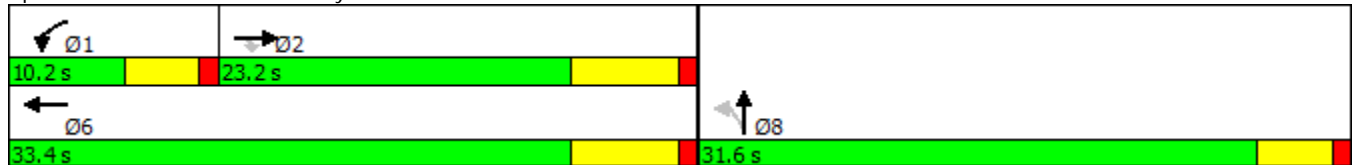


Lane Group	EBT	EBR	WBL	WBT	NBT
Lane Configurations	↑↑	↑	↑	↑	↕
Traffic Volume (vph)	281	14	79	596	0
Future Volume (vph)	281	14	79	596	0
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	2		1	6	8
Permitted Phases		2			
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.2	23.2	9.6	16.2	31.6
Total Split (s)	23.2	23.2	10.2	33.4	31.6
Total Split (%)	35.7%	35.7%	15.7%	51.4%	48.6%
Yellow Time (s)	5.2	5.2	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	4.6
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 46
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated













Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Traffic Volume (veh/h)	0	281	14	79	596	0	13	0	17	0	0	0
Future Volume (veh/h)	0	281	14	79	596	0	13	0	17	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	1800	1800			
Adj Flow Rate, veh/h	0	305	15	86	648	0	14	0	18			
Adj No. of Lanes	0	2	1	1	1	0	0	1	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	941	421	126	846	0	179	0	230			
Arrive On Green	0.00	0.28	0.28	0.08	0.47	0.00	0.25	0.00	0.25			
Sat Flow, veh/h	0	3510	1530	1619	1800	0	702	0	903			
Grp Volume(v), veh/h	0	305	15	86	648	0	32	0	0			
Grp Sat Flow(s),veh/h/ln	0	1710	1530	1619	1800	0	1606	0	0			
Q Serve(g_s), s	0.0	2.8	0.3	2.0	11.7	0.0	0.6	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	2.8	0.3	2.0	11.7	0.0	0.6	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.44		0.56			
Lane Grp Cap(c), veh/h	0	941	421	126	846	0	409	0	0			
V/C Ratio(X)	0.00	0.32	0.04	0.69	0.77	0.00	0.08	0.00	0.00			
Avail Cap(c_a), veh/h	0	1482	663	231	1248	0	1105	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	11.3	10.4	17.6	8.6	0.0	11.1	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.5	1.7	0.0	0.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.1	1.0	6.2	0.0	0.3	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	11.5	10.4	20.1	10.3	0.0	11.2	0.0	0.0			
LnGrp LOS		B	B	C	B		B					
Approach Vol, veh/h		320			734			32				
Approach Delay, s/veh		11.5			11.5			11.2				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	7.6	17.0				24.6		14.6				
Change Period (Y+Rc), s	4.6	6.2				6.2		4.6				
Max Green Setting (Gmax), s	5.6	17.0				27.2		27.0				
Max Q Clear Time (g_c+I1), s	4.0	4.8				13.7		2.6				
Green Ext Time (p_c), s	0.0	4.5				4.7		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				11.4								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	4	488	564	1261	422
Future Volume (vph)	4	488	564	1261	422
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	340	4	488	564	1261	0	0	422	189
Future Volume (veh/h)	0	0	0	340	4	488	564	1261	0	0	422	189
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				378	4	366	627	1401	0	0	469	130
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				434	5	391	633	3014	0	0	777	203
Arrive On Green				0.26	0.26	0.26	0.78	1.00	0.00	0.00	0.16	0.16
Sat Flow, veh/h				1697	18	1530	1619	5076	0	0	5176	1284
Grp Volume(v), veh/h				382	0	366	627	1401	0	0	441	158
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1564
Q Serve(g_s), s				19.2	0.0	21.1	33.7	0.0	0.0	0.0	7.9	8.5
Cycle Q Clear(g_c), s				19.2	0.0	21.1	33.7	0.0	0.0	0.0	7.9	8.5
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.82
Lane Grp Cap(c), veh/h				438	0	391	633	3014	0	0	733	247
V/C Ratio(X)				0.87	0.00	0.94	0.99	0.46	0.00	0.00	0.60	0.64
Avail Cap(c_a), veh/h				438	0	391	633	3014	0	0	1404	473
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.1	0.0	32.8	9.6	0.0	0.0	0.0	35.3	35.5
Incr Delay (d2), s/veh				18.2	0.0	30.5	22.6	0.3	0.0	0.0	3.6	12.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.2	0.0	19.2	17.9	0.1	0.0	0.0	3.6	4.5
LnGrp Delay(d),s/veh				50.3	0.0	63.3	32.2	0.3	0.0	0.0	38.9	47.7
LnGrp LOS				D		E	C	A			D	D
Approach Vol, veh/h					748			2028			599	
Approach Delay, s/veh					56.7			10.1			41.2	
Approach LOS					E			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	41.0	20.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		23.1	35.7	10.5						
Green Ext Time (p_c), s		14.2		0.0	0.0	3.2						
Intersection Summary												
HCM 2010 Ctrl Delay				26.0								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	3	382	1430	124	638
Future Volume (vph)	3	382	1430	124	638
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

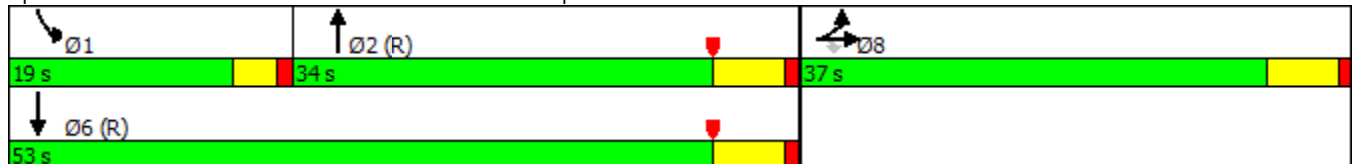
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated


















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



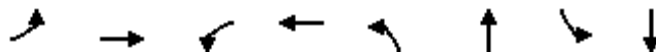
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	3	382	0	0	0	0	1430	396	124	638	0
Future Volume (veh/h)	396	3	382	0	0	0	0	1430	396	124	638	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	426	3	201				0	1538	308	133	686	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	482	3	427				0	2308	462	163	2889	0
Arrive On Green	0.28	0.28	0.28				0.00	0.44	0.44	0.03	0.19	0.00
Sat Flow, veh/h	1703	12	1508				0	5468	1044	1619	5076	0
Grp Volume(v), veh/h	429	0	201				0	1369	477	133	686	0
Grp Sat Flow(s),veh/h/ln	1715	0	1508				0	1548	1616	1619	1638	0
Q Serve(g_s), s	21.5	0.0	9.9				0.0	21.0	21.0	7.3	10.6	0.0
Cycle Q Clear(g_c), s	21.5	0.0	9.9				0.0	21.0	21.0	7.3	10.6	0.0
Prop In Lane	0.99		1.00				0.00		0.65	1.00		0.00
Lane Grp Cap(c), veh/h	486	0	427				0	2055	715	163	2889	0
V/C Ratio(X)	0.88	0.00	0.47				0.00	0.67	0.67	0.81	0.24	0.00
Avail Cap(c_a), veh/h	594	0	523				0	2055	715	270	2889	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.51	0.51	0.77	0.77	0.00
Uniform Delay (d), s/veh	30.8	0.0	26.7				0.0	19.8	19.8	42.7	19.2	0.0
Incr Delay (d2), s/veh	12.7	0.0	0.8				0.0	0.9	2.5	2.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	4.2				0.0	9.0	9.8	3.4	4.9	0.0
LnGrp Delay(d),s/veh	43.6	0.0	27.5				0.0	20.7	22.3	45.5	19.4	0.0
LnGrp LOS	D		C					C	C	D	B	
Approach Vol, veh/h		630						1846			819	
Approach Delay, s/veh		38.4						21.1			23.6	
Approach LOS		D						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	13.1	45.6				58.7		31.3				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	9.3	23.0				12.6		23.5				
Green Ext Time (p_c), s	0.1	4.7				22.8		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

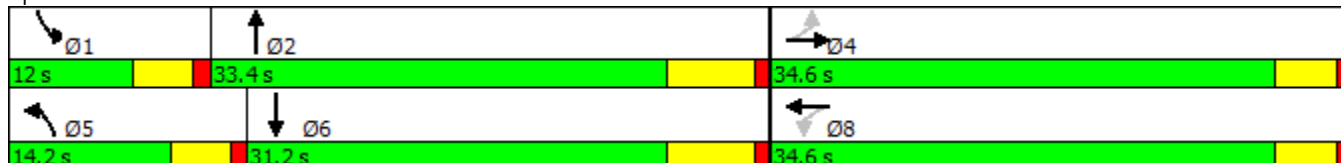


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↖	←	↖	↑↑↑	↗	↑↑↑
Traffic Volume (vph)	37	10	125	28	65	1427	115	595
Future Volume (vph)	37	10	125	28	65	1427	115	595
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 65.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

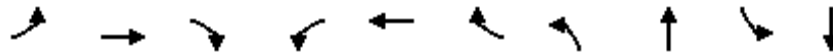
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	10	22	125	28	234	65	1427	52	115	595	17
Future Volume (veh/h)	37	10	22	125	28	234	65	1427	52	115	595	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	42	11	16	140	31	126	73	1603	57	129	669	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	270	140	203	384	65	266	96	2071	74	160	2284	61
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.43	0.43	0.10	0.46	0.46
Sat Flow, veh/h	1180	657	956	1308	308	1252	1619	4872	173	1619	4919	132
Grp Volume(v), veh/h	42	0	27	140	0	157	73	1078	582	129	445	242
Grp Sat Flow(s),veh/h/ln	1180	0	1614	1308	0	1560	1619	1638	1769	1619	1638	1775
Q Serve(g_s), s	1.9	0.0	0.8	5.6	0.0	5.1	2.6	16.5	16.5	4.6	4.9	4.9
Cycle Q Clear(g_c), s	7.0	0.0	0.8	6.4	0.0	5.1	2.6	16.5	16.5	4.6	4.9	4.9
Prop In Lane	1.00		0.59	1.00		0.80	1.00		0.10	1.00		0.07
Lane Grp Cap(c), veh/h	270	0	343	384	0	332	96	1393	752	160	1521	824
V/C Ratio(X)	0.16	0.00	0.08	0.36	0.00	0.47	0.76	0.77	0.77	0.81	0.29	0.29
Avail Cap(c_a), veh/h	625	0	829	777	0	801	266	1525	824	205	1521	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	18.4	21.0	0.0	20.1	27.1	14.4	14.4	25.8	9.7	9.7
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.6	0.0	1.0	4.5	2.3	4.3	13.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	2.1	0.0	2.3	1.3	7.8	8.8	2.6	2.2	2.5
LnGrp Delay(d),s/veh	23.5	0.0	18.5	21.6	0.0	21.2	31.6	16.7	18.6	38.9	9.8	9.9
LnGrp LOS	C		B	C		C	C	B	B	D	A	A
Approach Vol, veh/h		69			297			1733			816	
Approach Delay, s/veh		21.5			21.4			18.0			14.4	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	31.0		17.0	8.1	33.3		17.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	6.6	18.5		9.0	4.6	6.9		8.4				
Green Ext Time (p_c), s	0.0	6.4		1.7	0.0	13.1		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.4									
HCM 2010 LOS			B									

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

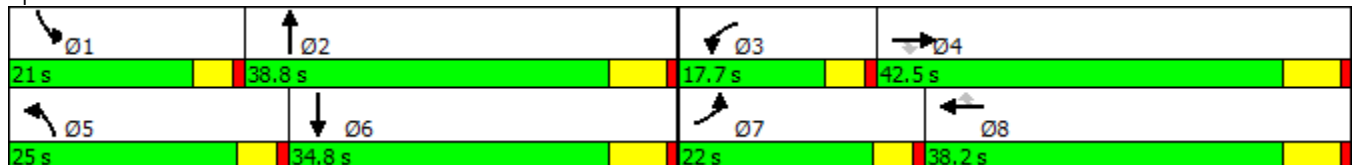


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↗↗	↘	↙	↗↗	↘	↙	↗↗↗	↘	↗↗↗
Traffic Volume (vph)	185	296	102	117	445	229	217	890	173	417
Future Volume (vph)	185	296	102	117	445	229	217	890	173	417
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	296	102	117	445	229	217	890	123	173	417	193
Future Volume (veh/h)	185	296	102	117	445	229	217	890	123	173	417	193
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	206	329	80	130	494	161	241	989	127	192	463	141
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	904	399	156	738	323	270	1277	164	220	976	287
Arrive On Green	0.14	0.26	0.26	0.10	0.22	0.22	0.17	0.29	0.29	0.14	0.26	0.26
Sat Flow, veh/h	1619	3420	1509	1619	3420	1496	1619	4409	565	1619	3767	1109
Grp Volume(v), veh/h	206	329	80	130	494	161	241	734	382	192	401	203
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1496	1619	1638	1698	1619	1638	1600
Q Serve(g_s), s	12.6	7.9	4.2	8.0	13.4	9.6	14.7	20.7	20.8	11.7	10.4	10.9
Cycle Q Clear(g_c), s	12.6	7.9	4.2	8.0	13.4	9.6	14.7	20.7	20.8	11.7	10.4	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.69
Lane Grp Cap(c), veh/h	234	904	399	156	738	323	270	949	492	220	849	414
V/C Ratio(X)	0.88	0.36	0.20	0.83	0.67	0.50	0.89	0.77	0.78	0.87	0.47	0.49
Avail Cap(c_a), veh/h	279	1228	542	210	1083	473	327	1057	547	263	927	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	30.3	28.9	44.9	36.3	34.8	41.3	32.9	32.9	42.8	31.6	31.8
Incr Delay (d2), s/veh	20.9	0.2	0.2	14.4	1.1	1.2	20.4	3.3	6.3	20.7	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.8	1.8	4.2	6.4	4.1	8.1	9.8	10.6	6.5	4.8	4.9
LnGrp Delay(d),s/veh	63.3	30.5	29.1	59.3	37.4	36.0	61.6	36.2	39.2	63.5	32.0	32.7
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		615			785			1357			796	
Approach Delay, s/veh		41.3			40.7			41.5			39.8	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	35.5	14.4	32.9	21.4	32.4	19.2	28.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	13.7	22.8	10.0	9.9	16.7	12.9	14.6	15.4				
Green Ext Time (p_c), s	0.1	6.4	0.0	6.0	0.1	9.0	0.1	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			40.9									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

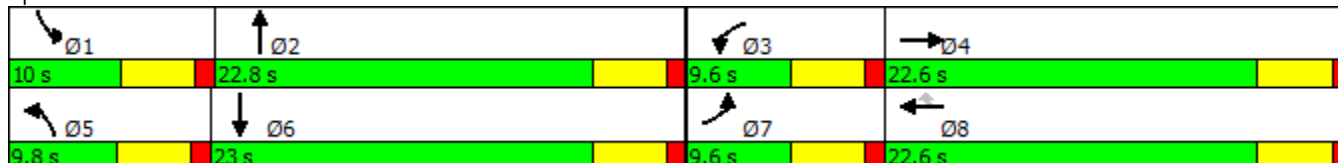


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↑	↗	↙	↑↑	↙	↑↑
Traffic Volume (vph)	33	46	25	76	170	58	1016	85	536
Future Volume (vph)	33	46	25	76	170	58	1016	85	536
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 49.8
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

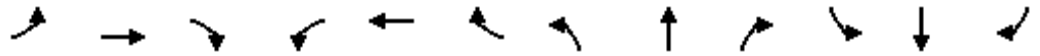
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	46	14	25	76	170	58	1016	40	85	536	36
Future Volume (veh/h)	33	46	14	25	76	170	58	1016	40	85	536	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	36	51	6	27	84	63	64	1116	40	93	589	35
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	182	21	52	192	163	100	1745	63	125	1226	73
Arrive On Green	0.04	0.12	0.12	0.03	0.11	0.11	0.06	0.36	0.36	0.08	0.37	0.37
Sat Flow, veh/h	1619	1581	186	1619	1800	1530	1619	4871	174	1619	3281	195
Grp Volume(v), veh/h	36	0	57	27	84	63	64	750	406	93	307	317
Grp Sat Flow(s),veh/h/ln	1619	0	1767	1619	1800	1530	1619	1638	1769	1619	1710	1765
Q Serve(g_s), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.4	8.4	2.5	6.0	6.0
Cycle Q Clear(g_c), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.4	8.4	2.5	6.0	6.0
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.10	1.00		0.11
Lane Grp Cap(c), veh/h	65	0	204	52	192	163	100	1174	634	125	639	660
V/C Ratio(X)	0.55	0.00	0.28	0.52	0.44	0.39	0.64	0.64	0.64	0.74	0.48	0.48
Avail Cap(c_a), veh/h	184	0	722	184	735	625	191	1353	731	198	714	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	17.8	21.0	18.4	18.3	20.2	11.8	11.8	19.9	10.5	10.5
Incr Delay (d2), s/veh	7.0	0.0	0.7	7.9	1.6	1.5	6.7	0.8	1.5	8.5	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.7	0.4	1.0	0.8	1.0	3.9	4.3	1.4	2.9	3.0
LnGrp Delay(d),s/veh	27.8	0.0	18.6	28.9	20.0	19.8	26.9	12.6	13.3	28.4	11.1	11.1
LnGrp LOS	C		B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		93			174			1220			717	
Approach Delay, s/veh		22.1			21.3			13.6			13.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	20.4	6.0	9.7	7.3	21.1	6.4	9.3				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	10.4	2.7	3.3	3.7	8.0	3.0	3.9				
Green Ext Time (p_c), s	0.0	5.4	0.0	0.7	0.0	6.7	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				14.5								
HCM 2010 LOS				B								

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

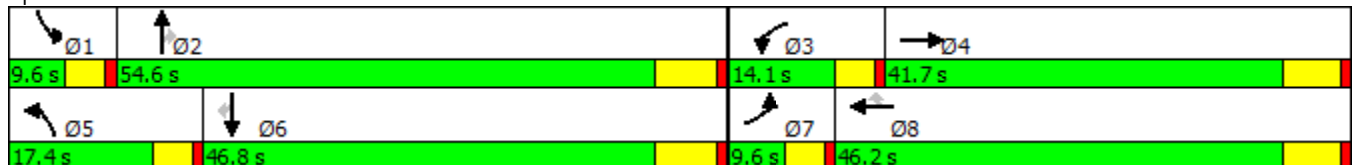


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	31	147	59	239	249	59	172	957	275	36	495	48
Future Volume (vph)	31	147	59	239	249	59	172	957	275	36	495	48
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	147	59	239	249	59	172	957	275	36	495	48
Future Volume (veh/h)	31	147	59	239	249	59	172	957	275	36	495	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	156	0	254	265	15	183	1018	0	38	527	32
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	461	206	328	382	325	218	1446	647	59	1110	497
Arrive On Green	0.03	0.13	0.00	0.11	0.21	0.21	0.13	0.42	0.00	0.04	0.32	0.32
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	33	156	0	254	265	15	183	1018	0	38	527	32
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	0.8	3.1	0.0	6.2	10.1	0.6	8.2	18.2	0.0	1.7	9.1	1.1
Cycle Q Clear(g_c), s	0.8	3.1	0.0	6.2	10.1	0.6	8.2	18.2	0.0	1.7	9.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	461	206	328	382	325	218	1446	647	59	1110	497
V/C Ratio(X)	0.34	0.34	0.00	0.78	0.69	0.05	0.84	0.70	0.00	0.64	0.47	0.06
Avail Cap(c_a), veh/h	199	1636	732	378	970	825	279	2217	992	109	1857	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	29.1	0.0	32.1	27.0	23.3	31.3	17.6	0.0	35.3	20.0	17.3
Incr Delay (d2), s/veh	0.7	0.4	0.0	7.0	2.3	0.1	13.2	0.6	0.0	4.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.0	2.9	5.2	0.2	4.5	8.6	0.0	0.8	4.4	0.5
LnGrp Delay(d),s/veh	35.8	29.5	0.0	39.1	29.3	23.3	44.6	18.2	0.0	39.5	20.3	17.3
LnGrp LOS	D	C		D	C	C	D	B		D	C	B
Approach Vol, veh/h		189			534			1201			597	
Approach Delay, s/veh		30.6			33.8			22.3			21.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	37.9	12.8	16.2	14.6	30.6	7.1	22.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	3.7	20.2	8.2	5.1	10.2	11.1	2.8	12.1				
Green Ext Time (p_c), s	0.0	11.2	0.1	2.3	0.1	11.4	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Timings
 21: Archibald Av. & Eucalyptus Av.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↔	↑↔	↗	↑↑
Traffic Volume (vph)	0	1366	14	784
Future Volume (vph)	0	1366	14	784
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	39.4	41.0	9.6	50.6
Total Split (%)	43.8%	45.6%	10.7%	56.2%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 66.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	50	0	1366	27	14	784	0
Future Volume (veh/h)	0	0	0	10	0	50	0	1366	27	14	784	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				10	0	22	0	1408	27	14	808	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				36	0	78	0	2000	38	29	2370	0
Arrive On Green				0.07	0.00	0.07	0.00	0.58	0.58	0.02	0.69	0.00
Sat Flow, veh/h				495	0	1088	0	3523	66	1619	3510	0
Grp Volume(v), veh/h				32	0	0	0	701	734	14	808	0
Grp Sat Flow(s),veh/h/ln				1583	0	0	0	1710	1788	1619	1710	0
Q Serve(g_s), s				1.0	0.0	0.0	0.0	14.4	14.4	0.4	4.7	0.0
Cycle Q Clear(g_c), s				1.0	0.0	0.0	0.0	14.4	14.4	0.4	4.7	0.0
Prop In Lane				0.31		0.69	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h				114	0	0	0	997	1042	29	2370	0
V/C Ratio(X)				0.28	0.00	0.00	0.00	0.70	0.70	0.49	0.34	0.00
Avail Cap(c_a), veh/h				1089	0	0	0	1186	1240	163	3032	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.9	0.0	0.0	0.0	7.3	7.3	24.2	3.1	0.0
Incr Delay (d2), s/veh				1.3	0.0	0.0	0.0	1.5	1.5	4.7	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.0	7.0	7.4	0.2	2.2	0.0
LnGrp Delay(d),s/veh				23.2	0.0	0.0	0.0	8.9	8.8	28.9	3.2	0.0
LnGrp LOS				C				A	A	C	A	
Approach Vol, veh/h					32			1435			822	
Approach Delay, s/veh					23.2			8.8			3.6	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.5	35.5				41.0		8.8				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	34.5				44.1		34.2				
Max Q Clear Time (g_c+I1), s	2.4	16.4				6.7		3.0				
Green Ext Time (p_c), s	0.0	12.5				19.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay					7.2							
HCM 2010 LOS					A							

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

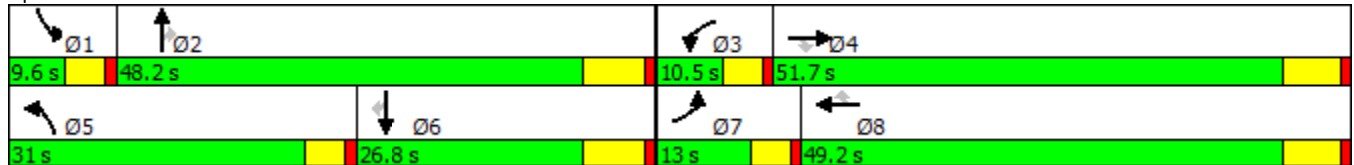


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	9	104	45	24	65	407	1130	50	34	509	244
Future Volume (vph)	186	9	104	45	24	65	407	1130	50	34	509	244
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	13.0	51.7	51.7	10.5	49.2	49.2	31.0	48.2	48.2	9.6	26.8	26.8
Total Split (%)	10.8%	43.1%	43.1%	8.8%	41.0%	41.0%	25.8%	40.2%	40.2%	8.0%	22.3%	22.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	9	104	45	24	65	407	1130	50	34	509	244
Future Volume (veh/h)	186	9	104	45	24	65	407	1130	50	34	509	244
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	192	9	55	46	25	4	420	1165	36	35	525	195
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	167	326	278	64	212	180	454	1627	728	99	784	351
Arrive On Green	0.10	0.18	0.18	0.04	0.12	0.12	0.28	0.48	0.48	0.03	0.23	0.23
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	192	9	55	46	25	4	420	1165	36	35	525	195
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	8.4	0.3	2.5	2.3	1.0	0.2	20.5	22.0	1.0	0.9	11.4	9.1
Cycle Q Clear(g_c), s	8.4	0.3	2.5	2.3	1.0	0.2	20.5	22.0	1.0	0.9	11.4	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	326	278	64	212	180	454	1627	728	99	784	351
V/C Ratio(X)	1.15	0.03	0.20	0.71	0.12	0.02	0.93	0.72	0.05	0.35	0.67	0.56
Avail Cap(c_a), veh/h	167	1008	857	118	953	810	526	1755	785	182	855	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	27.4	28.2	38.6	32.1	31.7	28.4	16.9	11.4	38.4	28.5	27.7
Incr Delay (d2), s/veh	114.6	0.0	0.3	5.4	0.2	0.0	19.7	1.3	0.0	0.8	1.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	0.2	1.1	1.1	0.5	0.1	11.6	10.7	0.4	0.4	5.5	4.0
LnGrp Delay(d),s/veh	151.0	27.4	28.6	44.0	32.3	31.8	48.1	18.2	11.5	39.2	30.3	29.1
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		256			75			1621			755	
Approach Delay, s/veh		120.4			39.4			25.8			30.4	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	45.1	7.8	20.9	27.4	25.1	13.0	15.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	41.7	5.9	45.5	26.4	20.3	8.4	43.0				
Max Q Clear Time (g_c+I1), s	2.9	24.0	4.3	4.5	22.5	13.4	10.4	3.0				
Green Ext Time (p_c), s	0.0	10.8	0.0	0.3	0.3	5.3	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	7	0	1587	622	35
Future Vol, veh/h	0	7	0	1587	622	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	8	0	1725	676	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	357	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	645	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	645	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	645	-	-
HCM Lane V/C Ratio	-	0.012	-	-
HCM Control Delay (s)	-	10.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Timings
24: Archibald Av. & Driveway 4



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	22	0	54	0	78	1429	33	566	30
Future Volume (vph)	22	0	54	0	78	1429	33	566	30
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.6	9.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	10.2	35.6	10.4	35.8	25.2	64.2	9.8	48.8	48.8
Total Split (%)	8.5%	29.7%	8.7%	29.8%	21.0%	53.5%	8.2%	40.7%	40.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4



HCM 2010 Signalized Intersection Summary
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	8	54	0	136	78	1429	35	33	566	30
Future Volume (veh/h)	22	0	8	54	0	136	78	1429	35	33	566	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	24	0	9	59	0	148	85	1553	38	36	615	33
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	41	0	179	73	0	208	108	1938	47	55	1830	819
Arrive On Green	0.03	0.00	0.12	0.04	0.00	0.14	0.07	0.57	0.57	0.03	0.54	0.54
Sat Flow, veh/h	1619	0	1530	1619	0	1530	1619	3412	83	1619	3420	1530
Grp Volume(v), veh/h	24	0	9	59	0	148	85	777	814	36	615	33
Grp Sat Flow(s),veh/h/ln	1619	0	1530	1619	0	1530	1619	1710	1785	1619	1710	1530
Q Serve(g_s), s	1.2	0.0	0.4	3.1	0.0	7.8	4.4	30.4	30.6	1.9	8.6	0.9
Cycle Q Clear(g_c), s	1.2	0.0	0.4	3.1	0.0	7.8	4.4	30.4	30.6	1.9	8.6	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	41	0	179	73	0	208	108	971	1014	55	1830	819
V/C Ratio(X)	0.58	0.00	0.05	0.81	0.00	0.71	0.79	0.80	0.80	0.66	0.34	0.04
Avail Cap(c_a), veh/h	107	0	561	111	0	565	395	1174	1226	100	1830	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	33.2	40.0	0.0	34.9	38.9	14.5	14.5	40.3	11.1	9.3
Incr Delay (d2), s/veh	12.3	0.0	0.1	22.4	0.0	4.4	12.0	3.4	3.3	12.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	1.8	0.0	3.5	2.3	15.2	15.9	1.0	4.0	0.4
LnGrp Delay(d),s/veh	53.0	0.0	33.3	62.4	0.0	39.3	50.9	17.8	17.8	53.0	11.2	9.3
LnGrp LOS	D		C	E		D	D	B	B	D	B	A
Approach Vol, veh/h		33			207			1676			684	
Approach Delay, s/veh		47.6			45.9			19.5			13.3	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	54.2	8.4	14.5	10.2	51.4	6.8	16.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	4.6	4.6	6.2	4.6	4.6				
Max Green Setting (Gmax), s	5.2	58.0	5.8	31.0	20.6	42.6	5.6	31.2				
Max Q Clear Time (g_c+I1), s	3.9	32.6	5.1	2.4	6.4	10.6	3.2	9.8				
Green Ext Time (p_c), s	0.0	15.4	0.0	1.0	0.1	18.8	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			20.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	↑
Traffic Vol, veh/h	0	7	0	1542	608	20
Future Vol, veh/h	0	7	0	1542	608	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	8	0	1676	661	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	330	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	672	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	672	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	672	-	-
HCM Lane V/C Ratio	-	0.011	-	-
HCM Control Delay (s)	-	10.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↙	↑	↘	↙	↑
Traffic Volume (vph)	371	757	785	280	190	426
Future Volume (vph)	371	757	785	280	190	426
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	371	757	785	280	190	426		
Future Volume (veh/h)	371	757	785	280	190	426		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	386	724	818	292	198	444		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	504	656	862	1167	231	1190		
Arrive On Green	0.28	0.28	0.45	0.45	0.13	0.63		
Sat Flow, veh/h	1810	1615	1900	1581	1810	1900		
Grp Volume(v), veh/h	386	724	818	292	198	444		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1810	1900		
Q Serve(g_s), s	21.8	31.0	46.0	6.7	11.9	12.7		
Cycle Q Clear(g_c), s	21.8	31.0	46.0	6.7	11.9	12.7		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	504	656	862	1167	231	1190		
V/C Ratio(X)	0.77	1.10	0.95	0.25	0.86	0.37		
Avail Cap(c_a), veh/h	504	656	878	1180	358	1344		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	36.8	33.0	29.2	4.9	47.5	10.1		
Incr Delay (d2), s/veh	6.3	67.0	19.1	0.1	11.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.7	32.3	28.7	6.0	6.7	6.7		
LnGrp Delay(d),s/veh	43.1	100.0	48.3	5.0	59.4	10.2		
LnGrp LOS	D	F	D	A	E	B		
Approach Vol, veh/h	1110		1110			642		
Approach Delay, s/veh	80.2		36.9			25.4		
Approach LOS	F		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.2	55.8				75.0		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	22.0	51.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	13.9	48.0				14.7		33.0
Green Ext Time (p_c), s	0.3	2.5				13.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			51.1					
HCM 2010 LOS			D					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

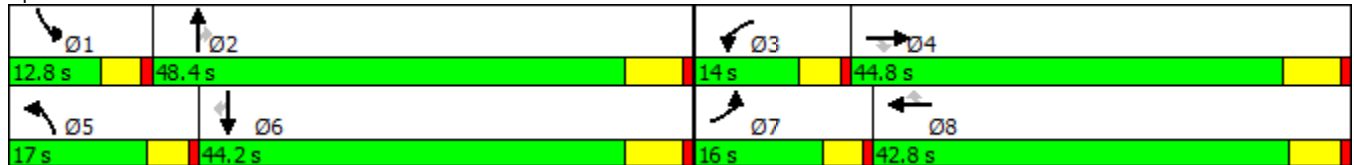


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	345	513	123	177	687	98	344	707	161	104	397	486
Future Volume (vph)	345	513	123	177	687	98	344	707	161	104	397	486
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	345	513	123	177	687	98	344	707	161	104	397	486
Future Volume (veh/h)	345	513	123	177	687	98	344	707	161	104	397	486
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	388	576	87	199	772	79	387	794	124	117	446	376
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	388	1481	452	264	1298	397	422	1966	602	178	1605	493
Arrive On Green	0.11	0.29	0.29	0.08	0.25	0.25	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1590	3510	5187	1593
Grp Volume(v), veh/h	388	576	87	199	772	79	387	794	124	117	446	376
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1590	1755	1729	1593
Q Serve(g_s), s	11.4	9.2	4.3	5.7	13.5	4.1	11.2	11.6	5.4	3.4	6.7	22.0
Cycle Q Clear(g_c), s	11.4	9.2	4.3	5.7	13.5	4.1	11.2	11.6	5.4	3.4	6.7	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	1481	452	264	1298	397	422	1966	602	178	1605	493
V/C Ratio(X)	1.00	0.39	0.19	0.75	0.59	0.20	0.92	0.40	0.21	0.66	0.28	0.76
Avail Cap(c_a), veh/h	388	1942	592	320	1861	569	422	2123	651	279	1912	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	29.6	27.8	46.7	34.0	30.5	44.8	23.5	21.6	48.1	26.9	32.2
Incr Delay (d2), s/veh	45.6	0.2	0.2	6.0	0.4	0.2	24.1	0.1	0.2	1.5	0.1	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	4.4	1.9	3.0	6.5	1.8	6.8	5.5	2.4	1.7	3.2	10.3
LnGrp Delay(d),s/veh	91.4	29.8	28.1	52.7	34.5	30.7	69.0	23.6	21.7	49.6	27.0	37.1
LnGrp LOS	F	C	C	D	C	C	E	C	C	D	C	D
Approach Vol, veh/h		1051			1050			1305			939	
Approach Delay, s/veh		52.4			37.7			36.9			33.8	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	45.3	12.4	35.6	17.0	38.1	16.0	32.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	5.4	13.6	7.7	11.2	13.2	24.0	13.4	15.5				
Green Ext Time (p_c), s	0.0	11.3	0.1	10.5	0.0	7.8	0.0	9.4				
Intersection Summary												
HCM 2010 Ctrl Delay			40.2									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

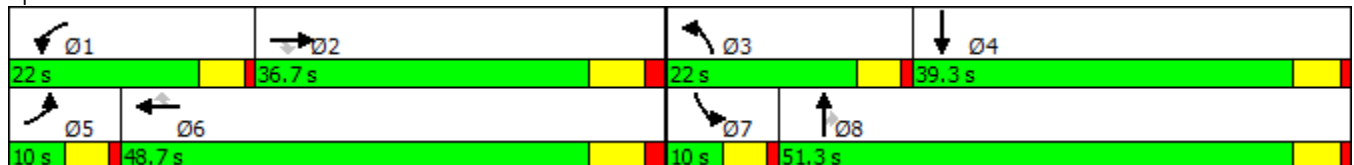


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	19	438	15	135	944	5	131	59	225	22	75
Future Volume (vph)	19	438	15	135	944	5	131	59	225	22	75
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	36.7	36.7	22.0	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	30.6%	30.6%	18.3%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 76.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	438	15	135	944	5	131	59	225	22	75	54
Future Volume (veh/h)	19	438	15	135	944	5	131	59	225	22	75	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	476	14	147	1026	5	142	64	211	24	82	38
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	1776	553	186	1521	666	181	374	318	49	152	70
Arrive On Green	0.02	0.34	0.34	0.10	0.42	0.42	0.10	0.20	0.20	0.03	0.12	0.12
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1613	1810	1222	566
Grp Volume(v), veh/h	21	476	14	147	1026	5	142	64	211	24	0	120
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1613	1810	0	1788
Q Serve(g_s), s	0.8	4.5	0.4	5.3	15.5	0.1	5.2	1.9	8.2	0.9	0.0	4.2
Cycle Q Clear(g_c), s	0.8	4.5	0.4	5.3	15.5	0.1	5.2	1.9	8.2	0.9	0.0	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	44	1776	553	186	1521	666	181	374	318	49	0	222
V/C Ratio(X)	0.48	0.27	0.03	0.79	0.67	0.01	0.79	0.17	0.66	0.49	0.00	0.54
Avail Cap(c_a), veh/h	134	2285	711	456	2232	978	456	1296	1100	134	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	16.1	14.7	29.5	15.8	11.3	29.6	22.5	25.0	32.4	0.0	27.7
Incr Delay (d2), s/veh	3.0	0.1	0.0	2.8	0.5	0.0	2.8	0.2	2.4	2.9	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.1	0.2	2.8	7.8	0.1	2.7	1.0	3.9	0.5	0.0	2.2
LnGrp Delay(d),s/veh	35.5	16.1	14.7	32.3	16.3	11.3	32.5	22.7	27.4	35.2	0.0	29.8
LnGrp LOS	D	B	B	C	B	B	C	C	C	D		C
Approach Vol, veh/h		511			1178			417			144	
Approach Delay, s/veh		16.9			18.3			28.4			30.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	30.1	11.7	13.7	6.6	35.4	6.8	18.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	17.0	29.7	17.0	34.0	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	7.3	6.5	7.2	6.2	2.8	17.5	2.9	10.2				
Green Ext Time (p_c), s	0.1	10.7	0.1	1.6	0.0	10.9	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			20.6									
HCM 2010 LOS			C									

Timings
29: Sumner Av. & Limonite Av.

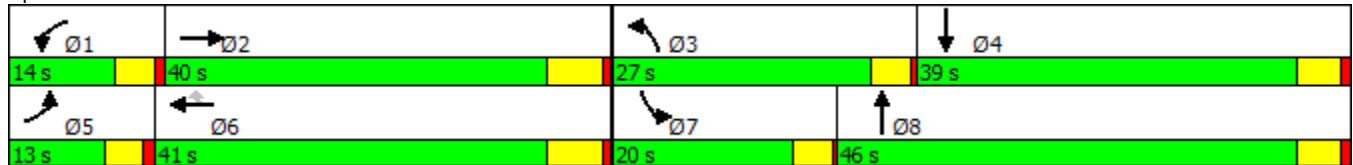


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	74	599	92	757	16	144	158	94	104
Future Volume (vph)	74	599	92	757	16	144	158	94	104
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 64.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	599	27	92	757	16	144	158	199	94	104	72
Future Volume (veh/h)	74	599	27	92	757	16	144	158	199	94	104	72
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	644	21	99	814	11	155	170	140	101	112	50
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	1784	58	200	1822	567	199	321	247	131	316	133
Arrive On Green	0.05	0.35	0.35	0.06	0.35	0.35	0.11	0.17	0.17	0.07	0.13	0.13
Sat Flow, veh/h	3510	5161	168	3510	5187	1615	1810	1930	1484	1810	2463	1040
Grp Volume(v), veh/h	80	431	234	99	814	11	155	158	152	101	80	82
Grp Sat Flow(s),veh/h/ln	1755	1729	1870	1755	1729	1615	1810	1805	1609	1810	1805	1697
Q Serve(g_s), s	1.2	5.1	5.1	1.5	6.6	0.2	4.5	4.4	4.7	3.0	2.2	2.4
Cycle Q Clear(g_c), s	1.2	5.1	5.1	1.5	6.6	0.2	4.5	4.4	4.7	3.0	2.2	2.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.92	1.00		0.61
Lane Grp Cap(c), veh/h	181	1195	647	200	1822	567	199	300	267	131	232	218
V/C Ratio(X)	0.44	0.36	0.36	0.49	0.45	0.02	0.78	0.53	0.57	0.77	0.35	0.37
Avail Cap(c_a), veh/h	549	2163	1170	613	3340	1040	766	1361	1214	533	1129	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	13.3	13.3	24.9	13.6	11.5	23.5	20.7	20.9	24.8	21.6	21.7
Incr Delay (d2), s/veh	0.6	0.2	0.3	0.7	0.2	0.0	2.5	1.1	1.4	3.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.4	2.7	0.7	3.1	0.1	2.4	2.2	2.2	1.6	1.1	1.2
LnGrp Delay(d),s/veh	25.6	13.5	13.6	25.6	13.7	11.5	26.0	21.8	22.3	28.4	22.3	22.5
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		745			924			465			263	
Approach Delay, s/veh		14.8			15.0			23.3			24.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	24.8	10.0	12.0	7.3	25.1	7.9	14.0				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	3.5	7.1	6.5	4.4	3.2	8.6	5.0	6.7				
Green Ext Time (p_c), s	0.0	10.6	0.1	2.1	0.0	10.5	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

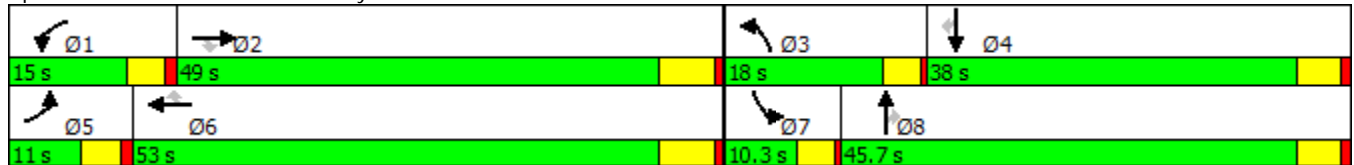


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	25	853	67	67	692	16	96	109	162	29	144	43
Future Volume (vph)	25	853	67	67	692	16	96	109	162	29	144	43
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 72.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

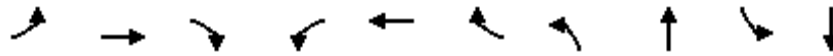
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	853	67	67	692	16	96	109	162	29	144	43
Future Volume (veh/h)	25	853	67	67	692	16	96	109	162	29	144	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	927	64	73	752	17	104	118	136	32	157	45
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	1597	714	94	1697	759	135	318	270	49	434	183
Arrive On Green	0.02	0.44	0.44	0.05	0.47	0.47	0.07	0.17	0.17	0.03	0.12	0.12
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1523
Grp Volume(v), veh/h	27	927	64	73	752	17	104	118	136	32	157	45
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1523
Q Serve(g_s), s	0.9	12.1	1.4	2.5	8.7	0.4	3.5	3.5	4.8	1.1	2.5	1.7
Cycle Q Clear(g_c), s	0.9	12.1	1.4	2.5	8.7	0.4	3.5	3.5	4.8	1.1	2.5	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	1597	714	94	1697	759	135	318	270	49	434	183
V/C Ratio(X)	0.62	0.58	0.09	0.78	0.44	0.02	0.77	0.37	0.50	0.65	0.36	0.25
Avail Cap(c_a), veh/h	188	2479	1109	303	2709	1212	405	1235	1048	182	1902	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	13.1	10.1	29.3	11.1	8.9	28.5	23.2	23.7	30.2	25.3	25.0
Incr Delay (d2), s/veh	5.3	0.3	0.1	5.1	0.2	0.0	3.5	0.5	1.1	5.2	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.0	0.6	1.4	4.3	0.2	1.9	1.9	2.2	0.6	1.3	0.7
LnGrp Delay(d),s/veh	35.6	13.4	10.2	34.5	11.3	8.9	32.0	23.7	24.8	35.4	25.7	25.5
LnGrp LOS	D	B	B	C	B	A	C	C	C	D	C	C
Approach Vol, veh/h		1018			842			358			234	
Approach Delay, s/veh		13.8			13.2			26.5			27.0	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	33.7	8.7	12.5	6.0	35.4	5.7	15.5				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	4.5	14.1	5.5	4.5	2.9	10.7	3.1	6.8				
Green Ext Time (p_c), s	0.0	13.6	0.0	1.6	0.0	15.0	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

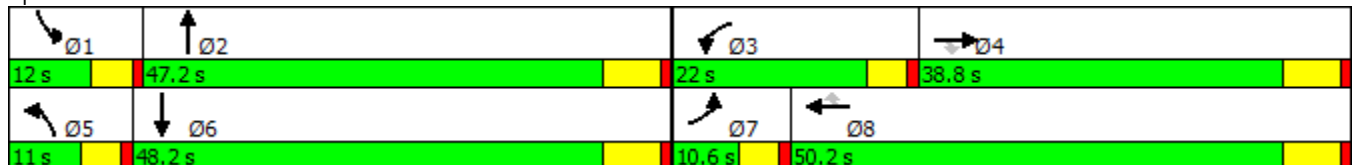


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖
Traffic Volume (vph)	20	303	69	161	516	160	104	420	130	147
Future Volume (vph)	20	303	69	161	516	160	104	420	130	147
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	10.6	38.8	38.8	22.0	50.2	50.2	11.0	47.2	12.0	48.2
Total Split (%)	8.8%	32.3%	32.3%	18.3%	41.8%	41.8%	9.2%	39.3%	10.0%	40.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	303	69	161	516	160	104	420	385	130	147	37
Future Volume (veh/h)	20	303	69	161	516	160	104	420	385	130	147	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	322	47	171	549	117	111	447	364	138	156	30
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	39	458	389	202	629	535	107	368	300	124	602	116
Arrive On Green	0.02	0.24	0.24	0.11	0.33	0.33	0.06	0.38	0.38	0.07	0.39	0.39
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	970	790	1810	1549	298
Grp Volume(v), veh/h	21	322	47	171	549	117	111	0	811	138	0	186
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1761	1810	0	1847
Q Serve(g_s), s	1.2	16.7	2.5	10.0	29.4	5.6	6.4	0.0	41.0	7.4	0.0	7.4
Cycle Q Clear(g_c), s	1.2	16.7	2.5	10.0	29.4	5.6	6.4	0.0	41.0	7.4	0.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.16
Lane Grp Cap(c), veh/h	39	458	389	202	629	535	107	0	668	124	0	717
V/C Ratio(X)	0.54	0.70	0.12	0.85	0.87	0.22	1.04	0.00	1.21	1.11	0.00	0.26
Avail Cap(c_a), veh/h	100	573	487	291	773	657	107	0	668	124	0	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	37.5	32.1	47.1	34.0	26.1	50.9	0.0	33.6	50.4	0.0	22.5
Incr Delay (d2), s/veh	4.2	2.8	0.1	10.4	9.2	0.2	97.1	0.0	110.1	114.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	9.1	1.1	5.6	17.0	2.5	6.1	0.0	40.3	7.6	0.0	3.8
LnGrp Delay(d),s/veh	56.5	40.3	32.2	57.5	43.3	26.3	148.5	0.0	143.6	165.3	0.0	22.7
LnGrp LOS	E	D	C	E	D	C	F		F	F		C
Approach Vol, veh/h		390			837			922			324	
Approach Delay, s/veh		40.2			43.8			144.2			83.4	
Approach LOS		D			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	47.2	16.7	32.3	11.0	48.2	6.9	42.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	41.0	17.4	32.6	6.4	42.0	6.0	44.0				
Max Q Clear Time (g_c+I1), s	9.4	43.0	12.0	18.7	8.4	9.4	3.2	31.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.6	0.0	7.6	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			85.9									
HCM 2010 LOS			F									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	344	151	16	113	129	94	12	471	169	43	243
Future Volume (vph)	344	151	16	113	129	94	12	471	169	43	243
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	19.0	19.0	19.0	9.6	45.8	45.8	10.0	46.2
Total Split (%)	37.7%	37.7%	37.7%	15.8%	15.8%	15.8%	8.0%	38.2%	38.2%	8.3%	38.5%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.

Ø1	Ø2	Ø4	Ø8
10 s	45.8 s	45.2 s	19 s
Ø5	Ø6		
9.6 s	46.2 s		

HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	151	16	113	129	94	12	471	169	43	243	90
Future Volume (veh/h)	344	151	16	113	129	94	12	471	169	43	243	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	362	159	12	119	136	27	13	496	138	45	256	83
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	430	858	375	218	229	195	28	614	522	70	476	154
Arrive On Green	0.24	0.24	0.24	0.12	0.12	0.12	0.02	0.32	0.32	0.04	0.35	0.35
Sat Flow, veh/h	1810	3610	1578	1810	1900	1615	1810	1900	1615	1810	1375	446
Grp Volume(v), veh/h	362	159	12	119	136	27	13	496	138	45	0	339
Grp Sat Flow(s),veh/h/ln	1810	1805	1578	1810	1900	1615	1810	1900	1615	1810	0	1821
Q Serve(g_s), s	15.8	2.9	0.5	5.1	5.6	1.2	0.6	19.8	5.2	2.0	0.0	12.4
Cycle Q Clear(g_c), s	15.8	2.9	0.5	5.1	5.6	1.2	0.6	19.8	5.2	2.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	430	858	375	218	229	195	28	614	522	70	0	631
V/C Ratio(X)	0.84	0.19	0.03	0.55	0.59	0.14	0.46	0.81	0.26	0.64	0.00	0.54
Avail Cap(c_a), veh/h	851	1699	742	279	293	249	109	908	772	118	0	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	25.2	24.3	34.3	34.5	32.6	40.4	25.7	20.8	39.3	0.0	21.8
Incr Delay (d2), s/veh	4.5	0.1	0.0	2.1	2.5	0.3	4.3	3.4	0.3	3.6	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	1.5	0.2	2.7	3.1	0.6	0.3	10.9	2.4	1.1	0.0	6.3
LnGrp Delay(d),s/veh	34.6	25.3	24.3	36.4	37.0	32.9	44.7	29.1	21.0	42.8	0.0	22.5
LnGrp LOS	C	C	C	D	D	C	D	C	C	D		C
Approach Vol, veh/h		533			282			647			384	
Approach Delay, s/veh		31.6			36.4			27.7			24.8	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	33.0		25.9	5.9	34.9		16.2				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	5.4	39.6		39.0	5.0	40.0		12.8				
Max Q Clear Time (g_c+I1), s	4.0	21.8		17.8	2.6	14.4		7.6				
Green Ext Time (p_c), s	0.0	4.8		1.9	0.0	5.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			29.6									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

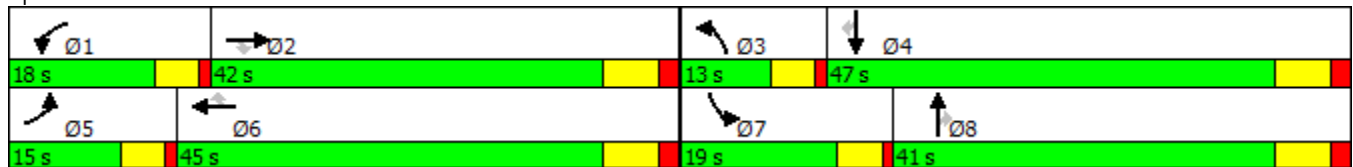


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	153	806	32	220	504	107	129	455	414	253	253	118
Future Volume (vph)	153	806	32	220	504	107	129	455	414	253	253	118
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

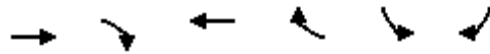
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	806	32	220	504	107	129	455	414	253	253	118
Future Volume (veh/h)	153	806	32	220	504	107	129	455	414	253	253	118
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	831	27	227	520	72	133	469	309	261	261	69
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	1534	477	297	1142	509	197	1468	449	331	1159	517
Arrive On Green	0.06	0.30	0.30	0.08	0.32	0.32	0.06	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1586	3510	3610	1610
Grp Volume(v), veh/h	158	831	27	227	520	72	133	469	309	261	261	69
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1586	1755	1805	1610
Q Serve(g_s), s	4.4	13.3	1.2	6.3	11.4	3.2	3.7	7.1	17.2	7.2	5.2	3.0
Cycle Q Clear(g_c), s	4.4	13.3	1.2	6.3	11.4	3.2	3.7	7.1	17.2	7.2	5.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	1534	477	297	1142	509	197	1468	449	331	1159	517
V/C Ratio(X)	0.70	0.54	0.06	0.77	0.46	0.14	0.67	0.32	0.69	0.79	0.23	0.13
Avail Cap(c_a), veh/h	355	1834	570	461	1386	618	284	1782	545	497	1459	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	29.2	25.0	44.3	27.0	24.2	45.8	28.0	31.6	43.9	24.6	23.8
Incr Delay (d2), s/veh	1.5	0.6	0.1	1.6	0.6	0.3	1.5	0.3	4.6	2.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.4	0.5	3.1	5.7	1.5	1.8	3.4	8.0	3.6	2.6	1.4
LnGrp Delay(d),s/veh	46.9	29.9	25.1	45.9	27.6	24.5	47.3	28.2	36.2	46.4	24.8	24.1
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1016			819			911			591	
Approach Delay, s/veh		32.4			32.4			33.7			34.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	36.3	10.6	38.8	11.3	38.3	14.3	35.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	8.3	15.3	5.7	7.2	6.4	13.4	9.2	19.2				
Green Ext Time (p_c), s	0.1	13.9	0.0	13.5	0.1	16.4	0.1	8.6				
Intersection Summary												
HCM 2010 Ctrl Delay			33.1									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

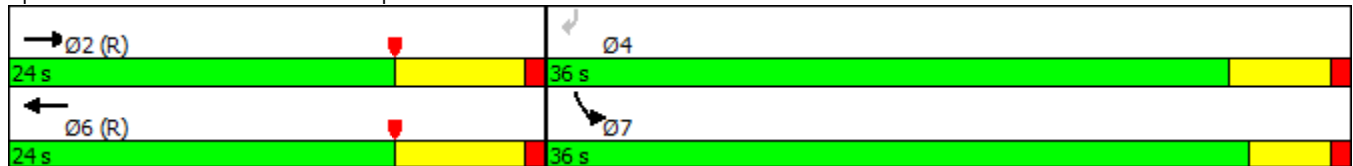


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	563	160	410	64	366	504
Future Volume (vph)	563	160	410	64	366	504
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated

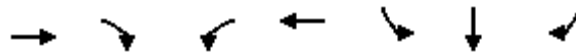
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	563	160	0	410	64	0	0	0	366	0	504
Future Volume (veh/h)	0	563	160	0	410	64	0	0	0	366	0	504
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	593	0	0	432	0				385	0	387
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2662	829	0	1853	829				1042	0	479
Arrive On Green	0.00	0.51	0.00	0.00	0.51	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	593	0	0	432	0				385	0	387
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	3.8	0.0	0.0	4.0	0.0				5.2	0.0	13.3
Cycle Q Clear(g_c), s	0.0	3.8	0.0	0.0	4.0	0.0				5.2	0.0	13.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2662	829	0	1853	829				1042	0	479
V/C Ratio(X)	0.00	0.22	0.00	0.00	0.23	0.00				0.37	0.00	0.81
Avail Cap(c_a), veh/h	0	2662	829	0	1853	829				1837	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.38	0.00	0.00	0.95	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	0.0	0.0	8.1	0.0				16.7	0.0	19.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.3	0.0				0.2	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.0	0.0	2.1	0.0				2.5	0.0	6.3
LnGrp Delay(d),s/veh	0.0	8.1	0.0	0.0	8.4	0.0				16.9	0.0	22.8
LnGrp LOS		A			A					B		C
Approach Vol, veh/h		593			432						772	
Approach Delay, s/veh		8.1			8.4						19.8	
Approach LOS		A			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		37.6		22.4		37.6						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		5.8		15.3		6.0						
Green Ext Time (p_c), s		4.6		2.5		4.6						
Intersection Summary												
HCM 2010 Ctrl Delay			13.2									
HCM 2010 LOS			B									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↖↗	↑↑	↖	↕	↖
Traffic Volume (vph)	1118	455	668	607	158	2	429
Future Volume (vph)	1118	455	668	607	158	2	429
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.5	55.5	31.0	86.5	23.5	23.5	23.5
Total Split (%)	50.5%	50.5%	28.2%	78.6%	21.4%	21.4%	21.4%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 59 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

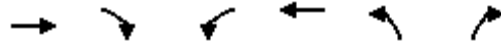
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1118	455	668	607	0	0	0	0	158	2	429
Future Volume (veh/h)	0	1118	455	668	607	0	0	0	0	158	2	429
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1229	499	734	667	0				117	0	435
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1739	768	791	2699	0				276	0	492
Arrive On Green	0.00	0.48	0.48	0.30	0.99	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3705	1595	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1229	499	734	667	0				117	0	435
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	29.4	26.0	22.3	0.1	0.0				6.4	0.0	14.5
Cycle Q Clear(g_c), s	0.0	29.4	26.0	22.3	0.1	0.0				6.4	0.0	14.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1739	768	791	2699	0				276	0	492
V/C Ratio(X)	0.00	0.71	0.65	0.93	0.25	0.00				0.42	0.00	0.88
Avail Cap(c_a), veh/h	0	1739	768	846	2699	0				296	0	529
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.58	0.58	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.4	21.5	37.7	0.1	0.0				42.3	0.0	45.7
Incr Delay (d2), s/veh	0.0	1.8	3.1	9.9	0.1	0.0				0.4	0.0	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	12.0	11.9	0.1	0.0				3.2	0.0	7.5
LnGrp Delay(d),s/veh	0.0	24.2	24.6	47.6	0.2	0.0				42.6	0.0	60.4
LnGrp LOS		C	C	D	A					D		E
Approach Vol, veh/h		1728			1401						552	
Approach Delay, s/veh		24.3			25.0						56.6	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.3	58.5		22.3		87.7						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	26.5	50.0		18.0		81.0						
Max Q Clear Time (g_c+I1), s	24.3	31.4		16.5		2.1						
Green Ext Time (p_c), s	0.5	9.6		0.2		14.1						
Intersection Summary												
HCM 2010 Ctrl Delay			29.4									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑
Traffic Volume (vph)	404	525	380	287	188	160
Future Volume (vph)	404	525	380	287	188	160
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	404	525	380	287	188	160		
Future Volume (veh/h)	404	525	380	287	188	160		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	434	460	409	309	202	83		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2222	853	527	3519	362	161		
Arrive On Green	0.72	0.72	0.15	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	434	460	409	309	202	83		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	1.7	7.7	6.7	1.2	3.2	2.9		
Cycle Q Clear(g_c), s	1.7	7.7	6.7	1.2	3.2	2.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2222	853	527	3519	362	161		
V/C Ratio(X)	0.20	0.54	0.78	0.09	0.56	0.51		
Avail Cap(c_a), veh/h	2222	853	527	3519	362	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.1	4.2	24.5	3.3	25.7	25.6		
Incr Delay (d2), s/veh	0.2	2.4	10.7	0.0	6.1	11.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	4.4	4.0	0.6	1.9	1.8		
LnGrp Delay(d),s/veh	5.3	6.6	35.3	3.3	31.8	36.8		
LnGrp LOS	A	A	D	A	C	D		
Approach Vol, veh/h	894			718	285			
Approach Delay, s/veh	6.0			21.5	33.3			
Approach LOS	A			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	33.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	8.7	9.7				3.2		5.2
Green Ext Time (p_c), s	0.0	5.6				7.1		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			16.0					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	743	532	1045	354	229	2	325
Future Volume (vph)	743	532	1045	354	229	2	325
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	36.0	86.0	50.0	50.0	24.0	24.0	24.0
Total Split (%)	32.7%	78.2%	45.5%	45.5%	21.8%	21.8%	21.8%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	743	532	0	0	1045	354	229	2	325	0	0	0
Future Volume (veh/h)	743	532	0	0	1045	354	229	2	325	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	826	591	0	0	1161	333	292	0	81			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	895	2874	0	0	1806	797	376	0	168			
Arrive On Green	0.43	1.00	0.00	0.00	0.50	0.50	0.10	0.00	0.10			
Sat Flow, veh/h	3510	3705	0	0	3705	1593	3619	0	1615			
Grp Volume(v), veh/h	826	591	0	0	1161	333	292	0	81			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1593	1810	0	1615			
Q Serve(g_s), s	24.5	0.0	0.0	0.0	26.1	14.5	8.7	0.0	5.2			
Cycle Q Clear(g_c), s	24.5	0.0	0.0	0.0	26.1	14.5	8.7	0.0	5.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	895	2874	0	0	1806	797	376	0	168			
V/C Ratio(X)	0.92	0.21	0.00	0.00	0.64	0.42	0.78	0.00	0.48			
Avail Cap(c_a), veh/h	1005	2874	0	0	1806	797	609	0	272			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.6	0.0	0.0	0.0	20.3	17.4	48.0	0.0	46.5			
Incr Delay (d2), s/veh	9.2	0.1	0.0	0.0	1.8	1.6	3.5	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.8	0.0	0.0	0.0	13.3	6.7	4.5	0.0	2.4			
LnGrp Delay(d),s/veh	39.7	0.1	0.0	0.0	22.0	19.0	51.5	0.0	48.6			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1417			1494			373				
Approach Delay, s/veh		23.2			21.4			50.9				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		93.1			32.5	60.5		16.9				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		80.5			31.5	44.5		18.5				
Max Q Clear Time (g_c+I1), s		2.0			26.5	28.1		10.7				
Green Ext Time (p_c), s		11.3			1.6	7.9		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				25.5								
HCM 2010 LOS				C								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	5	20	124	0	2	971	192	264	894
Future Volume (vph)	5	20	124	0	2	971	192	264	894
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

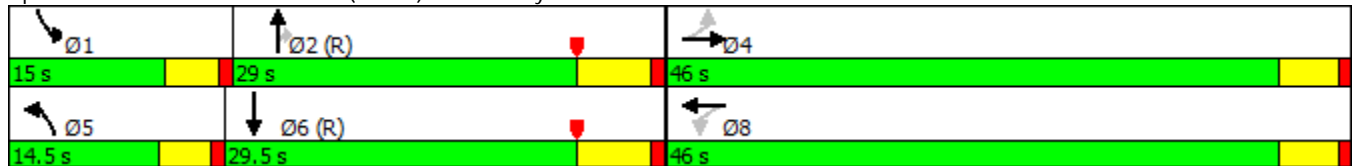
Actuated Cycle Length: 90

Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	20	11	124	0	119	2	971	192	264	894	1
Future Volume (veh/h)	5	20	11	124	0	119	2	971	192	264	894	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	22	4	133	0	100	2	1044	177	284	961	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	251	41	211	7	117	9	1803	789	189	2238	2
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.01	0.53	0.53	0.12	0.64	0.64
Sat Flow, veh/h	142	1364	223	806	38	634	1619	3420	1497	1619	3506	4
Grp Volume(v), veh/h	31	0	0	233	0	0	2	1044	177	284	469	493
Grp Sat Flow(s),veh/h/ln	1729	0	0	1477	0	0	1619	1710	1497	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	12.4	0.0	0.0	0.1	18.7	5.7	10.5	12.3	12.3
Cycle Q Clear(g_c), s	1.3	0.0	0.0	13.7	0.0	0.0	0.1	18.7	5.7	10.5	12.3	12.3
Prop In Lane	0.16		0.13	0.57		0.43	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	364	0	0	335	0	0	9	1803	789	189	1092	1149
V/C Ratio(X)	0.09	0.00	0.00	0.70	0.00	0.00	0.23	0.58	0.22	1.50	0.43	0.43
Avail Cap(c_a), veh/h	816	0	0	730	0	0	180	1803	789	189	1092	1149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.54	0.54	0.54	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	0.0	35.5	0.0	0.0	44.6	14.5	11.4	39.8	8.1	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.0	2.6	0.7	0.4	252.2	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	5.7	0.0	0.0	0.1	8.9	2.4	17.9	6.1	6.4
LnGrp Delay(d),s/veh	30.5	0.0	0.0	36.4	0.0	0.0	47.2	15.2	11.8	291.9	9.3	9.3
LnGrp LOS	C			D			D	B	B	F	A	A
Approach Vol, veh/h		31			233			1223			1246	
Approach Delay, s/veh		30.5			36.4			14.8			73.7	
Approach LOS		C			D			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	53.4		21.6	5.0	63.5		21.6				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	20.7		3.3	2.1	14.3		15.7				
Green Ext Time (p_c), s	0.0	2.0		0.9	0.0	7.0		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			43.7									
HCM 2010 LOS			D									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

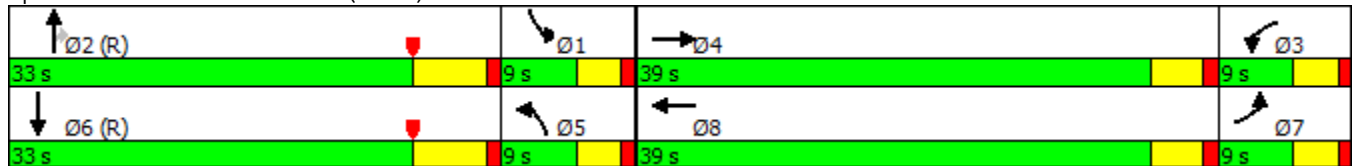


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	310	775	21	231	67	694	24	271	705
Future Volume (vph)	310	775	21	231	67	694	24	271	705
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

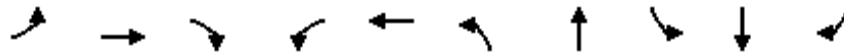
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	775	48	21	231	121	67	694	24	271	705	83
Future Volume (veh/h)	310	775	48	21	231	121	67	694	24	271	705	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	323	807	46	22	241	92	70	723	10	282	734	68
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	300	968	55	36	321	119	344	825	369	383	840	78
Arrive On Green	0.19	0.29	0.29	0.02	0.13	0.13	0.42	0.48	0.48	0.24	0.27	0.27
Sat Flow, veh/h	1619	3289	187	1619	2443	907	1619	3420	1530	1619	3161	293
Grp Volume(v), veh/h	323	419	434	22	167	166	70	723	10	282	397	405
Grp Sat Flow(s),veh/h/ln	1619	1710	1767	1619	1710	1640	1619	1710	1530	1619	1710	1744
Q Serve(g_s), s	16.7	20.6	20.7	1.2	8.4	8.8	2.5	17.1	0.3	14.5	20.0	20.0
Cycle Q Clear(g_c), s	16.7	20.6	20.7	1.2	8.4	8.8	2.5	17.1	0.3	14.5	20.0	20.0
Prop In Lane	1.00		0.11	1.00		0.55	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	300	503	520	36	225	215	344	825	369	383	454	463
V/C Ratio(X)	1.08	0.83	0.83	0.61	0.74	0.77	0.20	0.88	0.03	0.74	0.87	0.87
Avail Cap(c_a), veh/h	300	656	677	90	656	629	344	1026	459	383	513	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	0.88	0.88	0.88
Uniform Delay (d), s/veh	36.7	29.7	29.7	43.6	37.6	37.8	21.1	22.1	17.8	31.7	31.6	31.6
Incr Delay (d2), s/veh	74.2	7.1	6.9	6.0	1.8	2.2	0.1	10.6	0.1	5.6	18.3	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	10.7	11.0	0.6	4.1	4.1	1.1	9.0	0.1	7.0	11.7	11.9
LnGrp Delay(d),s/veh	110.9	36.8	36.7	49.6	39.4	40.0	21.2	32.7	17.9	37.4	49.9	49.7
LnGrp LOS	F	D	D	D	D	D	C	C	B	D	D	D
Approach Vol, veh/h		1176			355			803			1084	
Approach Delay, s/veh		57.1			40.3			31.6			46.5	
Approach LOS		E			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	27.7	6.0	31.0	23.1	29.9	20.7	16.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	16.5	19.1	3.2	22.7	4.5	22.0	18.7	10.8				
Green Ext Time (p_c), s	0.0	2.6	0.0	3.8	0.0	1.9	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			46.0									
HCM 2010 LOS			D									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

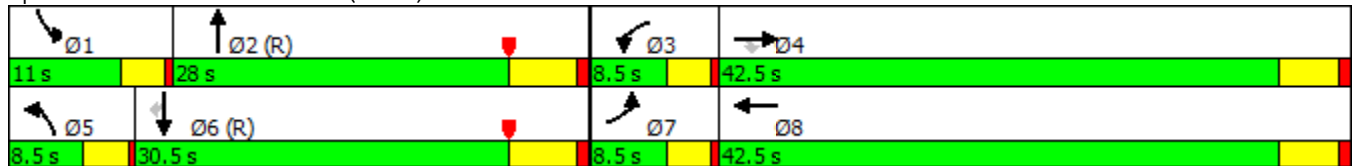


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	67	87	45	32	25	15	661	125	558	55
Future Volume (vph)	67	87	45	32	25	15	661	125	558	55
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



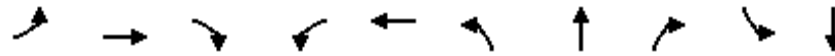
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	87	45	32	25	61	15	661	100	125	558	55
Future Volume (veh/h)	67	87	45	32	25	61	15	661	100	125	558	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	74	97	31	36	28	56	17	734	101	139	620	61
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	184	157	53	43	86	31	1768	243	135	2226	975
Arrive On Green	0.06	0.10	0.10	0.03	0.08	0.08	0.02	0.59	0.59	0.03	0.21	0.21
Sat Flow, veh/h	1619	1800	1530	1619	537	1074	1619	3012	414	1619	3420	1499
Grp Volume(v), veh/h	74	97	31	36	0	84	17	416	419	139	620	61
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	0	1611	1619	1710	1717	1619	1710	1499
Q Serve(g_s), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	12.0	12.0	7.5	13.6	2.9
Cycle Q Clear(g_c), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	12.0	12.0	7.5	13.6	2.9
Prop In Lane	1.00		1.00	1.00		0.67	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	90	184	157	53	0	129	31	1003	1007	135	2226	975
V/C Ratio(X)	0.82	0.53	0.20	0.67	0.00	0.65	0.55	0.42	0.42	1.03	0.28	0.06
Avail Cap(c_a), veh/h	90	750	637	90	0	671	90	1003	1007	135	2226	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.58	0.58	0.58
Uniform Delay (d), s/veh	42.1	38.3	37.0	43.0	0.0	40.2	43.7	10.2	10.2	43.8	17.7	13.5
Incr Delay (d2), s/veh	41.2	0.9	0.2	5.4	0.0	2.1	3.3	0.8	0.8	66.9	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.3	0.7	1.0	0.0	2.1	0.4	5.8	5.8	5.9	6.5	1.2
LnGrp Delay(d),s/veh	83.3	39.2	37.2	48.4	0.0	42.3	47.1	10.9	10.9	111.1	17.9	13.6
LnGrp LOS	F	D	D	D		D	D	B	B	F	B	B
Approach Vol, veh/h		202			120			852			820	
Approach Delay, s/veh		55.0			44.1			11.6			33.3	
Approach LOS		E			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	58.3	6.5	14.2	5.2	64.1	8.5	12.2				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	9.5	14.0	4.0	6.6	2.9	15.6	6.1	6.6				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.6	0.0	3.9	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			26.9									
HCM 2010 LOS			C									

Timings
4: Euclid Av. (SR-83) & Pine Av.

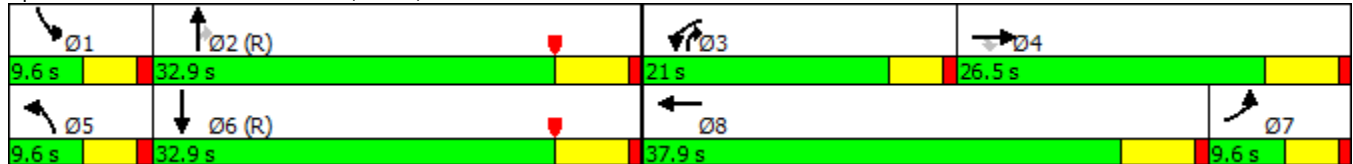


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	326	28	458	72	33	685	1036	56	530
Future Volume (vph)	14	326	28	458	72	33	685	1036	56	530
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.5	26.5	21.0	37.9	9.6	32.9	21.0	9.6	32.9
Total Split (%)	10.7%	29.4%	29.4%	23.3%	42.1%	10.7%	36.6%	23.3%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
 4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	326	28	458	72	29	33	685	1036	56	530	14
Future Volume (veh/h)	14	326	28	458	72	29	33	685	1036	56	530	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	336	0	472	74	24	34	706	635	58	546	10
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	469	377	320	529	110	36	52	1143	785	72	1191	22
Arrive On Green	0.29	0.21	0.00	0.18	0.08	0.08	0.03	0.33	0.33	0.03	0.23	0.23
Sat Flow, veh/h	1619	1800	1530	2956	1303	423	1619	3420	1530	1619	3434	63
Grp Volume(v), veh/h	14	336	0	472	0	98	34	706	635	58	272	284
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1725	1619	1710	1530	1619	1710	1787
Q Serve(g_s), s	0.6	16.3	0.0	14.0	0.0	5.0	1.9	15.6	30.1	3.2	12.3	12.3
Cycle Q Clear(g_c), s	0.6	16.3	0.0	14.0	0.0	5.0	1.9	15.6	30.1	3.2	12.3	12.3
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	469	377	320	529	0	145	52	1143	785	72	593	620
V/C Ratio(X)	0.03	0.89	0.00	0.89	0.00	0.68	0.66	0.62	0.81	0.81	0.46	0.46
Avail Cap(c_a), veh/h	469	412	350	539	0	613	90	1143	785	90	593	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	22.9	34.6	0.0	36.1	0.0	40.0	43.1	25.1	18.2	43.3	27.3	27.3
Incr Delay (d2), s/veh	0.0	20.6	0.0	16.4	0.0	7.6	0.5	0.2	0.9	27.1	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	10.3	0.0	6.9	0.0	2.7	0.8	7.4	13.2	2.0	6.2	6.5
LnGrp Delay(d),s/veh	22.9	55.2	0.0	52.5	0.0	47.6	43.6	25.4	19.1	70.4	29.7	29.6
LnGrp LOS	C	E		D		D	D	C	B	E	C	C
Approach Vol, veh/h		350			570			1375			614	
Approach Delay, s/veh		53.9			51.7			22.9			33.5	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	36.0	20.7	24.7	7.5	37.1	32.0	13.5				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	5.9	* 5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.4	20.6	5.0	27.0	5.0	* 32				
Max Q Clear Time (g_c+I1), s	5.2	32.1	16.0	18.3	3.9	14.3	2.6	7.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	5.0	0.6	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			34.5									
HCM 2010 LOS			C									
Notes												

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

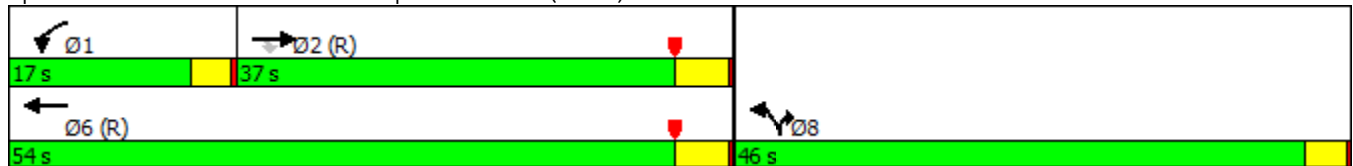


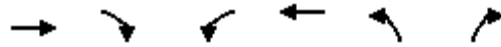
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↙	↑↑	↙↙	↙
Traffic Volume (vph)	748	172	291	773	148	1093
Future Volume (vph)	748	172	291	773	148	1093
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	37.0	37.0	17.0	54.0	46.0	46.0
Total Split (%)	37.0%	37.0%	17.0%	54.0%	46.0%	46.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	748	172	291	773	148	1093		
Future Volume (veh/h)	748	172	291	773	148	1093		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	771	0	300	797	153	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2326	1041	231	2908	232	107		
Arrive On Green	0.46	0.00	0.14	0.85	0.07	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	771	0	300	797	153	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	14.5	0.0	13.5	4.6	4.5	0.0		
Cycle Q Clear(g_c), s	14.5	0.0	13.5	4.6	4.5	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2326	1041	231	2908	232	107		
V/C Ratio(X)	0.33	0.00	1.30	0.27	0.66	0.00		
Avail Cap(c_a), veh/h	2326	1041	231	2908	1413	650		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.77	0.77	1.00	0.00		
Uniform Delay (d), s/veh	12.6	0.0	43.3	1.5	45.4	0.0		
Incr Delay (d2), s/veh	0.4	0.0	155.9	0.2	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.0	0.0	16.4	2.2	2.2	0.0		
LnGrp Delay(d),s/veh	13.0	0.0	199.1	1.6	48.5	0.0		
LnGrp LOS	B		F	A	D			
Approach Vol, veh/h	771			1097	153			
Approach Delay, s/veh	13.0			55.6	48.5			
Approach LOS	B			E	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.0	72.5				89.5		10.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	13.5	32.5				49.5		42.5
Max Q Clear Time (g_c+I1), s	15.5	16.5				6.6		6.5
Green Ext Time (p_c), s	0.0	7.6				10.7		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			38.8					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

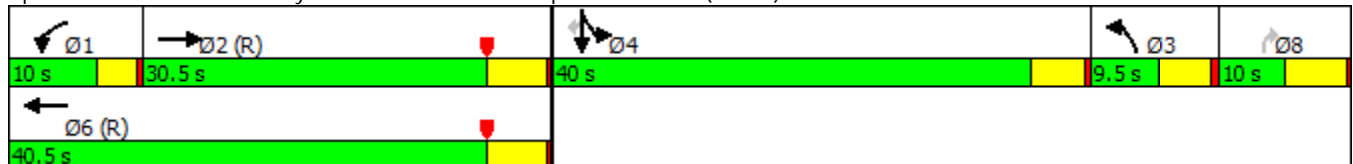


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↗	↖	↖	↗
Traffic Volume (vph)	271	98	196	29	15	703	139	152
Future Volume (vph)	271	98	196	29	15	703	139	152
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	30.5	10.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	30.5%	10.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 54 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Future Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	301	47	109	218	0	32	0	17	891	0	169
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1488	230	105	2055	0	0	0	0	985	0	465
Arrive On Green	0.00	0.50	0.50	0.13	1.00	0.00	0.00	0.00	0.00	0.30	0.00	0.30
Sat Flow, veh/h	0	3060	459	1619	3510	0		0		3238	0	1530
Grp Volume(v), veh/h	0	172	176	109	218	0		0.0		891	0	169
Grp Sat Flow(s),veh/h/ln	0	1710	1719	1619	1710	0				1619	0	1530
Q Serve(g_s), s	0.0	5.6	5.7	6.5	0.0	0.0				26.4	0.0	8.6
Cycle Q Clear(g_c), s	0.0	5.6	5.7	6.5	0.0	0.0				26.4	0.0	8.6
Prop In Lane	0.00		0.27	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	856	861	105	2055	0				985	0	465
V/C Ratio(X)	0.00	0.20	0.20	1.04	0.11	0.00				0.90	0.00	0.36
Avail Cap(c_a), veh/h	0	856	861	105	2055	0				1150	0	543
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.9	13.9	43.5	0.0	0.0				33.4	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.5	0.5	97.7	0.1	0.0				8.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	2.8	5.7	0.0	0.0				13.0	0.0	3.7
LnGrp Delay(d),s/veh	0.0	14.4	14.4	141.8	0.1	0.0				42.3	0.0	27.6
LnGrp LOS		B	B	F	A					D		C
Approach Vol, veh/h		348			327						1060	
Approach Delay, s/veh		14.4			47.3						40.0	
Approach LOS		B			D						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.0	55.1		34.9		65.1						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	6.5	25.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.5	7.7		28.4		2.0						
Green Ext Time (p_c), s	0.0	1.8		2.0		2.0						
Intersection Summary												
HCM 2010 Ctrl Delay				36.2								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	114	398	0	163	112	0	122	41
Future Vol, veh/h	0	114	398	0	163	112	0	122	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	433	0	177	122	0	133	45
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	20.7	11.3	11.4
HCM LOS	C	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	0%	75%
Vol Thru, %	78%	59%	0%
Vol Right, %	0%	41%	25%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	512	275	163
LT Vol	114	0	122
Through Vol	398	163	0
RT Vol	0	112	41
Lane Flow Rate	557	299	177
Geometry Grp	1	1	1
Degree of Util (X)	0.743	0.41	0.292
Departure Headway (Hd)	4.913	4.939	5.928
Convergence, Y/N	Yes	Yes	Yes
Cap	740	732	608
Service Time	2.913	2.939	3.942
HCM Lane V/C Ratio	0.753	0.408	0.291
HCM Control Delay	20.7	11.3	11.4
HCM Lane LOS	C	B	B
HCM 95th-tile Q	6.7	2	1.2

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↓	↑	↓	
Traffic Vol, veh/h	588	68	40	214	57	76
Future Vol, veh/h	588	68	40	214	57	76
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	632	73	43	230	61	82

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	634	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	959	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	959	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	366	-	-	959	-
HCM Lane V/C Ratio	0.391	-	-	0.045	-
HCM Control Delay (s)	21	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Intersection

Intersection Delay, s/veh 59.6

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↑						↑						
Traffic Vol, veh/h	0	0	0	848	0	0	0	0	0	289	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	848	0	0	0	0	0	289	0	0	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	912	0	0	0	0	0	311	0	0	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	74.5	15.7
HCM LOS	F	C

Lane	NBLn1	EBLn1
Vol Left, %	100%	0%
Vol Thru, %	0%	0%
Vol Right, %	0%	100%
Sign Control	Stop	Stop
Traffic Vol by Lane	289	848
LT Vol	289	0
Through Vol	0	0
RT Vol	0	848
Lane Flow Rate	311	912
Geometry Grp	1	1
Degree of Util (X)	0.519	1.08
Departure Headway (Hd)	6.227	4.262
Convergence, Y/N	Yes	Yes
Cap	584	848
Service Time	4.227	2.315
HCM Lane V/C Ratio	0.533	1.075
HCM Control Delay	15.7	74.5
HCM Lane LOS	C	F
HCM 95th-tile Q	3	23

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

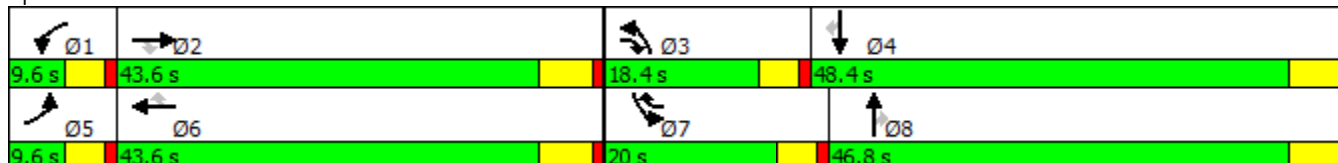


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	1190	387	22	503	148	135	101	32	536	228	15
Future Volume (vph)	9	1190	387	22	503	148	135	101	32	536	228	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
 11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1190	387	22	503	148	135	101	32	536	228	15
Future Volume (veh/h)	9	1190	387	22	503	148	135	101	32	536	228	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	9	1227	370	23	519	148	139	104	25	553	235	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	1456	756	73	1502	950	202	419	187	537	806	360
Arrive On Green	0.01	0.43	0.43	0.02	0.44	0.44	0.07	0.12	0.12	0.18	0.24	0.24
Sat Flow, veh/h	2956	3420	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	9	1227	370	23	519	148	139	104	25	553	235	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.3	27.2	13.7	0.6	8.5	3.4	3.9	2.3	1.2	15.4	4.8	0.6
Cycle Q Clear(g_c), s	0.3	27.2	13.7	0.6	8.5	3.4	3.9	2.3	1.2	15.4	4.8	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1456	756	73	1502	950	202	419	187	537	806	360
V/C Ratio(X)	0.27	0.84	0.49	0.32	0.35	0.16	0.69	0.25	0.13	1.03	0.29	0.04
Avail Cap(c_a), veh/h	174	1526	787	174	1526	961	481	1655	740	537	1719	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	21.8	14.3	40.6	15.7	6.7	38.6	33.7	33.2	34.7	26.6	25.0
Incr Delay (d2), s/veh	1.6	4.3	0.5	0.9	0.1	0.1	1.6	0.3	0.3	46.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	13.7	5.8	0.3	4.0	1.5	1.6	1.1	0.5	9.7	2.3	0.3
LnGrp Delay(d),s/veh	43.1	26.1	14.8	41.5	15.8	6.8	40.2	34.0	33.5	81.2	26.8	25.0
LnGrp LOS	D	C	B	D	B	A	D	C	C	F	C	C
Approach Vol, veh/h		1606			690			268			802	
Approach Delay, s/veh		23.6			14.8			37.1			64.3	
Approach LOS		C			B			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	41.9	10.4	25.8	5.6	43.0	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	2.6	29.2	5.9	6.8	2.3	10.5	17.4	4.3				
Green Ext Time (p_c), s	0.0	6.9	0.1	2.2	0.0	16.4	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.6									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	657	12	0	260	0	43
Future Vol, veh/h	657	12	0	260	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	714	13	0	283	0	47

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	721
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	431
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	431
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	431	-	-	-
HCM Lane V/C Ratio	0.108	-	-	-
HCM Control Delay (s)	14.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-

Timings
13: Driveway 2 & Merrill Av.

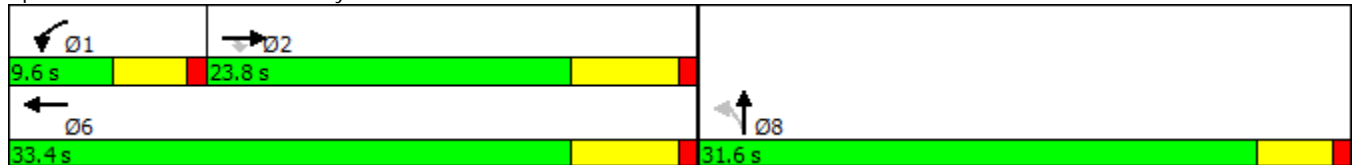


Lane Group	EBT	EBR	WBL	WBT	NBT
Lane Configurations	↑↑	↑	↑	↑	↕
Traffic Volume (vph)	694	6	34	214	0
Future Volume (vph)	694	6	34	214	0
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	2		1	6	8
Permitted Phases		2			
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.2	23.2	9.6	16.2	31.6
Total Split (s)	23.8	23.8	9.6	33.4	31.6
Total Split (%)	36.6%	36.6%	14.8%	51.4%	48.6%
Yellow Time (s)	5.2	5.2	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	4.6
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 42.3
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated













Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
 13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Traffic Volume (veh/h)	0	694	6	34	214	0	45	0	60	0	0	0
Future Volume (veh/h)	0	694	6	34	214	0	45	0	60	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	1800	1800			
Adj Flow Rate, veh/h	0	754	7	37	233	0	49	0	65			
Adj No. of Lanes	0	2	1	1	1	0	0	1	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	1119	501	68	870	0	171	0	227			
Arrive On Green	0.00	0.33	0.33	0.04	0.48	0.00	0.25	0.00	0.25			
Sat Flow, veh/h	0	3510	1530	1619	1800	0	689	0	915			
Grp Volume(v), veh/h	0	754	7	37	233	0	114	0	0			
Grp Sat Flow(s),veh/h/ln	0	1710	1530	1619	1800	0	1604	0	0			
Q Serve(g_s), s	0.0	7.7	0.1	0.9	3.1	0.0	2.3	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	7.7	0.1	0.9	3.1	0.0	2.3	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.43		0.57			
Lane Grp Cap(c), veh/h	0	1119	501	68	870	0	398	0	0			
V/C Ratio(X)	0.00	0.67	0.01	0.54	0.27	0.00	0.29	0.00	0.00			
Avail Cap(c_a), veh/h	0	1494	669	201	1216	0	1075	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	11.7	9.2	18.9	6.2	0.0	12.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.7	0.0	2.5	0.2	0.0	0.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.7	0.1	0.4	1.5	0.0	1.1	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	12.4	9.2	21.4	6.3	0.0	12.6	0.0	0.0			
LnGrp LOS		B	A	C	A		B					
Approach Vol, veh/h		761			270			114				
Approach Delay, s/veh		12.4			8.4			12.6				
Approach LOS		B			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.3	19.4				25.7		14.6				
Change Period (Y+Rc), s	4.6	6.2				6.2		4.6				
Max Green Setting (Gmax), s	5.0	17.6				27.2		27.0				
Max Q Clear Time (g_c+I1), s	2.9	9.7				5.1		4.3				
Green Ext Time (p_c), s	0.0	3.5				6.0		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.5								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↘	↑↑↑	↑↑↑
Traffic Volume (vph)	6	185	410	495	1072
Future Volume (vph)	6	185	410	495	1072
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	349	6	185	410	495	0	0	1072	376
Future Volume (veh/h)	0	0	0	349	6	185	410	495	0	0	1072	376
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				379	7	85	446	538	0	0	1165	269
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				416	8	378	448	3056	0	0	1425	327
Arrive On Green				0.25	0.25	0.25	0.55	1.00	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1685	31	1530	1619	5076	0	0	5325	1163
Grp Volume(v), veh/h				386	0	85	446	538	0	0	1066	368
Grp Sat Flow(s),veh/h/ln				1716	0	1530	1619	1638	0	0	1548	1592
Q Serve(g_s), s				19.7	0.0	4.0	24.7	0.0	0.0	0.0	19.3	19.5
Cycle Q Clear(g_c), s				19.7	0.0	4.0	24.7	0.0	0.0	0.0	19.3	19.5
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.73
Lane Grp Cap(c), veh/h				424	0	378	448	3056	0	0	1304	447
V/C Ratio(X)				0.91	0.00	0.22	1.00	0.18	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				438	0	391	448	3056	0	0	1404	481
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.65	0.65	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.9	0.0	27.0	20.0	0.0	0.0	0.0	30.2	30.3
Incr Delay (d2), s/veh				23.8	0.0	0.6	33.1	0.1	0.0	0.0	5.8	15.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.1	0.0	3.8	14.8	0.0	0.0	0.0	8.9	10.4
LnGrp Delay(d),s/veh				56.7	0.0	27.7	53.1	0.1	0.0	0.0	36.0	46.0
LnGrp LOS				E		C	D	A			D	D
Approach Vol, veh/h					471			984			1434	
Approach Delay, s/veh					51.5			24.1			38.5	
Approach LOS					D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.8		28.2	30.7	31.1						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		21.7	26.7	21.5						
Green Ext Time (p_c), s		3.8		0.5	0.0	3.8						
Intersection Summary												
HCM 2010 Ctrl Delay				35.7								
HCM 2010 LOS				D								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	5	418	796	273	1148
Future Volume (vph)	5	418	796	273	1148
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

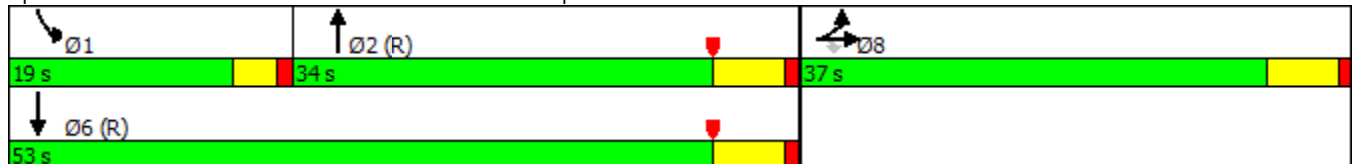
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	5	418	0	0	0	0	796	483	273	1148	0
Future Volume (veh/h)	109	5	418	0	0	0	0	796	483	273	1148	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	117	5	248				0	856	348	294	1234	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	317	14	294				0	2172	700	270	3336	0
Arrive On Green	0.19	0.19	0.19				0.00	0.47	0.47	0.06	0.22	0.00
Sat Flow, veh/h	1647	70	1530				0	4896	1496	1619	5076	0
Grp Volume(v), veh/h	122	0	248				0	856	348	294	1234	0
Grp Sat Flow(s),veh/h/ln	1718	0	1530				0	1548	1496	1619	1638	0
Q Serve(g_s), s	5.6	0.0	14.1				0.0	10.8	14.5	15.0	19.1	0.0
Cycle Q Clear(g_c), s	5.6	0.0	14.1				0.0	10.8	14.5	15.0	19.1	0.0
Prop In Lane	0.96		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	330	0	294				0	2172	700	270	3336	0
V/C Ratio(X)	0.37	0.00	0.84				0.00	0.39	0.50	1.09	0.37	0.00
Avail Cap(c_a), veh/h	595	0	530				0	2172	700	270	3336	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	0.43	0.43	0.00
Uniform Delay (d), s/veh	31.6	0.0	35.0				0.0	15.6	16.6	42.5	18.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	6.5				0.0	0.5	2.2	62.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	6.4				0.0	4.7	6.4	11.4	8.8	0.0
LnGrp Delay(d),s/veh	32.3	0.0	41.5				0.0	16.1	18.8	105.2	18.8	0.0
LnGrp LOS	C		D					B	B	F	B	
Approach Vol, veh/h		370						1204			1528	
Approach Delay, s/veh		38.5						16.9			35.4	
Approach LOS		D						B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	47.9				66.9		23.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	16.5				21.1		16.1				
Green Ext Time (p_c), s	0.0	9.6				18.1		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

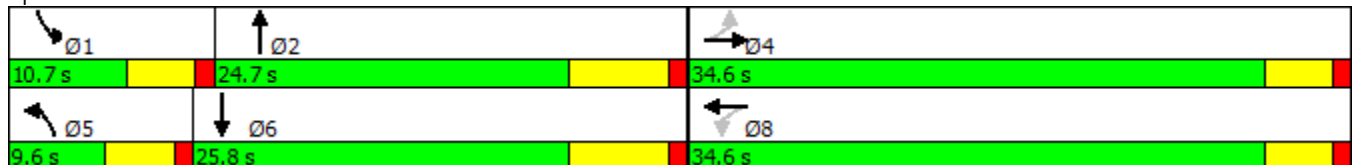


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↙	←	↖	↑↑↑	↙	↓↓↓
Traffic Volume (vph)	17	7	26	13	63	924	110	1217
Future Volume (vph)	17	7	26	13	63	924	110	1217
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	24.7	10.7	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.3%	15.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 48.1
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated























Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

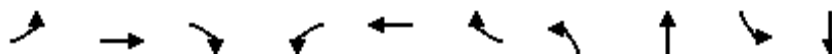
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	7	30	26	13	64	63	924	28	110	1217	18
Future Volume (veh/h)	17	7	30	26	13	64	63	924	28	110	1217	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	7	5	27	14	13	66	973	29	116	1281	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	361	157	112	376	138	128	103	1923	57	142	2082	29
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.06	0.39	0.39	0.09	0.42	0.42
Sat Flow, veh/h	1318	978	699	1345	858	797	1619	4900	146	1619	4993	70
Grp Volume(v), veh/h	18	0	12	27	0	27	66	650	352	116	840	459
Grp Sat Flow(s),veh/h/ln	1318	0	1677	1345	0	1655	1619	1638	1770	1619	1638	1788
Q Serve(g_s), s	0.5	0.0	0.3	0.7	0.0	0.6	1.7	6.5	6.5	3.0	8.6	8.6
Cycle Q Clear(g_c), s	1.1	0.0	0.3	1.0	0.0	0.6	1.7	6.5	6.5	3.0	8.6	8.6
Prop In Lane	1.00		0.42	1.00		0.48	1.00		0.08	1.00		0.04
Lane Grp Cap(c), veh/h	361	0	269	376	0	266	103	1286	695	142	1366	745
V/C Ratio(X)	0.05	0.00	0.04	0.07	0.00	0.10	0.64	0.51	0.51	0.82	0.62	0.62
Avail Cap(c_a), veh/h	1071	0	1172	1100	0	1157	189	1413	763	230	1497	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	15.2	15.6	0.0	15.4	19.6	9.9	9.9	19.2	9.8	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	0.2	2.5	0.3	0.6	4.6	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.3	0.8	2.9	3.2	1.5	4.0	4.5
LnGrp Delay(d),s/veh	15.9	0.0	15.3	15.7	0.0	15.5	22.1	10.2	10.5	23.9	10.5	11.0
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		30			54			1068			1415	
Approach Delay, s/veh		15.6			15.6			11.0			11.7	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	23.0		11.5	7.3	24.1		11.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.1	18.5		30.0	5.0	19.6		30.0				
Max Q Clear Time (g_c+I1), s	5.0	8.5		3.1	3.7	10.6		3.0				
Green Ext Time (p_c), s	0.0	7.9		0.3	0.0	7.2		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				11.6								
HCM 2010 LOS				B								

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

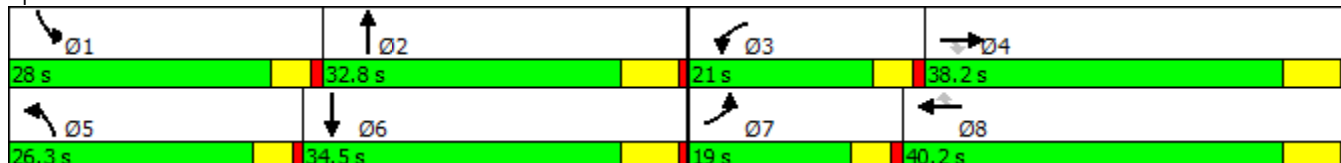


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	162	624	229	182	390	118	219	594	264	714
Future Volume (vph)	162	624	229	182	390	118	219	594	264	714
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	624	229	182	390	118	219	594	133	264	714	188
Future Volume (veh/h)	162	624	229	182	390	118	219	594	133	264	714	188
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	172	664	172	194	415	70	233	632	124	281	760	128
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	198	871	380	220	919	410	260	910	176	307	1055	176
Arrive On Green	0.12	0.25	0.25	0.14	0.27	0.27	0.16	0.22	0.22	0.19	0.25	0.25
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	1619	4129	798	1619	4228	705
Grp Volume(v), veh/h	172	664	172	194	415	70	233	499	257	281	587	301
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1619	1638	1650	1619	1638	1658
Q Serve(g_s), s	11.3	19.5	10.5	12.8	11.0	3.8	15.3	15.2	15.6	18.5	17.8	18.1
Cycle Q Clear(g_c), s	11.3	19.5	10.5	12.8	11.0	3.8	15.3	15.2	15.6	18.5	17.8	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.43
Lane Grp Cap(c), veh/h	198	871	380	220	919	410	260	722	364	307	817	414
V/C Ratio(X)	0.87	0.76	0.45	0.88	0.45	0.17	0.90	0.69	0.71	0.91	0.72	0.73
Avail Cap(c_a), veh/h	215	1009	440	245	1072	478	324	803	405	349	854	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	37.4	34.0	46.0	33.0	30.4	44.7	38.9	39.0	43.1	37.2	37.3
Incr Delay (d2), s/veh	26.3	3.0	0.8	25.4	0.3	0.2	20.2	2.2	4.9	24.6	2.8	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	9.6	4.4	7.3	5.2	1.6	8.3	7.1	7.5	10.4	8.4	8.9
LnGrp Delay(d),s/veh	73.1	40.4	34.9	71.4	33.4	30.6	64.9	41.2	43.9	67.7	40.0	43.1
LnGrp LOS	E	D	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1008			679			989			1169	
Approach Delay, s/veh		45.0			43.9			47.5			47.5	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	30.1	19.4	33.8	22.0	33.3	17.9	35.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	20.5	17.6	14.8	21.5	17.3	20.1	13.3	13.0				
Green Ext Time (p_c), s	0.1	5.8	0.0	5.2	0.1	5.4	0.0	7.5				
Intersection Summary												
HCM 2010 Ctrl Delay			46.2									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

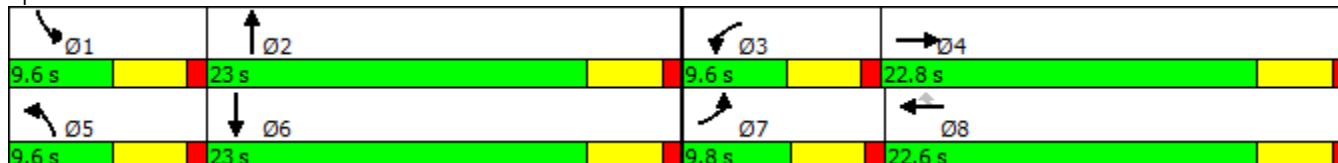


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↑↑↑	↖	↗
Traffic Volume (vph)	95	96	16	15	79	30	773	86	866
Future Volume (vph)	95	96	16	15	79	30	773	86	866
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 47
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

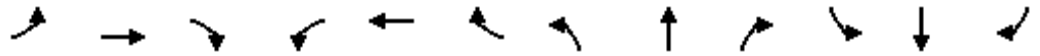
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	96	42	16	15	79	30	773	30	86	866	21
Future Volume (veh/h)	95	96	42	16	15	79	30	773	30	86	866	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	97	98	40	16	15	20	31	789	26	88	884	21
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	127	195	79	33	183	156	58	1615	53	121	1261	30
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.04	0.33	0.33	0.07	0.37	0.37
Sat Flow, veh/h	1619	1216	496	1619	1800	1530	1619	4883	161	1619	3414	81
Grp Volume(v), veh/h	97	0	138	16	15	20	31	529	286	88	443	462
Grp Sat Flow(s),veh/h/ln	1619	0	1712	1619	1800	1530	1619	1638	1767	1619	1710	1785
Q Serve(g_s), s	2.6	0.0	3.3	0.4	0.3	0.5	0.8	5.7	5.7	2.4	9.8	9.8
Cycle Q Clear(g_c), s	2.6	0.0	3.3	0.4	0.3	0.5	0.8	5.7	5.7	2.4	9.8	9.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	127	0	274	33	183	156	58	1083	584	121	632	660
V/C Ratio(X)	0.76	0.00	0.50	0.49	0.08	0.13	0.54	0.49	0.49	0.73	0.70	0.70
Avail Cap(c_a), veh/h	190	0	702	182	730	620	182	1358	733	182	709	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	17.0	21.5	18.1	18.1	21.0	11.9	11.9	20.1	11.9	11.9
Incr Delay (d2), s/veh	9.7	0.0	1.4	10.9	0.2	0.4	7.5	0.3	0.6	8.1	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.6	0.3	0.2	0.2	0.5	2.6	2.9	1.3	5.0	5.2
LnGrp Delay(d),s/veh	29.8	0.0	18.5	32.4	18.3	18.5	28.5	12.2	12.5	28.2	14.6	14.5
LnGrp LOS	C		B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		235			51			846			993	
Approach Delay, s/veh		23.1			22.8			12.9			15.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	19.3	5.5	11.7	6.2	21.0	8.1	9.1				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	4.4	7.7	2.4	5.3	2.8	11.8	4.6	2.5				
Green Ext Time (p_c), s	0.0	6.6	0.0	0.6	0.0	4.6	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

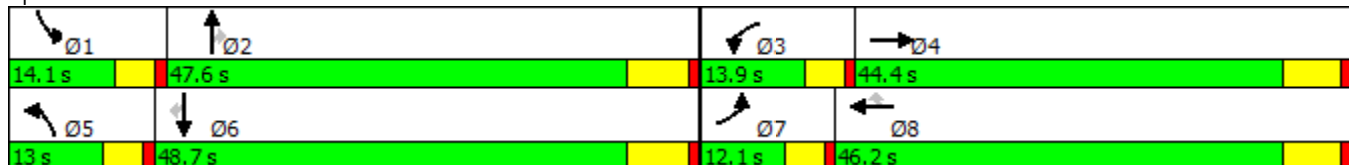


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	109	50	106	248	153	37	65	707	253	37	836	40
Future Volume (vph)	109	50	106	248	153	37	65	707	253	37	836	40
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 75.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	50	106	248	153	37	65	707	253	37	836	40
Future Volume (veh/h)	109	50	106	248	153	37	65	707	253	37	836	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	110	51	0	251	155	17	66	714	0	37	844	31
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	186	485	217	328	342	291	83	1366	611	59	1315	588
Arrive On Green	0.06	0.14	0.00	0.11	0.19	0.19	0.05	0.40	0.00	0.04	0.38	0.38
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	110	51	0	251	155	17	66	714	0	37	844	31
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	2.6	0.9	0.0	5.8	5.4	0.6	2.8	11.2	0.0	1.6	14.2	0.9
Cycle Q Clear(g_c), s	2.6	0.9	0.0	5.8	5.4	0.6	2.8	11.2	0.0	1.6	14.2	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	485	217	328	342	291	83	1366	611	59	1315	588
V/C Ratio(X)	0.59	0.11	0.00	0.76	0.45	0.06	0.79	0.52	0.00	0.62	0.64	0.05
Avail Cap(c_a), veh/h	315	1856	830	390	1023	869	193	1996	893	218	2050	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	26.3	0.0	30.4	25.3	23.3	33.0	16.0	0.0	33.4	17.7	13.6
Incr Delay (d2), s/veh	1.1	0.1	0.0	5.8	0.9	0.1	6.2	0.3	0.0	4.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.0	2.6	2.8	0.3	1.4	5.3	0.0	0.8	6.8	0.4
LnGrp Delay(d),s/veh	33.2	26.4	0.0	36.2	26.2	23.4	39.2	16.4	0.0	37.4	18.2	13.6
LnGrp LOS	C	C		D	C	C	D	B		D	B	B
Approach Vol, veh/h		161			423			780			912	
Approach Delay, s/veh		31.1			32.0			18.3			18.9	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	34.6	12.4	16.2	8.2	33.6	9.0	19.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	3.6	13.2	7.8	2.9	4.8	16.2	4.6	7.4				
Green Ext Time (p_c), s	0.0	11.2	0.1	1.1	0.0	10.9	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.0									
HCM 2010 LOS			C									

Timings
21: Archibald Av. & Eucalyptus Av.

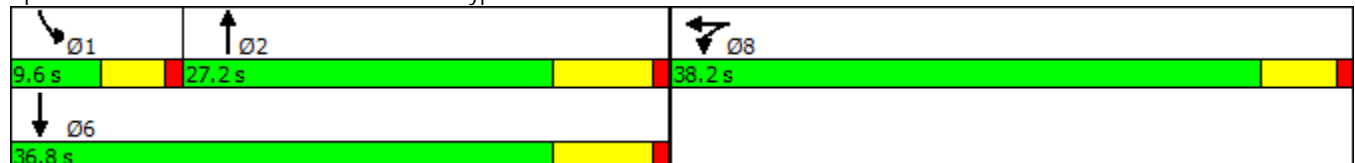


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	0	1010	47	1149
Future Volume (vph)	0	1010	47	1149
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	38.2	27.2	9.6	36.8
Total Split (%)	50.9%	36.3%	12.8%	49.1%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 52.9
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	2	0	22	0	1010	30	47	1149	0
Future Volume (veh/h)	0	0	0	2	0	22	0	1010	30	47	1149	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	10	0	1098	31	51	1249	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				8	0	41	0	1672	47	88	2277	0
Arrive On Green				0.03	0.00	0.03	0.00	0.49	0.49	0.05	0.67	0.00
Sat Flow, veh/h				260	0	1298	0	3487	96	1619	3510	0
Grp Volume(v), veh/h				12	0	0	0	553	576	51	1249	0
Grp Sat Flow(s),veh/h/ln				1558	0	0	0	1710	1783	1619	1710	0
Q Serve(g_s), s				0.3	0.0	0.0	0.0	9.4	9.4	1.2	7.4	0.0
Cycle Q Clear(g_c), s				0.3	0.0	0.0	0.0	9.4	9.4	1.2	7.4	0.0
Prop In Lane				0.17		0.83	0.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h				49	0	0	0	842	878	88	2277	0
V/C Ratio(X)				0.25	0.00	0.00	0.00	0.66	0.66	0.58	0.55	0.00
Avail Cap(c_a), veh/h				1331	0	0	0	916	955	210	2682	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				18.3	0.0	0.0	0.0	7.4	7.4	17.8	3.4	0.0
Incr Delay (d2), s/veh				2.6	0.0	0.0	0.0	1.5	1.5	2.2	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.0	0.0	4.7	4.8	0.6	3.4	0.0
LnGrp Delay(d),s/veh				20.9	0.0	0.0	0.0	8.9	8.8	20.0	3.6	0.0
LnGrp LOS				C				A	A	C	A	
Approach Vol, veh/h					12			1129			1300	
Approach Delay, s/veh					20.9			8.9			4.2	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.7	25.5				32.2		6.4				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	20.7				30.3		33.0				
Max Q Clear Time (g_c+I1), s	3.2	11.4				9.4		2.3				
Green Ext Time (p_c), s	0.0	7.6				14.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					6.5							
HCM 2010 LOS					A							

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

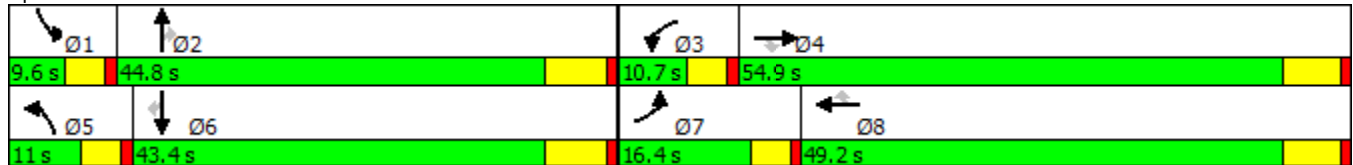


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	25	386	50	8	47	109	641	21	22	988	131
Future Volume (vph)	344	25	386	50	8	47	109	641	21	22	988	131
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	25	386	50	8	47	109	641	21	22	988	131
Future Volume (veh/h)	344	25	386	50	8	47	109	641	21	22	988	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	358	26	237	52	8	7	114	668	8	23	1029	125
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	401	341	68	219	186	126	1518	679	73	1337	598
Arrive On Green	0.14	0.22	0.22	0.04	0.12	0.12	0.08	0.44	0.44	0.02	0.39	0.39
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	358	26	237	52	8	7	114	668	8	23	1029	125
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	11.8	0.9	11.7	2.6	0.3	0.3	5.7	11.1	0.2	0.6	21.6	4.5
Cycle Q Clear(g_c), s	11.8	0.9	11.7	2.6	0.3	0.3	5.7	11.1	0.2	0.6	21.6	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	401	341	68	219	186	126	1518	679	73	1337	598
V/C Ratio(X)	1.54	0.06	0.70	0.76	0.04	0.04	0.90	0.44	0.01	0.31	0.77	0.21
Avail Cap(c_a), veh/h	232	1066	906	120	941	800	126	1592	712	180	1534	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	25.2	29.4	39.0	31.9	31.9	37.6	15.8	12.8	39.4	21.8	16.6
Incr Delay (d2), s/veh	263.9	0.1	2.6	6.3	0.1	0.1	51.1	0.2	0.0	0.9	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	0.5	5.2	1.3	0.2	0.1	4.4	5.2	0.1	0.3	10.5	1.9
LnGrp Delay(d),s/veh	299.2	25.3	32.0	45.3	31.9	32.0	88.7	16.0	12.8	40.3	24.0	16.8
LnGrp LOS	F	C	C	D	C	C	F	B	B	D	C	B
Approach Vol, veh/h		621			67			790			1177	
Approach Delay, s/veh		185.7			42.3			26.5			23.5	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	43.0	8.1	24.5	11.0	38.7	16.4	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	2.6	13.1	4.6	13.7	7.7	23.6	13.8	2.3				
Green Ext Time (p_c), s	0.0	12.8	0.0	0.9	0.0	8.6	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			62.8									
HCM 2010 LOS			E									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	24	0	771	1333	15
Future Vol, veh/h	0	24	0	771	1333	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	838	1449	16

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	733	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	368	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	368	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	368	-	-
HCM Lane V/C Ratio	-	0.071	-	-
HCM Control Delay (s)	-	15.5	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Timings
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗	↗
Traffic Volume (vph)	77	0	50	0	33	662	22	1322	13
Future Volume (vph)	77	0	50	0	33	662	22	1322	13
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.6	9.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	15.4	36.4	14.6	35.6	10.1	58.1	10.9	58.9	58.9
Total Split (%)	12.8%	30.3%	12.2%	29.7%	8.4%	48.4%	9.1%	49.1%	49.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 80.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4

10.9 s	58.1 s	14.6 s	36.4 s
10.1 s	58.9 s	15.4 s	35.6 s

HCM 2010 Signalized Intersection Summary
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	29	50	0	32	33	662	150	22	1322	13
Future Volume (veh/h)	77	0	29	50	0	32	33	662	150	22	1322	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	84	0	32	54	0	35	36	720	163	24	1437	14
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	105	0	183	70	0	151	56	1559	353	42	1894	848
Arrive On Green	0.07	0.00	0.12	0.04	0.00	0.10	0.03	0.56	0.56	0.03	0.55	0.55
Sat Flow, veh/h	1619	0	1530	1619	0	1530	1619	2772	627	1619	3420	1530
Grp Volume(v), veh/h	84	0	32	54	0	35	36	444	439	24	1437	14
Grp Sat Flow(s),veh/h/ln	1619	0	1530	1619	0	1530	1619	1710	1689	1619	1710	1530
Q Serve(g_s), s	4.1	0.0	1.5	2.7	0.0	1.7	1.8	12.4	12.4	1.2	26.0	0.3
Cycle Q Clear(g_c), s	4.1	0.0	1.5	2.7	0.0	1.7	1.8	12.4	12.4	1.2	26.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	105	0	183	70	0	151	56	962	950	42	1894	848
V/C Ratio(X)	0.80	0.00	0.17	0.77	0.00	0.23	0.65	0.46	0.46	0.57	0.76	0.02
Avail Cap(c_a), veh/h	217	0	604	201	0	589	111	1102	1088	127	2238	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	0.0	31.9	38.1	0.0	33.5	38.4	10.4	10.4	38.8	13.8	8.1
Incr Delay (d2), s/veh	12.8	0.0	0.4	15.7	0.0	0.8	12.0	0.3	0.4	11.9	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.7	1.5	0.0	0.8	1.0	5.9	5.8	0.7	12.5	0.1
LnGrp Delay(d),s/veh	49.9	0.0	32.3	53.8	0.0	34.3	50.4	10.8	10.8	50.7	15.1	8.1
LnGrp LOS	D		C	D		C	D	B	B	D	B	A
Approach Vol, veh/h		116			89			919			1475	
Approach Delay, s/veh		45.0			46.2			12.3			15.6	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	51.5	8.1	14.3	7.4	50.8	9.8	12.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	4.6	4.6	6.2	4.6	4.6				
Max Green Setting (Gmax), s	6.3	51.9	10.0	31.8	5.5	52.7	10.8	31.0				
Max Q Clear Time (g_c+I1), s	3.2	14.4	4.7	3.5	3.8	28.0	6.1	3.7				
Green Ext Time (p_c), s	0.0	21.6	0.0	0.4	0.0	16.6	0.1	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.8									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	24	0	845	1393	8
Future Vol, veh/h	0	24	0	845	1393	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	918	1514	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	757	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	355	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	355	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	355	-	-
HCM Lane V/C Ratio	-	0.073	-	-
HCM Control Delay (s)	-	15.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

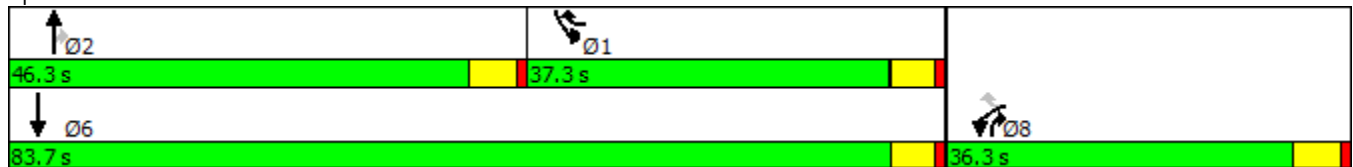














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↕	↷	↶	↷
Traffic Volume (vph)	347	241	603	382	635	783
Future Volume (vph)	347	241	603	382	635	783
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.3	46.3	36.3	37.3	83.7
Total Split (%)	30.3%	31.1%	38.6%	30.3%	31.1%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	347	241	603	382	635	783		
Future Volume (veh/h)	347	241	603	382	635	783		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	390	229	678	429	713	880		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	419	825	674	946	505	1291		
Arrive On Green	0.23	0.23	0.35	0.35	0.28	0.68		
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900		
Grp Volume(v), veh/h	390	229	678	429	713	880		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900		
Q Serve(g_s), s	24.4	0.0	41.0	17.3	32.3	32.0		
Cycle Q Clear(g_c), s	24.4	0.0	41.0	17.3	32.3	32.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	419	825	674	946	505	1291		
V/C Ratio(X)	0.93	0.28	1.01	0.45	1.41	0.68		
Avail Cap(c_a), veh/h	485	884	674	946	505	1293		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.6	16.1	37.3	13.5	41.7	11.1		
Incr Delay (d2), s/veh	21.9	0.1	36.3	0.4	196.4	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.8	4.2	28.1	12.1	43.6	17.1		
LnGrp Delay(d),s/veh	65.4	16.2	73.7	13.9	238.1	12.3		
LnGrp LOS	E	B	F	B	F	B		
Approach Vol, veh/h	619		1107			1593		
Approach Delay, s/veh	47.2		50.5			113.3		
Approach LOS	D		D			F		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.3	46.3				83.6		32.1
Change Period (Y+Rc), s	5.0	5.3				5.0		5.3
Max Green Setting (Gmax), s	32.3	41.0				78.7		31.0
Max Q Clear Time (g_c+I1), s	34.3	43.0				34.0		26.4
Green Ext Time (p_c), s	0.0	0.0				7.7		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			80.1					
HCM 2010 LOS			F					

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

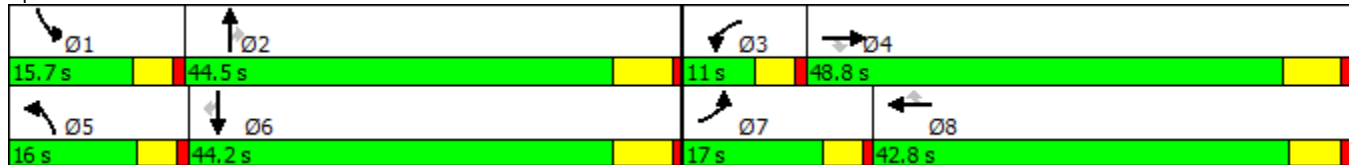


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	240	1075	464	103	319	37	221	456	103	173	626	381
Future Volume (vph)	240	1075	464	103	319	37	221	456	103	173	626	381
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
 27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1075	464	103	319	37	221	456	103	173	626	381
Future Volume (veh/h)	240	1075	464	103	319	37	221	456	103	173	626	381
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	255	1144	407	110	339	34	235	485	75	184	666	268
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	328	1872	570	173	1643	505	307	1512	461	256	1436	437
Arrive On Green	0.09	0.36	0.36	0.05	0.32	0.32	0.09	0.29	0.29	0.07	0.28	0.28
Sat Flow, veh/h	3510	5187	1579	3510	5187	1594	3510	5187	1581	3510	5187	1578
Grp Volume(v), veh/h	255	1144	407	110	339	34	235	485	75	184	666	268
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1594	1755	1729	1581	1755	1729	1578
Q Serve(g_s), s	6.8	17.3	21.3	2.9	4.6	1.4	6.3	7.0	3.4	4.9	10.2	14.2
Cycle Q Clear(g_c), s	6.8	17.3	21.3	2.9	4.6	1.4	6.3	7.0	3.4	4.9	10.2	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	1872	570	173	1643	505	307	1512	461	256	1436	437
V/C Ratio(X)	0.78	0.61	0.71	0.63	0.21	0.07	0.77	0.32	0.16	0.72	0.46	0.61
Avail Cap(c_a), veh/h	454	2306	702	234	2003	616	418	2073	632	407	2057	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	26.4	44.7	23.9	22.9	42.8	26.5	25.2	43.5	28.7	30.2
Incr Delay (d2), s/veh	3.6	0.3	2.6	1.4	0.1	0.1	3.6	0.1	0.2	1.4	0.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	8.3	9.6	1.5	2.2	0.6	3.2	3.3	1.5	2.4	4.9	6.3
LnGrp Delay(d),s/veh	46.0	25.4	29.0	46.1	24.0	22.9	46.4	26.6	25.4	44.9	29.0	31.6
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1806			483			795			1118	
Approach Delay, s/veh		29.2			29.0			32.4			32.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	34.1	9.3	40.8	13.0	32.7	13.6	36.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	6.9	9.0	4.9	23.3	8.3	16.2	8.8	6.6				
Green Ext Time (p_c), s	0.1	9.6	0.0	11.0	0.1	8.7	0.2	13.9				
Intersection Summary												
HCM 2010 Ctrl Delay			30.6									
HCM 2010 LOS			C									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

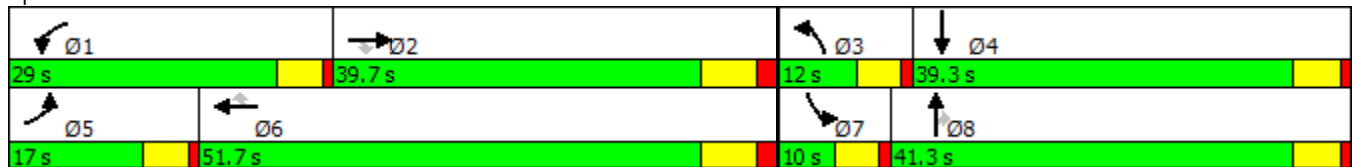


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑	↘	↙	↑	↘	↙	↘
Traffic Volume (vph)	76	896	44	201	524	9	39	46	151	12	25
Future Volume (vph)	76	896	44	201	524	9	39	46	151	12	25
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	896	44	201	524	9	39	46	151	12	25	27
Future Volume (veh/h)	76	896	44	201	524	9	39	46	151	12	25	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	84	996	48	223	582	10	43	51	139	13	28	23
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	110	1831	558	272	1597	714	76	246	206	29	100	82
Arrive On Green	0.06	0.35	0.35	0.15	0.44	0.44	0.04	0.13	0.13	0.02	0.10	0.10
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1590	1810	959	788
Grp Volume(v), veh/h	84	996	48	223	582	10	43	51	139	13	0	51
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1590	1810	0	1748
Q Serve(g_s), s	2.9	9.8	1.3	7.6	6.8	0.2	1.5	1.5	5.3	0.5	0.0	1.7
Cycle Q Clear(g_c), s	2.9	9.8	1.3	7.6	6.8	0.2	1.5	1.5	5.3	0.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	110	1831	558	272	1597	714	76	246	206	29	0	182
V/C Ratio(X)	0.76	0.54	0.09	0.82	0.36	0.01	0.57	0.21	0.67	0.45	0.00	0.28
Avail Cap(c_a), veh/h	342	2671	814	684	2541	1137	199	1077	901	142	0	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	16.5	13.7	26.2	11.8	9.9	29.9	24.7	26.4	31.0	0.0	26.3
Incr Delay (d2), s/veh	4.1	0.3	0.1	2.4	0.1	0.0	2.5	0.4	3.8	3.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.7	0.6	4.0	3.4	0.1	0.8	0.8	2.5	0.3	0.0	0.9
LnGrp Delay(d),s/veh	33.4	16.7	13.8	28.5	11.9	9.9	32.3	25.1	30.2	34.9	0.0	27.1
LnGrp LOS	C	B	B	C	B	A	C	C	C	C		C
Approach Vol, veh/h		1128			815			233			64	
Approach Delay, s/veh		17.8			16.4			29.5			28.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	29.4	7.7	11.9	8.9	35.1	6.0	13.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	9.6	11.8	3.5	3.7	4.9	8.8	2.5	7.3				
Green Ext Time (p_c), s	0.1	10.6	0.0	0.9	0.0	13.5	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.8									
HCM 2010 LOS			B									

Timings
29: Sumner Av. & Limonite Av.

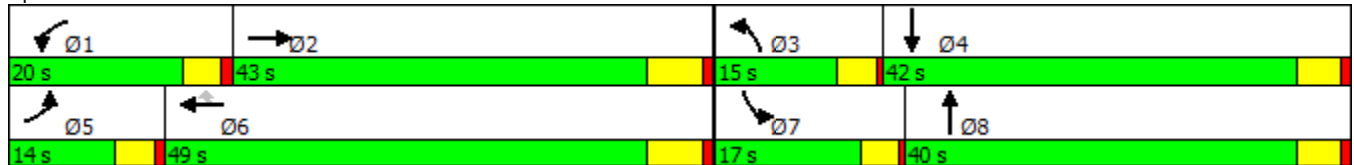


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	86	861	192	589	50	49	71	70	125
Future Volume (vph)	86	861	192	589	50	49	71	70	125
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 65.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated































Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 	 		 	
Traffic Volume (veh/h)	86	861	60	192	589	50	49	71	156	70	125	67
Future Volume (veh/h)	86	861	60	192	589	50	49	71	156	70	125	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	888	56	198	607	31	51	73	87	72	129	42
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1888	119	312	2145	667	71	235	209	92	382	119
Arrive On Green	0.05	0.38	0.38	0.09	0.41	0.41	0.04	0.13	0.13	0.05	0.14	0.14
Sat Flow, veh/h	3510	4988	314	3510	5187	1614	1810	1805	1604	1810	2695	842
Grp Volume(v), veh/h	89	615	329	198	607	31	51	73	87	72	85	86
Grp Sat Flow(s),veh/h/ln	1755	1729	1844	1755	1729	1614	1810	1805	1604	1810	1805	1732
Q Serve(g_s), s	1.4	7.5	7.5	3.0	4.3	0.6	1.5	2.0	2.8	2.2	2.3	2.5
Cycle Q Clear(g_c), s	1.4	7.5	7.5	3.0	4.3	0.6	1.5	2.0	2.8	2.2	2.3	2.5
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	189	1309	698	312	2145	667	71	235	209	92	256	245
V/C Ratio(X)	0.47	0.47	0.47	0.63	0.28	0.05	0.72	0.31	0.42	0.78	0.33	0.35
Avail Cap(c_a), veh/h	601	2308	1231	981	4023	1252	359	1139	1012	424	1204	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	13.0	13.0	24.4	10.8	9.7	26.3	21.9	22.2	26.0	21.4	21.5
Incr Delay (d2), s/veh	0.7	0.3	0.5	0.8	0.1	0.0	5.0	0.6	1.0	5.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.8	1.5	2.0	0.3	0.9	1.0	1.3	1.2	1.2	1.2
LnGrp Delay(d),s/veh	26.1	13.3	13.5	25.2	10.9	9.8	31.3	22.4	23.2	31.4	22.0	22.1
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1033			836			211			243	
Approach Delay, s/veh		14.5			14.2			24.9			24.8	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	27.0	6.2	12.9	7.5	28.9	6.8	12.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	5.0	9.5	3.5	4.5	3.4	6.3	4.2	4.8				
Green Ext Time (p_c), s	0.2	11.4	0.0	1.4	0.0	12.6	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			16.4									
HCM 2010 LOS			B									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

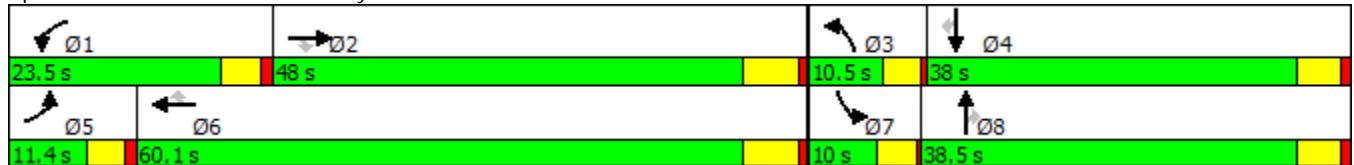


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	40	1008	49	162	820	35	34	26	140	26	72	15
Future Volume (vph)	40	1008	49	162	820	35	34	26	140	26	72	15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

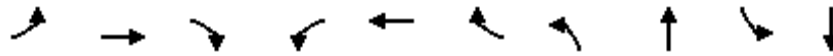
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1008	49	162	820	35	34	26	140	26	72	15
Future Volume (veh/h)	40	1008	49	162	820	35	34	26	140	26	72	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	1029	48	165	837	36	35	27	95	27	73	12
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	58	1675	739	207	1973	862	52	197	167	43	356	156
Arrive On Green	0.03	0.46	0.46	0.11	0.55	0.55	0.03	0.10	0.10	0.02	0.10	0.10
Sat Flow, veh/h	1810	3610	1592	1810	3610	1577	1810	1900	1610	1810	3610	1587
Grp Volume(v), veh/h	41	1029	48	165	837	36	35	27	95	27	73	12
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1577	1810	1900	1610	1810	1805	1587
Q Serve(g_s), s	1.5	14.2	1.1	5.9	9.1	0.7	1.3	0.9	3.7	1.0	1.2	0.5
Cycle Q Clear(g_c), s	1.5	14.2	1.1	5.9	9.1	0.7	1.3	0.9	3.7	1.0	1.2	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	1675	739	207	1973	862	52	197	167	43	356	156
V/C Ratio(X)	0.71	0.61	0.06	0.80	0.42	0.04	0.67	0.14	0.57	0.63	0.21	0.08
Avail Cap(c_a), veh/h	188	2287	1009	519	2947	1287	177	960	814	164	1797	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	13.3	9.8	28.6	8.9	7.0	31.9	27.0	28.3	32.1	27.5	27.1
Incr Delay (d2), s/veh	5.8	0.4	0.0	2.6	0.1	0.0	5.5	0.2	2.3	5.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.1	0.5	3.1	4.5	0.3	0.7	0.5	1.8	0.6	0.6	0.2
LnGrp Delay(d),s/veh	37.6	13.7	9.9	31.2	9.0	7.0	37.4	27.3	30.6	37.6	27.7	27.3
LnGrp LOS	D	B	A	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		1118			1038			157			112	
Approach Delay, s/veh		14.4			12.5			31.5			30.1	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	36.8	5.9	11.5	6.6	42.2	5.6	11.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	7.9	16.2	3.3	3.2	3.5	11.1	3.0	5.7				
Green Ext Time (p_c), s	0.1	14.6	0.0	0.7	0.0	18.7	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

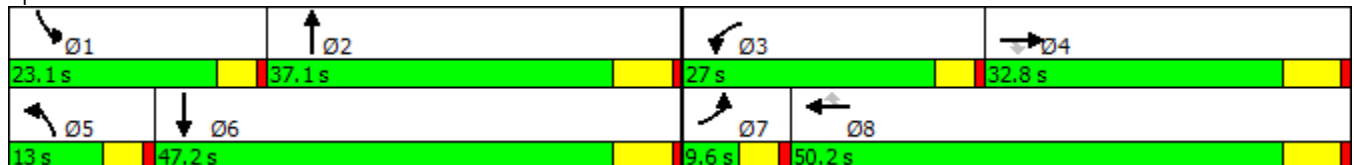


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖
Traffic Volume (vph)	33	443	229	305	289	128	107	220	250	403
Future Volume (vph)	33	443	229	305	289	128	107	220	250	403
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	9.6	32.8	32.8	27.0	50.2	50.2	13.0	37.1	23.1	47.2
Total Split (%)	8.0%	27.3%	27.3%	22.5%	41.8%	41.8%	10.8%	30.9%	19.3%	39.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	443	229	305	289	128	107	220	156	250	403	33
Future Volume (veh/h)	33	443	229	305	289	128	107	220	156	250	403	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	466	105	321	304	66	113	232	155	263	424	30
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	52	429	357	344	736	625	129	259	173	284	577	41
Arrive On Green	0.03	0.23	0.23	0.19	0.39	0.39	0.07	0.24	0.24	0.16	0.33	0.33
Sat Flow, veh/h	1810	1900	1580	1810	1900	1615	1810	1064	711	1810	1754	124
Grp Volume(v), veh/h	35	466	105	321	304	66	113	0	387	263	0	454
Grp Sat Flow(s),veh/h/ln	1810	1900	1580	1810	1900	1615	1810	0	1775	1810	0	1878
Q Serve(g_s), s	2.3	26.6	6.5	20.6	13.7	3.1	7.3	0.0	24.9	16.9	0.0	25.2
Cycle Q Clear(g_c), s	2.3	26.6	6.5	20.6	13.7	3.1	7.3	0.0	24.9	16.9	0.0	25.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.07
Lane Grp Cap(c), veh/h	52	429	357	344	736	625	129	0	432	284	0	618
V/C Ratio(X)	0.67	1.09	0.29	0.93	0.41	0.11	0.88	0.00	0.90	0.92	0.00	0.73
Avail Cap(c_a), veh/h	77	429	357	344	736	625	129	0	466	284	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	45.6	37.8	46.9	26.3	23.0	54.1	0.0	43.1	48.9	0.0	35.0
Incr Delay (d2), s/veh	5.4	68.4	0.5	31.2	0.4	0.1	42.8	0.0	18.9	33.7	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	22.0	2.9	13.2	7.3	1.4	5.2	0.0	14.4	11.1	0.0	13.7
LnGrp Delay(d),s/veh	62.0	114.0	38.2	78.1	26.7	23.1	96.9	0.0	62.0	82.6	0.0	39.0
LnGrp LOS	E	F	D	E	C	C	F		E	F		D
Approach Vol, veh/h		606			691			500			717	
Approach Delay, s/veh		97.9			50.2			69.9			55.0	
Approach LOS		F			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.1	34.8	27.0	32.8	13.0	44.9	8.0	51.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	18.5	30.9	22.4	26.6	8.4	41.0	5.0	44.0				
Max Q Clear Time (g_c+I1), s	18.9	26.9	22.6	28.6	9.3	27.2	4.3	15.7				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	4.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			67.0									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	88	82	22	225	120	58	6	336	203	98	625
Future Volume (vph)	88	82	22	225	120	58	6	336	203	98	625
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	17.0	17.0	17.0	9.6	45.4	45.4	12.4	48.2
Total Split (%)	37.7%	37.7%	37.7%	14.2%	14.2%	14.2%	8.0%	37.8%	37.8%	10.3%	40.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.

Ø1	Ø2	Ø4	Ø8
12.4 s	45.4 s	45.2 s	17 s
Ø5	Ø6		
9.6 s	48.2 s		

HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	82	22	225	120	58	6	336	203	98	625	214
Future Volume (veh/h)	88	82	22	225	120	58	6	336	203	98	625	214
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	85	12	234	125	20	6	350	165	102	651	209
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	413	185	226	237	202	14	800	680	130	669	215
Arrive On Green	0.11	0.11	0.11	0.12	0.12	0.12	0.01	0.42	0.42	0.07	0.48	0.48
Sat Flow, veh/h	1810	3610	1615	1810	1900	1615	1810	1900	1615	1810	1379	443
Grp Volume(v), veh/h	92	85	12	234	125	20	6	350	165	102	0	860
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1900	1615	1810	1900	1615	1810	0	1821
Q Serve(g_s), s	4.1	1.8	0.6	10.8	5.3	0.9	0.3	11.3	5.7	4.8	0.0	39.9
Cycle Q Clear(g_c), s	4.1	1.8	0.6	10.8	5.3	0.9	0.3	11.3	5.7	4.8	0.0	39.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	207	413	185	226	237	202	14	800	680	130	0	883
V/C Ratio(X)	0.44	0.21	0.06	1.04	0.53	0.10	0.43	0.44	0.24	0.78	0.00	0.97
Avail Cap(c_a), veh/h	816	1627	728	226	237	202	105	861	732	163	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	34.8	34.2	37.9	35.5	33.6	42.7	17.8	16.2	39.5	0.0	21.7
Incr Delay (d2), s/veh	1.5	0.2	0.1	69.6	2.2	0.2	7.5	0.4	0.2	13.7	0.0	23.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.9	0.3	9.7	3.0	0.4	0.2	6.0	2.6	2.9	0.0	25.7
LnGrp Delay(d),s/veh	37.3	35.0	34.3	107.5	37.6	33.8	50.2	18.2	16.3	53.2	0.0	45.6
LnGrp LOS	D	D	C	F	D	C	D	B	B	D		D
Approach Vol, veh/h		189			379			521			962	
Approach Delay, s/veh		36.1			80.6			18.0			46.4	
Approach LOS		D			F			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	42.6		16.1	5.3	48.2		17.0				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	7.8	39.2		39.0	5.0	42.0		10.8				
Max Q Clear Time (g_c+I1), s	6.8	13.3		6.1	2.3	41.9		12.8				
Green Ext Time (p_c), s	0.0	9.4		0.7	0.0	0.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.6									
HCM 2010 LOS			D									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

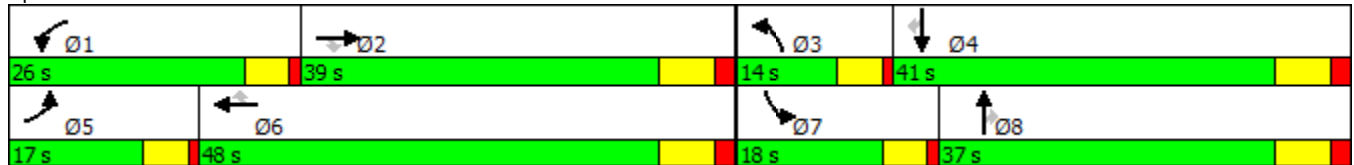


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	214	849	70	428	714	191	144	329	253	224	430	161
Future Volume (vph)	214	849	70	428	714	191	144	329	253	224	430	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.5
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

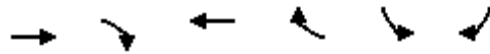
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	849	70	428	714	191	144	329	253	224	430	161
Future Volume (veh/h)	214	849	70	428	714	191	144	329	253	224	430	161
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	218	866	52	437	729	126	147	336	181	229	439	123
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	287	1548	471	510	1307	583	212	1195	362	298	920	411
Arrive On Green	0.08	0.30	0.30	0.15	0.36	0.36	0.06	0.23	0.23	0.08	0.25	0.25
Sat Flow, veh/h	3510	5187	1577	3510	3610	1611	3510	5187	1570	3510	3610	1611
Grp Volume(v), veh/h	218	866	52	437	729	126	147	336	181	229	439	123
Grp Sat Flow(s),veh/h/ln	1755	1729	1577	1755	1805	1611	1755	1729	1570	1755	1805	1611
Q Serve(g_s), s	6.1	14.0	2.4	12.1	16.1	5.4	4.1	5.3	10.0	6.4	10.3	6.1
Cycle Q Clear(g_c), s	6.1	14.0	2.4	12.1	16.1	5.4	4.1	5.3	10.0	6.4	10.3	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	1548	471	510	1307	583	212	1195	362	298	920	411
V/C Ratio(X)	0.76	0.56	0.11	0.86	0.56	0.22	0.69	0.28	0.50	0.77	0.48	0.30
Avail Cap(c_a), veh/h	423	1666	507	740	1486	663	317	1562	473	458	1232	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	29.4	25.3	41.6	25.4	22.0	45.9	31.5	33.3	44.6	31.5	29.9
Incr Delay (d2), s/veh	2.1	0.7	0.2	4.9	0.8	0.4	1.5	0.3	2.3	1.6	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.8	1.1	6.2	8.1	2.5	2.0	2.6	4.5	3.2	5.2	2.8
LnGrp Delay(d),s/veh	46.9	30.1	25.6	46.4	26.2	22.4	47.4	31.8	35.6	46.2	32.3	30.8
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1136			1292			664			791	
Approach Delay, s/veh		33.1			32.7			36.3			36.1	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	36.7	11.0	32.4	13.1	43.1	13.5	30.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	14.1	16.0	6.1	12.3	8.1	18.1	8.4	12.0				
Green Ext Time (p_c), s	0.4	13.3	0.0	10.8	0.1	18.0	0.1	9.7				
Intersection Summary												
HCM 2010 Ctrl Delay			34.1									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	513	156	246	181	482	508
Future Volume (vph)	513	156	246	181	482	508
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min

Intersection Summary

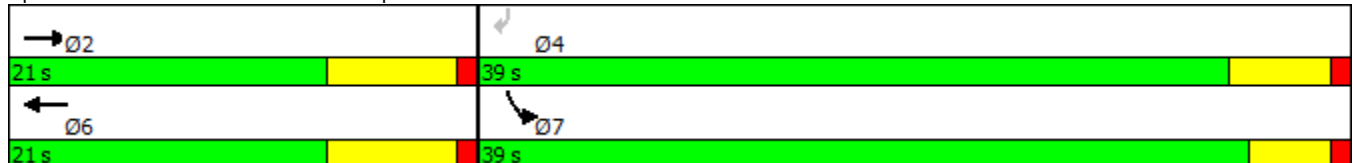
Cycle Length: 60

Actuated Cycle Length: 36.4













Natural Cycle: 40

Control Type: Actuated-Uncoordinated

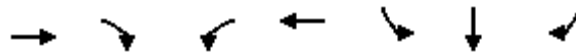
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	513	156	0	246	181	0	0	0	482	0	508
Future Volume (veh/h)	0	513	156	0	246	181	0	0	0	482	0	508
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	558	0	0	267	0				524	0	406
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1340	417	0	933	417				1334	0	614
Arrive On Green	0.00	0.26	0.00	0.00	0.26	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	558	0	0	267	0				524	0	406
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	2.8	0.0	0.0	1.9	0.0				3.4	0.0	6.6
Cycle Q Clear(g_c), s	0.0	2.8	0.0	0.0	1.9	0.0				3.4	0.0	6.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1340	417	0	933	417				1334	0	614
V/C Ratio(X)	0.00	0.42	0.00	0.00	0.29	0.00				0.39	0.00	0.66
Avail Cap(c_a), veh/h	0	2337	728	0	1626	728				3831	0	1762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.7	0.0	0.0	9.4	0.0				7.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.0	0.0	0.9	0.0				1.6	0.0	3.0
LnGrp Delay(d),s/veh	0.0	9.9	0.0	0.0	9.5	0.0				7.3	0.0	9.3
LnGrp LOS		A			A					A		A
Approach Vol, veh/h		558			267						930	
Approach Delay, s/veh		9.9			9.5						8.2	
Approach LOS		A			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		14.9		16.6		14.9						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		4.8		8.6		3.9						
Green Ext Time (p_c), s		3.3		3.4		3.5						
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↔	↑
Traffic Volume (vph)	1241	450	429	998	200	0	620
Future Volume (vph)	1241	450	429	998	200	0	620
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

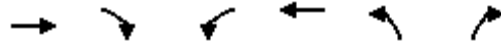
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖↗	↑↑					↖	↔	↗
Traffic Volume (veh/h)	0	1241	450	429	998	0	0	0	0	200	0	620
Future Volume (veh/h)	0	1241	450	429	998	0	0	0	0	200	0	620
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1279	464	442	1029	0				137	0	626
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1805	808	509	2476	0				387	0	691
Arrive On Green	0.00	0.50	0.50	0.10	0.46	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1615	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1279	464	442	1029	0				137	0	626
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	30.2	22.2	13.7	20.9	0.0				7.1	0.0	20.8
Cycle Q Clear(g_c), s	0.0	30.2	22.2	13.7	20.9	0.0				7.1	0.0	20.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1805	808	509	2476	0				387	0	691
V/C Ratio(X)	0.00	0.71	0.57	0.87	0.42	0.00				0.35	0.00	0.91
Avail Cap(c_a), veh/h	0	1805	808	590	2476	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.79	0.79	0.61	0.61	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.3	19.3	48.6	15.0	0.0				36.8	0.0	42.1
Incr Delay (d2), s/veh	0.0	1.9	2.3	6.9	0.3	0.0				0.2	0.0	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.4	10.3	7.1	10.6	0.0				3.6	0.0	10.5
LnGrp Delay(d),s/veh	0.0	23.2	21.6	55.5	15.3	0.0				37.0	0.0	54.5
LnGrp LOS		C	C	E	B					D		D
Approach Vol, veh/h		1743			1471						763	
Approach Delay, s/veh		22.7			27.4						51.4	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.4	60.5		29.0		81.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	15.7	32.2		22.8		22.9						
Green Ext Time (p_c), s	0.3	11.1		0.8		18.3						
Intersection Summary												
HCM 2010 Ctrl Delay			30.0									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	484	511	291	262	164	120
Future Volume (vph)	484	511	291	262	164	120
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	34.0	12.0	14.0	48.0	12.0	12.0
Total Split (%)	56.7%	20.0%	23.3%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	484	511	291	262	164	120		
Future Volume (veh/h)	484	511	291	262	164	120		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	504	406	303	273	171	75		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2389	905	413	3519	362	161		
Arrive On Green	0.46	0.46	0.12	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	504	406	303	273	171	75		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	3.5	8.9	5.0	1.1	2.7	2.6		
Cycle Q Clear(g_c), s	3.5	8.9	5.0	1.1	2.7	2.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2389	905	413	3519	362	161		
V/C Ratio(X)	0.21	0.45	0.73	0.08	0.47	0.46		
Avail Cap(c_a), veh/h	2389	905	468	3519	362	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.7	7.7	25.6	3.3	25.5	25.5		
Incr Delay (d2), s/veh	0.2	1.5	5.1	0.0	4.4	9.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	5.1	2.7	0.5	1.5	1.6		
LnGrp Delay(d),s/veh	9.9	9.2	30.7	3.3	29.9	34.8		
LnGrp LOS	A	A	C	A	C	C		
Approach Vol, veh/h	910			576	246			
Approach Delay, s/veh	9.6			17.7	31.4			
Approach LOS	A			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.1	34.9				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	8.0	26.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	7.0	10.9				3.1		4.7
Green Ext Time (p_c), s	0.1	5.6				7.1		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			15.4					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶↷	↷
Traffic Volume (vph)	528	913	1020	168	407	1	652
Future Volume (vph)	528	913	1020	168	407	1	652
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	26.0	72.0	46.0	46.0	38.0	38.0	38.0
Total Split (%)	23.6%	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	528	913	0	0	1020	168	407	1	652	0	0	0
Future Volume (veh/h)	528	913	0	0	1020	168	407	1	652	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	533	922	0	0	1030	141	547	0	282			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	594	2497	0	0	1739	768	754	0	336			
Arrive On Green	0.34	1.00	0.00	0.00	0.48	0.48	0.21	0.00	0.21			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	533	922	0	0	1030	141	547	0	282			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	22.8	5.5	15.5	0.0	18.5			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	22.8	5.5	15.5	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	594	2497	0	0	1739	768	754	0	336			
V/C Ratio(X)	0.90	0.37	0.00	0.00	0.59	0.18	0.73	0.00	0.84			
Avail Cap(c_a), veh/h	686	2497	0	0	1739	768	1069	0	476			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	0.0	0.0	0.0	20.7	16.2	40.6	0.0	41.8			
Incr Delay (d2), s/veh	9.9	0.3	0.0	0.0	1.5	0.5	1.5	0.0	9.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	11.7	2.5	7.9	0.0	9.1			
LnGrp Delay(d),s/veh	45.3	0.3	0.0	0.0	22.2	16.7	42.1	0.0	50.8			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1455			1171			829				
Approach Delay, s/veh		16.8			21.5			45.0				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		81.6			23.1	58.5		28.4				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		2.0			17.9	24.8		20.5				
Green Ext Time (p_c), s		12.4			0.7	8.2		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay				25.2								
HCM 2010 LOS				C								
Notes												

APPENDIX 5.2:

E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CHS</u>	TRAFFIC CONDITIONS	E+P
Jurisdiction: <u>City of Ontario</u>				CHK <u>CHS</u>		DATE <u>10/03/17</u>
Major Street: <u>Driveway 2</u>					Critical Approach Speed (Major)	<u>50</u> mph
Minor Street: <u>Merrill Avenue</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>11,953</u>	vpd	Minor Street Future ADT =	<u>696</u> vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); or **RURAL (R)**

In built up area of isolated community of < 10,000 population

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 11,953	1 696	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 11,953	1 696	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	<u>A</u>				
	41%				
	<u>B</u>				
	82%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CHS</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>CHS</u>		DATE <u>10/03/17</u>
Major Street: <u>Archibald Avenue</u>					Critical Approach Speed (Major)	<u>50</u> mph
Minor Street: <u>Driveway 4</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>2</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =		<u>27,174</u>	vpd	Minor Street Future ADT =	<u>1,620</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>	
					or	RURAL (R)
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	8,000	5,600	2,400	1,680
2 + 27,174	1 1,620	9,600	6,720 *	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	12,000	8,400	1,200	850
2 + 27,174	1 1,620	14,400	10,080 *	1,200	850 *
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
		<u>A</u>	<u>B</u>		
		96%	100%		

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

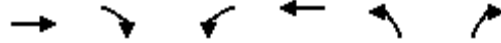
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.3:

E+P CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	507	303	581	994	73	709
v/c Ratio	0.39	0.39	0.94	0.37	0.16	0.91
Control Delay	27.1	10.3	54.8	4.5	35.9	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	10.3	54.8	4.5	35.9	22.0
Queue Length 50th (ft)	145	64	332	85	21	30
Queue Length 95th (ft)	m207	m135	#556	147	38	#249
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1301	769	648	2663	679	835
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.39	0.90	0.37	0.11	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	841	423	227	66	320	154	153	38
v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.57	0.53	0.09
Control Delay	31.3	713.9	13.3	109.6	20.9	44.3	42.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	713.9	13.3	109.6	20.9	44.3	42.3	0.4
Queue Length 50th (ft)	217	-459	32	43	0	98	97	0
Queue Length 95th (ft)	#438	#651	60	#121	#133	129	128	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1279	169	1761	80	404	521	557	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.30	0.27	0.06

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	382	542	627	1401	679
v/c Ratio	0.87	1.16	0.98	0.46	0.60
Control Delay	54.3	120.0	59.0	17.8	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	120.0	59.0	17.8	29.8
Queue Length 50th (ft)	208	~321	280	217	85
Queue Length 95th (ft)	#368	#522	m#568	304	109
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	468	637	3013	1862
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.87	1.16	0.98	0.46	0.36

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	429	411	1964	133	686
v/c Ratio	0.83	0.70	0.81	0.66	0.24
Control Delay	43.5	20.1	28.2	41.9	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	20.1	28.2	41.9	20.9
Queue Length 50th (ft)	219	101	283	82	129
Queue Length 95th (ft)	322	199	#414	m121	m162
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	594	651	2439	269	2801
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.63	0.81	0.49	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

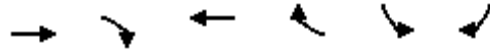
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

10/03/2017



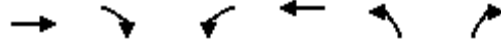
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	593	168	432	67	385	531
v/c Ratio	0.26	0.10	0.27	0.04	0.30	0.79
Control Delay	12.6	0.1	10.9	0.0	12.8	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	0.1	10.9	0.0	12.8	20.7
Queue Length 50th (ft)	47	0	52	0	48	119
Queue Length 95th (ft)	89	0	114	m0	56	171
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2287	1615	1592	1615	1832	894
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.27	0.04	0.21	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	434	565	409	309	257	117
v/c Ratio	0.20	0.53	0.78	0.09	0.67	0.46
Control Delay	8.8	10.1	37.0	3.4	30.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	10.1	37.0	3.4	30.9	12.8
Queue Length 50th (ft)	28	80	74	10	38	0
Queue Length 95th (ft)	35	103	#135	17	#80	45
Internal Link Dist (ft)	848		1857		1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2221	1059	525	3518	386	252
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.53	0.78	0.09	0.67	0.46

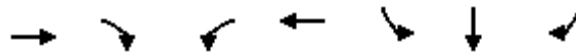
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.

10/03/2017



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1229	500	734	667	157	245	245
v/c Ratio	0.68	0.49	0.90	0.24	0.71	0.63	0.60
Control Delay	24.5	4.7	36.2	2.7	63.4	15.2	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	4.7	36.2	2.7	63.4	15.2	11.8
Queue Length 50th (ft)	352	20	174	19	113	13	0
Queue Length 95th (ft)	453	91	#342	62	182	95	74
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	1795	1016	853	2785	280	432	455
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.49	0.86	0.24	0.56	0.57	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

37: I-15 NB Ramps & Limonite Av.

10/03/2017

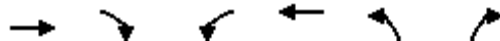


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	826	591	1161	393	216	202	199
v/c Ratio	0.88	0.22	0.74	0.43	0.82	0.55	0.49
Control Delay	32.0	3.1	30.2	3.9	68.7	17.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	3.1	30.2	3.9	68.7	17.2	10.1
Queue Length 50th (ft)	269	53	372	2	154	28	0
Queue Length 95th (ft)	267	32	460	60	#270	107	67
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	1002	2690	1572	913	288	385	423
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.22	0.74	0.43	0.75	0.52	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	771	177	300	797	153	1127
v/c Ratio	0.69	0.29	1.30	0.47	0.11	1.32
Control Delay	36.3	10.9	201.3	17.8	17.6	174.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	10.9	201.3	17.8	17.6	174.1
Queue Length 50th (ft)	281	46	~246	168	29	~802
Queue Length 95th (ft)	m338	m64	#412	220	49	#1054
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1111	616	230	1692	1409	852
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.29	1.30	0.47	0.11	1.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Colony Commerce Center East SP (JN 10522)

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

10/03/2017



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	348	109	218	32	17	461	474	169
v/c Ratio	0.35	0.76	0.15	0.37	0.08	0.90	0.86	0.27
Control Delay	29.0	69.9	12.0	58.6	0.7	54.4	47.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	69.9	12.0	58.6	0.7	54.4	47.8	4.8
Queue Length 50th (ft)	92	-75	41	20	0	282	284	0
Queue Length 95th (ft)	134	#177	58	51	0	#468	#458	43
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	986	144	1420	86	226	544	587	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.76	0.15	0.37	0.08	0.85	0.81	0.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	386	201	446	538	1574
v/c Ratio	0.90	0.38	1.03	0.18	0.84
Control Delay	58.2	6.4	101.5	21.9	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	6.4	101.5	21.9	32.4
Queue Length 50th (ft)	211	0	~284	103	228
Queue Length 95th (ft)	#373	52	#475	139	275
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	540	433	3036	1874
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.37	1.03	0.18	0.84

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	122	449	1375	294	1234
v/c Ratio	0.24	0.88	0.70	0.86	0.44
Control Delay	23.7	42.9	25.7	44.3	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	42.9	25.7	44.3	19.2
Queue Length 50th (ft)	50	193	174	183	241
Queue Length 95th (ft)	89	#338	215	m#264	m286
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	595	583	1959	341	2817
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.77	0.70	0.86	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

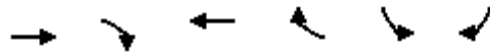
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	558	170	267	197	524	552
v/c Ratio	0.40	0.11	0.28	0.12	0.37	0.73
Control Delay	12.8	0.1	12.7	0.2	8.3	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	0.1	12.7	0.2	8.3	11.3
Queue Length 50th (ft)	30	0	20	0	31	39
Queue Length 95th (ft)	75	0	57	0	67	129
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2141	1615	1490	1615	3164	1468
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.11	0.18	0.12	0.17	0.38

Intersection Summary

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

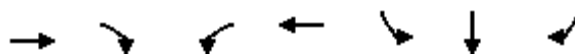


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	504	532	303	273	204	92
v/c Ratio	0.22	0.49	0.66	0.08	0.55	0.40
Control Delay	10.5	6.2	32.4	3.3	27.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	6.2	32.4	3.3	27.7	12.6
Queue Length 50th (ft)	38	67	54	9	31	0
Queue Length 95th (ft)	57	121	#91	16	59	39
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2315	1095	466	3518	373	229
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.49	0.65	0.08	0.55	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1279	464	442	1029	185	334	326
v/c Ratio	0.68	0.44	0.82	0.40	0.59	0.87	0.83
Control Delay	23.4	3.4	48.8	1.6	48.0	47.6	41.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	3.4	48.8	1.6	48.0	47.6	41.9
Queue Length 50th (ft)	354	4	115	3	125	150	135
Queue Length 95th (ft)	485	62	187	26	191	260	236
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)				200		400	
Base Capacity (vph)	1887	1059	589	2592	413	462	475
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.44	0.75	0.40	0.45	0.72	0.69

Intersection Summary

Queues

37: I-15 NB Ramps & Limonite Av.

10/03/2017



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	533	922	1030	170	370	352	349
v/c Ratio	0.83	0.40	0.69	0.22	0.82	0.71	0.69
Control Delay	41.0	19.9	30.9	4.4	53.3	29.2	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	19.9	30.9	4.4	53.3	29.2	28.0
Queue Length 50th (ft)	194	318	333	0	249	140	131
Queue Length 95th (ft)	259	377	416	44	365	257	240
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	687	2299	1485	756	506	537	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.40	0.69	0.22	0.73	0.66	0.64

Intersection Summary

APPENDIX 5.4:

E+P CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4088	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2255	Design LOS	
S	57.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	39.5	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4237	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			16
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.926
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1658	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.6	x f _p)	
S	mph	S	mph
D = v _p / S	24.5	D = v _p / S	pc/mi/ln
24.5	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5560	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1541 pc/h/ln	Design LOS	
S	68.7 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	22.4 pc/mi/ln	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5687	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1261	Design LOS	
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	18.0	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6766	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.962	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1912	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	64.1	x f _p)	
D = v _p / S	29.8	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6518	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1842	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	65.2	x f _p)	
D = v _p / S	28.2	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5931	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1668	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	67.5	mph	pc/h/ln
D = v _p / S	24.7	pc/mi/ln	S
LOS	C	D = v _p / S	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5349	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2006	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.5	x f _p)	
S	mph	S	mph
D = v _p / S	32.1	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5878</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>7</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.966</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>2204</i>	pc/h/ln	Design LOS
S	<i>58.3</i>	mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)
D = v _p / S	<i>37.8</i>	pc/mi/ln	pc/h/ln
LOS	<i>E</i>		S
			mph
			D = v _p / S
			pc/mi/ln
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	10/03/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6080	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1335	Design LOS	
S	69.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	19.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5573	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2029	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.0	x f _p)	
S	mph	S	mph
D = v _p / S	32.7	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5026	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1830	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	65.4	x f _p)	
S	mph	S	mph
D = v _p / S	28.0	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	3298	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1810	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	65.7	x f _p)	
D = v _p / S	27.6	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4370	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			12
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.943
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1678	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.3	x f _p)	
S	mph	S	mph
D = v _p / S	24.9	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5196	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1147	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	16.4	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6295	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1753	Design LOS	
S	66.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	26.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6516	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1815	Design LOS	
S	65.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5953	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1666	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	67.5	pc/h/ln	
D = v _p / S	24.7	S	
LOS	C	mph	
		D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5339	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2002	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.5	x f _p)	
S	mph	S	mph
D = v _p / S	32.0	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5375	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
x f _p)	2016	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.3	x f _p)	pc/h/ln
D = v _p / S	32.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5348	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1174 pc/h/ln	Design LOS	
S	70.0 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
D = v _p / S	16.8 pc/mi/ln	S	
LOS	B	D = v _p / S	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>E+P</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4866	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1781 pc/h/ln	Design LOS	
S	66.1 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
D = v _p / S	27.0 pc/mi/ln	S	
LOS	D	D = v _p / S	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5214	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1908	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.2	S	mph
D = v _p / S	29.7	D = v _p / S	pc/mi/ln
LOS	D	Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 5.5:

E+P CONDITIONS RAMP JUNCTION ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1460 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 269 veh/h	Freeway Volume, V _F	3194	V _D = veh/h						
	Ramp Volume, V _R	373							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	373	0.92	Level	15	0	0.930	1.00	436	
UpStream	269	0.92	Level	11	0	0.948	1.00	308	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3506 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3942	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3942	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 33.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.498 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 56.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} =	ft	Deceleration Lane Length L _D			L _{down} =	1200 ft			
V _u =	veh/h	Freeway Volume, V _F	3194		V _D =	521 veh/h			
		Ramp Volume, V _R	373						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	373	0.92	Level	15	0	0.930	1.00	436	
UpStream									
DownStream	521	0.92	Level	1	0	0.995	1.00	569	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3506 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3942	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3942	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 33.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.498 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 56.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	E+P							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	813 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	4237	Freeway Free-Flow Speed, S_{FF}	70.0	
$V_u =$	veh/h	Ramp Volume, V_R		Freeway Free-Flow Speed, S_{FR}	45.0	Ramp Free-Flow Speed, S_{FR}	45.0			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	4237	0.92	Level	16	0	0.926	1.00	4974		
Ramp	669	0.92	Level	10	0	0.952	1.00	764		
UpStream										
DownStream	813	0.92	Level	4	0	0.980	1.00	901		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)					
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)				
$P_{FM} =$					$P_{FD} =$	0.601				
$V_{12} =$	pc/h				$V_{12} =$	3292 pc/h				
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1682 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	4974	Exhibit 13-8		7200	No
					$V_{FO} = V_F - V_R$	4210	Exhibit 13-8		7200	No
					V_R	764	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3292	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	32.6 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.367 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	59.7 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	74.1 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	63.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		750		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 818 veh/h	Freeway Volume, V _F		4869		V _D = veh/h				
	Ramp Volume, V _R		691						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4869	0.92	Level	3	0	0.985	1.00	5372	
Ramp	691	0.92	Level	7	0	0.966	1.00	777	
UpStream	818	0.92	Level	8	0	0.962	1.00	925	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.121 using Equation (Exhibit 13-6) V ₁₂ = 648 pc/h V ₃ or V _{av34} = 2362 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2148 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6149	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2925	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.2 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.326 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1970 ft	$V_D =$	691 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	5687	Ramp Volume, V_R	818
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5687	0.92	Level	4	0	0.980	1.00	6305	
Ramp	818	0.92	Level	8	0	0.962	1.00	925	
UpStream									
DownStream	691	0.92	Level	7	0	0.966	1.00	777	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	0.436 using Equation (Exhibit 13-7)			
$P_{FM} =$	pc/h				$P_{FD} =$	2859 pc/h			
$V_{12} =$	pc/h (Equation 13-14 or 13-17)				$V_{12} =$	1250 pc/h (Equation 13-14 or 13-17)			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1250 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5360	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	4435	Exhibit 13-8	9600	No
					V_R	925	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2859	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 28.8 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.381 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.3 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 75.8 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 66.0 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6766	L _{down} =	2060 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	767				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	200							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6766	0.92	Level	8	0	0.962	1.00	7649	
Ramp	767	0.92	Level	10	0	0.952	1.00	875	
UpStream									
DownStream	519	0.92	Level	13	0	0.939	1.00	601	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3828 pc/h V ₃ or V _{av34} 1910 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7649	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6774	Exhibit 13-8	9600	No
					V _R	875	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3828	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.4 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.377 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.5 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.2 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.6 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 767 veh/h	Freeway Volume, V _F = 5999				V _D = veh/h				
	Ramp Volume, V _R = 519								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5999	0.92	Level	7	0	0.966	1.00	6749	
Ramp	519	0.92	Level	13	0	0.939	1.00	601	
UpStream	767	0.92	Level	10	0	0.952	1.00	875	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.143 using Equation (Exhibit 13-6) V ₁₂ = 963 pc/h V ₃ or V _{av34} = 2893 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2699 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7350	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3300	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.9 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.354 (Exhibit 13-11) S _R = 60.1 mph (Exhibit 13-11) S ₀ = 64.5 mph (Exhibit 13-11) S = 62.4 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	E+P							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	150	Freeway Volume, V _F	5931
					Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Volume, V _R	751	Ramp Free-Flow Speed, S _{FR}	45.0
							Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1150 ft V _D = 35 veh/h			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	5931	0.92	Level	7	0	0.966	1.00	6672		
Ramp	751	0.92	Level	13	0	0.939	1.00	869		
UpStream										
DownStream	35	0.92	Level	54	0	0.787	1.00	48		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3399 pc/h V ₃ or V _{av34} 1636 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	6672	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	5803	Exhibit 13-8	9600	No	
					V _R	869	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3399	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S =	(Exhibit 13-11)				D _S =	0.376 (Exhibit 13-12)				
S _R =	mph (Exhibit 13-11)				S _R =	59.5 mph (Exhibit 13-12)				
S ₀ =	mph (Exhibit 13-11)				S ₀ =	74.3 mph (Exhibit 13-12)				
S =	mph (Exhibit 13-13)				S =	65.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 525 veh/h	Freeway Volume, V _F		4824		V _D = veh/h				
	Ramp Volume, V _R		1055						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4824	0.92	Level	6	0	0.971	1.00	5401	
Ramp	1055	0.92	Level	9	0	0.957	1.00	1198	
UpStream	525	0.92	Level	17	0	0.922	1.00	619	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1663.29 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3221 pc/h V ₃ or V _{av34} = 2180 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3221 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6599	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4419	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 35.2 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.584 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 53.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.7 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1260 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 307 veh/h	Freeway Volume, V _F	5266	V _D = veh/h						
	Ramp Volume, V _R	814							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5266	0.92	Level	1	0	0.995	1.00	5753	
Ramp	814	0.92	Level	10	0	0.952	1.00	929	
UpStream	307	0.92	Level	11	0	0.948	1.00	352	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3193 pc/h V ₃ or V _{av34} = 2560 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3287 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	6682	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	4216	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.9 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.585 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 53.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 62.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	E+P							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	3	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200	Freeway Volume, V _F	5026
					Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Volume, V _R	511	Ramp Free-Flow Speed, S _{FR}	45.0
							Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2010 ft V _D = 1058 veh/h			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	5026	0.92	Level	1	0	0.995	1.00	5490		
Ramp	511	0.92	Level	11	0	0.948	1.00	586		
UpStream										
DownStream	1058	0.92	Level	7	0	0.966	1.00	1190		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.596 using Equation (Exhibit 13-7) V ₁₂ = 3508 pc/h V ₃ or V _{av34} 1982 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	5490	Exhibit 13-8	7200	No	
					V _{FO} = V _F - V _R	4904	Exhibit 13-8	7200	No	
					V _R	586	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3508	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.6 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S =	(Exhibit 13-11)				D _S =	0.351 (Exhibit 13-12)				
S _R =	mph (Exhibit 13-11)				S _R =	60.2 mph (Exhibit 13-12)				
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.0 mph (Exhibit 13-12)				
S =	mph (Exhibit 13-13)				S =	64.2 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} =	1460 ft	Deceleration Lane Length L _D			L _{down} =	ft			
V _u =	971 veh/h	Freeway Volume, V _F	2648		V _D =	veh/h			
		Ramp Volume, V _R	584						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	584	0.92	Level	7	0	0.966	1.00	657	
UpStream	971	0.92	Level	4	0	0.980	1.00	1077	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3550	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3550	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 29.9 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.433 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 57.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.9 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On						
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = ft	Deceleration Lane Length L _D		L _{down} = 1200 ft						
V _u = veh/h	Freeway Volume, V _F	2648	V _D = 66 veh/h						
	Ramp Volume, V _R	584							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	584	0.92	Level	7	0	0.966	1.00	657	
UpStream									
DownStream	66	0.92	Level	8	0	0.962	1.00	75	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	3550	Exhibit 13-8	No		V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3550	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 29.9 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.433 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 57.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.9 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	4370	$L_{down} =$	1500 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$	Ramp Number of Lanes, N	1	$V_D =$	Ramp Volume, V_R	1165			Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0				
	Deceleration Lane Length L_D	0		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4370	0.92	Level	12	0	0.943	1.00	5035	
Ramp	1165	0.92	Level	8	0	0.962	1.00	1317	
UpStream									
DownStream	459	0.92	Level	2	0	0.990	1.00	504	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)			
$P_{FM} =$					$P_{FD} =$	0.574			
$V_{12} =$	pc/h				$V_{12} =$	3449 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1586 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5035	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	3718	Exhibit 13-8	7200	No
					V_R	1317	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3449	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 33.9 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.417 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 58.3 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 74.5 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 62.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		750		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 477 veh/h	Freeway Volume, V _F		4719		V _D = veh/h				
	Ramp Volume, V _R		739						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4719	0.92	Level	3	0	0.985	1.00	5206	
Ramp	739	0.92	Level	5	0	0.976	1.00	823	
UpStream	477	0.92	Level	9	0	0.957	1.00	542	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.115 using Equation (Exhibit 13-6) V ₁₂ = 598 pc/h V ₃ or V _{av34} = 2304 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2082 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6029	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2905	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.1 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.325 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1970 ft	$V_D =$	739 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	5196	Ramp Volume, V_R	477
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5196	0.92	Level	3	0	0.985	1.00	5733	
Ramp	477	0.92	Level	9	0	0.957	1.00	542	
UpStream									
DownStream	739	0.92	Level	5	0	0.976	1.00	823	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$					$L_{EQ} =$				
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	2431 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1221 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4874	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	4332	Exhibit 13-8	9600	No
					V_R	542	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2431	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 25.2 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.347 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 60.3 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 75.9 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 67.2 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N 4						Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N 1						<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A						<input type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = ft	Deceleration Lane Length L _D 200						L _{down} = 2060 ft		
V _u = veh/h	Freeway Volume, V _F 6295						V _D = 700 veh/h		
	Ramp Volume, V _R 479								
	Freeway Free-Flow Speed, S _{FF} 70.0								
	Ramp Free-Flow Speed, S _{FR} 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6295	0.92	Level	5	0	0.976	1.00	7013	
Ramp	479	0.92	Level	7	0	0.966	1.00	539	
UpStream									
DownStream	700	0.92	Level	6	0	0.971	1.00	784	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3362 pc/h V ₃ or V _{av34} 1825 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7013	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6474	Exhibit 13-8	9600	No
					V _R	539	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3362	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.4 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.347 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 60.3 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.6 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 66.5 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		810		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 479 veh/h	Freeway Volume, V _F		5816		V _D = veh/h				
	Ramp Volume, V _R		700						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5816	0.92	Level	5	0	0.976	1.00	6480	
Ramp	700	0.92	Level	6	0	0.971	1.00	784	
UpStream	479	0.92	Level	7	0	0.966	1.00	539	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.120 using Equation (Exhibit 13-6) V ₁₂ = 776 pc/h V ₃ or V _{av34} = 2852 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2592 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7264	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3376	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.4 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.362 (Exhibit 13-11) S _R = 59.9 mph (Exhibit 13-11) S ₀ = 64.8 mph (Exhibit 13-11) S = 62.4 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	E+P							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N Ramp Number of Lanes, N Acceleration Lane Length, L _A Deceleration Lane Length L _D Freeway Volume, V _F Ramp Volume, V _R Freeway Free-Flow Speed, S _{FF} Ramp Free-Flow Speed, S _{FR}	4 1 150 5953 933 70.0 45.0	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	L _{down} = 1150 ft V _D = 172 veh/h						L _{up} = ft V _u = veh/h
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	5953	0.92	Level	6	0	0.971	1.00	6665		
Ramp	933	0.92	Level	5	0	0.976	1.00	1039		
UpStream										
DownStream	172	0.92	Level	5	0	0.976	1.00	192		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3492 pc/h V ₃ or V _{av34} 1586 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	6665	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	5626	Exhibit 13-8	9600	No	
					V _R	1039	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3492	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.9 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.392 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 59.0 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.5 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 65.5 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp	Freeway Volume, V _F	4546				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Volume, V _R	829				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	675	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Free-Flow Speed, S _{FF}	70.0				
L _{up} = 1930 ft	Deceleration Lane Length L _D		L _{down} = ft	Ramp Free-Flow Speed, S _{FR}	45.0				
V _u = 793 veh/h			V _D = veh/h						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4546	0.92	Level	7	0	0.966	1.00	5114	
Ramp	829	0.92	Level	8	0	0.962	1.00	937	
UpStream	793	0.92	Level	6	0	0.971	1.00	888	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1546.01 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3050 pc/h V ₃ or V _{av34} = 2064 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3050 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?		
V _{FO}	6051	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?		
V _{R12}	3987	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 31.9 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.470 (Exhibit 13-11)	S _R = 56.8 mph (Exhibit 13-11)	S ₀ = 64.4 mph (Exhibit 13-11)	S = 59.2 mph (Exhibit 13-13)		D _s = (Exhibit 13-12)	S _R = mph (Exhibit 13-12)	S ₀ = mph (Exhibit 13-12)	S = mph (Exhibit 13-13)	

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 242 veh/h	Freeway Volume, V _F		4624		V _D = veh/h				
	Ramp Volume, V _R		724						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4624	0.92	Level	1	0	0.995	1.00	5051	
Ramp	724	0.92	Level	8	0	0.962	1.00	818	
UpStream	242	0.92	Level	12	0	0.943	1.00	279	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2803 pc/h V ₃ or V _{av34} = 2248 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2886 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5869	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3704	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 34.0 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.479 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 56.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 59.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	673 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	5214	Ramp Volume, V_R	1021
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5214	0.92	Level	2	0	0.990	1.00	5724	
Ramp	1021	0.92	Level	6	0	0.971	1.00	1143	
UpStream									
DownStream	673	0.92	Level	6	0	0.971	1.00	753	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$					$L_{EQ} =$				
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.564 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	3728 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1996 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5724	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4581	Exhibit 13-8	7200	No
					V_R	1143	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3728	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 34.5 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.401 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 58.8 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 72.9 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 63.0 mph (Exhibit 13-13)				

APPENDIX 5.6:

**E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

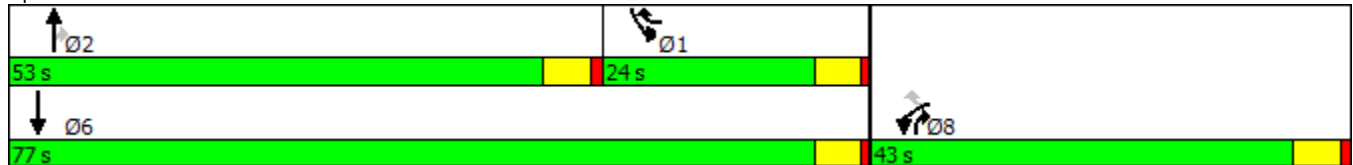














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	371	757	785	280	190	426
Future Volume (vph)	371	757	785	280	190	426
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	43.0	24.0	53.0	43.0	24.0	77.0
Total Split (%)	35.8%	20.0%	44.2%	35.8%	20.0%	64.2%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	371	757	785	280	190	426		
Future Volume (veh/h)	371	757	785	280	190	426		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	386	693	818	292	198	444		
Adj No. of Lanes	1	1	1	1	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	616	692	818	1230	310	1077		
Arrive On Green	0.34	0.34	0.43	0.43	0.09	0.57		
Sat Flow, veh/h	1810	1615	1900	1581	3510	1900		
Grp Volume(v), veh/h	386	693	818	292	198	444		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1755	1900		
Q Serve(g_s), s	19.8	37.7	47.7	5.7	6.0	14.6		
Cycle Q Clear(g_c), s	19.8	37.7	47.7	5.7	6.0	14.6		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	616	692	818	1230	310	1077		
V/C Ratio(X)	0.63	1.00	1.00	0.24	0.64	0.41		
Avail Cap(c_a), veh/h	616	692	818	1230	602	1235		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.6	31.6	31.5	3.6	48.8	13.6		
Incr Delay (d2), s/veh	1.5	34.5	31.4	0.1	2.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.1	23.2	31.9	6.3	3.0	7.7		
LnGrp Delay(d),s/veh	32.2	66.1	63.0	3.7	51.0	13.7		
LnGrp LOS	C	F	E	A	D	B		
Approach Vol, veh/h	1079		1110			642		
Approach Delay, s/veh	54.0		47.4			25.2		
Approach LOS	D		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.8	53.0				67.8		43.0
Change Period (Y+Rc), s	5.0	5.3				5.0		5.3
Max Green Setting (Gmax), s	19.0	47.7				72.0		37.7
Max Q Clear Time (g_c+I1), s	8.0	49.7				16.6		39.7
Green Ext Time (p_c), s	1.8	0.0				2.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			44.9					
HCM 2010 LOS			D					

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

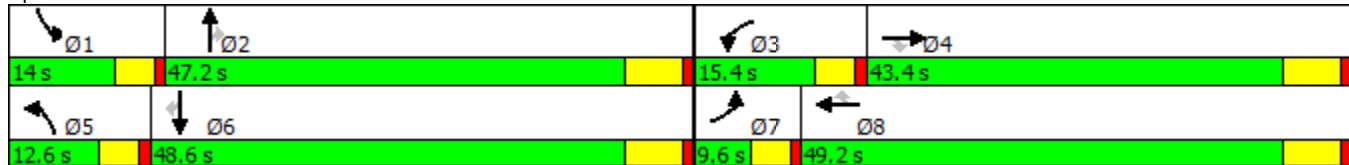


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	20	303	69	161	516	160	104	420	385	130	147	37
Future Volume (vph)	20	303	69	161	516	160	104	420	385	130	147	37
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	43.4	43.4	15.4	49.2	49.2	12.6	47.2	47.2	14.0	48.6	48.6
Total Split (%)	8.0%	36.2%	36.2%	12.8%	41.0%	41.0%	10.5%	39.3%	39.3%	11.7%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 69.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	303	69	161	516	160	104	420	385	130	147	37
Future Volume (veh/h)	20	303	69	161	516	160	104	420	385	130	147	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	322	47	171	549	117	111	447	364	138	156	30
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	1087	338	268	944	422	233	1618	504	247	1140	510
Arrive On Green	0.02	0.21	0.21	0.08	0.26	0.26	0.07	0.31	0.31	0.07	0.32	0.32
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1613
Grp Volume(v), veh/h	21	322	47	171	549	117	111	447	364	138	156	30
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1613
Q Serve(g_s), s	0.4	3.4	1.5	3.1	8.6	3.8	2.0	4.2	13.0	2.5	2.0	0.8
Cycle Q Clear(g_c), s	0.4	3.4	1.5	3.1	8.6	3.8	2.0	4.2	13.0	2.5	2.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	1087	338	268	944	422	233	1618	504	247	1140	510
V/C Ratio(X)	0.25	0.30	0.14	0.64	0.58	0.28	0.48	0.28	0.72	0.56	0.14	0.06
Avail Cap(c_a), veh/h	270	2964	923	582	2385	1067	431	3267	1017	507	2351	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	21.7	20.9	29.2	20.9	19.1	29.3	16.9	19.9	29.3	15.9	15.5
Incr Delay (d2), s/veh	0.6	0.2	0.2	0.9	0.6	0.4	0.6	0.1	2.0	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	0.7	1.5	4.3	1.7	1.0	2.0	6.0	1.2	1.0	0.4
LnGrp Delay(d),s/veh	31.7	21.8	21.1	30.1	21.5	19.5	29.9	17.0	21.9	30.0	16.0	15.6
LnGrp LOS	C	C	C	C	C	B	C	B	C	C	B	B
Approach Vol, veh/h		390			837			922			324	
Approach Delay, s/veh		22.3			23.0			20.5			21.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	26.5	9.6	19.8	8.9	26.8	6.2	23.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	41.0	10.8	37.2	8.0	42.4	5.0	43.0				
Max Q Clear Time (g_c+I1), s	4.5	15.0	5.1	5.4	4.0	4.0	2.4	10.6				
Green Ext Time (p_c), s	0.1	5.2	0.1	6.4	0.1	5.5	0.0	6.4				
Intersection Summary												
HCM 2010 Ctrl Delay			21.8									
HCM 2010 LOS			C									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	347	241	603	382	635	783
Future Volume (vph)	347	241	603	382	635	783
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	37.0	34.0	49.0	37.0	34.0	83.0
Total Split (%)	30.8%	28.3%	40.8%	30.8%	28.3%	69.2%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	347	241	603	382	635	783		
Future Volume (veh/h)	347	241	603	382	635	783		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	390	229	678	429	713	880		
Adj No. of Lanes	1	1	1	1	2	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	422	746	748	1012	803	1270		
Arrive On Green	0.23	0.23	0.39	0.39	0.23	0.67		
Sat Flow, veh/h	1810	1615	1900	1615	3510	1900		
Grp Volume(v), veh/h	390	229	678	429	713	880		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1755	1900		
Q Serve(g_s), s	22.7	9.6	36.3	14.6	21.2	30.8		
Cycle Q Clear(g_c), s	22.7	9.6	36.3	14.6	21.2	30.8		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	422	746	748	1012	803	1270		
V/C Ratio(X)	0.92	0.31	0.91	0.42	0.89	0.69		
Avail Cap(c_a), veh/h	532	844	770	1031	944	1375		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	40.4	18.2	30.8	10.2	40.2	11.0		
Incr Delay (d2), s/veh	17.6	0.1	14.3	0.3	9.3	1.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.4	4.3	22.0	10.6	11.3	16.3		
LnGrp Delay(d),s/veh	58.0	18.3	45.2	10.6	49.5	12.1		
LnGrp LOS	E	B	D	B	D	B		
Approach Vol, veh/h	619		1107			1593		
Approach Delay, s/veh	43.3		31.8			28.8		
Approach LOS	D		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	29.7	47.7				77.4		30.4
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	29.0	43.7				* 78		31.7
Max Q Clear Time (g_c+I1), s	23.2	38.3				32.8		24.7
Green Ext Time (p_c), s	1.5	4.2				15.8		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			32.5					
HCM 2010 LOS			C					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

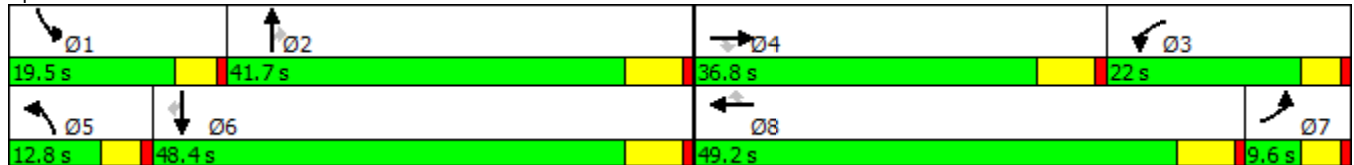


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	33	443	229	305	289	128	107	220	156	250	403	33
Future Volume (vph)	33	443	229	305	289	128	107	220	156	250	403	33
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	36.8	36.8	22.0	49.2	49.2	12.8	41.7	41.7	19.5	48.4	48.4
Total Split (%)	8.0%	30.7%	30.7%	18.3%	41.0%	41.0%	10.7%	34.8%	34.8%	16.3%	40.3%	40.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 74.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	443	229	305	289	128	107	220	156	250	403	33
Future Volume (veh/h)	33	443	229	305	289	128	107	220	156	250	403	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	466	105	321	304	66	113	232	155	263	424	30
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	457	926	282	457	644	288	259	1009	314	391	837	374
Arrive On Green	0.13	0.18	0.18	0.13	0.18	0.18	0.07	0.19	0.19	0.11	0.23	0.23
Sat Flow, veh/h	3510	5187	1579	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	35	466	105	321	304	66	113	232	155	263	424	30
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	0.5	4.5	2.2	4.9	4.2	1.2	1.7	2.1	2.9	4.0	5.7	0.5
Cycle Q Clear(g_c), s	0.5	4.5	2.2	4.9	4.2	1.2	1.7	2.1	2.9	4.0	5.7	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	926	282	457	644	288	259	1009	314	391	837	374
V/C Ratio(X)	0.08	0.50	0.37	0.70	0.47	0.23	0.44	0.23	0.49	0.67	0.51	0.08
Avail Cap(c_a), veh/h	457	2833	863	1090	2771	1240	514	3287	1023	934	2720	1213
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	20.8	9.2	23.3	20.6	7.8	24.8	19.0	7.2	23.9	18.7	5.7
Incr Delay (d2), s/veh	0.0	0.4	0.8	0.7	0.5	0.4	0.4	0.1	1.2	0.8	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.2	1.0	2.4	2.2	0.6	0.8	1.0	1.4	2.0	2.9	0.2
LnGrp Delay(d),s/veh	21.4	21.2	10.1	24.1	21.2	8.2	25.3	19.1	8.4	24.7	19.2	5.7
LnGrp LOS	C	C	B	C	C	A	C	B	A	C	B	A
Approach Vol, veh/h		606			691			500			717	
Approach Delay, s/veh		19.3			21.3			17.2			20.6	
Approach LOS		B			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	17.1	11.9	16.2	8.7	19.2	11.9	16.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	14.9	35.5	17.4	30.6	8.2	42.2	5.0	43.0				
Max Q Clear Time (g_c+I1), s	6.0	4.9	6.9	6.5	3.7	7.7	2.5	6.2				
Green Ext Time (p_c), s	0.3	4.8	0.4	3.1	0.1	4.8	0.2	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.8									
HCM 2010 LOS			B									

APPENDIX 6.1:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

07/26/2017

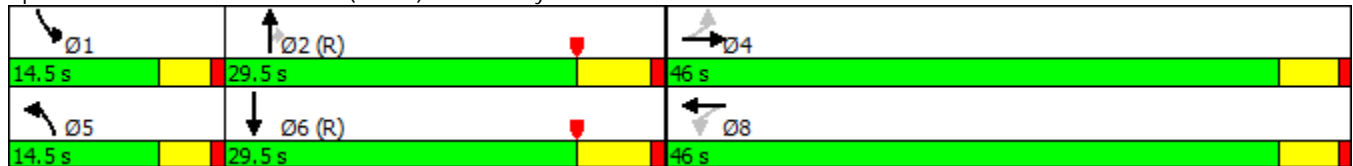


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	8	6	431	48	19	1097	205	506	1649
Future Volume (vph)	8	6	431	48	19	1097	205	506	1649
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min





















Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	431	48	656	19	1097	205	506	1649	44
Future Volume (veh/h)	8	6	4	431	48	656	19	1097	205	506	1649	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	8	6	3	449	50	637	20	1143	188	527	1718	43
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	271	195	87	324	30	381	71	893	399	180	1120	28
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.04	0.26	0.26	0.11	0.33	0.33
Sat Flow, veh/h	467	429	192	589	66	836	1619	3420	1530	1619	3410	85
Grp Volume(v), veh/h	17	0	0	1136	0	0	20	1143	188	527	859	902
Grp Sat Flow(s),veh/h/ln	1088	0	0	1490	0	0	1619	1710	1530	1619	1710	1785
Q Serve(g_s), s	0.0	0.0	0.0	40.5	0.0	0.0	1.1	23.5	9.3	10.0	29.6	29.6
Cycle Q Clear(g_c), s	0.5	0.0	0.0	41.0	0.0	0.0	1.1	23.5	9.3	10.0	29.6	29.6
Prop In Lane	0.47		0.18	0.40		0.56	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	554	0	0	735	0	0	71	893	399	180	562	586
V/C Ratio(X)	0.03	0.00	0.00	1.55	0.00	0.00	0.28	1.28	0.47	2.93	1.53	1.54
Avail Cap(c_a), veh/h	554	0	0	735	0	0	180	893	399	180	562	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	26.0	0.0	0.0	41.7	33.3	28.0	40.0	30.2	30.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	252.6	0.0	0.0	0.1	126.8	0.4	883.2	247.2	250.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	69.7	0.0	0.0	0.5	26.8	4.0	48.6	52.5	55.3
LnGrp Delay(d),s/veh	13.5	0.0	0.0	278.6	0.0	0.0	41.7	160.1	28.4	923.2	277.4	280.8
LnGrp LOS	B			F			D	F	C	F	F	F
Approach Vol, veh/h		17			1136			1351			2288	
Approach Delay, s/veh		13.5			278.6			140.0			427.5	
Approach LOS		B			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	29.5		46.0	8.4	35.6		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	25.5		2.5	3.1	31.6		43.0				
Green Ext Time (p_c), s	0.0	0.0		7.5	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			309.7									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

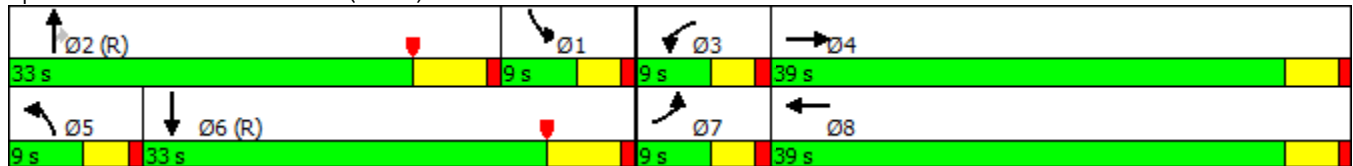


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	285	381	85	577	181	825	181	444	868
Future Volume (vph)	285	381	85	577	181	825	181	444	868
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 73 (81%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated


























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

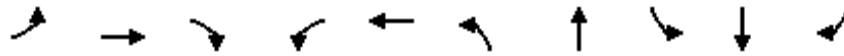
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	285	381	54	85	577	153	181	825	181	444	868	648
Future Volume (veh/h)	285	381	54	85	577	153	181	825	181	444	868	648
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	291	389	53	87	589	134	185	842	177	453	886	623
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	813	110	90	744	169	90	928	415	286	806	545
Arrive On Green	0.06	0.27	0.27	0.06	0.27	0.27	0.11	0.54	0.54	0.18	0.41	0.41
Sat Flow, veh/h	1619	3028	410	1619	2770	629	1619	3420	1530	1619	1943	1315
Grp Volume(v), veh/h	291	219	223	87	363	360	185	842	177	453	776	733
Grp Sat Flow(s),veh/h/ln	1619	1710	1728	1619	1710	1689	1619	1710	1530	1619	1710	1548
Q Serve(g_s), s	5.0	9.6	9.8	4.8	17.7	17.8	5.0	20.0	4.8	15.9	37.3	37.3
Cycle Q Clear(g_c), s	5.0	9.6	9.8	4.8	17.7	17.8	5.0	20.0	4.8	15.9	37.3	37.3
Prop In Lane	1.00		0.24	1.00		0.37	1.00		1.00	1.00		0.85
Lane Grp Cap(c), veh/h	90	459	464	90	459	454	90	928	415	286	709	642
V/C Ratio(X)	3.24	0.48	0.48	0.97	0.79	0.79	2.06	0.91	0.43	1.58	1.09	1.14
Avail Cap(c_a), veh/h	90	656	662	90	656	647	90	1026	459	286	709	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	27.6	27.6	42.4	30.6	30.6	40.0	19.6	9.8	37.0	26.3	26.3
Incr Delay (d2), s/veh	1034.0	0.8	0.8	83.4	2.6	2.7	479.0	1.6	0.3	264.1	44.7	66.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.1	4.7	4.8	4.2	8.7	8.6	14.2	9.3	2.0	28.1	26.3	27.6
LnGrp Delay(d),s/veh	1076.5	28.4	28.4	125.8	33.1	33.3	519.0	21.2	10.1	301.2	71.0	92.3
LnGrp LOS	F	C	C	F	C	C	F	C	B	F	F	F
Approach Vol, veh/h		733			810			1204			1962	
Approach Delay, s/veh		444.5			43.2			96.1			132.1	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.9	30.4	9.0	28.7	9.0	43.3	9.0	28.7				
Change Period (Y+Rc), s	6.0	* 6	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	* 27	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	17.9	22.0	6.8	11.8	7.0	39.3	7.0	19.8				
Green Ext Time (p_c), s	0.0	2.5	0.0	5.0	0.0	0.0	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay	156.2											
HCM 2010 LOS	F											
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

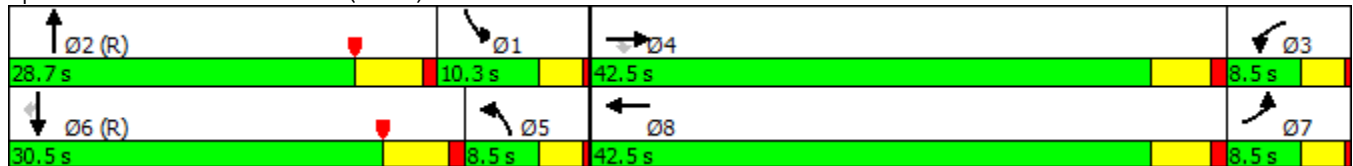


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	85	28	52	284	407	79	923	77	718	111
Future Volume (vph)	85	28	52	284	407	79	923	77	718	111
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.7	10.3	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.9%	11.4%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



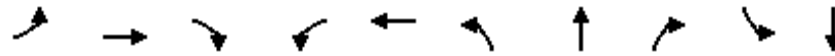
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	28	52	284	407	257	79	923	82	77	718	111
Future Volume (veh/h)	85	28	52	284	407	257	79	923	82	77	718	111
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	90	30	53	302	433	260	84	982	86	82	764	109
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	112	95	664	440	264	127	820	72	122	873	390
Arrive On Green	0.06	0.06	0.06	0.41	0.42	0.42	0.03	0.09	0.09	0.02	0.08	0.08
Sat Flow, veh/h	1619	1800	1523	1619	1055	633	1619	3182	279	1619	3420	1530
Grp Volume(v), veh/h	90	30	53	302	0	693	84	528	540	82	764	109
Grp Sat Flow(s),veh/h/ln	1619	1800	1523	1619	0	1688	1619	1710	1751	1619	1710	1530
Q Serve(g_s), s	5.0	1.4	3.0	12.2	0.0	36.6	4.6	23.2	23.2	4.5	19.9	6.0
Cycle Q Clear(g_c), s	5.0	1.4	3.0	12.2	0.0	36.6	4.6	23.2	23.2	4.5	19.9	6.0
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	90	112	95	664	0	703	127	441	451	122	873	390
V/C Ratio(X)	1.00	0.27	0.56	0.46	0.00	0.99	0.66	1.20	1.20	0.67	0.88	0.28
Avail Cap(c_a), veh/h	90	750	634	664	0	703	127	441	451	122	950	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	40.2	41.0	19.3	0.0	26.0	42.7	41.2	41.2	42.8	39.8	33.4
Incr Delay (d2), s/veh	95.1	0.5	1.9	0.2	0.0	30.1	1.0	90.8	90.9	1.1	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.7	1.3	5.5	0.0	22.8	2.1	22.1	22.6	2.1	9.6	2.6
LnGrp Delay(d),s/veh	137.6	40.7	42.9	19.4	0.0	56.0	43.6	132.0	132.1	43.8	41.1	33.6
LnGrp LOS	F	D	D	B		E	D	F	F	D	D	C
Approach Vol, veh/h		173			995			1152			955	
Approach Delay, s/veh		91.8			44.9			125.6			40.5	
Approach LOS		F			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	28.7	40.4	10.6	10.5	28.5	8.5	42.5				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	6.8	23.2	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	6.5	25.2	14.2	5.0	6.6	21.9	7.0	38.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	1.1	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			74.5									
HCM 2010 LOS			E									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

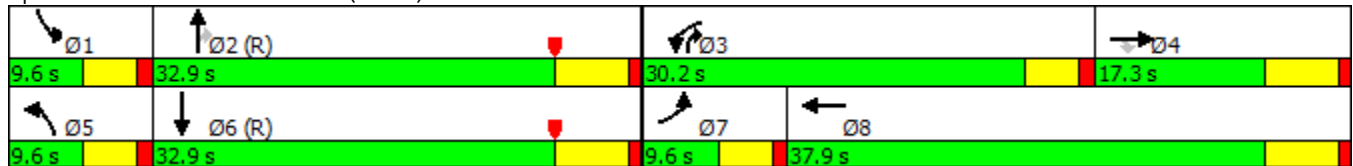


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑	↗	↖↗	↖	↖	↑↑	↗	↖	↖↗
Traffic Volume (vph)	5	236	33	950	179	58	1028	548	99	934
Future Volume (vph)	5	236	33	950	179	58	1028	548	99	934
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	236	33	950	179	132	58	1028	548	99	934	15
Future Volume (veh/h)	5	236	33	950	179	132	58	1028	548	99	934	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	238	0	960	181	118	59	1038	376	100	943	10
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	228	194	841	410	267	73	1026	884	90	1076	11
Arrive On Green	0.01	0.13	0.00	0.28	0.40	0.40	0.04	0.30	0.30	0.11	0.62	0.62
Sat Flow, veh/h	1619	1800	1530	2956	1013	660	1619	3420	1496	1619	3466	37
Grp Volume(v), veh/h	5	238	0	960	0	299	59	1038	376	100	465	488
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1674	1619	1710	1496	1619	1710	1793
Q Serve(g_s), s	0.3	11.4	0.0	25.6	0.0	11.7	3.3	27.0	12.6	5.0	20.4	20.4
Cycle Q Clear(g_c), s	0.3	11.4	0.0	25.6	0.0	11.7	3.3	27.0	12.6	5.0	20.4	20.4
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	11	228	194	841	0	677	73	1026	884	90	531	557
V/C Ratio(X)	0.47	1.04	0.00	1.14	0.00	0.44	0.81	1.01	0.43	1.11	0.88	0.88
Avail Cap(c_a), veh/h	90	228	194	841	0	677	90	1026	884	90	531	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.60	0.60	0.60
Uniform Delay (d), s/veh	44.6	39.3	0.0	32.2	0.0	19.4	42.6	31.5	10.4	40.0	15.6	15.6
Incr Delay (d2), s/veh	11.7	71.6	0.0	77.9	0.0	0.6	3.3	11.5	0.1	106.5	11.8	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.2	0.0	19.5	0.0	5.5	1.5	14.3	5.2	4.9	11.0	11.5
LnGrp Delay(d),s/veh	56.2	110.9	0.0	110.1	0.0	20.1	45.9	43.0	10.5	146.5	27.4	27.0
LnGrp LOS	E	F		F		C	D	F	B	F	C	C
Approach Vol, veh/h		243			1259			1473			1053	
Approach Delay, s/veh		109.7			88.7			34.8			38.5	
Approach LOS		F			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.9	30.2	17.3	8.6	33.9	5.2	42.3				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	7.0	29.0	27.6	13.4	5.3	22.4	2.3	13.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay			57.2									
HCM 2010 LOS			E									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

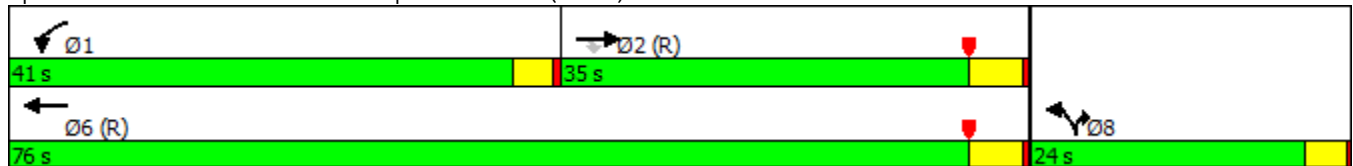


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	624	303	603	1306	73	1045
Future Volume (vph)	624	303	603	1306	73	1045
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	35.0	35.0	41.0	76.0	24.0	24.0
Total Split (%)	35.0%	35.0%	41.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

07/26/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↓		
Traffic Volume (veh/h)	624	303	603	1306	73	1045		
Future Volume (veh/h)	624	303	603	1306	73	1045		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	650	0	628	1360	76	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1573	704	643	2975	166	76		
Arrive On Green	0.92	0.00	0.38	0.87	0.05	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	650	0	628	1360	76	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	2.5	0.0	36.1	8.6	2.2	0.0		
Cycle Q Clear(g_c), s	2.5	0.0	36.1	8.6	2.2	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1573	704	643	2975	166	76		
V/C Ratio(X)	0.41	0.00	0.98	0.46	0.46	0.00		
Avail Cap(c_a), veh/h	1573	704	643	2975	682	314		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.11	0.11	1.00	0.00		
Uniform Delay (d), s/veh	2.3	0.0	30.8	1.4	46.2	0.0		
Incr Delay (d2), s/veh	0.8	0.0	7.1	0.1	2.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	0.0	18.4	3.8	1.1	0.0		
LnGrp Delay(d),s/veh	3.1	0.0	37.9	1.5	48.1	0.0		
LnGrp LOS	A		D	A	D			
Approach Vol, veh/h	650			1988	76			
Approach Delay, s/veh	3.1			13.0	48.1			
Approach LOS	A			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	41.0	50.5				91.5		8.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	37.5	30.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	38.1	4.5				10.6		4.2
Green Ext Time (p_c), s	0.0	13.3				17.9		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			11.6					
HCM 2010 LOS			B					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

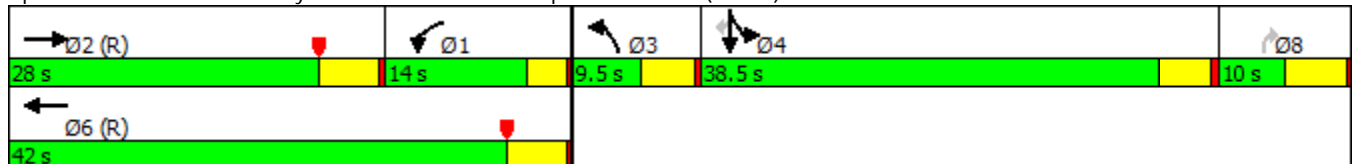


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↗	↖	↖	↗
Traffic Volume (vph)	847	400	290	63	303	319	21	36
Future Volume (vph)	847	400	290	63	303	319	21	36
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	28.0	14.0	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	28.0%	14.0%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 82 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Future Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	931	19	440	319	0	69	0	333	367	0	40
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	788	16	786	2617	0	0	0	0	453	0	211
Arrive On Green	0.00	0.23	0.23	0.81	1.00	0.00	0.00	0.00	0.00	0.14	0.00	0.14
Sat Flow, veh/h	0	3516	70	1619	3510	0		0		3238	0	1507
Grp Volume(v), veh/h	0	465	485	440	319	0		0.0		367	0	40
Grp Sat Flow(s),veh/h/ln	0	1710	1786	1619	1710	0				1619	0	1507
Q Serve(g_s), s	0.0	23.0	23.0	9.4	0.0	0.0				11.0	0.0	2.3
Cycle Q Clear(g_c), s	0.0	23.0	23.0	9.4	0.0	0.0				11.0	0.0	2.3
Prop In Lane	0.00		0.04	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	393	411	786	2617	0				453	0	211
V/C Ratio(X)	0.00	1.18	1.18	0.56	0.12	0.00				0.81	0.00	0.19
Avail Cap(c_a), veh/h	0	393	411	786	2617	0				1101	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.5	5.8	0.0	0.0				41.7	0.0	38.0
Incr Delay (d2), s/veh	0.0	104.9	104.1	0.6	0.1	0.0				2.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	22.3	23.2	4.2	0.0	0.0				5.1	0.0	1.0
LnGrp Delay(d),s/veh	0.0	143.4	142.6	6.3	0.1	0.0				44.4	0.0	38.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		950			759						407	
Approach Delay, s/veh		143.0			3.7						43.8	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	53.5	28.0		18.5		81.5						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.5	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	11.4	25.0		13.0		2.0						
Green Ext Time (p_c), s	0.0	0.0		1.0		1.8						
Intersection Summary												
HCM 2010 Ctrl Delay				74.0								
HCM 2010 LOS				E								
Notes												

Intersection	
Intersection Delay, s/veh	500.4
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	60	574	0	1073	294	0	185	110
Future Vol, veh/h	0	60	574	0	1073	294	0	185	110
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	70	667	0	1248	342	0	215	128
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	158.6	760.9	28
HCM LOS	F	F	D

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	0%	63%
Vol Thru, %	91%	78%	0%
Vol Right, %	0%	22%	37%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	634	1367	295
LT Vol	60	0	185
Through Vol	574	1073	0
RT Vol	0	294	110
Lane Flow Rate	737	1590	343
Geometry Grp	1	1	1
Degree of Util (X)	1.258	2.647	0.657
Departure Headway (Hd)	8.161	6.463	9.146
Convergence, Y/N	Yes	Yes	Yes
Cap	450	588	398
Service Time	6.161	4.463	7.146
HCM Lane V/C Ratio	1.638	2.704	0.862
HCM Control Delay	158.6	760.9	28
HCM Lane LOS	F	F	D
HCM 95th-tile Q	23.2	119.3	4.5

Intersection

Int Delay, s/veh 448.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	628	170	130	1277	226	113
Future Vol, veh/h	628	170	130	1277	226	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	690	187	143	1403	248	124

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	690
Stage 1	-	-	690
Stage 2	-	-	1689
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	914
Stage 1	-	-	502
Stage 2	-	-	~ 166
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	914
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	502
Stage 2	-	-	~ 140

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	\$ 3364.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	-	-	914	-
HCM Lane V/C Ratio	8.098	-	-	0.156	-
HCM Control Delay (s)	\$ 3364.5	-	-	9.7	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	44	-	-	0.6	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 303.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	521	169	270	999	427	147
Future Vol, veh/h	521	169	270	999	427	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	566	184	293	1086	464	160

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2239
Stage 1	-	-	566
Stage 2	-	-	1673
Critical Hdwy	-	4.1	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	1016	~ 42
Stage 1	-	-	537
Stage 2	-	-	~ 169
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1016	~ 30
Mov Cap-2 Maneuver	-	-	~ 97
Stage 1	-	-	537
Stage 2	-	-	~ 120

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	\$ 1335.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	97	720	-	-	1016	-
HCM Lane V/C Ratio	4.785	0.222	-	-	0.289	-
HCM Control Delay (s)	\$ 1791	11.4	-	-	10	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	49.4	0.8	-	-	1.2	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	25.9
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↙		↗						↘	↖	
Traffic Vol, veh/h	0	228	0	173	0	0	0	0	0	318	456	0
Future Vol, veh/h	0	228	0	173	0	0	0	0	0	318	456	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	245	0	186	0	0	0	0	0	342	490	0
Number of Lanes	0	1	0	1	0	0	0	0	0	1	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	2
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	2	2
Conflicting Approach Right	NB	
Conflicting Lanes Right	2	0
HCM Control Delay	17	35.8
HCM LOS	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	318	456	228	173	118	251
LT Vol	318	0	228	0	0	0
Through Vol	0	456	0	0	118	0
RT Vol	0	0	0	173	0	251
Lane Flow Rate	342	490	245	186	127	270
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.678	0.903	0.543	0.349	0.26	0.499
Departure Headway (Hd)	7.139	6.628	7.974	6.75	7.379	6.66
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	544	449	528	490	545
Service Time	4.935	4.424	5.77	4.545	5.079	4.36
HCM Lane V/C Ratio	0.68	0.901	0.546	0.352	0.259	0.495
HCM Control Delay	23.8	44.2	19.9	13.2	12.7	15.8
HCM Lane LOS	C	E	C	B	B	C
HCM 95th-tile Q	5	10.6	3.2	1.6	1	2.8

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↑
Traffic Vol, veh/h	0	0	118	251
Future Vol, veh/h	0	0	118	251
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	0	127	270
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	14.8
HCM LOS	B

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

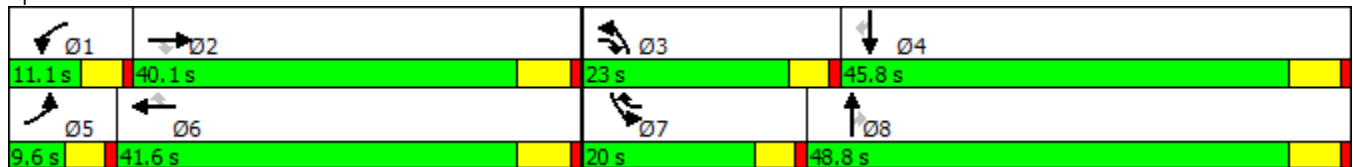


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	639	317	74	1184	271	451	378	52	74	147	15
Future Volume (vph)	9	639	317	74	1184	271	451	378	52	74	147	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	639	317	74	1184	271	451	378	52	74	147	15
Future Volume (veh/h)	9	639	317	74	1184	271	451	378	52	74	147	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	10	695	333	80	1287	262	490	411	47	80	160	15
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1327	876	150	1458	730	561	888	392	150	413	185
Arrive On Green	0.01	0.39	0.39	0.05	0.43	0.43	0.19	0.26	0.26	0.05	0.12	0.12
Sat Flow, veh/h	2956	3420	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	10	695	333	80	1287	262	490	411	47	80	160	15
Grp Sat Flow(s),veh/h/ln	1478	1710	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.3	12.9	9.9	2.2	28.7	9.0	13.3	8.4	2.0	2.2	3.6	0.7
Cycle Q Clear(g_c), s	0.3	12.9	9.9	2.2	28.7	9.0	13.3	8.4	2.0	2.2	3.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	1327	876	150	1458	730	561	888	392	150	413	185
V/C Ratio(X)	0.27	0.52	0.38	0.53	0.88	0.36	0.87	0.46	0.12	0.53	0.39	0.08
Avail Cap(c_a), veh/h	178	1415	915	232	1477	738	656	1774	783	549	1650	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	19.5	9.5	38.4	21.9	13.7	32.6	25.8	23.5	38.4	33.6	32.4
Incr Delay (d2), s/veh	1.5	0.3	0.3	1.1	6.6	0.3	10.1	0.4	0.1	1.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.1	4.1	0.9	14.7	3.8	6.2	4.0	0.8	0.9	1.7	0.3
LnGrp Delay(d),s/veh	42.0	19.8	9.8	39.5	28.5	14.0	42.7	26.2	23.6	39.5	34.2	32.6
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1038			1629			948			255	
Approach Delay, s/veh		16.8			26.7			34.6			35.8	
Approach LOS		B			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.0	20.3	15.8	5.6	41.1	8.8	27.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.2	14.9	15.3	5.6	2.3	30.7	4.2	10.4				
Green Ext Time (p_c), s	0.0	15.4	0.4	4.3	0.0	4.7	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.6									
HCM 2010 LOS			C									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	4	508	749	1435	528
Future Volume (vph)	4	508	749	1435	528
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	550	4	508	749	1435	0	0	528	196
Future Volume (veh/h)	0	0	0	550	4	508	749	1435	0	0	528	196
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				611	4	388	832	1594	0	0	587	138
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				435	3	391	603	3014	0	0	899	202
Arrive On Green				0.26	0.26	0.26	0.74	1.00	0.00	0.00	0.18	0.18
Sat Flow, veh/h				1704	11	1530	1619	5076	0	0	5340	1146
Grp Volume(v), veh/h				615	0	388	832	1594	0	0	534	191
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1590
Q Serve(g_s), s				23.0	0.0	22.8	33.5	0.0	0.0	0.0	9.6	10.1
Cycle Q Clear(g_c), s				23.0	0.0	22.8	33.5	0.0	0.0	0.0	9.6	10.1
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.72
Lane Grp Cap(c), veh/h				438	0	391	603	3014	0	0	820	281
V/C Ratio(X)				1.40	0.00	0.99	1.38	0.53	0.00	0.00	0.65	0.68
Avail Cap(c_a), veh/h				438	0	391	603	3014	0	0	1404	481
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	33.4	11.5	0.0	0.0	0.0	34.5	34.7
Incr Delay (d2), s/veh				194.8	0.0	43.5	172.2	0.1	0.0	0.0	4.0	12.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				34.6	0.0	21.5	42.9	0.0	0.0	0.0	4.4	5.5
LnGrp Delay(d),s/veh				228.3	0.0	76.9	183.7	0.1	0.0	0.0	38.4	47.3
LnGrp LOS				F		E	F	A			D	D
Approach Vol, veh/h					1003			2426			725	
Approach Delay, s/veh					169.7			63.0			40.8	
Approach LOS					F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	39.3	21.7						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	35.5	12.1						
Green Ext Time (p_c), s		18.8		0.0	0.0	3.8						
Intersection Summary												
HCM 2010 Ctrl Delay				84.9								
HCM 2010 LOS				F								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	3	527	1773	128	950
Future Volume (vph)	3	527	1773	128	950
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

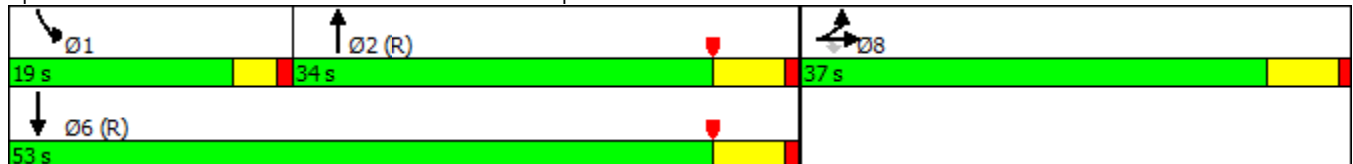
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



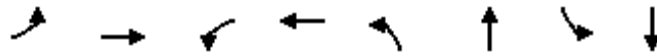
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	411	3	527	0	0	0	0	1773	573	128	950	0
Future Volume (veh/h)	411	3	527	0	0	0	0	1773	573	128	950	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	442	3	357				0	1906	498	138	1022	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	502	3	445				0	2111	548	169	2832	0
Arrive On Green	0.29	0.29	0.29				0.00	0.43	0.43	0.03	0.19	0.00
Sat Flow, veh/h	1703	12	1508				0	5189	1281	1619	5076	0
Grp Volume(v), veh/h	445	0	357				0	1792	612	138	1022	0
Grp Sat Flow(s),veh/h/ln	1715	0	1508				0	1548	1574	1619	1638	0
Q Serve(g_s), s	22.2	0.0	19.7				0.0	32.4	32.7	7.6	16.3	0.0
Cycle Q Clear(g_c), s	22.2	0.0	19.7				0.0	32.4	32.7	7.6	16.3	0.0
Prop In Lane	0.99		1.00				0.00		0.81	1.00		0.00
Lane Grp Cap(c), veh/h	505	0	445				0	1986	673	169	2832	0
V/C Ratio(X)	0.88	0.00	0.80				0.00	0.90	0.91	0.82	0.36	0.00
Avail Cap(c_a), veh/h	594	0	523				0	1986	673	270	2832	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.72	0.72	0.00
Uniform Delay (d), s/veh	30.2	0.0	29.3				0.0	24.0	24.1	42.6	22.0	0.0
Incr Delay (d2), s/veh	12.8	0.0	7.6				0.0	0.7	2.3	3.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.0	9.1				0.0	13.9	14.5	3.6	7.5	0.0
LnGrp Delay(d),s/veh	43.0	0.0	37.0				0.0	24.8	26.4	46.0	22.3	0.0
LnGrp LOS	D		D					C	C	D	C	
Approach Vol, veh/h		802						2404			1160	
Approach Delay, s/veh		40.3						25.2			25.1	
Approach LOS		D						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	13.4	44.3				57.7		32.3				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	9.6	34.7				18.3		24.2				
Green Ext Time (p_c), s	0.1	0.0				25.5		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			27.9									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕↕↕	↖	↕↕↕
Traffic Volume (vph)	38	10	154	29	68	1932	120	1035
Future Volume (vph)	38	10	154	29	68	1932	120	1035
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



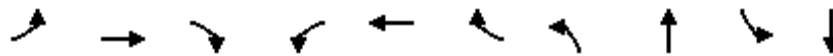
HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	10	22	154	29	243	68	1932	69	120	1035	17
Future Volume (veh/h)	38	10	22	154	29	243	68	1932	69	120	1035	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	43	11	16	173	33	136	76	2171	77	135	1163	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	263	146	212	387	68	278	94	2101	74	166	2371	37
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.43	0.43	0.10	0.48	0.48
Sat Flow, veh/h	1167	658	957	1309	304	1255	1619	4873	172	1619	4984	77
Grp Volume(v), veh/h	43	0	27	173	0	169	76	1457	791	135	764	417
Grp Sat Flow(s),veh/h/ln	1167	0	1614	1309	0	1559	1619	1638	1770	1619	1638	1785
Q Serve(g_s), s	2.1	0.0	0.8	7.6	0.0	6.0	2.9	27.2	27.2	5.1	10.1	10.1
Cycle Q Clear(g_c), s	8.1	0.0	0.8	8.4	0.0	6.0	2.9	27.2	27.2	5.1	10.1	10.1
Prop In Lane	1.00		0.59	1.00		0.80	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	263	0	358	387	0	346	94	1413	763	166	1558	849
V/C Ratio(X)	0.16	0.00	0.08	0.45	0.00	0.49	0.80	1.03	1.04	0.81	0.49	0.49
Avail Cap(c_a), veh/h	559	0	768	719	0	742	246	1413	763	190	1558	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	19.4	22.8	0.0	21.4	29.3	17.9	17.9	27.7	11.3	11.3
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.8	0.0	1.1	5.9	32.4	42.4	18.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	2.8	0.0	2.6	1.5	18.5	22.1	3.1	4.5	5.0
LnGrp Delay(d),s/veh	25.2	0.0	19.5	23.6	0.0	22.5	35.2	50.3	60.3	45.7	11.6	11.8
LnGrp LOS	C		B	C		C	D	F	F	D	B	B
Approach Vol, veh/h		70			342			2324			1316	
Approach Delay, s/veh		23.0			23.0			53.2			15.1	
Approach LOS		C			C			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	33.4		18.6	8.3	36.2		18.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	7.1	29.2		10.1	4.9	12.1		10.4				
Green Ext Time (p_c), s	0.0	0.0		1.9	0.0	12.1		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				37.8								
HCM 2010 LOS				D								

Timings
17: Archibald Av. & Riverside Dr.

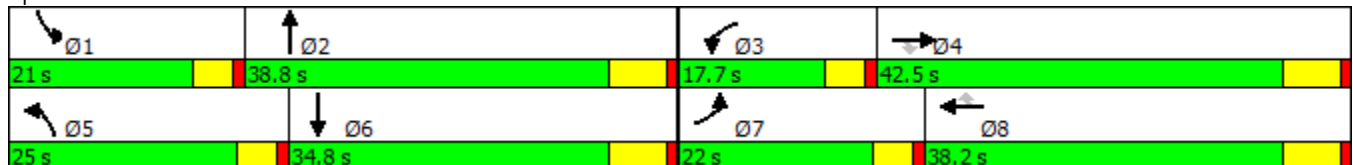


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↓	↘	↑↑↓
Traffic Volume (vph)	207	379	200	147	524	371	265	1243	304	747
Future Volume (vph)	207	379	200	147	524	371	265	1243	304	747
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	379	200	147	524	371	265	1243	153	304	747	206
Future Volume (veh/h)	207	379	200	147	524	371	265	1243	153	304	747	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	230	421	189	163	582	319	294	1381	160	338	830	156
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	239	992	438	180	867	380	280	1235	143	225	1009	188
Arrive On Green	0.15	0.29	0.29	0.11	0.25	0.25	0.17	0.28	0.28	0.14	0.24	0.24
Sat Flow, veh/h	1619	3420	1509	1619	3420	1498	1619	4465	517	1619	4159	777
Grp Volume(v), veh/h	230	421	189	163	582	319	294	1013	528	338	653	333
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1498	1619	1638	1706	1619	1638	1660
Q Serve(g_s), s	16.6	11.7	12.0	11.7	18.0	23.8	20.4	32.6	32.6	16.4	22.2	22.4
Cycle Q Clear(g_c), s	16.6	11.7	12.0	11.7	18.0	23.8	20.4	32.6	32.6	16.4	22.2	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.47
Lane Grp Cap(c), veh/h	239	992	438	180	867	380	280	906	472	225	795	403
V/C Ratio(X)	0.96	0.42	0.43	0.91	0.67	0.84	1.05	1.12	1.12	1.50	0.82	0.83
Avail Cap(c_a), veh/h	239	1053	465	180	928	407	280	906	472	225	795	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	33.9	34.0	51.8	39.6	41.7	48.7	42.6	42.6	50.7	42.2	42.3
Incr Delay (d2), s/veh	47.3	0.3	0.7	40.7	1.7	13.8	67.3	68.0	78.0	247.2	6.9	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	5.6	5.1	7.3	8.7	11.3	14.3	23.2	25.4	22.7	10.8	11.8
LnGrp Delay(d),s/veh	97.3	34.2	34.6	92.5	41.3	55.5	116.1	110.7	120.7	297.9	49.1	55.7
LnGrp LOS	F	C	C	F	D	E	F	F	F	F	D	E
Approach Vol, veh/h		840			1064			1835			1324	
Approach Delay, s/veh		51.5			53.4			114.4			114.3	
Approach LOS		D			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	38.8	17.7	40.4	25.0	34.8	22.0	36.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	18.4	34.6	13.7	14.0	22.4	24.4	18.6	25.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	3.7	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			91.1									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

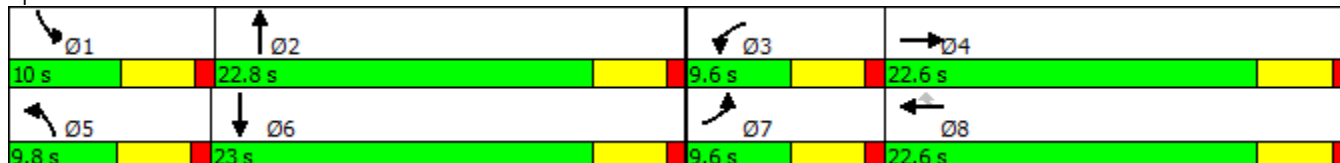


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↖↗↘	↖	↗
Traffic Volume (vph)	34	47	49	79	185	71	1431	91	987
Future Volume (vph)	34	47	49	79	185	71	1431	91	987
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 53.4
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	47	30	49	79	185	71	1431	65	91	987	37
Future Volume (veh/h)	34	47	30	49	79	185	71	1431	65	91	987	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	37	52	24	54	87	79	78	1573	67	100	1085	36
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	120	55	87	208	177	110	1834	78	125	1314	44
Arrive On Green	0.04	0.10	0.10	0.05	0.12	0.12	0.07	0.38	0.38	0.08	0.39	0.39
Sat Flow, veh/h	1619	1167	538	1619	1800	1530	1619	4834	206	1619	3378	112
Grp Volume(v), veh/h	37	0	76	54	87	79	78	1066	574	100	549	572
Grp Sat Flow(s),veh/h/ln	1619	0	1705	1619	1800	1530	1619	1638	1764	1619	1710	1780
Q Serve(g_s), s	1.1	0.0	2.0	1.6	2.1	2.3	2.2	14.2	14.2	2.9	13.7	13.7
Cycle Q Clear(g_c), s	1.1	0.0	2.0	1.6	2.1	2.3	2.2	14.2	14.2	2.9	13.7	13.7
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.12	1.00		0.06
Lane Grp Cap(c), veh/h	66	0	175	87	208	177	110	1243	669	125	665	692
V/C Ratio(X)	0.56	0.00	0.43	0.62	0.42	0.45	0.71	0.86	0.86	0.80	0.83	0.83
Avail Cap(c_a), veh/h	170	0	646	170	682	580	177	1255	676	184	665	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	20.0	22.0	19.5	19.6	21.7	13.6	13.6	21.6	13.1	13.1
Incr Delay (d2), s/veh	7.3	0.0	1.7	7.1	1.3	1.8	8.3	6.1	10.6	14.2	8.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.0	0.9	1.1	1.1	1.2	7.4	8.8	1.8	8.0	8.2
LnGrp Delay(d),s/veh	29.7	0.0	21.7	29.1	20.9	21.4	30.0	19.6	24.2	35.8	21.5	21.2
LnGrp LOS	C		C	C	C	C	C	B	C	D	C	C
Approach Vol, veh/h		113			220			1718			1221	
Approach Delay, s/veh		24.3			23.1			21.6			22.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	22.6	7.1	9.5	7.8	23.1	6.5	10.1				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.9	16.2	3.6	4.0	4.2	15.7	3.1	4.3				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	2.5	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			22.2									
HCM 2010 LOS			C									

Intersection												
Int Delay, s/veh	13.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	6	9	20	11	27	13	20	1489	7	4	1066	4
Future Vol, veh/h	6	9	20	11	27	13	20	1489	7	4	1066	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	10	22	12	29	14	22	1618	8	4	1159	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2037	2840	582	2259	2838	813	1163	0	0	1626	0	0
Stage 1	1170	1170	-	1666	1666	-	-	-	-	-	-	-
Stage 2	867	1670	-	593	1172	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	34	18	461	23	~ 18	326	608	-	-	405	-	-
Stage 1	208	269	-	103	155	-	-	-	-	-	-	-
Stage 2	318	154	-	464	269	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	17	461	12	~ 17	326	608	-	-	405	-	-
Mov Cap-2 Maneuver	-	17	-	12	~ 17	-	-	-	-	-	-	-
Stage 1	200	266	-	99	149	-	-	-	-	-	-	-
Stage 2	235	148	-	422	266	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 685.8	0.1	0.1
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	608	-	-	-	51	12	25	405	-	-
HCM Lane V/C Ratio	0.036	-	-	-	0.618	0.996	1.739	0.011	-	-
HCM Control Delay (s)	11.1	-	-	-	154	\$ 670.9	\$ 689.9	14	-	-
HCM Lane LOS	B	-	-	-	F	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	2.4	2.1	5.4	0	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/26/2017

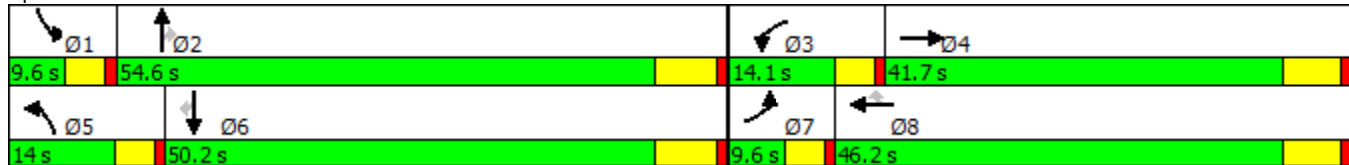


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗	↘	↖	↗↗	↘	↖	↗↗	↘
Traffic Volume (vph)	37	246	77	414	370	87	190	1356	406	79	930	51
Future Volume (vph)	37	246	77	414	370	87	190	1356	406	79	930	51
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	14.0	54.6	54.6	9.6	50.2	50.2
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	11.7%	45.5%	45.5%	8.0%	41.8%	41.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	246	77	414	370	87	190	1356	406	79	930	51
Future Volume (veh/h)	37	246	77	414	370	87	190	1356	406	79	930	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	39	262	0	440	394	45	202	1443	0	84	989	35
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	96	687	307	267	466	396	145	1550	693	77	1407	630
Arrive On Green	0.03	0.20	0.00	0.09	0.26	0.26	0.09	0.45	0.00	0.05	0.41	0.41
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	39	262	0	440	394	45	202	1443	0	84	989	35
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	1.4	7.0	0.0	9.5	21.9	2.4	9.4	42.0	0.0	5.0	25.2	1.5
Cycle Q Clear(g_c), s	1.4	7.0	0.0	9.5	21.9	2.4	9.4	42.0	0.0	5.0	25.2	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	687	307	267	466	396	145	1550	693	77	1407	630
V/C Ratio(X)	0.41	0.38	0.00	1.65	0.85	0.11	1.40	0.93	0.00	1.09	0.70	0.06
Avail Cap(c_a), veh/h	140	1153	516	267	684	581	145	1563	699	77	1420	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	36.4	0.0	47.9	37.0	29.8	47.9	27.2	0.0	50.1	25.6	18.7
Incr Delay (d2), s/veh	1.0	0.3	0.0	308.3	6.5	0.1	215.1	10.3	0.0	130.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.3	0.0	15.3	11.7	1.0	12.8	21.9	0.0	5.0	12.1	0.6
LnGrp Delay(d),s/veh	51.0	36.7	0.0	356.2	43.5	29.9	263.0	37.5	0.0	180.7	27.2	18.7
LnGrp LOS	D	D		F	D	C	F	D		F	C	B
Approach Vol, veh/h		301			879			1645			1108	
Approach Delay, s/veh		38.6			199.3			65.2			38.6	
Approach LOS		D			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	54.2	14.1	27.3	14.0	49.8	8.0	33.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	9.4	43.7	5.0	40.0				
Max Q Clear Time (g_c+I1), s	7.0	44.0	11.5	9.0	11.4	27.2	3.4	23.9				
Green Ext Time (p_c), s	0.0	3.7	0.0	3.9	0.0	12.9	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			85.7									
HCM 2010 LOS			F									

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↕
Traffic Volume (vph)	29	0	60	0	23	1816	40	1376
Future Volume (vph)	29	0	60	0	23	1816	40	1376
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	38.2	38.2	38.2	38.2	10.9	72.2	9.6	70.9
Total Split (%)	31.8%	31.8%	31.8%	31.8%	9.1%	60.2%	8.0%	59.1%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

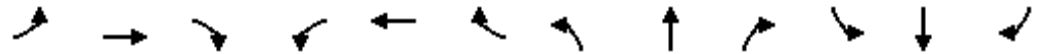
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	0	68	60	0	121	23	1816	46	40	1376	10
Future Volume (veh/h)	29	0	68	60	0	121	23	1816	46	40	1376	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	30	0	70	62	0	95	24	1872	46	41	1419	10
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	20	145	121	12	124	40	2262	55	56	2343	17
Arrive On Green	0.13	0.00	0.13	0.13	0.00	0.13	0.02	0.66	0.66	0.03	0.67	0.67
Sat Flow, veh/h	325	151	1111	525	95	950	1619	3412	84	1619	3481	25
Grp Volume(v), veh/h	100	0	0	157	0	0	24	935	983	41	697	732
Grp Sat Flow(s),veh/h/ln	1588	0	0	1570	0	0	1619	1710	1785	1619	1710	1796
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	1.4	38.5	39.2	2.4	21.3	21.3
Cycle Q Clear(g_c), s	5.4	0.0	0.0	8.9	0.0	0.0	1.4	38.5	39.2	2.4	21.3	21.3
Prop In Lane	0.30		0.70	0.39		0.61	1.00		0.05	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	257	0	0	40	1134	1183	56	1151	1209
V/C Ratio(X)	0.39	0.00	0.00	0.61	0.00	0.00	0.60	0.82	0.83	0.73	0.61	0.61
Avail Cap(c_a), veh/h	584	0	0	575	0	0	108	1186	1238	85	1163	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	0.0	39.6	0.0	0.0	45.7	11.9	12.0	45.3	8.5	8.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.3	0.0	0.0	13.5	4.7	4.8	6.5	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.1	0.0	0.0	0.8	19.4	20.7	1.2	10.2	10.7
LnGrp Delay(d),s/veh	39.2	0.0	0.0	41.9	0.0	0.0	59.3	16.6	16.7	51.7	9.4	9.4
LnGrp LOS	D			D			E	B	B	D	A	A
Approach Vol, veh/h		100			157			1942			1470	
Approach Delay, s/veh		39.2			41.9			17.2			10.6	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	69.3		17.5	6.9	70.3		17.5				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	5.0	65.7		* 34	6.3	64.4		33.0				
Max Q Clear Time (g_c+I1), s	4.4	41.2		7.4	3.4	23.3		10.9				
Green Ext Time (p_c), s	0.0	21.6		1.6	0.0	33.7		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				16.2								
HCM 2010 LOS				B								
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/26/2017

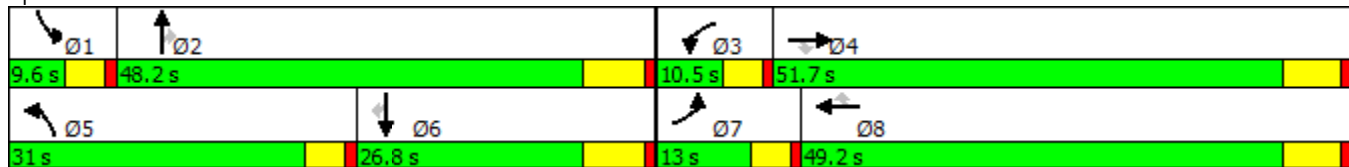


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	447	67	262	186	135	93	726	1333	83	79	628	791
Future Volume (vph)	447	67	262	186	135	93	726	1333	83	79	628	791
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	13.0	51.7	51.7	10.5	49.2	49.2	31.0	48.2	48.2	9.6	26.8	26.8
Total Split (%)	10.8%	43.1%	43.1%	8.8%	41.0%	41.0%	25.8%	40.2%	40.2%	8.0%	22.3%	22.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	67	262	186	135	93	726	1333	83	79	628	791
Future Volume (veh/h)	447	67	262	186	135	93	726	1333	83	79	628	791
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	461	69	218	192	139	33	748	1374	70	81	647	758
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	150	322	274	105	272	231	471	1597	714	142	765	342
Arrive On Green	0.09	0.18	0.18	0.07	0.15	0.15	0.29	0.47	0.47	0.05	0.22	0.22
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	461	69	218	192	139	33	748	1374	70	81	647	758
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	8.4	3.0	12.4	5.9	6.4	1.7	26.4	32.5	2.3	2.4	16.4	20.3
Cycle Q Clear(g_c), s	8.4	3.0	12.4	5.9	6.4	1.7	26.4	32.5	2.3	2.4	16.4	20.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	322	274	105	272	231	471	1597	714	142	765	342
V/C Ratio(X)	3.08	0.21	0.80	1.82	0.51	0.14	1.59	0.86	0.10	0.57	0.85	2.21
Avail Cap(c_a), veh/h	150	903	767	105	853	725	471	1597	714	163	765	342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	31.8	35.7	42.4	35.4	33.4	32.2	21.6	13.5	42.3	33.7	35.2
Incr Delay (d2), s/veh	951.2	0.3	5.3	405.1	1.5	0.3	274.3	5.0	0.1	1.3	8.7	555.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.3	1.5	5.6	14.5	3.3	0.7	47.6	16.4	1.0	1.0	8.6	61.4
LnGrp Delay(d),s/veh	992.4	32.1	41.0	447.6	36.9	33.7	306.5	26.6	13.6	43.6	42.4	590.9
LnGrp LOS	F	C	D	F	D	C	F	C	B	D	D	F
Approach Vol, veh/h		748			364			2192			1486	
Approach Delay, s/veh		626.5			253.2			121.7			322.3	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	48.8	10.5	22.4	31.0	26.8	13.0	19.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	41.7	5.9	45.5	26.4	20.3	8.4	43.0				
Max Q Clear Time (g_c+I1), s	4.4	34.5	7.9	14.4	28.4	22.3	10.4	8.4				
Green Ext Time (p_c), s	0.0	6.5	0.0	1.8	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			272.7									
HCM 2010 LOS			F									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	654	1091	947	438	413	663
Future Volume (vph)	654	1091	947	438	413	663
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	654	1091	947	438	413	663		
Future Volume (veh/h)	654	1091	947	438	413	663		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	681	1071	986	456	430	691		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	467	713	814	1095	332	1241		
Arrive On Green	0.26	0.26	0.43	0.43	0.18	0.65		
Sat Flow, veh/h	1810	1615	1900	1581	1810	1900		
Grp Volume(v), veh/h	681	1071	986	456	430	691		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1810	1900		
Q Serve(g_s), s	31.0	31.0	51.4	15.2	22.0	23.8		
Cycle Q Clear(g_c), s	31.0	31.0	51.4	15.2	22.0	23.8		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	467	713	814	1095	332	1241		
V/C Ratio(X)	1.46	1.50	1.21	0.42	1.30	0.56		
Avail Cap(c_a), veh/h	467	713	814	1095	332	1246		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	44.5	33.5	34.3	8.3	49.0	11.3		
Incr Delay (d2), s/veh	217.2	233.0	106.5	0.3	153.8	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	43.7	69.7	51.0	12.3	25.1	12.4		
LnGrp Delay(d),s/veh	261.7	266.5	140.8	8.6	202.8	11.7		
LnGrp LOS	F	F	F	A	F	B		
Approach Vol, veh/h	1752		1442			1121		
Approach Delay, s/veh	264.6		99.0			85.0		
Approach LOS	F		F			F		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.0	56.7				83.7		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	22.0	51.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	24.0	53.4				25.8		33.0
Green Ext Time (p_c), s	0.0	0.0				22.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			162.6					
HCM 2010 LOS			F					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

07/26/2017

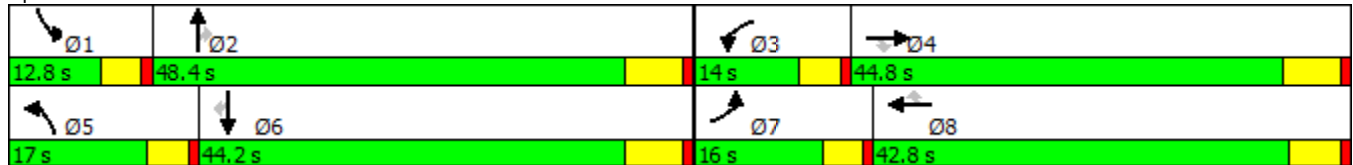


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	397	570	134	184	783	125	380	980	167	122	722	469
Future Volume (vph)	397	570	134	184	783	125	380	980	167	122	722	469
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	570	134	184	783	125	380	980	167	122	722	469
Future Volume (veh/h)	397	570	134	184	783	125	380	980	167	122	722	469
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	446	640	100	207	880	109	427	1101	131	137	811	357
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	368	1530	467	269	1383	423	400	1938	594	197	1638	503
Arrive On Green	0.10	0.30	0.30	0.08	0.27	0.27	0.11	0.37	0.37	0.06	0.32	0.32
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1590	3510	5187	1593
Grp Volume(v), veh/h	446	640	100	207	880	109	427	1101	131	137	811	357
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1590	1755	1729	1593
Q Serve(g_s), s	11.4	10.8	5.2	6.3	16.3	5.9	12.4	18.3	6.1	4.2	13.8	21.5
Cycle Q Clear(g_c), s	11.4	10.8	5.2	6.3	16.3	5.9	12.4	18.3	6.1	4.2	13.8	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	1530	467	269	1383	423	400	1938	594	197	1638	503
V/C Ratio(X)	1.21	0.42	0.21	0.77	0.64	0.26	1.07	0.57	0.22	0.69	0.50	0.71
Avail Cap(c_a), veh/h	368	1842	562	304	1765	540	400	2014	617	265	1813	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	30.8	28.8	49.3	35.2	31.4	48.2	27.1	23.2	50.4	30.2	32.8
Incr Delay (d2), s/veh	117.8	0.2	0.2	8.6	0.5	0.3	63.7	0.4	0.2	2.3	0.2	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	5.2	2.3	3.4	7.8	2.6	9.5	8.8	2.7	2.1	6.6	10.0
LnGrp Delay(d),s/veh	166.5	31.0	29.1	57.9	35.7	31.7	111.9	27.4	23.4	52.7	30.4	36.5
LnGrp LOS	F	C	C	E	D	C	F	C	C	D	C	D
Approach Vol, veh/h		1186			1196			1659			1305	
Approach Delay, s/veh		81.8			39.2			48.8			34.4	
Approach LOS		F			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	46.8	12.9	38.3	17.0	40.5	16.0	35.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	6.2	20.3	8.3	12.8	14.4	23.5	13.4	18.3				
Green Ext Time (p_c), s	0.0	14.6	0.0	11.9	0.0	10.8	0.0	10.1				
Intersection Summary												
HCM 2010 Ctrl Delay			50.5									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

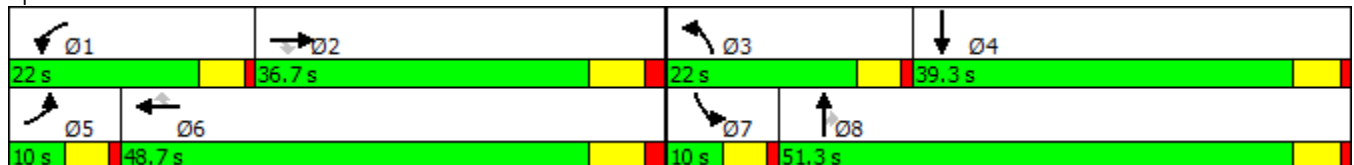


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	42	860	24	152	1578	48	145	64	251	153	87
Future Volume (vph)	42	860	24	152	1578	48	145	64	251	153	87
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	36.7	36.7	22.0	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	30.6%	30.6%	18.3%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	860	24	152	1578	48	145	64	251	153	87	113
Future Volume (veh/h)	42	860	24	152	1578	48	145	64	251	153	87	113
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	935	24	165	1715	52	158	70	239	166	95	102
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	68	1979	616	199	1639	718	192	401	340	99	133	142
Arrive On Green	0.04	0.38	0.38	0.11	0.45	0.45	0.11	0.21	0.21	0.05	0.16	0.16
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1613	1810	832	893
Grp Volume(v), veh/h	46	935	24	165	1715	52	158	70	239	166	0	197
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1613	1810	0	1725
Q Serve(g_s), s	2.3	12.5	0.9	8.2	41.7	1.7	7.9	2.8	12.6	5.0	0.0	10.0
Cycle Q Clear(g_c), s	2.3	12.5	0.9	8.2	41.7	1.7	7.9	2.8	12.6	5.0	0.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	68	1979	616	199	1639	718	192	401	340	99	0	275
V/C Ratio(X)	0.68	0.47	0.04	0.83	1.05	0.07	0.82	0.17	0.70	1.68	0.00	0.72
Avail Cap(c_a), veh/h	99	1979	616	335	1639	718	335	952	808	99	0	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	21.4	17.8	40.0	25.1	14.1	40.2	29.7	33.6	43.4	0.0	36.6
Incr Delay (d2), s/veh	4.3	0.2	0.0	3.3	35.4	0.0	3.3	0.2	2.6	348.0	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.0	0.4	4.3	28.5	0.7	4.1	1.5	5.9	12.0	0.0	5.0
LnGrp Delay(d),s/veh	47.9	21.6	17.9	43.3	60.4	14.2	43.5	29.9	36.2	391.4	0.0	40.1
LnGrp LOS	D	C	B	D	F	B	D	C	D	F		D
Approach Vol, veh/h		1005			1932			467			363	
Approach Delay, s/veh		22.7			57.7			37.7			200.8	
Approach LOS		C			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	42.0	14.7	19.9	8.5	48.7	10.0	24.7				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	17.0	29.7	17.0	34.0	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	10.2	14.5	9.9	12.0	4.3	43.7	7.0	14.6				
Green Ext Time (p_c), s	0.1	13.2	0.1	2.2	0.0	0.0	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			59.7									
HCM 2010 LOS			E									

Timings
29: Sumner Av. & Limonite Av.

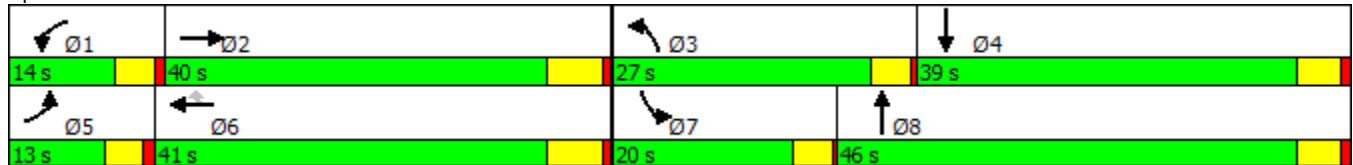


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	96	1149	99	1403	52	163	181	181	141
Future Volume (vph)	96	1149	99	1403	52	163	181	181	141
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1149	38	99	1403	52	163	181	216	181	141	98
Future Volume (veh/h)	96	1149	38	99	1403	52	163	181	216	181	141	98
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	103	1235	33	106	1509	50	175	195	158	195	152	78
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	2154	58	175	2157	672	214	313	239	234	405	197
Arrive On Green	0.05	0.41	0.41	0.05	0.42	0.42	0.12	0.16	0.16	0.13	0.17	0.17
Sat Flow, veh/h	3510	5195	139	3510	5187	1615	1810	1936	1478	1810	2344	1140
Grp Volume(v), veh/h	103	822	446	106	1509	50	175	181	172	195	115	115
Grp Sat Flow(s),veh/h/ln	1755	1729	1876	1755	1729	1615	1810	1805	1610	1810	1805	1679
Q Serve(g_s), s	2.3	14.6	14.6	2.4	19.1	1.5	7.5	7.5	8.0	8.4	4.5	4.8
Cycle Q Clear(g_c), s	2.3	14.6	14.6	2.4	19.1	1.5	7.5	7.5	8.0	8.4	4.5	4.8
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.92	1.00		0.68
Lane Grp Cap(c), veh/h	171	1434	778	175	2157	672	214	292	260	234	312	290
V/C Ratio(X)	0.60	0.57	0.57	0.61	0.70	0.07	0.82	0.62	0.66	0.83	0.37	0.40
Avail Cap(c_a), veh/h	374	1474	799	418	2276	709	522	928	827	363	769	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	17.9	17.9	37.1	19.2	14.0	34.3	31.2	31.4	33.9	29.2	29.3
Incr Delay (d2), s/veh	1.3	0.5	0.9	1.3	0.9	0.0	2.9	1.6	2.1	5.3	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.0	7.6	1.2	9.3	0.7	3.9	3.8	3.7	4.5	2.3	2.3
LnGrp Delay(d),s/veh	38.5	18.4	18.9	38.4	20.1	14.1	37.2	32.8	33.5	39.2	29.7	30.0
LnGrp LOS	D	B	B	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1371			1665			528			425	
Approach Delay, s/veh		20.1			21.1			34.5			34.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	39.1	13.4	18.8	8.4	39.2	14.3	17.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	4.4	16.6	9.5	6.8	4.3	21.1	10.4	10.0				
Green Ext Time (p_c), s	0.0	14.7	0.1	2.6	0.0	12.1	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

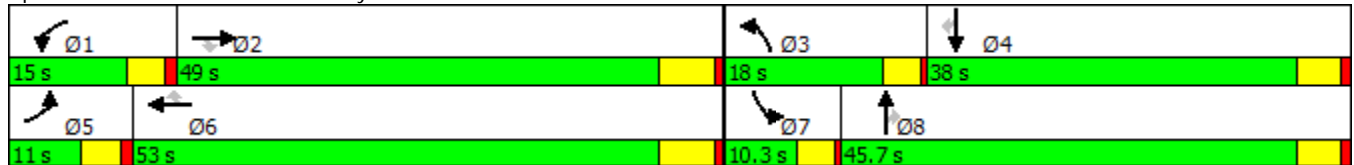


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↘	↙	↕	↘	↙	↕	↘	↙	↕	↘
Traffic Volume (vph)	26	1472	107	72	1354	16	123	113	178	30	150	45
Future Volume (vph)	26	1472	107	72	1354	16	123	113	178	30	150	45
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

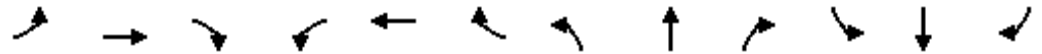
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	1472	107	72	1354	16	123	113	178	30	150	45
Future Volume (veh/h)	26	1472	107	72	1354	16	123	113	178	30	150	45
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1600	107	78	1472	17	134	123	153	33	163	47
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	41	1841	824	101	1960	877	168	332	282	46	389	163
Arrive On Green	0.02	0.51	0.51	0.06	0.54	0.54	0.09	0.17	0.17	0.03	0.11	0.11
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1515
Grp Volume(v), veh/h	28	1600	107	78	1472	17	134	123	153	33	163	47
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1515
Q Serve(g_s), s	1.3	32.6	2.9	3.6	26.3	0.4	6.1	4.8	7.2	1.5	3.5	2.4
Cycle Q Clear(g_c), s	1.3	32.6	2.9	3.6	26.3	0.4	6.1	4.8	7.2	1.5	3.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	1841	824	101	1960	877	168	332	282	46	389	163
V/C Ratio(X)	0.68	0.87	0.13	0.77	0.75	0.02	0.80	0.37	0.54	0.71	0.42	0.29
Avail Cap(c_a), veh/h	141	1860	832	228	2033	909	304	926	786	137	1427	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	18.0	10.7	38.9	14.7	8.8	37.1	30.4	31.4	40.4	34.8	34.3
Incr Delay (d2), s/veh	6.9	4.7	0.1	4.6	1.6	0.0	3.3	0.5	1.2	7.3	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	17.2	1.3	1.9	13.3	0.2	3.2	2.5	3.3	0.8	1.8	1.0
LnGrp Delay(d),s/veh	47.4	22.7	10.8	43.5	16.3	8.8	40.4	30.9	32.6	47.6	35.3	35.0
LnGrp LOS	D	C	B	D	B	A	D	C	C	D	D	C
Approach Vol, veh/h		1735			1567			410			243	
Approach Delay, s/veh		22.4			17.5			34.6			36.9	
Approach LOS		C			B			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	48.6	11.7	14.0	6.4	51.3	6.1	19.6				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	5.6	34.6	8.1	5.5	3.3	28.3	3.5	9.2				
Green Ext Time (p_c), s	0.0	8.0	0.0	1.7	0.0	17.0	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

07/26/2017

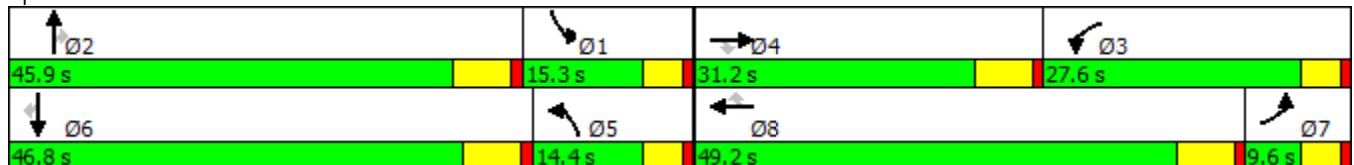


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	28	612	204	532	799	205	199	470	621	222	257	42
Future Volume (vph)	28	612	204	532	799	205	199	470	621	222	257	42
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	31.2	31.2	27.6	49.2	49.2	14.4	45.9	45.9	15.3	46.8	46.8
Total Split (%)	8.0%	26.0%	26.0%	23.0%	41.0%	41.0%	12.0%	38.3%	38.3%	12.8%	39.0%	39.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	612	204	532	799	205	199	470	621	222	257	42
Future Volume (veh/h)	28	612	204	532	799	205	199	470	621	222	257	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	651	191	566	850	165	212	500	615	236	273	36
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	214	872	272	634	1039	465	1197	1901	592	299	399	178
Arrive On Green	0.06	0.17	0.17	0.18	0.29	0.29	0.34	0.37	0.37	0.09	0.11	0.11
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	30	651	191	566	850	165	212	500	615	236	273	36
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	0.9	12.9	12.1	17.1	23.8	8.8	4.6	7.3	39.7	7.1	7.9	2.2
Cycle Q Clear(g_c), s	0.9	12.9	12.1	17.1	23.8	8.8	4.6	7.3	39.7	7.1	7.9	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	872	272	634	1039	465	1197	1901	592	299	399	178
V/C Ratio(X)	0.14	0.75	0.70	0.89	0.82	0.35	0.18	0.26	1.04	0.79	0.68	0.20
Avail Cap(c_a), veh/h	214	1197	373	745	1433	641	1197	1901	592	347	1353	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	42.8	42.5	43.3	35.9	30.6	25.0	24.0	34.3	48.6	46.3	43.8
Incr Delay (d2), s/veh	0.1	1.7	3.6	10.7	2.7	0.5	0.0	0.1	47.5	8.5	2.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.3	5.6	9.2	12.2	4.0	2.2	3.5	25.5	3.8	4.1	1.0
LnGrp Delay(d),s/veh	48.3	44.5	46.1	54.1	38.6	31.0	25.0	24.1	81.8	57.1	48.4	44.4
LnGrp LOS	D	D	D	D	D	C	C	C	F	E	D	D
Approach Vol, veh/h		872			1581			1327			545	
Approach Delay, s/veh		45.0			43.4			51.0			51.9	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	45.9	24.2	24.4	41.5	18.2	11.2	37.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	10.7	39.7	23.0	25.0	9.8	40.6	5.0	43.0				
Max Q Clear Time (g_c+I1), s	9.1	41.7	19.1	14.9	6.6	9.9	2.9	25.8				
Green Ext Time (p_c), s	0.1	0.0	0.5	3.3	0.3	1.7	0.3	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			47.1									
HCM 2010 LOS			D									

Timings
32: Hamner Av. & Bellegrave Av.

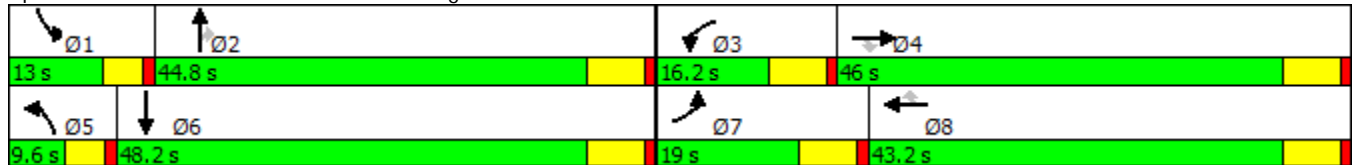


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↖	↖↗	↑↑	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	408	194	17	139	157	111	12	788	272	135	474
Future Volume (vph)	408	194	17	139	157	111	12	788	272	135	474
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	19.0	46.0	46.0	16.2	43.2	43.2	9.6	44.8	44.8	13.0	48.2
Total Split (%)	15.8%	38.3%	38.3%	13.5%	36.0%	36.0%	8.0%	37.3%	37.3%	10.8%	40.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	408	194	17	139	157	111	12	788	272	135	474	113
Future Volume (veh/h)	408	194	17	139	157	111	12	788	272	135	474	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	429	204	13	146	165	45	13	829	246	142	499	107
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	523	297	249	464	504	225	29	1590	495	178	1672	350
Arrive On Green	0.15	0.16	0.16	0.13	0.14	0.14	0.02	0.31	0.31	0.10	0.39	0.39
Sat Flow, veh/h	3510	1900	1591	3510	3610	1615	1810	5187	1615	1810	4298	900
Grp Volume(v), veh/h	429	204	13	146	165	45	13	829	246	142	399	207
Grp Sat Flow(s),veh/h/ln	1755	1900	1591	1755	1805	1615	1810	1729	1615	1810	1729	1740
Q Serve(g_s), s	9.0	7.7	0.5	2.8	3.1	1.9	0.5	10.0	9.4	5.8	6.0	6.2
Cycle Q Clear(g_c), s	9.0	7.7	0.5	2.8	3.1	1.9	0.5	10.0	9.4	5.8	6.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	523	297	249	464	504	225	29	1590	495	178	1345	677
V/C Ratio(X)	0.82	0.69	0.05	0.31	0.33	0.20	0.45	0.52	0.50	0.80	0.30	0.31
Avail Cap(c_a), veh/h	594	999	837	464	1765	790	120	2646	824	201	1919	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	30.2	27.1	29.7	29.4	28.8	36.9	21.6	21.5	33.4	16.0	16.0
Incr Delay (d2), s/veh	8.0	2.8	0.1	0.4	0.4	0.4	4.1	0.3	0.8	15.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	4.3	0.2	1.4	1.6	0.9	0.3	4.8	4.3	3.7	2.9	3.0
LnGrp Delay(d),s/veh	39.3	33.0	27.2	30.1	29.7	29.2	41.1	21.9	22.2	49.2	16.1	16.3
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	B	B
Approach Vol, veh/h		646			356			1088			748	
Approach Delay, s/veh		37.0			29.8			22.2			22.4	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	29.4	16.2	18.0	5.8	35.6	17.5	16.8				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	8.4	38.6	10.0	39.8	5.0	42.0	12.8	37.0				
Max Q Clear Time (g_c+I1), s	7.8	12.0	4.8	9.7	2.5	8.2	11.0	5.1				
Green Ext Time (p_c), s	0.0	11.1	0.2	2.2	0.0	12.1	0.3	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.6									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

07/26/2017

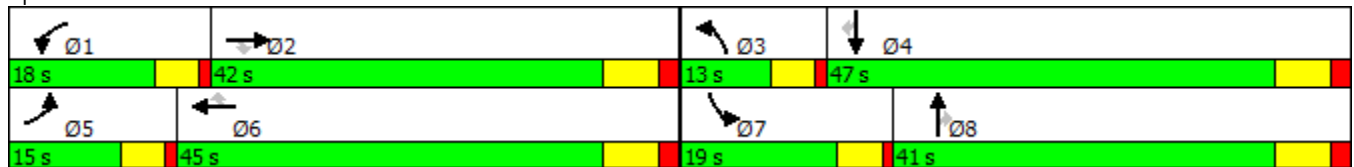


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	270	1277	81	229	1067	267	169	584	431	380	306	188
Future Volume (vph)	270	1277	81	229	1067	267	169	584	431	380	306	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

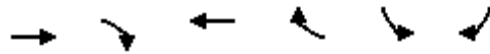
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	1277	81	229	1067	267	169	584	431	380	306	188
Future Volume (veh/h)	270	1277	81	229	1067	267	169	584	431	380	306	188
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	278	1316	78	236	1100	237	174	602	326	392	315	141
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	300	1668	519	295	1155	515	230	1397	427	420	1168	521
Arrive On Green	0.09	0.32	0.32	0.08	0.32	0.32	0.07	0.27	0.27	0.12	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1585	3510	3610	1611
Grp Volume(v), veh/h	278	1316	78	236	1100	237	174	602	326	392	315	141
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1585	1755	1805	1611
Q Serve(g_s), s	9.2	27.0	4.0	7.7	34.8	13.7	5.7	11.2	22.1	12.9	7.6	7.6
Cycle Q Clear(g_c), s	9.2	27.0	4.0	7.7	34.8	13.7	5.7	11.2	22.1	12.9	7.6	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1668	519	295	1155	515	230	1397	427	420	1168	521
V/C Ratio(X)	0.93	0.79	0.15	0.80	0.95	0.46	0.75	0.43	0.76	0.93	0.27	0.27
Avail Cap(c_a), veh/h	300	1668	519	390	1174	524	240	1509	461	420	1235	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	36.0	28.3	52.6	38.9	31.7	53.7	35.3	39.3	51.0	29.3	29.3
Incr Delay (d2), s/veh	32.6	3.0	0.3	6.3	16.4	1.4	10.8	0.5	8.6	27.3	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	13.3	1.8	4.0	19.9	6.3	3.1	5.4	10.7	7.9	3.8	3.5
LnGrp Delay(d),s/veh	85.7	39.1	28.5	58.9	55.3	33.1	64.5	35.7	47.9	78.2	29.6	29.9
LnGrp LOS	F	D	C	E	E	C	E	D	D	E	C	C
Approach Vol, veh/h		1672			1573			1102			848	
Approach Delay, s/veh		46.3			52.5			43.9			52.1	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	44.6	12.7	44.8	15.0	44.4	19.0	38.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	9.7	29.0	7.7	9.6	11.2	36.8	14.9	24.1				
Green Ext Time (p_c), s	0.1	5.9	0.0	16.7	0.0	0.6	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay			48.6									
HCM 2010 LOS			D									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

07/26/2017

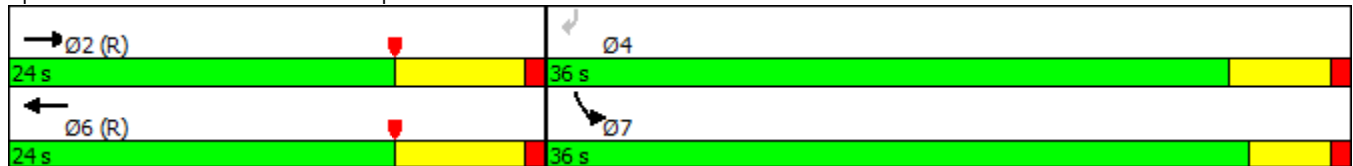


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	888	341	747	67	381	929
Future Volume (vph)	888	341	747	67	381	929
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

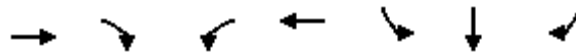
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	888	341	0	747	67	0	0	0	381	0	929
Future Volume (veh/h)	0	888	341	0	747	67	0	0	0	381	0	929
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	935	0	0	786	0				401	0	834
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1487	463	0	1035	463				1837	0	845
Arrive On Green	0.00	0.29	0.00	0.00	0.29	0.00				0.52	0.00	0.52
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	935	0	0	786	0				401	0	834
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	9.4	0.0	0.0	11.9	0.0				3.7	0.0	30.5
Cycle Q Clear(g_c), s	0.0	9.4	0.0	0.0	11.9	0.0				3.7	0.0	30.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1487	463	0	1035	463				1837	0	845
V/C Ratio(X)	0.00	0.63	0.00	0.00	0.76	0.00				0.22	0.00	0.99
Avail Cap(c_a), veh/h	0	1487	463	0	1035	463				1837	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.00	0.00	0.53	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	0.0	0.0	19.5	0.0				7.7	0.0	14.1
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	2.8	0.0				0.1	0.0	27.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	0.0	0.0	6.3	0.0				1.8	0.0	19.9
LnGrp Delay(d),s/veh	0.0	19.8	0.0	0.0	22.3	0.0				7.8	0.0	41.7
LnGrp LOS		B			C					A		D
Approach Vol, veh/h		935			786						1235	
Approach Delay, s/veh		19.8			22.3						30.7	
Approach LOS		B			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.0		36.0		24.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		11.4		32.5		13.9						
Green Ext Time (p_c), s		4.3		0.0		2.6						
Intersection Summary												
HCM 2010 Ctrl Delay			25.0									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↖↗	↑↑	↘	↕	↗
Traffic Volume (vph)	1460	720	695	1156	164	2	616
Future Volume (vph)	1460	720	695	1156	164	2	616
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	52.5	52.5	34.0	86.5	23.5	23.5	23.5
Total Split (%)	47.7%	47.7%	30.9%	78.6%	21.4%	21.4%	21.4%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 59 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

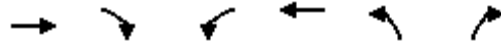
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1460	720	695	1156	0	0	0	0	164	2	616
Future Volume (veh/h)	0	1460	720	695	1156	0	0	0	0	164	2	616
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1604	790	764	1270	0				121	0	643
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1642	725	845	2658	0				296	0	529
Arrive On Green	0.00	0.45	0.45	0.08	0.24	0.00				0.16	0.00	0.16
Sat Flow, veh/h	0	3705	1595	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1604	790	764	1270	0				121	0	643
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	47.9	50.0	23.7	33.1	0.0				6.6	0.0	18.0
Cycle Q Clear(g_c), s	0.0	47.9	50.0	23.7	33.1	0.0				6.6	0.0	18.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1642	725	845	2658	0				296	0	529
V/C Ratio(X)	0.00	0.98	1.09	0.90	0.48	0.00				0.41	0.00	1.22
Avail Cap(c_a), veh/h	0	1642	725	941	2658	0				296	0	529
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.47	0.47	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.4	30.0	49.4	23.5	0.0				41.2	0.0	46.0
Incr Delay (d2), s/veh	0.0	10.7	51.2	1.2	0.1	0.0				0.3	0.0	113.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	26.3	32.3	11.7	16.6	0.0				3.3	0.0	16.4
LnGrp Delay(d),s/veh	0.0	40.1	81.2	50.5	23.6	0.0				41.6	0.0	159.8
LnGrp LOS		D	F	D	C					D		F
Approach Vol, veh/h		2394			2034						764	
Approach Delay, s/veh		53.7			33.7						141.1	
Approach LOS		D			C						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	31.0	55.5		23.5		86.5						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	29.5	47.0		18.0		81.0						
Max Q Clear Time (g_c+I1), s	25.7	52.0		20.0		35.1						
Green Ext Time (p_c), s	0.7	0.0		0.0		28.2						
Intersection Summary												
HCM 2010 Ctrl Delay			58.7									
HCM 2010 LOS			E									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

07/26/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	501	793	395	364	424	166
Future Volume (vph)	501	793	395	364	424	166
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	12.0	16.0	48.0	12.0	12.0
Total Split (%)	53.3%	20.0%	26.7%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max







Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 07/26/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↖↗	↑↑↑	↖↗	↑		
Traffic Volume (veh/h)	501	793	395	364	424	166		
Future Volume (veh/h)	501	793	395	364	424	166		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	539	748	425	391	456	89		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	826	585	3519	362	161		
Arrive On Green	0.69	0.69	0.17	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	539	748	425	391	456	89		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	2.4	24.7	6.9	1.6	6.0	3.1		
Cycle Q Clear(g_c), s	2.4	24.7	6.9	1.6	6.0	3.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	826	585	3519	362	161		
V/C Ratio(X)	0.25	0.91	0.73	0.11	1.26	0.55		
Avail Cap(c_a), veh/h	2135	826	585	3519	362	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.85	0.85	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.9	7.0	23.7	3.4	27.0	25.7		
Incr Delay (d2), s/veh	0.2	13.5	7.7	0.0	137.5	12.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	15.2	3.9	0.7	9.9	2.0		
LnGrp Delay(d),s/veh	6.1	20.5	31.4	3.4	164.5	38.6		
LnGrp LOS	A	C	C	A	F	D		
Approach Vol, veh/h	1287			816	545			
Approach Delay, s/veh	14.5			18.0	143.9			
Approach LOS	B			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.0	32.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	10.0	24.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	8.9	26.7				3.6		8.0
Green Ext Time (p_c), s	0.2	0.0				11.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			42.2					
HCM 2010 LOS			D					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶↷	↷
Traffic Volume (vph)	881	743	1238	368	613	2	338
Future Volume (vph)	881	743	1238	368	613	2	338
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	36.0	86.0	50.0	50.0	24.0	24.0	24.0
Total Split (%)	32.7%	78.2%	45.5%	45.5%	21.8%	21.8%	21.8%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	881	743	0	0	1238	368	613	2	338	0	0	0
Future Volume (veh/h)	881	743	0	0	1238	368	613	2	338	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	979	826	0	0	1376	349	724	0	91			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	1005	2642	0	0	1460	644	609	0	272			
Arrive On Green	0.48	1.00	0.00	0.00	0.40	0.40	0.17	0.00	0.17			
Sat Flow, veh/h	3510	3705	0	0	3705	1593	3619	0	1615			
Grp Volume(v), veh/h	979	826	0	0	1376	349	724	0	91			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1593	1810	0	1615			
Q Serve(g_s), s	30.0	0.0	0.0	0.0	40.3	18.4	18.5	0.0	5.5			
Cycle Q Clear(g_c), s	30.0	0.0	0.0	0.0	40.3	18.4	18.5	0.0	5.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1005	2642	0	0	1460	644	609	0	272			
V/C Ratio(X)	0.97	0.31	0.00	0.00	0.94	0.54	1.19	0.00	0.34			
Avail Cap(c_a), veh/h	1005	2642	0	0	1460	644	609	0	272			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.20	0.20	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.3	0.0	0.0	0.0	31.5	25.0	45.8	0.0	40.3			
Incr Delay (d2), s/veh	7.8	0.1	0.0	0.0	13.3	3.2	101.0	0.0	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.4	0.0	0.0	0.0	22.8	8.6	17.7	0.0	2.5			
LnGrp Delay(d),s/veh	36.1	0.1	0.0	0.0	44.8	28.2	146.7	0.0	41.0			
LnGrp LOS	D	A			D	C	F		D			
Approach Vol, veh/h		1805			1725			815				
Approach Delay, s/veh		19.6			41.5			134.9				
Approach LOS		B			D			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		86.0			36.0	50.0		24.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		80.5			31.5	44.5		18.5				
Max Q Clear Time (g_c+I1), s		2.0			32.0	42.3		20.5				
Green Ext Time (p_c), s		17.6			0.0	1.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				49.9								
HCM 2010 LOS				D								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

07/26/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	5	21	222	0	2	1649	400	721	1157
Future Volume (vph)	5	21	222	0	2	1649	400	721	1157
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

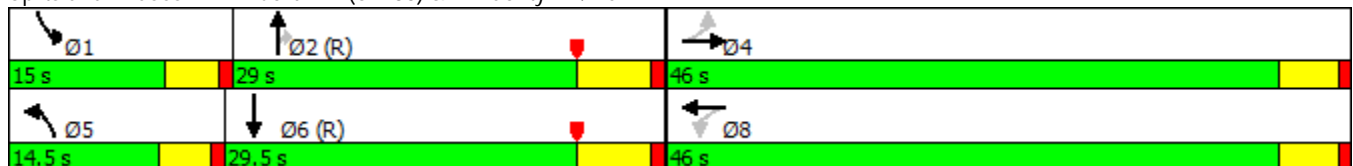
Actuated Cycle Length: 90

Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	21	11	222	0	524	2	1649	400	721	1157	1
Future Volume (veh/h)	5	21	11	222	0	524	2	1649	400	721	1157	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	23	4	239	0	535	2	1773	401	775	1244	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	118	510	83	257	5	470	9	874	382	189	1286	1
Arrive On Green	0.46	0.46	0.46	0.46	0.00	0.46	0.01	0.26	0.26	0.12	0.37	0.37
Sat Flow, veh/h	158	1119	182	450	11	1031	1619	3420	1495	1619	3507	3
Grp Volume(v), veh/h	32	0	0	774	0	0	2	1773	401	775	607	638
Grp Sat Flow(s),veh/h/ln	1459	0	0	1492	0	0	1619	1710	1495	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	40.1	0.0	0.0	0.1	23.0	23.0	10.5	31.3	31.3
Cycle Q Clear(g_c), s	0.9	0.0	0.0	41.0	0.0	0.0	0.1	23.0	23.0	10.5	31.3	31.3
Prop In Lane	0.16		0.12	0.31		0.69	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	711	0	0	732	0	0	9	874	382	189	627	660
V/C Ratio(X)	0.05	0.00	0.00	1.06	0.00	0.00	0.23	2.03	1.05	4.10	0.97	0.97
Avail Cap(c_a), veh/h	711	0	0	732	0	0	180	874	382	189	627	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	0.0	25.9	0.0	0.0	44.6	33.5	33.5	39.8	28.0	28.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	49.5	0.0	0.0	0.4	463.2	29.2	1408.8	28.7	27.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	28.2	0.0	0.0	0.1	67.0	12.5	78.6	19.7	20.5
LnGrp Delay(d),s/veh	13.6	0.0	0.0	75.4	0.0	0.0	45.0	496.7	62.7	1448.6	56.7	55.8
LnGrp LOS	B			F			D	F	F	F	E	E
Approach Vol, veh/h		32			774			2176			2020	
Approach Delay, s/veh		13.6			75.4			416.3			590.4	
Approach LOS		B			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	29.0		46.0	5.0	39.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	25.0		2.9	2.1	33.3		43.0				
Green Ext Time (p_c), s	0.0	0.0		3.8	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	431.3											
HCM 2010 LOS	F											

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

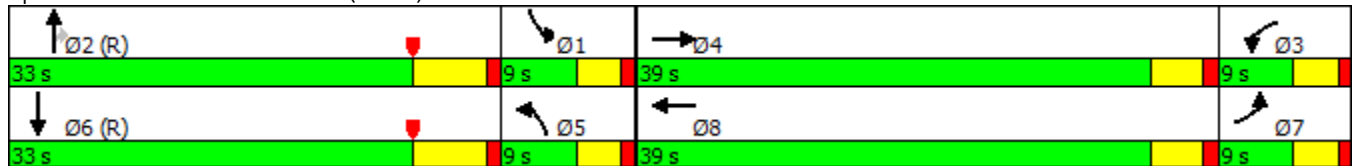


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕↗	↖	↕↗	↖	↕↗	↗	↖	↕↗
Traffic Volume (vph)	657	782	188	393	136	958	99	276	946
Future Volume (vph)	657	782	188	393	136	958	99	276	946
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

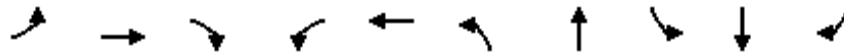
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	657	782	92	188	393	383	136	958	99	276	946	222
Future Volume (veh/h)	657	782	92	188	393	383	136	958	99	276	946	222
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	684	815	92	196	409	365	142	998	88	288	985	213
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	146	963	109	90	474	420	208	1026	459	208	838	181
Arrive On Green	0.09	0.31	0.31	0.06	0.28	0.28	0.26	0.60	0.60	0.13	0.30	0.30
Sat Flow, veh/h	1619	3099	350	1619	1718	1523	1619	3420	1530	1619	2792	602
Grp Volume(v), veh/h	684	450	457	196	407	367	142	998	88	288	602	596
Grp Sat Flow(s),veh/h/ln	1619	1710	1738	1619	1710	1531	1619	1710	1530	1619	1710	1685
Q Serve(g_s), s	8.1	22.1	22.1	5.0	20.4	20.5	7.1	25.2	2.3	11.5	27.0	27.0
Cycle Q Clear(g_c), s	8.1	22.1	22.1	5.0	20.4	20.5	7.1	25.2	2.3	11.5	27.0	27.0
Prop In Lane	1.00		0.20	1.00		0.99	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	146	531	540	90	472	423	208	1026	459	208	513	505
V/C Ratio(X)	4.68	0.85	0.85	2.18	0.86	0.87	0.68	0.97	0.19	1.39	1.17	1.18
Avail Cap(c_a), veh/h	146	656	666	90	656	587	208	1026	459	208	513	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.24	0.24	0.24
Uniform Delay (d), s/veh	40.9	29.0	29.0	42.5	31.0	31.0	31.8	17.6	13.1	39.2	31.5	31.5
Incr Delay (d2), s/veh	1672.2	8.5	8.3	565.3	6.6	7.7	0.7	4.2	0.1	181.5	83.9	85.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	71.5	11.6	11.8	16.3	10.5	9.6	3.2	12.0	1.0	15.6	24.6	24.5
LnGrp Delay(d),s/veh	1713.1	37.5	37.4	607.8	37.5	38.7	32.5	21.8	13.2	220.7	115.4	117.2
LnGrp LOS	F	D	D	F	D	D	C	C	B	F	F	F
Approach Vol, veh/h		1591			970			1228			1486	
Approach Delay, s/veh		757.8			153.2			22.5			136.5	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	33.0	9.0	32.5	15.5	33.0	12.1	29.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	13.5	27.2	7.0	24.1	9.1	29.0	10.1	22.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.8	0.0	0.0	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			300.4									
HCM 2010 LOS			F									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

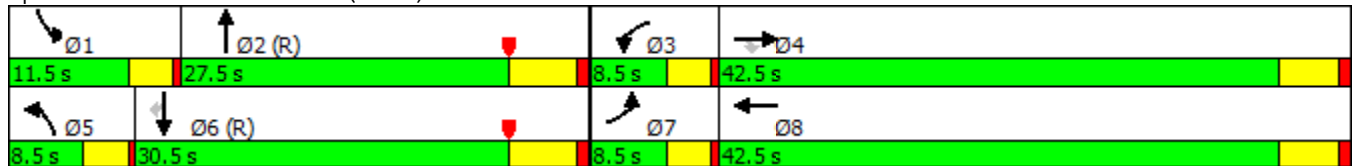


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	115	119	118	130	42	47	901	217	992	78
Future Volume (vph)	115	119	118	130	42	47	901	217	992	78
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	27.5	11.5	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	30.6%	12.8%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



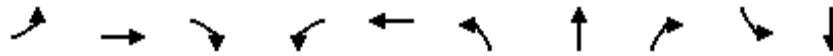
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	119	118	130	42	121	47	901	215	217	992	78
Future Volume (veh/h)	115	119	118	130	42	121	47	901	215	217	992	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	128	132	112	144	47	122	52	1001	229	241	1102	87
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	248	211	90	61	159	65	1442	329	144	1955	857
Arrive On Green	0.06	0.14	0.14	0.06	0.14	0.14	0.04	0.52	0.52	0.03	0.19	0.19
Sat Flow, veh/h	1619	1800	1530	1619	444	1153	1619	2755	628	1619	3420	1498
Grp Volume(v), veh/h	128	132	112	144	0	169	52	620	610	241	1102	87
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	0	1597	1619	1710	1673	1619	1710	1498
Q Serve(g_s), s	5.0	6.1	6.1	5.0	0.0	9.2	2.9	24.4	24.6	8.0	26.3	4.3
Cycle Q Clear(g_c), s	5.0	6.1	6.1	5.0	0.0	9.2	2.9	24.4	24.6	8.0	26.3	4.3
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	90	248	211	90	0	220	65	895	876	144	1955	857
V/C Ratio(X)	1.42	0.53	0.53	1.60	0.00	0.77	0.79	0.69	0.70	1.67	0.56	0.10
Avail Cap(c_a), veh/h	90	750	637	90	0	665	90	895	876	144	1955	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	36.1	36.1	42.5	0.0	37.4	42.8	16.0	16.1	43.7	26.3	17.4
Incr Delay (d2), s/veh	243.1	0.7	0.8	316.0	0.0	2.1	2.1	0.4	0.4	306.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	3.1	2.6	10.1	0.0	4.2	1.3	11.5	11.5	15.8	12.5	1.8
LnGrp Delay(d),s/veh	285.6	36.8	36.9	358.5	0.0	39.5	44.9	16.5	16.5	350.0	26.4	17.4
LnGrp LOS	F	D	D	F		D	D	B	B	F	C	B
Approach Vol, veh/h		372			313			1282			1430	
Approach Delay, s/veh		122.4			186.3			17.6			80.4	
Approach LOS		F			F			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	52.6	8.5	17.4	7.1	57.0	8.5	17.4				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	8.0	22.0	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	10.0	26.6	7.0	8.1	4.9	28.3	7.0	11.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			71.1									
HCM 2010 LOS			E									

Timings
4: Euclid Av. (SR-83) & Pine Av.

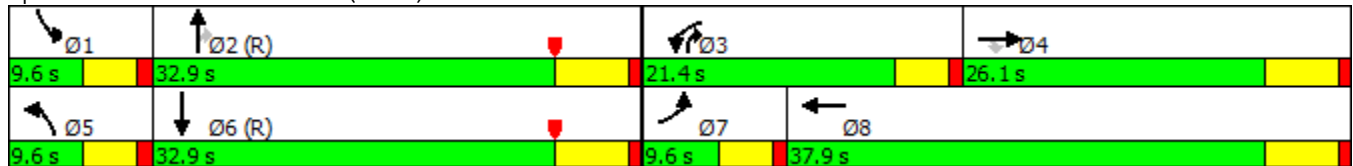


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑	↗	↖↗	↖	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	15	358	29	545	94	34	1017	1159	147	1040
Future Volume (vph)	15	358	29	545	94	34	1017	1159	147	1040
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.1	26.1	21.4	37.9	9.6	32.9	21.4	9.6	32.9
Total Split (%)	10.7%	29.0%	29.0%	23.8%	42.1%	10.7%	36.6%	23.8%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



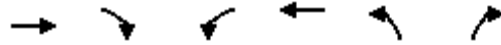
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	358	29	545	94	80	34	1017	1159	147	1040	15
Future Volume (veh/h)	15	358	29	545	94	80	34	1017	1159	147	1040	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	15	369	0	562	97	76	35	1048	762	152	1072	11
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	28	402	341	552	368	288	52	1031	747	90	1125	12
Arrive On Green	0.02	0.22	0.00	0.19	0.39	0.39	0.03	0.30	0.30	0.06	0.32	0.32
Sat Flow, veh/h	1619	1800	1530	2956	937	734	1619	3420	1530	1619	3467	36
Grp Volume(v), veh/h	15	369	0	562	0	173	35	1048	762	152	529	554
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1670	1619	1710	1530	1619	1710	1793
Q Serve(g_s), s	0.8	18.0	0.0	16.8	0.0	6.3	1.9	27.1	27.1	5.0	27.2	27.2
Cycle Q Clear(g_c), s	0.8	18.0	0.0	16.8	0.0	6.3	1.9	27.1	27.1	5.0	27.2	27.2
Prop In Lane	1.00		1.00	1.00		0.44	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	28	402	341	552	0	656	52	1031	747	90	555	582
V/C Ratio(X)	0.53	0.92	0.00	1.02	0.00	0.26	0.67	1.02	1.02	1.69	0.95	0.95
Avail Cap(c_a), veh/h	90	404	343	552	0	656	90	1031	747	90	555	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.66	0.66	0.66
Uniform Delay (d), s/veh	43.9	34.2	0.0	36.6	0.0	18.5	43.1	31.4	23.0	42.5	29.7	29.7
Incr Delay (d2), s/veh	5.7	26.1	0.0	43.0	0.0	0.3	0.5	13.1	15.6	339.9	21.4	20.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.8	0.0	10.1	0.0	2.9	0.9	14.6	21.5	10.7	16.1	16.8
LnGrp Delay(d),s/veh	49.6	60.2	0.0	79.6	0.0	18.8	43.6	44.5	38.7	382.4	51.2	50.5
LnGrp LOS	D	E		F		B	D	F	F	F	D	D
Approach Vol, veh/h		384			735			1845			1235	
Approach Delay, s/veh		59.8			65.3			42.1			91.6	
Approach LOS		E			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	33.0	21.4	26.0	7.5	35.1	6.2	41.2				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.8	20.2	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	7.0	29.1	18.8	20.0	3.9	29.2	2.8	8.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			62.3									
HCM 2010 LOS			E									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

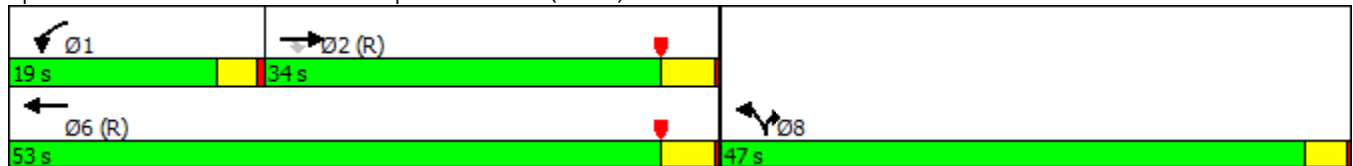


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↓
Traffic Volume (vph)	898	179	355	1307	154	1405
Future Volume (vph)	898	179	355	1307	154	1405
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	34.0	34.0	19.0	53.0	47.0	47.0
Total Split (%)	34.0%	34.0%	19.0%	53.0%	47.0%	47.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

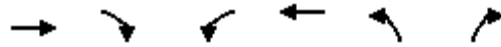
Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

07/26/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	898	179	355	1307	154	1405		
Future Volume (veh/h)	898	179	355	1307	154	1405		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	926	0	366	1347	159	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2251	1007	266	2901	239	110		
Arrive On Green	0.22	0.00	0.16	0.85	0.07	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	926	0	366	1347	159	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	23.3	0.0	15.5	9.9	4.7	0.0		
Cycle Q Clear(g_c), s	23.3	0.0	15.5	9.9	4.7	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2251	1007	266	2901	239	110		
V/C Ratio(X)	0.41	0.00	1.38	0.46	0.67	0.00		
Avail Cap(c_a), veh/h	2251	1007	266	2901	1447	666		
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.23	0.23	1.00	0.00		
Uniform Delay (d), s/veh	22.5	0.0	42.3	1.9	45.2	0.0		
Incr Delay (d2), s/veh	0.6	0.0	175.2	0.1	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.2	0.0	20.2	4.5	2.2	0.0		
LnGrp Delay(d),s/veh	23.0	0.0	217.5	2.0	48.4	0.0		
LnGrp LOS	C		F	A	D			
Approach Vol, veh/h	926			1713	159			
Approach Delay, s/veh	23.0			48.1	48.4			
Approach LOS	C			D	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	70.3				89.3		10.7
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	15.5	29.5				48.5		43.5
Max Q Clear Time (g_c+I1), s	17.5	25.3				11.9		6.7
Green Ext Time (p_c), s	0.0	3.6				18.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			39.8					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

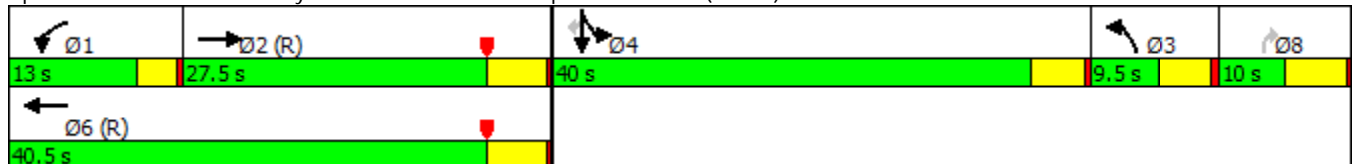


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖	↖	↖
Traffic Volume (vph)	374	102	291	30	16	758	145	158
Future Volume (vph)	374	102	291	30	16	758	145	158
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	27.5	13.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	27.5%	13.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 41 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Future Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	416	49	113	323	0	33	0	18	957	0	176
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1427	167	139	1994	0	0	0	0	1043	0	493
Arrive On Green	0.00	0.46	0.46	0.03	0.19	0.00	0.00	0.00	0.00	0.32	0.00	0.32
Sat Flow, veh/h	0	3175	361	1619	3510	0		0		3238	0	1530
Grp Volume(v), veh/h	0	230	235	113	323	0		0.0		957	0	176
Grp Sat Flow(s),veh/h/ln	0	1710	1736	1619	1710	0				1619	0	1530
Q Serve(g_s), s	0.0	8.3	8.4	6.9	7.9	0.0				28.4	0.0	8.8
Cycle Q Clear(g_c), s	0.0	8.3	8.4	6.9	7.9	0.0				28.4	0.0	8.8
Prop In Lane	0.00		0.21	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	791	803	139	1994	0				1043	0	493
V/C Ratio(X)	0.00	0.29	0.29	0.82	0.16	0.00				0.92	0.00	0.36
Avail Cap(c_a), veh/h	0	791	803	154	1994	0				1150	0	543
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.7	16.7	47.8	20.0	0.0				32.6	0.0	26.0
Incr Delay (d2), s/veh	0.0	0.9	0.9	23.0	0.2	0.0				10.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	4.3	4.0	3.8	0.0				14.2	0.0	3.8
LnGrp Delay(d),s/veh	0.0	17.6	17.6	70.8	20.2	0.0				43.4	0.0	26.3
LnGrp LOS		B	B	E	C					D		C
Approach Vol, veh/h		465			436						1133	
Approach Delay, s/veh		17.6			33.3						40.7	
Approach LOS		B			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.1	51.2		36.7		63.3						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	9.5	22.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.9	10.4		30.4		9.9						
Green Ext Time (p_c), s	0.0	2.3		1.7		2.8						
Intersection Summary												
HCM 2010 Ctrl Delay				33.9								
HCM 2010 LOS				C								
Notes												

Intersection	
Intersection Delay, s/veh	213.9
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↔		↔			↔	
Traffic Vol, veh/h	0	123	767	0	537	218	0	231	47
Future Vol, veh/h	0	123	767	0	537	218	0	231	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	134	834	0	584	237	0	251	51
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	302.9	179.3	22.6
HCM LOS	F	F	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	83%
Vol Thru, %	86%	71%	0%
Vol Right, %	0%	29%	17%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	890	755	278
LT Vol	123	0	231
Through Vol	767	537	0
RT Vol	0	218	47
Lane Flow Rate	967	821	302
Geometry Grp	1	1	1
Degree of Util (X)	1.616	1.325	0.593
Departure Headway (Hd)	6.536	6.645	8.248
Convergence, Y/N	Yes	Yes	Yes
Cap	561	558	441
Service Time	4.536	4.645	6.248
HCM Lane V/C Ratio	1.724	1.471	0.685
HCM Control Delay	302.9	179.3	22.6
HCM Lane LOS	F	F	C
HCM 95th-tile Q	49.2	30.8	3.7

Intersection

Int Delay, s/veh 191

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	957	181	122	582	166	164
Future Vol, veh/h	957	181	122	582	166	164
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1029	195	131	626	178	176

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1031
Stage 1	-	-	1031
Stage 2	-	-	888
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	682	~ 75
Stage 1	-	-	347
Stage 2	-	-	405
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	682	~ 60
Mov Cap-2 Maneuver	-	-	~ 60
Stage 1	-	-	346
Stage 2	-	-	327

Approach	EB	WB	NB
HCM Control Delay, s	0	2	\$ 1252.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	99	-	-	682	-
HCM Lane V/C Ratio	3.584	-	-	0.192	-
HCM Control Delay (s)	\$ 1252.7	-	-	11.5	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	35.7	-	-	0.7	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	1109	31	23	573	72	62
Future Vol, veh/h	1109	31	23	573	72	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1205	34	25	623	78	67

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1205
Stage 1	-	-	1205
Stage 2	-	-	673
Critical Hdwy	-	4.1	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	586	~ 72
Stage 1	-	-	251
Stage 2	-	-	511
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	586	~ 69
Mov Cap-2 Maneuver	-	-	179
Stage 1	-	-	251
Stage 2	-	-	489

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	28.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179	447	-	-	586	-
HCM Lane V/C Ratio	0.437	0.151	-	-	0.043	-
HCM Control Delay (s)	39.9	14.5	-	-	11.4	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	2	0.5	-	-	0.1	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	23.9
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↙		↗						↙	↗	
Traffic Vol, veh/h	0	339	0	399	0	0	0	0	0	156	154	0
Future Vol, veh/h	0	339	0	399	0	0	0	0	0	156	154	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	365	0	429	0	0	0	0	0	168	166	0
Number of Lanes	0	1	0	1	0	0	0	0	0	1	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	2
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	2	2
Conflicting Approach Right	NB	
Conflicting Lanes Right	2	0
HCM Control Delay	28.6	15.5
HCM LOS	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	154	339	399	322	201
LT Vol	156	0	339	0	0	0
Through Vol	0	154	0	0	322	0
RT Vol	0	0	0	399	0	201
Lane Flow Rate	168	166	365	429	346	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.388	0.359	0.765	0.755	0.72	0.406
Departure Headway (Hd)	8.32	7.804	7.673	6.451	7.485	6.766
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	434	464	474	566	485	536
Service Time	6.034	5.518	5.373	4.151	5.185	4.466
HCM Lane V/C Ratio	0.387	0.358	0.77	0.758	0.713	0.403
HCM Control Delay	16.2	14.8	31.2	26.3	27.1	14
HCM Lane LOS	C	B	D	D	D	B
HCM 95th-tile Q	1.8	1.6	6.6	6.7	5.8	2

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↑
Traffic Vol, veh/h	0	0	322	201
Future Vol, veh/h	0	0	322	201
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	0	346	216
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	22.1
HCM LOS	C

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

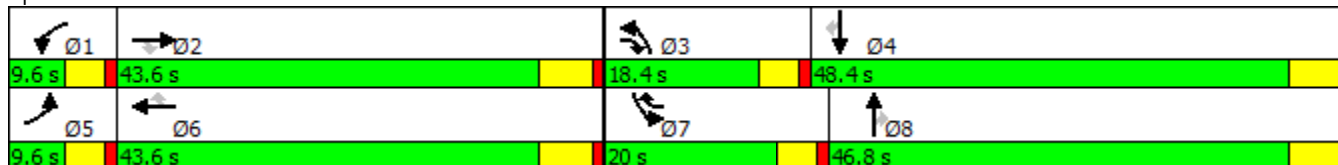


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	1463	413	32	701	202	158	138	43	636	287	15
Future Volume (vph)	9	1463	413	32	701	202	158	138	43	636	287	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1463	413	32	701	202	158	138	43	636	287	15
Future Volume (veh/h)	9	1463	413	32	701	202	158	138	43	636	287	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	9	1508	397	33	723	203	163	142	36	656	296	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	1484	781	93	1553	965	227	407	182	522	749	335
Arrive On Green	0.01	0.43	0.43	0.03	0.45	0.45	0.08	0.12	0.12	0.18	0.22	0.22
Sat Flow, veh/h	2956	3420	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	9	1508	397	33	723	203	163	142	36	656	296	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.3	37.8	14.9	1.0	12.7	4.9	4.7	3.3	1.8	15.4	6.4	0.6
Cycle Q Clear(g_c), s	0.3	37.8	14.9	1.0	12.7	4.9	4.7	3.3	1.8	15.4	6.4	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1484	781	93	1553	965	227	407	182	522	749	335
V/C Ratio(X)	0.27	1.02	0.51	0.35	0.47	0.21	0.72	0.35	0.20	1.26	0.40	0.04
Avail Cap(c_a), veh/h	170	1484	781	170	1553	965	468	1609	720	522	1672	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	24.7	14.1	41.3	16.5	6.8	39.3	35.3	34.6	35.9	29.1	26.8
Incr Delay (d2), s/veh	1.6	27.5	0.5	0.8	0.2	0.1	1.6	0.5	0.5	130.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	23.4	6.4	0.4	6.1	2.1	2.0	1.6	0.8	15.7	3.1	0.3
LnGrp Delay(d),s/veh	44.3	52.2	14.6	42.2	16.7	6.9	40.9	35.8	35.1	165.8	29.4	26.9
LnGrp LOS	D	F	B	D	B	A	D	D	D	F	C	C
Approach Vol, veh/h		1914			959			341			966	
Approach Delay, s/veh		44.4			15.5			38.1			122.0	
Approach LOS		D			B			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	43.6	11.3	24.9	5.6	45.4	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	3.0	39.8	6.7	8.4	2.3	14.7	17.4	5.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.9	0.0	18.2	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			55.2									
HCM 2010 LOS			E									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↘	↑↑↑	↑↑↑
Traffic Volume (vph)	6	192	594	648	1276
Future Volume (vph)	6	192	594	648	1276
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated






















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	0	0	0	567	6	192	594	648	0	0	1276	391
Future Volume (veh/h)	0	0	0	567	6	192	594	648	0	0	1276	391
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				616	7	93	646	704	0	0	1387	285
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				433	5	391	723	3974	0	0	1545	317
Arrive On Green				0.26	0.26	0.26	0.89	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1696	19	1530	1619	5076	0	0	5442	1064
Grp Volume(v), veh/h				623	0	93	646	704	0	0	1241	431
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1610
Q Serve(g_s), s				23.0	0.0	4.3	19.0	0.0	0.0	0.0	23.0	23.1
Cycle Q Clear(g_c), s				23.0	0.0	4.3	19.0	0.0	0.0	0.0	23.0	23.1
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.66
Lane Grp Cap(c), veh/h				438	0	391	723	3974	0	0	1383	479
V/C Ratio(X)				1.42	0.00	0.24	0.89	0.18	0.00	0.00	0.90	0.90
Avail Cap(c_a), veh/h				438	0	391	723	3974	0	0	1404	487
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	26.6	3.7	0.0	0.0	0.0	30.3	30.3
Incr Delay (d2), s/veh				202.6	0.0	0.7	1.5	0.0	0.0	0.0	9.5	22.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				35.5	0.0	4.1	7.1	0.0	0.0	0.0	11.1	13.3
LnGrp Delay(d),s/veh				236.1	0.0	27.2	5.1	0.0	0.0	0.0	39.7	52.8
LnGrp LOS				F		C	A	A			D	D
Approach Vol, veh/h					716			1350			1672	
Approach Delay, s/veh					208.9			2.5			43.1	
Approach LOS					F			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		78.6		29.0	46.0	32.6						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	21.0	25.1						
Green Ext Time (p_c), s		5.6		0.0	1.6	1.7						
Intersection Summary												
HCM 2010 Ctrl Delay				60.2								
HCM 2010 LOS				E								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	5	633	1128	284	1559
Future Volume (vph)	5	633	1128	284	1559
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated


















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



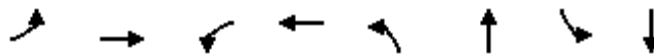
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	5	633	0	0	0	0	1128	749	284	1559	0
Future Volume (veh/h)	113	5	633	0	0	0	0	1128	749	284	1559	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	122	5	480				0	1213	634	305	1676	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	549	23	509				0	1520	489	270	2645	0
Arrive On Green	0.33	0.33	0.33				0.00	0.33	0.33	0.17	0.54	0.00
Sat Flow, veh/h	1650	68	1530				0	4896	1494	1619	5076	0
Grp Volume(v), veh/h	127	0	480				0	1213	634	305	1676	0
Grp Sat Flow(s),veh/h/ln	1718	0	1530				0	1548	1494	1619	1638	0
Q Serve(g_s), s	4.8	0.0	27.5				0.0	21.4	29.5	15.0	21.5	0.0
Cycle Q Clear(g_c), s	4.8	0.0	27.5				0.0	21.4	29.5	15.0	21.5	0.0
Prop In Lane	0.96		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	572	0	509				0	1520	489	270	2645	0
V/C Ratio(X)	0.22	0.00	0.94				0.00	0.80	1.30	1.13	0.63	0.00
Avail Cap(c_a), veh/h	595	0	530				0	1520	489	270	2645	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.46	0.46	0.15	0.15	0.00
Uniform Delay (d), s/veh	21.6	0.0	29.2				0.0	27.6	30.3	37.5	14.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	25.1				0.0	2.1	140.6	66.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.0				0.0	9.4	31.2	11.6	9.7	0.0
LnGrp Delay(d),s/veh	21.8	0.0	54.3				0.0	29.7	170.8	103.8	14.7	0.0
LnGrp LOS	C		D					C	F	F	B	
Approach Vol, veh/h		607						1847			1981	
Approach Delay, s/veh		47.5						78.1			28.4	
Approach LOS		D						E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	35.3				54.3		35.7				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	31.5				23.5		29.5				
Green Ext Time (p_c), s	0.0	0.0				21.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			51.7									
HCM 2010 LOS			D									

Timings
16: Archibald Av. & Walnut Av.

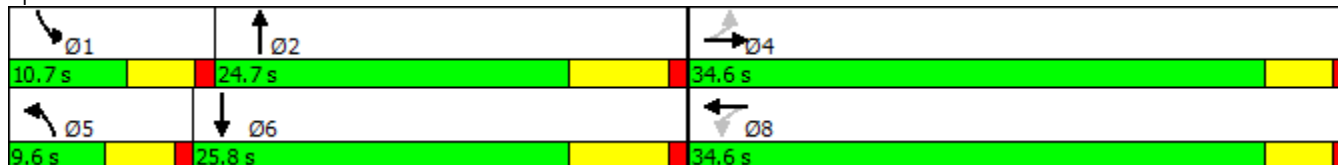


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↘	↘	↘	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	18	7	59	14	66	1507	114	1829
Future Volume (vph)	18	7	59	14	66	1507	114	1829
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	24.7	10.7	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.3%	15.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 54.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated























Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

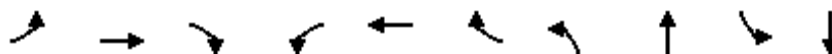
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	7	31	59	14	67	66	1507	67	114	1829	18
Future Volume (veh/h)	18	7	31	59	14	67	66	1507	67	114	1829	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	19	7	6	62	15	17	69	1586	71	120	1925	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	376	166	142	394	142	161	103	1896	85	148	2117	20
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.39	0.39	0.09	0.42	0.42
Sat Flow, veh/h	1313	896	768	1344	769	871	1619	4816	216	1619	5021	47
Grp Volume(v), veh/h	19	0	13	62	0	32	69	1079	578	120	1256	687
Grp Sat Flow(s),veh/h/ln	1313	0	1664	1344	0	1640	1619	1638	1755	1619	1638	1792
Q Serve(g_s), s	0.6	0.0	0.3	1.9	0.0	0.8	1.9	13.9	13.9	3.4	16.8	16.8
Cycle Q Clear(g_c), s	1.3	0.0	0.3	2.2	0.0	0.8	1.9	13.9	13.9	3.4	16.8	16.8
Prop In Lane	1.00		0.46	1.00		0.53	1.00		0.12	1.00		0.03
Lane Grp Cap(c), veh/h	376	0	308	394	0	303	103	1290	691	148	1382	756
V/C Ratio(X)	0.05	0.00	0.04	0.16	0.00	0.11	0.67	0.84	0.84	0.81	0.91	0.91
Avail Cap(c_a), veh/h	978	0	1071	1010	0	1055	174	1299	696	212	1382	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	15.6	16.5	0.0	15.8	21.4	12.8	12.8	20.8	12.6	12.7
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	0.2	2.8	4.9	8.8	9.6	9.1	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.7	0.0	0.4	0.9	7.0	8.3	1.9	9.3	11.4
LnGrp Delay(d),s/veh	16.4	0.0	15.7	16.7	0.0	16.0	24.2	17.7	21.5	30.3	21.8	27.7
LnGrp LOS	B		B	B		B	C	B	C	C	C	C
Approach Vol, veh/h		32			94			1726			2063	
Approach Delay, s/veh		16.1			16.4			19.2			24.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	24.6		13.2	7.6	25.9		13.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.1	18.5		30.0	5.0	19.6		30.0				
Max Q Clear Time (g_c+I1), s	5.4	15.9		3.3	3.9	18.8		4.2				
Green Ext Time (p_c), s	0.0	2.5		0.5	0.0	0.8		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

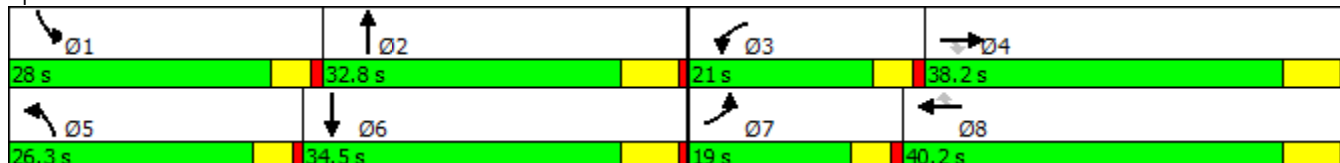


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↖	↗↗↗	↖	↗↗↗
Traffic Volume (vph)	177	741	313	222	506	305	338	1010	456	1142
Future Volume (vph)	177	741	313	222	506	305	338	1010	456	1142
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	741	313	222	506	305	338	1010	166	456	1142	212
Future Volume (veh/h)	177	741	313	222	506	305	338	1010	166	456	1142	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	188	788	261	236	538	268	360	1074	160	485	1215	154
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	195	898	392	223	955	426	294	962	143	318	1045	132
Arrive On Green	0.12	0.26	0.26	0.14	0.28	0.28	0.18	0.22	0.22	0.20	0.24	0.24
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	1619	4314	642	1619	4405	558
Grp Volume(v), veh/h	188	788	261	236	538	268	360	815	419	485	904	465
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1619	1638	1680	1619	1638	1687
Q Serve(g_s), s	13.8	26.3	18.6	16.4	16.1	18.3	21.7	26.6	26.6	23.4	28.3	28.3
Cycle Q Clear(g_c), s	13.8	26.3	18.6	16.4	16.1	18.3	21.7	26.6	26.6	23.4	28.3	28.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.33
Lane Grp Cap(c), veh/h	195	898	392	223	955	426	294	730	374	318	777	400
V/C Ratio(X)	0.96	0.88	0.67	1.06	0.56	0.63	1.22	1.12	1.12	1.53	1.16	1.16
Avail Cap(c_a), veh/h	195	917	400	223	975	435	294	730	374	318	777	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	42.2	39.3	51.5	36.8	37.6	48.8	46.4	46.4	48.0	45.5	45.5
Incr Delay (d2), s/veh	53.0	9.6	4.0	77.2	0.7	2.8	126.7	70.1	82.5	252.8	87.2	97.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	13.7	8.1	12.1	7.6	8.1	20.0	19.1	20.9	32.7	22.1	24.0
LnGrp Delay(d),s/veh	105.2	51.7	43.4	128.7	37.5	40.4	175.5	116.4	128.9	300.8	132.7	143.1
LnGrp LOS	F	D	D	F	D	D	F	F	F	F	F	F
Approach Vol, veh/h		1237			1042			1594			1854	
Approach Delay, s/veh		58.1			58.9			133.0			179.3	
Approach LOS		E			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	32.8	21.0	37.5	26.3	34.5	19.0	39.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	25.4	28.6	18.4	28.3	23.7	30.3	15.8	20.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay			118.3									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

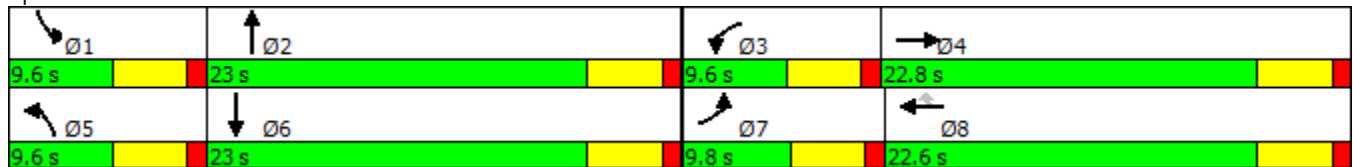


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↑↑↑	↖	↗
Traffic Volume (vph)	99	99	53	16	88	47	1330	99	1397
Future Volume (vph)	99	99	53	16	88	47	1330	99	1397
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 53.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	99	60	53	16	88	47	1330	64	99	1397	22
Future Volume (veh/h)	99	99	60	53	16	88	47	1330	64	99	1397	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	101	101	58	54	16	29	48	1357	60	101	1426	22
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	124	151	87	86	212	180	79	1717	76	124	1323	20
Arrive On Green	0.08	0.14	0.14	0.05	0.12	0.12	0.05	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	1619	1074	617	1619	1800	1530	1619	4820	213	1619	3447	53
Grp Volume(v), veh/h	101	0	159	54	16	29	48	922	495	101	707	741
Grp Sat Flow(s),veh/h/ln	1619	0	1691	1619	1800	1530	1619	1638	1757	1619	1710	1790
Q Serve(g_s), s	3.0	0.0	4.4	1.6	0.4	0.8	1.4	12.4	12.4	3.0	18.9	18.9
Cycle Q Clear(g_c), s	3.0	0.0	4.4	1.6	0.4	0.8	1.4	12.4	12.4	3.0	18.9	18.9
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.12	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	238	86	212	180	79	1167	626	124	656	687
V/C Ratio(X)	0.82	0.00	0.67	0.63	0.08	0.16	0.61	0.79	0.79	0.82	1.08	1.08
Avail Cap(c_a), veh/h	171	0	624	164	657	559	164	1223	656	164	656	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	20.1	22.9	19.4	19.6	23.0	14.2	14.2	22.4	15.2	15.2
Incr Delay (d2), s/veh	18.8	0.0	3.2	7.4	0.2	0.4	7.3	3.4	6.3	20.5	57.7	57.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.2	0.9	0.2	0.4	0.8	6.1	7.0	2.1	19.3	20.1
LnGrp Delay(d),s/veh	41.2	0.0	23.3	30.2	19.5	20.0	30.3	17.7	20.5	42.9	72.9	72.7
LnGrp LOS	D		C	C	B	B	C	B	C	D	F	F
Approach Vol, veh/h		260			99			1465			1549	
Approach Delay, s/veh		30.3			25.5			19.0			70.8	
Approach LOS		C			C			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	22.2	7.2	11.5	7.0	23.5	8.4	10.4				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	5.0	14.4	3.6	6.4	3.4	20.9	5.0	2.8				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.7	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			43.9									
HCM 2010 LOS			D									

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	9	30	20	12	18	8	20	1453	12	14	1482	11
Future Vol, veh/h	9	30	20	12	18	8	20	1453	12	14	1482	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	33	22	13	20	9	22	1579	13	15	1611	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2490	3283	811	2481	3282	796	1623	0	0	1592	0	0
Stage 1	1647	1647	-	1629	1629	-	-	-	-	-	-	-
Stage 2	843	1636	-	852	1653	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	15	~ 9	327	16	~ 9	334	406	-	-	418	-	-
Stage 1	105	158	-	108	162	-	-	-	-	-	-	-
Stage 2	329	160	-	325	157	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 8	327	-	~ 8	334	406	-	-	418	-	-
Mov Cap-2 Maneuver	-	~ 8	-	-	~ 8	-	-	-	-	-	-	-
Stage 1	99	152	-	102	153	-	-	-	-	-	-	-
Stage 2	264	151	-	230	151	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.2	0.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	406	-	-	-	13	-	11	418	-	-
HCM Lane V/C Ratio	0.054	-	-	-	4.181	-	2.569	0.036	-	-
HCM Control Delay (s)	14.4	-	-	-	\$ 2014	-	\$ 1394.6	13.9	-	-
HCM Lane LOS	B	-	-	-	F	-	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	7.8	-	4.5	0.1	-	-

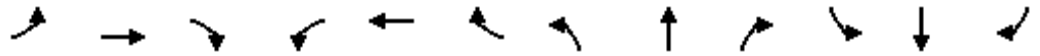
Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/26/2017

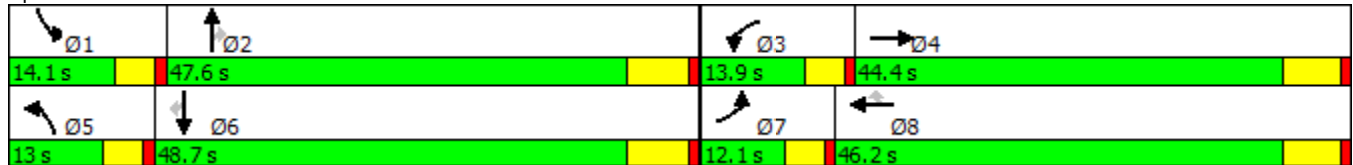


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	118	223	127	444	317	115	86	1235	468	106	1342	49
Future Volume (vph)	118	223	127	444	317	115	86	1235	468	106	1342	49
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



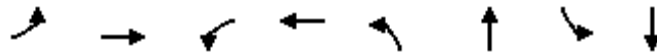
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	223	127	444	317	115	86	1235	468	106	1342	49
Future Volume (veh/h)	118	223	127	444	317	115	86	1235	468	106	1342	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	225	0	448	320	96	87	1247	0	107	1356	40
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	630	282	282	399	339	108	1420	635	131	1469	657
Arrive On Green	0.06	0.18	0.00	0.10	0.22	0.22	0.07	0.42	0.00	0.08	0.43	0.43
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	119	225	0	448	320	96	87	1247	0	107	1356	40
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	3.9	5.6	0.0	9.3	16.4	5.1	5.2	32.7	0.0	6.3	36.6	1.5
Cycle Q Clear(g_c), s	3.9	5.6	0.0	9.3	16.4	5.1	5.2	32.7	0.0	6.3	36.6	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	630	282	282	399	339	108	1420	635	131	1469	657
V/C Ratio(X)	0.70	0.36	0.00	1.59	0.80	0.28	0.81	0.88	0.00	0.82	0.92	0.06
Avail Cap(c_a), veh/h	227	1339	599	282	738	627	139	1440	644	158	1479	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	34.8	0.0	44.2	36.0	31.6	44.9	26.3	0.0	44.1	26.3	16.3
Incr Delay (d2), s/veh	2.9	0.3	0.0	281.9	3.8	0.5	17.8	6.4	0.0	20.1	9.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	0.0	14.8	8.6	2.2	2.9	16.7	0.0	3.6	19.2	0.6
LnGrp Delay(d),s/veh	48.1	35.1	0.0	326.1	39.8	32.0	62.8	32.7	0.0	64.3	36.2	16.3
LnGrp LOS	D	D		F	D	C	E	C		E	D	B
Approach Vol, veh/h		344			864			1334			1503	
Approach Delay, s/veh		39.6			187.4			34.7			37.7	
Approach LOS		D			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	47.0	13.9	24.2	11.1	48.4	10.2	27.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	8.3	34.7	11.3	7.6	7.2	38.6	5.9	18.4				
Green Ext Time (p_c), s	0.0	5.7	0.0	3.4	0.0	3.4	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			68.8									
HCM 2010 LOS			E									

Timings

21: Archibald Av. & Eucalyptus Av.

07/26/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↕
Traffic Volume (vph)	19	0	38	0	76	1702	130	1758
Future Volume (vph)	19	0	38	0	76	1702	130	1758
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.6	22.6	38.2	38.2	9.6	23.5	9.6	16.5
Total Split (s)	38.2	38.2	38.2	38.2	11.6	67.8	14.0	70.2
Total Split (%)	31.8%	31.8%	31.8%	31.8%	9.7%	56.5%	11.7%	58.5%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	45	38	0	74	76	1702	89	130	1758	33
Future Volume (veh/h)	19	0	45	38	0	74	76	1702	89	130	1758	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	21	0	49	41	0	66	83	1850	95	141	1911	36
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	17	115	100	13	99	103	2086	106	158	2280	43
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.10	0.06	0.63	0.63	0.10	0.66	0.66
Sat Flow, veh/h	313	167	1120	472	125	960	1619	3312	169	1619	3434	64
Grp Volume(v), veh/h	70	0	0	107	0	0	83	948	997	141	949	998
Grp Sat Flow(s),veh/h/ln	1600	0	0	1556	0	0	1619	1710	1770	1619	1710	1789
Q Serve(g_s), s	0.0	0.0	0.0	2.2	0.0	0.0	4.9	44.3	46.0	8.3	40.3	40.9
Cycle Q Clear(g_c), s	3.9	0.0	0.0	6.1	0.0	0.0	4.9	44.3	46.0	8.3	40.3	40.9
Prop In Lane	0.30		0.70	0.38		0.62	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	213	0	0	212	0	0	103	1077	1115	158	1136	1188
V/C Ratio(X)	0.33	0.00	0.00	0.50	0.00	0.00	0.81	0.88	0.89	0.89	0.84	0.84
Avail Cap(c_a), veh/h	576	0	0	564	0	0	118	1089	1127	158	1136	1188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	0.0	41.4	0.0	0.0	44.5	14.8	15.1	42.9	12.2	12.3
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.9	0.0	0.0	29.2	8.4	9.3	40.9	5.5	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	2.8	0.0	0.0	3.0	23.0	25.1	5.5	20.5	21.8
LnGrp Delay(d),s/veh	41.4	0.0	0.0	43.3	0.0	0.0	73.7	23.2	24.4	83.8	17.7	17.9
LnGrp LOS	D			D			E	C	C	F	B	B
Approach Vol, veh/h		70			107			2028			2088	
Approach Delay, s/veh		41.4			43.3			25.9			22.3	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	67.1		15.1	10.7	70.4		15.1				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	9.4	61.3		* 34	7.0	63.7		33.0				
Max Q Clear Time (g_c+I1), s	10.3	48.0		5.9	6.9	42.9		8.1				
Green Ext Time (p_c), s	0.0	12.7		1.0	0.0	19.9		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	24.8											
HCM 2010 LOS	C											
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/26/2017

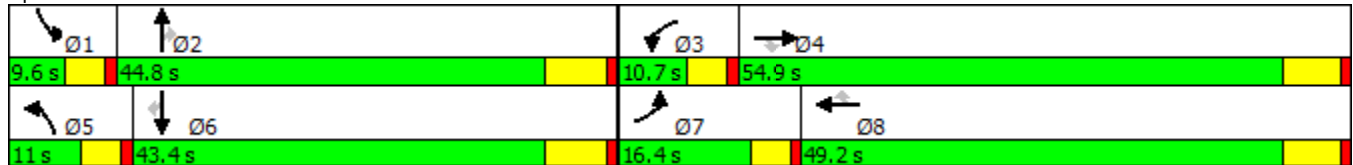


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	675	161	705	166	106	66	311	1116	121	75	1415	340
Future Volume (vph)	675	161	705	166	106	66	311	1116	121	75	1415	340
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	675	161	705	166	106	66	311	1116	121	75	1415	340
Future Volume (veh/h)	675	161	705	166	106	66	311	1116	121	75	1415	340
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	703	168	569	173	110	27	324	1162	112	78	1474	343
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	163	704	599	84	617	524	88	1128	505	117	1077	482
Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.05	0.33	0.33	0.04	0.32	0.32
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	703	168	569	173	110	27	324	1162	112	78	1474	343
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	11.8	7.3	42.2	6.1	5.0	1.4	6.4	38.7	6.2	3.0	36.9	23.2
Cycle Q Clear(g_c), s	11.8	7.3	42.2	6.1	5.0	1.4	6.4	38.7	6.2	3.0	36.9	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	704	599	84	617	524	88	1128	505	117	1077	482
V/C Ratio(X)	4.31	0.24	0.95	2.05	0.18	0.05	3.66	1.03	0.22	0.66	1.37	0.71
Avail Cap(c_a), veh/h	163	748	636	84	661	562	88	1128	505	126	1077	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	23.9	34.5	55.5	27.0	25.8	55.4	39.2	28.4	55.5	40.1	35.4
Incr Delay (d2), s/veh	1503.9	0.2	23.4	511.8	0.1	0.0	1225.6	34.7	0.2	8.6	171.7	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	73.4	3.7	21.6	14.7	2.5	0.6	33.0	23.6	2.7	1.4	43.0	10.4
LnGrp Delay(d),s/veh	1556.5	24.1	58.0	567.4	27.1	25.8	1280.9	73.9	28.6	64.0	211.8	40.3
LnGrp LOS	F	C	E	F	C	C	F	F	C	E	F	D
Approach Vol, veh/h		1440			310			1598			1895	
Approach Delay, s/veh		785.6			328.5			315.5			174.7	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	45.2	10.7	52.0	11.0	43.4	16.4	46.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	5.0	40.7	8.1	44.2	8.4	38.9	13.8	7.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	0.0	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			394.5									
HCM 2010 LOS			F									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

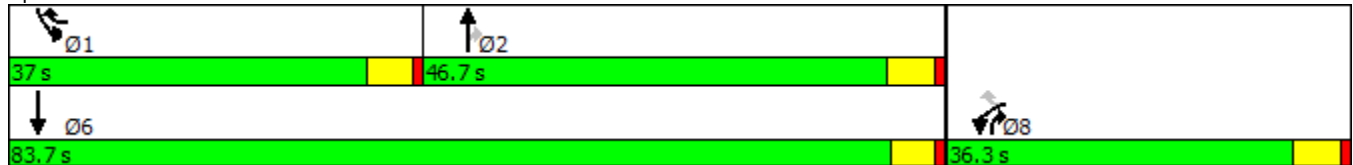














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↑	↷	↶	↑
Traffic Volume (vph)	556	521	1148	716	991	1217
Future Volume (vph)	556	521	1148	716	991	1217
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	556	521	1148	716	991	1217		
Future Volume (veh/h)	556	521	1148	716	991	1217		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	625	543	1290	804	1113	1367		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	466	846	659	976	481	1243		
Arrive On Green	0.26	0.26	0.35	0.35	0.27	0.65		
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900		
Grp Volume(v), veh/h	625	543	1290	804	1113	1367		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900		
Q Serve(g_s), s	31.0	29.0	41.7	41.7	32.0	78.7		
Cycle Q Clear(g_c), s	31.0	29.0	41.7	41.7	32.0	78.7		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	466	846	659	976	481	1243		
V/C Ratio(X)	1.34	0.64	1.96	0.82	2.31	1.10		
Avail Cap(c_a), veh/h	466	846	659	976	481	1243		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	44.6	20.6	39.3	17.7	44.2	20.8		
Incr Delay (d2), s/veh	167.1	1.3	436.9	5.9	597.1	57.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	37.1	13.2	101.7	28.2	95.7	60.6		
LnGrp Delay(d),s/veh	211.7	21.9	476.2	23.6	641.2	78.2		
LnGrp LOS	F	C	F	C	F	F		
Approach Vol, veh/h	1168		2094		2480			
Approach Delay, s/veh	123.5		302.4		330.9			
Approach LOS	F		F		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.0	47.0				84.0		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	32.0	41.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	34.0	43.7				80.7		33.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			278.3					
HCM 2010 LOS			F					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

07/26/2017

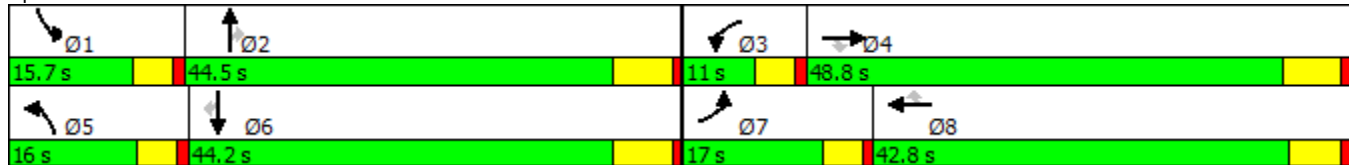


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	479	1192	506	107	378	65	237	878	107	209	1008	590
Future Volume (vph)	479	1192	506	107	378	65	237	878	107	209	1008	590
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	479	1192	506	107	378	65	237	878	107	209	1008	590
Future Volume (veh/h)	479	1192	506	107	378	65	237	878	107	209	1008	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	510	1268	451	114	402	64	252	934	79	222	1072	491
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	379	1802	548	169	1492	459	310	1745	532	281	1701	519
Arrive On Green	0.11	0.35	0.35	0.05	0.29	0.29	0.09	0.34	0.34	0.08	0.33	0.33
Sat Flow, veh/h	3510	5187	1578	3510	5187	1594	3510	5187	1583	3510	5187	1581
Grp Volume(v), veh/h	510	1268	451	114	402	64	252	934	79	222	1072	491
Grp Sat Flow(s),veh/h/ln	1755	1729	1578	1755	1729	1594	1755	1729	1583	1755	1729	1581
Q Serve(g_s), s	12.4	24.3	30.0	3.7	6.9	3.4	8.1	16.7	4.0	7.1	20.1	34.8
Cycle Q Clear(g_c), s	12.4	24.3	30.0	3.7	6.9	3.4	8.1	16.7	4.0	7.1	20.1	34.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	1802	548	169	1492	459	310	1745	532	281	1701	519
V/C Ratio(X)	1.35	0.70	0.82	0.67	0.27	0.14	0.81	0.54	0.15	0.79	0.63	0.95
Avail Cap(c_a), veh/h	379	1923	585	196	1670	513	348	1745	532	339	1715	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	32.4	34.3	53.8	31.6	30.4	51.4	30.9	26.6	51.9	32.7	37.6
Incr Delay (d2), s/veh	172.5	1.1	8.8	5.0	0.1	0.1	10.9	0.3	0.1	8.1	0.7	26.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.1	11.7	14.4	1.9	3.3	1.5	4.4	8.0	1.8	3.8	9.7	19.0
LnGrp Delay(d),s/veh	223.8	33.5	43.0	58.8	31.7	30.5	62.3	31.2	26.8	60.0	33.4	64.1
LnGrp LOS	F	C	D	E	C	C	E	C	C	E	C	E
Approach Vol, veh/h		2229			580			1265			1785	
Approach Delay, s/veh		79.0			36.9			37.1			45.2	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	44.8	10.1	46.1	14.8	43.9	17.0	39.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	9.1	18.7	5.7	32.0	10.1	36.8	14.4	8.9				
Green Ext Time (p_c), s	0.1	14.3	0.0	7.9	0.1	0.9	0.0	15.6				
Intersection Summary												
HCM 2010 Ctrl Delay			55.5									
HCM 2010 LOS			E									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

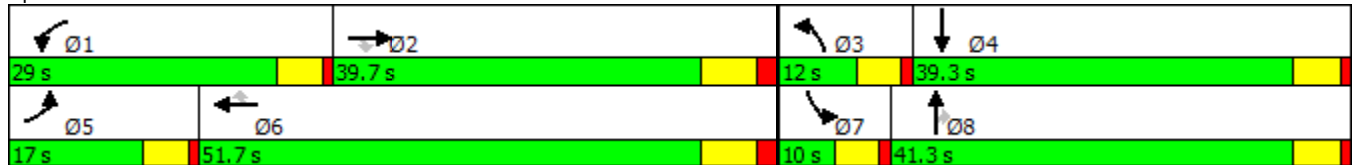


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	142	1596	57	238	1072	155	53	58	181	97	32
Future Volume (vph)	142	1596	57	238	1072	155	53	58	181	97	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1596	57	238	1072	155	53	58	181	97	32	70
Future Volume (veh/h)	142	1596	57	238	1072	155	53	58	181	97	32	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	1773	62	264	1191	172	59	64	172	108	36	71
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	2008	612	301	1615	722	78	270	226	101	88	173
Arrive On Green	0.11	0.39	0.39	0.17	0.45	0.45	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1591	1810	567	1118
Grp Volume(v), veh/h	158	1773	62	264	1191	172	59	64	172	108	0	107
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1591	1810	0	1685
Q Serve(g_s), s	7.7	28.5	2.2	12.8	24.4	5.9	2.9	2.7	9.3	5.0	0.0	5.1
Cycle Q Clear(g_c), s	7.7	28.5	2.2	12.8	24.4	5.9	2.9	2.7	9.3	5.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	192	2008	612	301	1615	722	78	270	226	101	0	261
V/C Ratio(X)	0.82	0.88	0.10	0.88	0.74	0.24	0.76	0.24	0.76	1.07	0.00	0.41
Avail Cap(c_a), veh/h	242	2008	612	484	1800	805	141	763	639	101	0	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	25.6	17.5	36.5	20.4	15.3	42.4	34.1	37.0	42.3	0.0	34.2
Incr Delay (d2), s/veh	13.5	5.0	0.1	6.3	1.5	0.2	5.6	0.4	5.2	109.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	14.6	1.0	6.9	12.4	2.6	1.6	1.4	4.4	5.5	0.0	2.5
LnGrp Delay(d),s/veh	52.7	30.6	17.6	42.8	21.9	15.5	48.0	34.6	42.2	152.5	0.0	35.2
LnGrp LOS	D	C	B	D	C	B	D	C	D	F		D
Approach Vol, veh/h		1993			1627			295			215	
Approach Delay, s/veh		32.0			24.6			41.7			94.1	
Approach LOS		C			C			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.9	41.7	8.8	19.2	14.5	47.1	10.0	18.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	14.8	30.5	4.9	7.1	9.7	26.4	7.0	11.3				
Green Ext Time (p_c), s	0.2	2.1	0.0	1.4	0.0	13.7	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

Timings
29: Sumner Av. & Limonite Av.

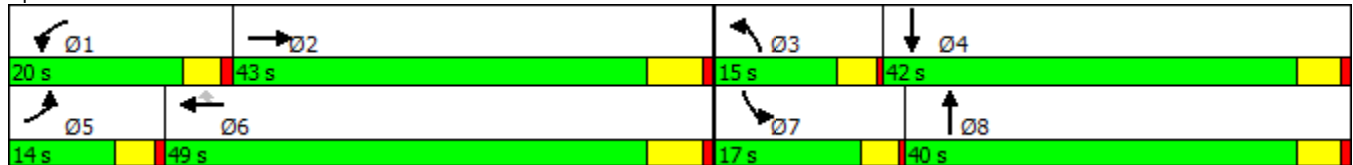


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	124	1630	210	1273	157	66	120	145	164
Future Volume (vph)	124	1630	210	1273	157	66	120	145	164
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1630	76	210	1273	157	66	120	168	145	164	102
Future Volume (veh/h)	124	1630	76	210	1273	157	66	120	168	145	164	102
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	128	1680	72	216	1312	141	68	124	99	149	169	78
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	201	2279	98	300	2464	767	88	255	188	184	442	195
Arrive On Green	0.06	0.45	0.45	0.09	0.48	0.48	0.05	0.13	0.13	0.10	0.18	0.18
Sat Flow, veh/h	3510	5101	218	3510	5187	1614	1810	1978	1458	1810	2426	1068
Grp Volume(v), veh/h	128	1139	613	216	1312	141	68	112	111	149	124	123
Grp Sat Flow(s),veh/h/ln	1755	1729	1861	1755	1729	1614	1810	1805	1631	1810	1805	1689
Q Serve(g_s), s	2.9	22.4	22.4	4.9	14.6	4.1	3.1	4.8	5.2	6.6	5.0	5.3
Cycle Q Clear(g_c), s	2.9	22.4	22.4	4.9	14.6	4.1	3.1	4.8	5.2	6.6	5.0	5.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.89	1.00		0.63
Lane Grp Cap(c), veh/h	201	1545	832	300	2464	767	88	233	210	184	329	308
V/C Ratio(X)	0.64	0.74	0.74	0.72	0.53	0.18	0.77	0.48	0.53	0.81	0.38	0.40
Avail Cap(c_a), veh/h	405	1554	836	661	2708	843	242	767	693	286	811	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	18.8	18.8	36.7	15.2	12.4	38.7	33.3	33.5	36.2	29.6	29.7
Incr Delay (d2), s/veh	1.2	1.9	3.4	1.2	0.2	0.1	5.3	1.1	1.5	4.7	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.0	12.2	2.5	7.0	1.9	1.7	2.4	2.4	3.6	2.5	2.5
LnGrp Delay(d),s/veh	39.2	20.7	22.2	37.9	15.4	12.5	44.0	34.5	35.0	40.9	30.1	30.3
LnGrp LOS	D	C	C	D	B	B	D	C	D	D	C	C
Approach Vol, veh/h		1880			1669			291			396	
Approach Delay, s/veh		22.4			18.0			36.9			34.2	
Approach LOS		C			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	42.8	8.0	20.0	9.2	45.1	12.4	15.6				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	6.9	24.4	5.1	7.3	4.9	16.6	8.6	7.2				
Green Ext Time (p_c), s	0.2	11.6	0.0	2.1	0.0	22.5	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.8									
HCM 2010 LOS			C									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

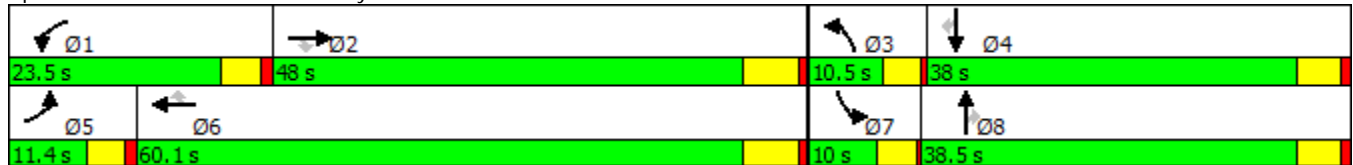


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	42	1828	91	179	1586	37	89	27	152	27	75	16
Future Volume (vph)	42	1828	91	179	1586	37	89	27	152	27	75	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

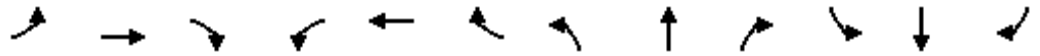
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1828	91	179	1586	37	89	27	152	27	75	16
Future Volume (veh/h)	42	1828	91	179	1586	37	89	27	152	27	75	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	1865	91	183	1618	38	91	28	107	28	77	13
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	55	1857	819	221	2188	956	117	207	176	41	243	107
Arrive On Green	0.03	0.51	0.51	0.12	0.61	0.61	0.06	0.11	0.11	0.02	0.07	0.07
Sat Flow, veh/h	1810	3610	1592	1810	3610	1578	1810	1900	1611	1810	3610	1583
Grp Volume(v), veh/h	43	1865	91	183	1618	38	91	28	107	28	77	13
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1578	1810	1900	1611	1810	1805	1583
Q Serve(g_s), s	2.0	43.2	2.5	8.3	26.9	0.8	4.2	1.1	5.3	1.3	1.7	0.6
Cycle Q Clear(g_c), s	2.0	43.2	2.5	8.3	26.9	0.8	4.2	1.1	5.3	1.3	1.7	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	55	1857	819	221	2188	956	117	207	176	41	243	107
V/C Ratio(X)	0.79	1.00	0.11	0.83	0.74	0.04	0.78	0.14	0.61	0.68	0.32	0.12
Avail Cap(c_a), veh/h	148	1857	819	409	2323	1015	140	757	642	129	1417	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	20.4	10.5	36.1	11.8	6.7	38.7	33.9	35.7	40.8	37.4	36.9
Incr Delay (d2), s/veh	9.0	22.0	0.1	3.1	1.2	0.0	16.6	0.2	2.5	7.0	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	27.1	1.1	4.4	13.6	0.4	2.6	0.6	2.5	0.7	0.9	0.3
LnGrp Delay(d),s/veh	49.5	42.4	10.6	39.1	13.0	6.7	55.3	34.1	38.3	47.8	37.9	37.3
LnGrp LOS	D	F	B	D	B	A	E	C	D	D	D	D
Approach Vol, veh/h		1999			1839			226			118	
Approach Delay, s/veh		41.1			15.5			44.6			40.2	
Approach LOS		D			B			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	49.2	9.4	10.7	7.0	57.0	5.9	14.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	10.3	45.2	6.2	3.7	4.0	28.9	3.3	7.3				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.7	0.0	22.1	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			30.0									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

07/26/2017

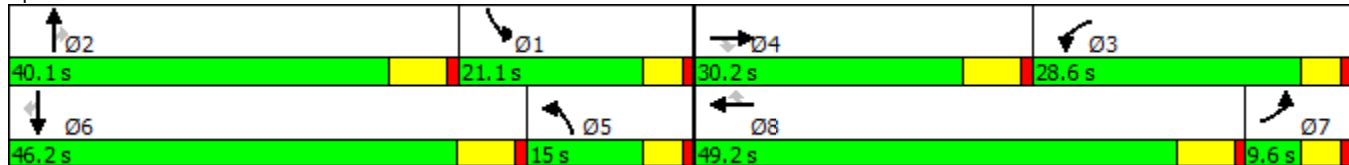


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	43	847	405	643	725	272	308	326	613	374	464	47
Future Volume (vph)	43	847	405	643	725	272	308	326	613	374	464	47
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	30.2	30.2	28.6	49.2	49.2	15.0	40.1	40.1	21.1	46.2	46.2
Total Split (%)	8.0%	25.2%	25.2%	23.8%	41.0%	41.0%	12.5%	33.4%	33.4%	17.6%	38.5%	38.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	847	405	643	725	272	308	326	613	374	464	47
Future Volume (veh/h)	43	847	405	643	725	272	308	326	613	374	464	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	892	290	677	763	217	324	343	636	394	488	44
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	507	1037	319	712	933	417	838	1485	462	451	636	283
Arrive On Green	0.14	0.20	0.20	0.20	0.26	0.26	0.24	0.29	0.29	0.13	0.18	0.18
Sat Flow, veh/h	3510	5187	1594	3510	3610	1615	3510	5187	1615	3510	3610	1609
Grp Volume(v), veh/h	45	892	290	677	763	217	324	343	636	394	488	44
Grp Sat Flow(s),veh/h/ln	1755	1729	1594	1755	1805	1615	1755	1729	1615	1755	1805	1609
Q Serve(g_s), s	1.3	19.7	21.1	22.6	23.5	13.6	9.2	6.0	33.9	13.0	15.2	2.7
Cycle Q Clear(g_c), s	1.3	19.7	21.1	22.6	23.5	13.6	9.2	6.0	33.9	13.0	15.2	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	507	1037	319	712	933	417	838	1485	462	451	636	283
V/C Ratio(X)	0.09	0.86	0.91	0.95	0.82	0.52	0.39	0.23	1.38	0.87	0.77	0.16
Avail Cap(c_a), veh/h	507	1052	323	712	1311	587	838	1485	462	489	1220	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	45.8	46.3	46.6	41.3	37.6	37.8	32.3	42.2	50.6	46.5	41.3
Incr Delay (d2), s/veh	0.0	7.3	28.2	22.3	2.9	1.0	0.1	0.1	182.1	14.2	2.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	10.1	11.7	13.1	12.1	6.2	4.5	2.9	38.5	7.2	7.8	1.2
LnGrp Delay(d),s/veh	43.9	53.0	74.5	68.9	44.2	38.6	37.9	32.4	224.3	64.8	48.4	41.6
LnGrp LOS	D	D	E	E	D	D	D	C	F	E	D	D
Approach Vol, veh/h		1227			1657			1303			926	
Approach Delay, s/veh		57.8			53.5			127.4			55.1	
Approach LOS		E			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	40.1	28.6	29.9	32.9	27.0	21.7	36.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.5	33.9	24.0	24.0	10.4	40.0	5.0	43.0				
Max Q Clear Time (g_c+I1), s	15.0	35.9	24.6	23.1	11.2	17.2	3.3	25.5				
Green Ext Time (p_c), s	0.2	0.0	0.0	0.6	0.0	2.9	0.4	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			73.7									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

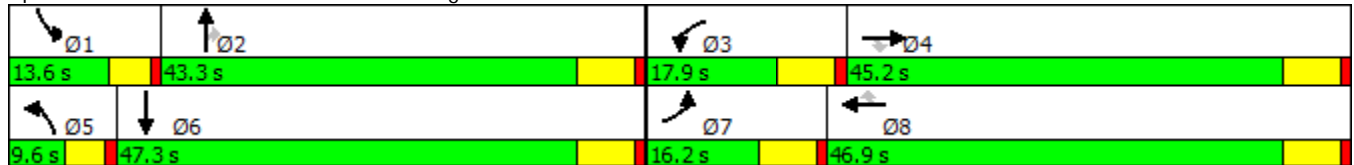


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↖	↖↗	↑↑	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	131	132	23	319	183	139	6	749	240	123	1093
Future Volume (vph)	131	132	23	319	183	139	6	749	240	123	1093
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	16.2	45.2	45.2	17.9	46.9	46.9	9.6	43.3	43.3	13.6	47.3
Total Split (%)	13.5%	37.7%	37.7%	14.9%	39.1%	39.1%	8.0%	36.1%	36.1%	11.3%	39.4%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 81.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	132	23	319	183	139	6	749	240	123	1093	283
Future Volume (veh/h)	131	132	23	319	183	139	6	749	240	123	1093	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	138	13	332	191	105	6	780	204	128	1139	281
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	448	242	206	448	461	206	14	1864	581	162	1831	452
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.01	0.36	0.36	0.09	0.44	0.44
Sat Flow, veh/h	3510	1900	1615	3510	3610	1615	1810	5187	1615	1810	4152	1024
Grp Volume(v), veh/h	136	138	13	332	191	105	6	780	204	128	949	471
Grp Sat Flow(s),veh/h/ln	1755	1900	1615	1755	1805	1615	1810	1729	1615	1810	1729	1718
Q Serve(g_s), s	2.8	5.4	0.6	7.1	3.8	4.8	0.3	8.9	7.3	5.4	16.6	16.6
Cycle Q Clear(g_c), s	2.8	5.4	0.6	7.1	3.8	4.8	0.3	8.9	7.3	5.4	16.6	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	448	242	206	448	461	206	14	1864	581	162	1525	758
V/C Ratio(X)	0.30	0.57	0.06	0.74	0.41	0.51	0.42	0.42	0.35	0.79	0.62	0.62
Avail Cap(c_a), veh/h	448	946	804	524	1875	839	115	2456	765	208	1814	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	32.2	30.1	32.9	31.5	31.9	38.7	18.9	18.4	35.0	16.9	16.9
Incr Delay (d2), s/veh	0.4	2.1	0.1	4.7	0.6	1.9	7.3	0.1	0.4	11.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.9	0.3	3.8	1.9	2.2	0.2	4.2	3.3	3.2	8.0	8.1
LnGrp Delay(d),s/veh	31.4	34.3	30.2	37.6	32.1	33.8	46.0	19.1	18.8	46.1	17.4	17.9
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		287			628			990			1548	
Approach Delay, s/veh		32.7			35.3			19.2			19.9	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	34.4	16.2	16.2	5.2	40.7	16.2	16.2				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	9.0	37.1	11.7	39.0	5.0	41.1	10.0	40.7				
Max Q Clear Time (g_c+I1), s	7.4	10.9	9.1	7.4	2.3	18.6	4.8	6.8				
Green Ext Time (p_c), s	0.0	17.2	0.3	2.2	0.0	15.5	0.2	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

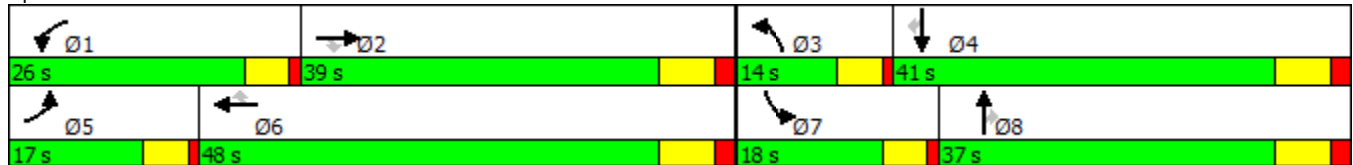


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	340	1515	118	446	1290	355	208	463	263	421	611	316
Future Volume (vph)	340	1515	118	446	1290	355	208	463	263	421	611	316
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

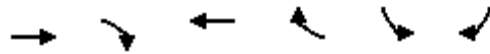
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	1515	118	446	1290	355	208	463	263	421	611	316
Future Volume (veh/h)	340	1515	118	446	1290	355	208	463	263	421	611	316
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	347	1546	101	455	1316	293	212	472	191	430	623	281
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	361	1593	485	515	1267	565	268	1191	360	391	955	426
Arrive On Green	0.10	0.31	0.31	0.15	0.35	0.35	0.08	0.23	0.23	0.11	0.26	0.26
Sat Flow, veh/h	3510	5187	1578	3510	3610	1611	3510	5187	1570	3510	3610	1611
Grp Volume(v), veh/h	347	1546	101	455	1316	293	212	472	191	430	623	281
Grp Sat Flow(s),veh/h/ln	1755	1729	1578	1755	1805	1611	1755	1729	1570	1755	1805	1611
Q Serve(g_s), s	11.5	34.4	5.5	14.8	41.0	16.9	6.9	9.0	12.5	13.0	17.9	18.1
Cycle Q Clear(g_c), s	11.5	34.4	5.5	14.8	41.0	16.9	6.9	9.0	12.5	13.0	17.9	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	1593	485	515	1267	565	268	1191	360	391	955	426
V/C Ratio(X)	0.96	0.97	0.21	0.88	1.04	0.52	0.79	0.40	0.53	1.10	0.65	0.66
Avail Cap(c_a), veh/h	361	1593	485	631	1267	565	270	1332	403	391	1051	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	39.9	30.0	48.9	37.9	30.1	53.0	38.1	39.5	51.9	38.2	38.3
Incr Delay (d2), s/veh	37.1	16.2	0.5	10.8	35.9	1.6	13.3	0.5	2.6	75.5	2.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	18.7	2.5	8.0	26.6	7.7	3.9	4.4	5.7	10.3	9.2	8.6
LnGrp Delay(d),s/veh	89.3	56.1	30.4	59.6	73.8	31.7	66.4	38.6	42.0	127.4	40.2	42.8
LnGrp LOS	F	E	C	E	F	C	E	D	D	F	D	D
Approach Vol, veh/h		1994			2064			875			1334	
Approach Delay, s/veh		60.6			64.7			46.1			68.8	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	42.9	13.9	37.9	17.0	48.0	18.0	33.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	16.8	36.4	8.9	20.1	13.5	43.0	15.0	14.5				
Green Ext Time (p_c), s	0.3	0.0	0.0	10.6	0.0	0.0	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay			61.7									
HCM 2010 LOS			E									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

07/26/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1145	466	673	188	501	864
Future Volume (vph)	1145	466	673	188	501	864
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

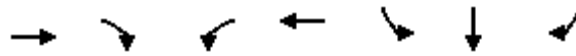
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	1145	466	0	673	188	0	0	0	501	0	864
Future Volume (veh/h)	0	1145	466	0	673	188	0	0	0	501	0	864
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	1245	0	0	732	0				545	0	793
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1321	411	0	920	411				1898	0	873
Arrive On Green	0.00	0.25	0.00	0.00	0.25	0.00				0.54	0.00	0.54
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	1245	0	0	732	0				545	0	793
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	13.1	0.0	0.0	10.6	0.0				4.7	0.0	24.7
Cycle Q Clear(g_c), s	0.0	13.1	0.0	0.0	10.6	0.0				4.7	0.0	24.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1321	411	0	920	411				1898	0	873
V/C Ratio(X)	0.00	0.94	0.00	0.00	0.80	0.00				0.29	0.00	0.91
Avail Cap(c_a), veh/h	0	1321	411	0	920	411				2166	0	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.4	0.0	0.0	19.4	0.0				7.0	0.0	11.5
Incr Delay (d2), s/veh	0.0	13.4	0.0	0.0	4.9	0.0				0.1	0.0	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.9	0.0	0.0	5.8	0.0				2.3	0.0	13.4
LnGrp Delay(d),s/veh	0.0	33.7	0.0	0.0	24.3	0.0				7.0	0.0	22.5
LnGrp LOS		C			C					A		C
Approach Vol, veh/h		1245			732						1338	
Approach Delay, s/veh		33.7			24.3						16.2	
Approach LOS		C			C						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.0		34.7		21.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		15.1		26.7		12.6						
Green Ext Time (p_c), s		0.0		3.4		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔	↑
Traffic Volume (vph)	1689	881	446	1587	208	0	784
Future Volume (vph)	1689	881	446	1587	208	0	784
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

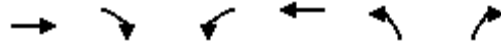
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1689	881	446	1587	0	0	0	0	208	0	784
Future Volume (veh/h)	0	1689	881	446	1587	0	0	0	0	208	0	784
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1741	908	460	1636	0				143	0	798
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1694	758	523	2379	0				436	0	778
Arrive On Green	0.00	0.47	0.47	0.15	0.66	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	3705	1615	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1741	908	460	1636	0				143	0	798
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	51.6	51.6	14.1	31.1	0.0				7.2	0.0	26.5
Cycle Q Clear(g_c), s	0.0	51.6	51.6	14.1	31.1	0.0				7.2	0.0	26.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1694	758	523	2379	0				436	0	778
V/C Ratio(X)	0.00	1.03	1.20	0.88	0.69	0.00				0.33	0.00	1.03
Avail Cap(c_a), veh/h	0	1694	758	590	2379	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.21	0.21	0.12	0.12	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.2	29.2	45.8	11.7	0.0				34.4	0.0	41.8
Incr Delay (d2), s/veh	0.0	18.1	92.1	1.7	0.2	0.0				0.2	0.0	38.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.9	42.3	7.0	15.3	0.0				3.6	0.0	16.0
LnGrp Delay(d),s/veh	0.0	47.3	121.2	47.6	11.9	0.0				34.6	0.0	80.7
LnGrp LOS		F	F	D	B					C		F
Approach Vol, veh/h		2649			2096						941	
Approach Delay, s/veh		72.7			19.7						73.7	
Approach LOS		E			B						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.9	57.1		32.0		78.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	16.1	53.6		28.5		33.1						
Green Ext Time (p_c), s	0.3	0.0		0.0		31.1						
Intersection Summary												
HCM 2010 Ctrl Delay			53.3									
HCM 2010 LOS			D									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

07/26/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	626	1030	303	411	441	124
Future Volume (vph)	626	1030	303	411	441	124
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 07/26/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	626	1030	303	411	441	124		
Future Volume (veh/h)	626	1030	303	411	441	124		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	652	947	316	428	459	79		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2363	897	431	3519	362	161		
Arrive On Green	0.46	0.46	0.12	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	652	947	316	428	459	79		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	4.7	27.3	5.2	1.7	6.0	2.8		
Cycle Q Clear(g_c), s	4.7	27.3	5.2	1.7	6.0	2.8		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2363	897	431	3519	362	161		
V/C Ratio(X)	0.28	1.06	0.73	0.12	1.27	0.49		
Avail Cap(c_a), veh/h	2363	897	527	3519	362	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.52	0.52	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.2	12.0	25.4	3.4	27.0	25.5		
Incr Delay (d2), s/veh	0.2	38.0	4.1	0.1	140.9	10.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	24.2	2.7	0.8	10.0	1.7		
LnGrp Delay(d),s/veh	10.3	50.0	29.5	3.5	167.9	35.8		
LnGrp LOS	B	F	C	A	F	D		
Approach Vol, veh/h	1599			744	538			
Approach Delay, s/veh	33.8			14.5	148.5			
Approach LOS	C			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.4	34.6				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	7.2	29.3				3.7		8.0
Green Ext Time (p_c), s	0.2	0.0				15.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			50.3					
HCM 2010 LOS			D					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	731	1165	1311	175	723	1	678
Future Volume (vph)	731	1165	1311	175	723	1	678
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	26.0	72.0	46.0	46.0	38.0	38.0	38.0
Total Split (%)	23.6%	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	731	1165	0	0	1311	175	723	1	678	0	0	0
Future Volume (veh/h)	731	1165	0	0	1311	175	723	1	678	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	738	1177	0	0	1324	148	871	0	302			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	686	2276	0	0	1423	628	975	0	435			
Arrive On Green	0.26	0.84	0.00	0.00	0.39	0.39	0.27	0.00	0.27			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	738	1177	0	0	1324	148	871	0	302			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	21.5	10.2	0.0	0.0	38.6	6.8	25.5	0.0	18.5			
Cycle Q Clear(g_c), s	21.5	10.2	0.0	0.0	38.6	6.8	25.5	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	686	2276	0	0	1423	628	975	0	435			
V/C Ratio(X)	1.08	0.52	0.00	0.00	0.93	0.24	0.89	0.00	0.69			
Avail Cap(c_a), veh/h	686	2276	0	0	1423	628	1069	0	477			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.12	0.12	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.7	4.1	0.0	0.0	31.9	22.3	38.7	0.0	36.1			
Incr Delay (d2), s/veh	37.9	0.1	0.0	0.0	12.2	0.9	9.2	0.0	3.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	14.0	5.0	0.0	0.0	21.5	3.2	13.9	0.0	8.7			
LnGrp Delay(d),s/veh	78.6	4.2	0.0	0.0	44.1	23.1	47.9	0.0	40.0			
LnGrp LOS	F	A			D	C	D		D			
Approach Vol, veh/h		1915			1472			1173				
Approach Delay, s/veh		32.9			41.9			45.8				
Approach LOS		C			D			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		74.9			26.0	48.9		35.1				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		12.2			23.5	40.6		27.5				
Green Ext Time (p_c), s		19.6			0.0	0.0		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay					39.1							
HCM 2010 LOS					D							
Notes												

APPENDIX 6.2:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	8	6	438	48	19	1097	229	522	1649
Future Volume (vph)	8	6	438	48	19	1097	229	522	1649
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

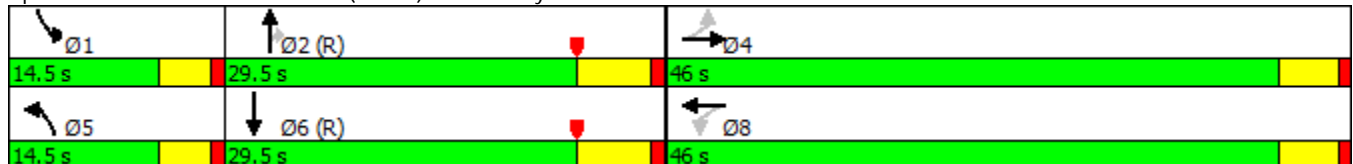
Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow




















Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	438	48	661	19	1097	229	522	1649	44
Future Volume (veh/h)	8	6	4	438	48	661	19	1097	229	522	1649	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	8	6	3	456	50	643	20	1143	213	544	1718	43
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	272	196	88	325	30	380	71	893	399	180	1120	28
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.04	0.26	0.26	0.11	0.33	0.33
Sat Flow, veh/h	468	430	192	591	65	834	1619	3420	1530	1619	3410	85
Grp Volume(v), veh/h	17	0	0	1149	0	0	20	1143	213	544	859	902
Grp Sat Flow(s),veh/h/ln	1091	0	0	1490	0	0	1619	1710	1530	1619	1710	1785
Q Serve(g_s), s	0.0	0.0	0.0	40.5	0.0	0.0	1.1	23.5	10.8	10.0	29.6	29.6
Cycle Q Clear(g_c), s	0.5	0.0	0.0	41.0	0.0	0.0	1.1	23.5	10.8	10.0	29.6	29.6
Prop In Lane	0.47		0.18	0.40		0.56	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	556	0	0	735	0	0	71	893	399	180	562	586
V/C Ratio(X)	0.03	0.00	0.00	1.56	0.00	0.00	0.28	1.28	0.53	3.02	1.53	1.54
Avail Cap(c_a), veh/h	556	0	0	735	0	0	180	893	399	180	562	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	26.0	0.0	0.0	41.7	33.3	28.5	40.0	30.2	30.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	260.5	0.0	0.0	0.1	126.8	0.5	925.5	247.2	250.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	71.3	0.0	0.0	0.5	26.8	4.6	50.7	52.5	55.3
LnGrp Delay(d),s/veh	13.5	0.0	0.0	286.5	0.0	0.0	41.7	160.1	29.0	965.5	277.4	280.8
LnGrp LOS	B			F			D	F	C	F	F	F
Approach Vol, veh/h		17			1149			1376			2305	
Approach Delay, s/veh		13.5			286.5			138.0			441.1	
Approach LOS		B			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	29.5		46.0	8.4	35.6		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	25.5		2.5	3.1	31.6		43.0				
Green Ext Time (p_c), s	0.0	0.0		7.7	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			316.9									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

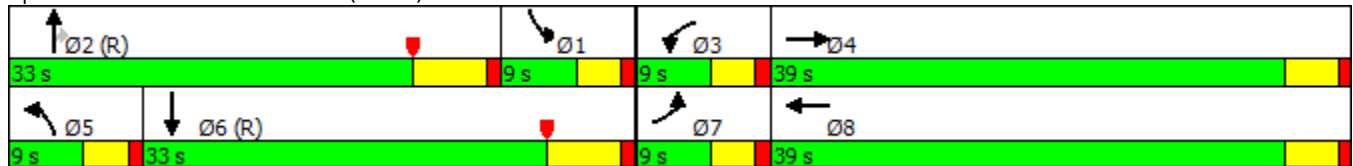


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	285	386	85	579	181	849	181	444	875
Future Volume (vph)	285	386	85	579	181	849	181	444	875
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 82 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

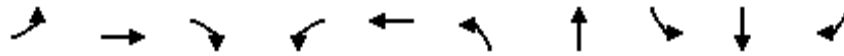
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	386	54	85	579	153	181	849	181	444	875	648
Future Volume (veh/h)	285	386	54	85	579	153	181	849	181	444	875	648
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	291	394	53	87	591	134	185	866	177	453	893	623
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	817	109	90	747	169	90	964	431	268	807	542
Arrive On Green	0.06	0.27	0.27	0.06	0.27	0.27	0.07	0.37	0.37	0.17	0.41	0.41
Sat Flow, veh/h	1619	3033	405	1619	2772	627	1619	3420	1530	1619	1950	1309
Grp Volume(v), veh/h	291	221	226	87	364	361	185	866	177	453	779	737
Grp Sat Flow(s),veh/h/ln	1619	1710	1728	1619	1710	1689	1619	1710	1530	1619	1710	1549
Q Serve(g_s), s	5.0	9.8	9.9	4.8	17.8	17.9	5.0	21.5	5.9	14.9	37.3	37.3
Cycle Q Clear(g_c), s	5.0	9.8	9.9	4.8	17.8	17.9	5.0	21.5	5.9	14.9	37.3	37.3
Prop In Lane	1.00		0.23	1.00		0.37	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	90	461	466	90	461	455	90	964	431	268	708	641
V/C Ratio(X)	3.24	0.48	0.49	0.97	0.79	0.79	2.06	0.90	0.41	1.69	1.10	1.15
Avail Cap(c_a), veh/h	90	656	663	90	656	648	90	1026	459	268	708	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	27.6	27.6	42.4	30.5	30.5	41.7	26.9	13.3	37.6	26.4	26.4
Incr Delay (d2), s/veh	1034.0	0.8	0.8	83.4	2.6	2.7	479.0	1.4	0.3	312.2	47.4	69.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.1	4.7	4.8	4.2	8.7	8.7	14.2	10.2	2.5	29.9	26.8	28.2
LnGrp Delay(d),s/veh	1076.5	28.4	28.4	125.8	33.1	33.3	520.7	28.4	13.6	349.8	73.7	95.7
LnGrp LOS	F	C	C	F	C	C	F	C	B	F	F	F
Approach Vol, veh/h		738			812			1228			1969	
Approach Delay, s/veh		441.7			43.1			100.4			145.4	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.9	31.4	9.0	28.7	9.0	43.3	9.0	28.7				
Change Period (Y+Rc), s	6.0	* 6	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	* 27	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	16.9	23.5	6.8	11.9	7.0	39.3	7.0	19.9				
Green Ext Time (p_c), s	0.0	1.9	0.0	5.0	0.0	0.0	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay	162.3											
HCM 2010 LOS	F											
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

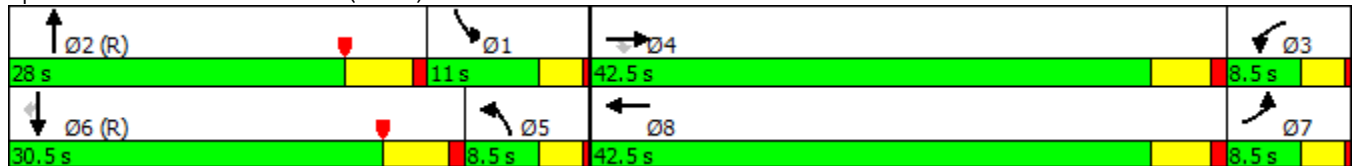


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	85	28	52	284	407	79	947	77	725	111
Future Volume (vph)	85	28	52	284	407	79	947	77	725	111
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



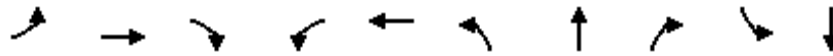
HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	28	52	284	407	257	79	947	82	77	725	111
Future Volume (veh/h)	85	28	52	284	407	257	79	947	82	77	725	111
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	90	30	53	302	433	260	84	1007	86	82	771	109
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	112	95	664	440	264	124	797	68	135	878	393
Arrive On Green	0.06	0.06	0.06	0.41	0.42	0.42	0.03	0.08	0.08	0.03	0.08	0.08
Sat Flow, veh/h	1619	1800	1523	1619	1055	633	1619	3190	272	1619	3420	1530
Grp Volume(v), veh/h	90	30	53	302	0	693	84	540	553	82	771	109
Grp Sat Flow(s),veh/h/ln	1619	1800	1523	1619	0	1688	1619	1710	1752	1619	1710	1530
Q Serve(g_s), s	5.0	1.4	3.0	12.2	0.0	36.6	4.6	22.5	22.5	4.5	20.1	6.0
Cycle Q Clear(g_c), s	5.0	1.4	3.0	12.2	0.0	36.6	4.6	22.5	22.5	4.5	20.1	6.0
Prop In Lane	1.00		1.00	1.00		0.38	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	90	112	95	664	0	703	124	428	438	135	878	393
V/C Ratio(X)	1.00	0.27	0.56	0.46	0.00	0.99	0.68	1.26	1.26	0.61	0.88	0.28
Avail Cap(c_a), veh/h	90	750	634	664	0	703	124	428	438	135	950	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	40.2	41.0	19.3	0.0	26.0	42.8	41.3	41.3	42.3	39.8	33.4
Incr Delay (d2), s/veh	95.1	0.5	1.9	0.2	0.0	30.1	1.1	120.0	120.2	0.5	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.7	1.3	5.5	0.0	22.8	2.1	24.9	25.5	2.0	9.7	2.6
LnGrp Delay(d),s/veh	137.6	40.7	42.9	19.4	0.0	56.0	43.9	161.3	161.4	42.8	41.1	33.5
LnGrp LOS	F	D	D	B		E	D	F	F	D	D	C
Approach Vol, veh/h		173			995			1177			962	
Approach Delay, s/veh		91.8			44.9			153.0			40.4	
Approach LOS		F			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	28.0	40.4	10.6	10.4	28.6	8.5	42.5				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	6.5	24.5	14.2	5.0	6.6	22.1	7.0	38.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	1.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			84.5									
HCM 2010 LOS			F									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

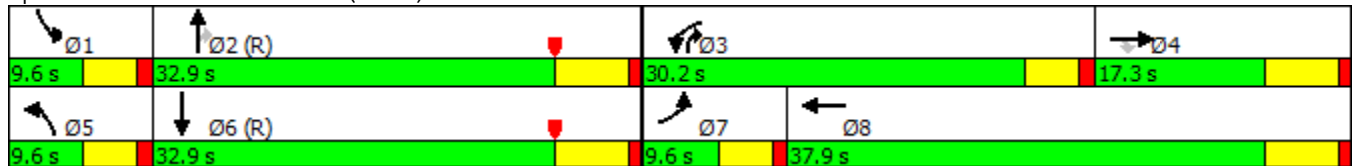


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑	↗	↖↗	↖	↖	↑↑	↗	↖	↖↗
Traffic Volume (vph)	5	236	33	953	179	58	1052	556	99	941
Future Volume (vph)	5	236	33	953	179	58	1052	556	99	941
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



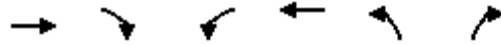
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	236	33	953	179	132	58	1052	556	99	941	15
Future Volume (veh/h)	5	236	33	953	179	132	58	1052	556	99	941	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	238	0	963	181	118	59	1063	384	100	951	10
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	228	194	841	410	267	73	1026	884	90	1076	11
Arrive On Green	0.01	0.13	0.00	0.28	0.40	0.40	0.04	0.30	0.30	0.11	0.62	0.62
Sat Flow, veh/h	1619	1800	1530	2956	1013	660	1619	3420	1496	1619	3466	36
Grp Volume(v), veh/h	5	238	0	963	0	299	59	1063	384	100	469	492
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1674	1619	1710	1496	1619	1710	1793
Q Serve(g_s), s	0.3	11.4	0.0	25.6	0.0	11.7	3.3	27.0	12.9	5.0	20.7	20.7
Cycle Q Clear(g_c), s	0.3	11.4	0.0	25.6	0.0	11.7	3.3	27.0	12.9	5.0	20.7	20.7
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	11	228	194	841	0	677	73	1026	884	90	531	557
V/C Ratio(X)	0.47	1.04	0.00	1.15	0.00	0.44	0.81	1.04	0.43	1.11	0.88	0.88
Avail Cap(c_a), veh/h	90	228	194	841	0	677	90	1026	884	90	531	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.59	0.59	0.59
Uniform Delay (d), s/veh	44.6	39.3	0.0	32.2	0.0	19.4	42.6	31.5	10.5	40.0	15.7	15.7
Incr Delay (d2), s/veh	11.7	71.6	0.0	79.3	0.0	0.6	3.3	19.9	0.1	106.2	12.3	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.2	0.0	19.7	0.0	5.5	1.5	15.5	5.3	4.9	11.2	11.7
LnGrp Delay(d),s/veh	56.2	110.9	0.0	111.5	0.0	20.1	45.9	51.4	10.6	146.2	28.0	27.5
LnGrp LOS	E	F		F		C	D	F	B	F	C	C
Approach Vol, veh/h		243			1262			1506			1061	
Approach Delay, s/veh		109.7			89.8			40.8			38.9	
Approach LOS		F			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.9	30.2	17.3	8.6	33.9	5.2	42.3				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	7.0	29.0	27.6	13.4	5.3	22.7	2.3	13.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.1	0.0	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay			59.6									
HCM 2010 LOS			E									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	624	303	603	1316	73	1078
Future Volume (vph)	624	303	603	1316	73	1078
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	36.0	36.0	40.0	76.0	24.0	24.0
Total Split (%)	36.0%	36.0%	40.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 36 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	624	303	603	1316	73	1078		
Future Volume (veh/h)	624	303	603	1316	73	1078		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	650	0	628	1371	76	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1077	482	874	2975	166	76		
Arrive On Green	0.42	0.00	0.51	0.87	0.05	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	650	0	628	1371	76	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	14.8	0.0	28.3	8.7	2.2	0.0		
Cycle Q Clear(g_c), s	14.8	0.0	28.3	8.7	2.2	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1077	482	874	2975	166	76		
V/C Ratio(X)	0.60	0.00	0.72	0.46	0.46	0.00		
Avail Cap(c_a), veh/h	1077	482	874	2975	682	314		
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00		
Uniform Delay (d), s/veh	24.2	0.0	18.9	1.4	46.2	0.0		
Incr Delay (d2), s/veh	2.5	0.0	0.2	0.0	2.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.2	0.0	13.3	4.0	1.1	0.0		
LnGrp Delay(d),s/veh	26.7	0.0	19.2	1.5	48.1	0.0		
LnGrp LOS	C		B	A	D			
Approach Vol, veh/h	650			1999	76			
Approach Delay, s/veh	26.7			7.0	48.1			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	55.5	36.0				91.5		8.5
Change Period (Y+Rc), s	4.5	* 4.5				4.5		3.5
Max Green Setting (Gmax), s	36.5	* 32				71.5		20.5
Max Q Clear Time (g_c+I1), s	30.3	16.8				10.7		4.2
Green Ext Time (p_c), s	4.2	2.9				12.0		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			12.9					
HCM 2010 LOS			B					
Notes								

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

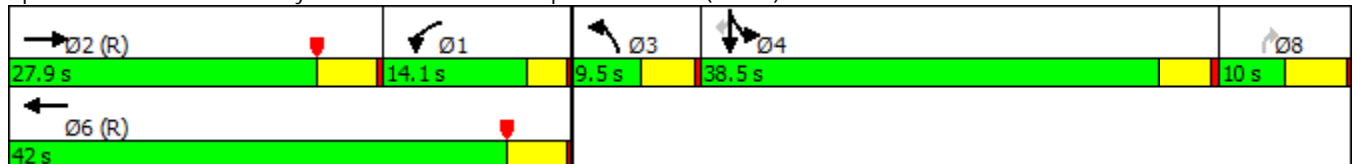


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	847	400	290	63	303	319	21	36
Future Volume (vph)	847	400	290	63	303	319	21	36
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	27.9	14.1	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	27.9%	14.1%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 10 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Future Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	931	19	440	319	0	69	0	333	367	0	40
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	785	16	787	2617	0	0	0	0	453	0	211
Arrive On Green	0.00	0.23	0.23	0.81	1.00	0.00	0.00	0.00	0.00	0.14	0.00	0.14
Sat Flow, veh/h	0	3516	70	1619	3510	0		0		3238	0	1507
Grp Volume(v), veh/h	0	465	485	440	319	0		0.0		367	0	40
Grp Sat Flow(s),veh/h/ln	0	1710	1786	1619	1710	0				1619	0	1507
Q Serve(g_s), s	0.0	22.9	22.9	9.4	0.0	0.0				11.0	0.0	2.3
Cycle Q Clear(g_c), s	0.0	22.9	22.9	9.4	0.0	0.0				11.0	0.0	2.3
Prop In Lane	0.00		0.04	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	392	409	787	2617	0				453	0	211
V/C Ratio(X)	0.00	1.19	1.19	0.56	0.12	0.00				0.81	0.00	0.19
Avail Cap(c_a), veh/h	0	392	409	787	2617	0				1101	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.6	5.7	0.0	0.0				41.7	0.0	38.0
Incr Delay (d2), s/veh	0.0	107.0	106.2	0.5	0.1	0.0				2.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	22.4	23.3	4.0	0.0	0.0				5.1	0.0	1.0
LnGrp Delay(d),s/veh	0.0	145.5	144.7	6.3	0.1	0.0				44.4	0.0	38.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		950			759						407	
Approach Delay, s/veh		145.1			3.7						43.8	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	53.6	27.9		18.5		81.5						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.6	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	11.4	24.9		13.0		2.0						
Green Ext Time (p_c), s	0.0	0.0		1.0		1.8						
Intersection Summary												
HCM 2010 Ctrl Delay	74.9											
HCM 2010 LOS	E											
Notes												

Intersection	
Intersection Delay, s/veh	525.4
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	60	615	0	1085	299	0	201	110
Future Vol, veh/h	0	60	615	0	1085	299	0	201	110
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	70	715	0	1262	348	0	234	128
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	200.4	795	30.8
HCM LOS	F	F	D

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	0%	65%
Vol Thru, %	91%	78%	0%
Vol Right, %	0%	22%	35%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	675	1384	311
LT Vol	60	0	201
Through Vol	615	1085	0
RT Vol	0	299	110
Lane Flow Rate	785	1609	362
Geometry Grp	1	1	1
Degree of Util (X)	1.36	2.722	0.695
Departure Headway (Hd)	8.363	6.673	9.253
Convergence, Y/N	Yes	Yes	Yes
Cap	440	563	394
Service Time	6.363	4.673	7.253
HCM Lane V/C Ratio	1.784	2.858	0.919
HCM Control Delay	200.4	795	30.8
HCM Lane LOS	F	F	D
HCM 95th-tile Q	27.4	120.7	5.1

Intersection

Int Delay, s/veh 496.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	685	170	130	1294	226	113
Future Vol, veh/h	685	170	130	1294	226	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	753	187	143	1422	248	124

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	753	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	866	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	866	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	\$ 3827.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	41	-	-	866	-
HCM Lane V/C Ratio	9.086	-	-	0.165	-
HCM Control Delay (s)	\$ 3827.6	-	-	10	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	44.6	-	-	0.6	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 310.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	578	169	270	1016	427	147
Future Vol, veh/h	578	169	270	1016	427	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	628	184	293	1104	464	160

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	628
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	964
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	964
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	\$ 1406.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	688	-	-	964	-
HCM Lane V/C Ratio	4.991	0.232	-	-	0.304	-
HCM Control Delay (s)	\$ 1886.7	11.8	-	-	10.4	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	49.9	0.9	-	-	1.3	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	27
Intersection LOS	D

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↙		↗						↘	↖	
Traffic Vol, veh/h	0	228	0	183	0	0	0	0	0	321	456	0
Future Vol, veh/h	0	228	0	183	0	0	0	0	0	321	456	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	245	0	197	0	0	0	0	0	345	490	0
Number of Lanes	0	1	0	1	0	0	0	0	0	1	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	2
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	2	2
Conflicting Approach Right	NB	
Conflicting Lanes Right	2	0
HCM Control Delay	17.1	38
HCM LOS	C	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	321	456	228	183	118	251
LT Vol	321	0	228	0	0	0
Through Vol	0	456	0	0	118	0
RT Vol	0	0	0	183	0	251
Lane Flow Rate	345	490	245	197	127	270
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.687	0.921	0.544	0.37	0.262	0.502
Departure Headway (Hd)	7.17	6.759	8.096	6.87	7.42	6.7
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	500	539	449	527	486	540
Service Time	4.97	4.459	5.796	4.57	5.131	4.411
HCM Lane V/C Ratio	0.69	0.909	0.546	0.374	0.261	0.5
HCM Control Delay	24.4	47.5	20	13.5	12.7	16
HCM Lane LOS	C	E	C	B	B	C
HCM 95th-tile Q	5.2	11.2	3.2	1.7	1	2.8

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↑
Traffic Vol, veh/h	0	0	118	251
Future Vol, veh/h	0	0	118	251
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	0	127	270
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	14.9
HCM LOS	B

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

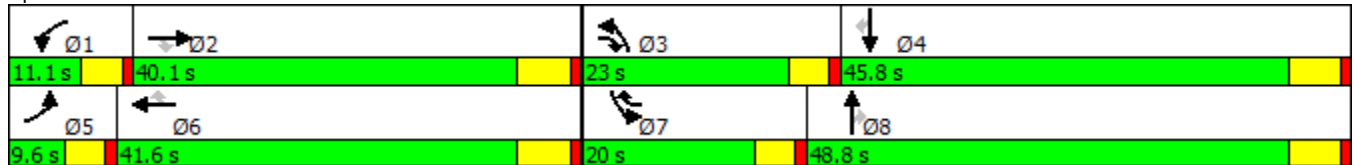


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	649	317	75	1187	274	451	378	54	84	147	15
Future Volume (vph)	9	649	317	75	1187	274	451	378	54	84	147	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	649	317	75	1187	274	451	378	54	84	147	15
Future Volume (veh/h)	9	649	317	75	1187	274	451	378	54	84	147	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	10	705	333	82	1290	265	490	411	49	91	160	15
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1326	875	151	1459	733	561	880	389	156	412	185
Arrive On Green	0.01	0.39	0.39	0.05	0.43	0.43	0.19	0.26	0.26	0.05	0.12	0.12
Sat Flow, veh/h	2956	3420	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	10	705	333	82	1290	265	490	411	49	91	160	15
Grp Sat Flow(s),veh/h/ln	1478	1710	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.3	13.2	9.9	2.2	28.8	9.0	13.4	8.4	2.1	2.5	3.6	0.7
Cycle Q Clear(g_c), s	0.3	13.2	9.9	2.2	28.8	9.0	13.4	8.4	2.1	2.5	3.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	1326	875	151	1459	733	561	880	389	156	412	185
V/C Ratio(X)	0.27	0.53	0.38	0.54	0.88	0.36	0.87	0.47	0.13	0.58	0.39	0.08
Avail Cap(c_a), veh/h	178	1415	914	232	1476	741	656	1773	783	549	1650	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	19.6	9.5	38.4	21.9	13.6	32.6	26.0	23.6	38.4	33.6	32.4
Incr Delay (d2), s/veh	1.5	0.3	0.3	1.1	6.7	0.3	10.1	0.4	0.1	1.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.2	4.1	0.9	14.8	3.8	6.2	4.0	0.9	1.1	1.7	0.3
LnGrp Delay(d),s/veh	42.0	19.9	9.8	39.5	28.6	13.9	42.7	26.4	23.8	39.7	34.2	32.6
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1048			1637			950			266	
Approach Delay, s/veh		16.9			26.8			34.7			36.0	
Approach LOS		B			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.0	20.3	15.8	5.6	41.2	9.0	27.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.2	15.2	15.4	5.6	2.3	30.8	4.5	10.4				
Green Ext Time (p_c), s	0.0	15.3	0.4	4.3	0.0	4.6	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0.1

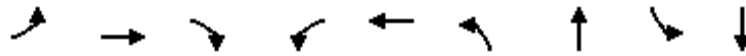
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	744	29	0	1703	0	12
Future Vol, veh/h	744	29	0	1703	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	809	32	0	1851	0	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	420
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.9
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	588
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	588
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	588	-	-	-
HCM Lane V/C Ratio	0.022	-	-	-
HCM Control Delay (s)	11.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Timings
13: Driveway 2 & Merrill Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	21	720	14	79	1627	13	0	82	0
Future Volume (vph)	21	720	14	79	1627	13	0	82	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases			2			8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	31.6	31.6	31.6	31.6
Total Split (s)	9.8	49.3	49.3	19.0	58.5	31.7	31.7	31.7	31.7
Total Split (%)	9.8%	49.3%	49.3%	19.0%	58.5%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2		4.6		4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 79.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated




















Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	720	14	79	1627	28	13	0	17	82	0	63
Future Volume (veh/h)	21	720	14	79	1627	28	13	0	17	82	0	63
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	23	783	15	86	1768	30	14	0	18	89	0	68
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	41	2020	904	107	2174	37	141	23	123	180	11	89
Arrive On Green	0.03	0.59	0.59	0.07	0.63	0.63	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	1619	3420	1530	1619	3441	58	525	169	892	763	83	646
Grp Volume(v), veh/h	23	783	15	86	877	921	32	0	0	157	0	0
Grp Sat Flow(s),veh/h/ln	1619	1710	1530	1619	1710	1790	1587	0	0	1493	0	0
Q Serve(g_s), s	1.1	9.1	0.3	3.9	29.1	29.3	0.0	0.0	0.0	6.3	0.0	0.0
Cycle Q Clear(g_c), s	1.1	9.1	0.3	3.9	29.1	29.3	1.3	0.0	0.0	7.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.44		0.56	0.57		0.43
Lane Grp Cap(c), veh/h	41	2020	904	107	1080	1130	288	0	0	281	0	0
V/C Ratio(X)	0.56	0.39	0.02	0.80	0.81	0.81	0.11	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	112	2020	904	311	1192	1247	611	0	0	608	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.2	8.2	6.4	34.5	10.4	10.5	28.5	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	11.4	0.1	0.0	5.1	4.0	4.0	0.2	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.3	0.1	1.9	14.6	15.6	0.6	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	47.5	8.3	6.4	39.6	14.5	14.4	28.6	0.0	0.0	32.8	0.0	0.0
LnGrp LOS	D	A	A	D	B	B	C			C		
Approach Vol, veh/h		821			1884			32			157	
Approach Delay, s/veh		9.3			15.6			28.6			32.8	
Approach LOS		A			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	50.5		14.9	6.5	53.6		14.9				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	14.4	43.1		27.1	5.2	52.3		27.1				
Max Q Clear Time (g_c+I1), s	5.9	11.1		9.5	3.1	31.3		3.3				
Green Ext Time (p_c), s	0.0	22.9		1.0	0.0	16.1		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↘	↑↑↑	↑↑↑
Traffic Volume (vph)	4	508	758	1438	538
Future Volume (vph)	4	508	758	1438	538
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	574	4	508	758	1438	0	0	538	196
Future Volume (veh/h)	0	0	0	574	4	508	758	1438	0	0	538	196
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				638	4	388	842	1598	0	0	598	138
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				435	3	391	599	3014	0	0	912	202
Arrive On Green				0.26	0.26	0.26	0.74	1.00	0.00	0.00	0.18	0.18
Sat Flow, veh/h				1704	11	1530	1619	5076	0	0	5358	1131
Grp Volume(v), veh/h				642	0	388	842	1598	0	0	542	194
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1593
Q Serve(g_s), s				23.0	0.0	22.8	33.3	0.0	0.0	0.0	9.8	10.3
Cycle Q Clear(g_c), s				23.0	0.0	22.8	33.3	0.0	0.0	0.0	9.8	10.3
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.71
Lane Grp Cap(c), veh/h				438	0	391	599	3014	0	0	829	285
V/C Ratio(X)				1.46	0.00	0.99	1.40	0.53	0.00	0.00	0.65	0.68
Avail Cap(c_a), veh/h				438	0	391	599	3014	0	0	1404	481
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	33.4	11.7	0.0	0.0	0.0	34.4	34.6
Incr Delay (d2), s/veh				221.5	0.0	43.5	183.0	0.1	0.0	0.0	4.0	12.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				37.8	0.0	21.5	44.4	0.0	0.0	0.0	4.5	5.5
LnGrp Delay(d),s/veh				255.0	0.0	76.9	194.6	0.1	0.0	0.0	38.3	47.1
LnGrp LOS				F		E	F	A			D	D
Approach Vol, veh/h					1030			2440			736	
Approach Delay, s/veh					187.9			67.2			40.7	
Approach LOS					F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	39.1	21.9						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	35.3	12.3						
Green Ext Time (p_c), s		19.0		0.0	0.0	3.8						
Intersection Summary												
HCM 2010 Ctrl Delay				92.1								
HCM 2010 LOS				F								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	3	558	1785	128	984
Future Volume (vph)	3	558	1785	128	984
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

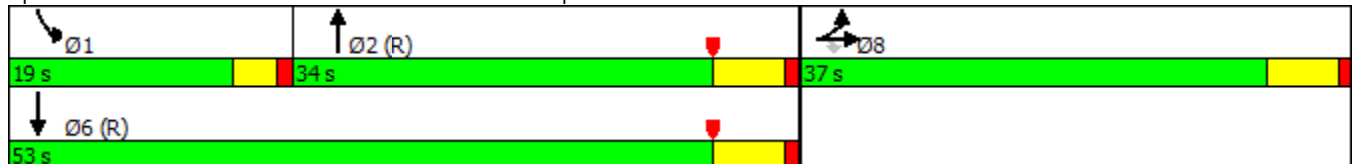
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated


















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



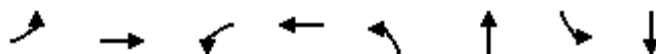
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	411	3	558	0	0	0	0	1785	580	128	984	0
Future Volume (veh/h)	411	3	558	0	0	0	0	1785	580	128	984	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	442	3	390				0	1919	506	138	1058	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	503	3	446				0	2103	551	169	2829	0
Arrive On Green	0.30	0.30	0.30				0.00	0.43	0.43	0.03	0.19	0.00
Sat Flow, veh/h	1703	12	1508				0	5179	1290	1619	5076	0
Grp Volume(v), veh/h	445	0	390				0	1808	617	138	1058	0
Grp Sat Flow(s),veh/h/ln	1715	0	1508				0	1548	1572	1619	1638	0
Q Serve(g_s), s	22.2	0.0	22.1				0.0	32.9	33.3	7.6	16.9	0.0
Cycle Q Clear(g_c), s	22.2	0.0	22.1				0.0	32.9	33.3	7.6	16.9	0.0
Prop In Lane	0.99		1.00				0.00		0.82	1.00		0.00
Lane Grp Cap(c), veh/h	507	0	446				0	1983	671	169	2829	0
V/C Ratio(X)	0.88	0.00	0.88				0.00	0.91	0.92	0.82	0.37	0.00
Avail Cap(c_a), veh/h	594	0	523				0	1983	671	270	2829	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.72	0.72	0.00
Uniform Delay (d), s/veh	30.2	0.0	30.1				0.0	24.2	24.3	42.6	22.3	0.0
Incr Delay (d2), s/veh	12.6	0.0	13.7				0.0	0.8	2.6	3.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.0	10.8				0.0	14.0	14.9	3.6	7.8	0.0
LnGrp Delay(d),s/veh	42.8	0.0	43.8				0.0	25.0	26.9	45.9	22.6	0.0
LnGrp LOS	D		D					C	C	D	C	
Approach Vol, veh/h		835						2425			1196	
Approach Delay, s/veh		43.3						25.5			25.3	
Approach LOS		D						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	13.4	44.2				57.6		32.4				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	9.6	35.3				18.9		24.2				
Green Ext Time (p_c), s	0.1	0.0				25.2		2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			28.8									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

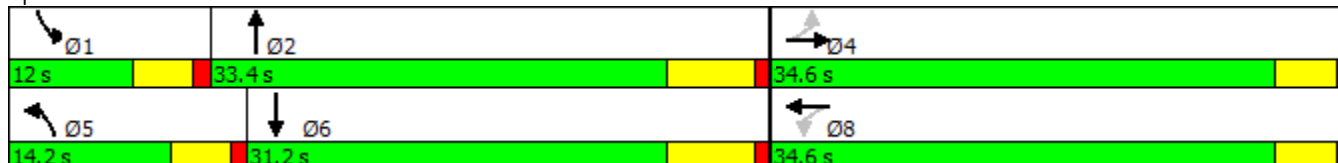


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	38	10	154	29	68	1951	120	1100
Future Volume (vph)	38	10	154	29	68	1951	120	1100
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

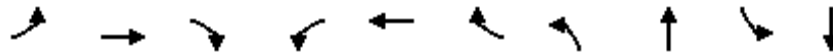
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	10	22	154	29	243	68	1951	69	120	1100	17
Future Volume (veh/h)	38	10	22	154	29	243	68	1951	69	120	1100	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	43	11	16	173	33	136	76	2192	77	135	1236	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	263	146	212	387	68	278	94	2102	74	166	2373	35
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.43	0.43	0.10	0.48	0.48
Sat Flow, veh/h	1167	658	957	1309	304	1255	1619	4875	171	1619	4990	73
Grp Volume(v), veh/h	43	0	27	173	0	169	76	1470	799	135	811	443
Grp Sat Flow(s),veh/h/ln	1167	0	1614	1309	0	1559	1619	1638	1770	1619	1638	1786
Q Serve(g_s), s	2.1	0.0	0.8	7.6	0.0	6.0	2.9	27.2	27.2	5.1	10.9	10.9
Cycle Q Clear(g_c), s	8.1	0.0	0.8	8.4	0.0	6.0	2.9	27.2	27.2	5.1	10.9	10.9
Prop In Lane	1.00		0.59	1.00		0.80	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	263	0	358	387	0	346	94	1413	763	166	1558	850
V/C Ratio(X)	0.16	0.00	0.08	0.45	0.00	0.49	0.80	1.04	1.05	0.81	0.52	0.52
Avail Cap(c_a), veh/h	559	0	768	719	0	742	246	1413	763	190	1558	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	19.4	22.8	0.0	21.4	29.3	17.9	17.9	27.7	11.5	11.5
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.8	0.0	1.1	5.9	35.3	45.3	18.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	2.8	0.0	2.6	1.5	19.1	22.8	3.1	4.9	5.4
LnGrp Delay(d),s/veh	25.2	0.0	19.5	23.6	0.0	22.5	35.2	53.3	63.3	45.7	11.8	12.1
LnGrp LOS	C		B	C		C	D	F	F	D	B	B
Approach Vol, veh/h		70			342			2345			1389	
Approach Delay, s/veh		23.0			23.0			56.1			15.2	
Approach LOS		C			C			E			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	33.4		18.6	8.3	36.2		18.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	7.1	29.2		10.1	4.9	12.9		10.4				
Green Ext Time (p_c), s	0.0	0.0		1.9	0.0	11.4		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				39.1								
HCM 2010 LOS				D								

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

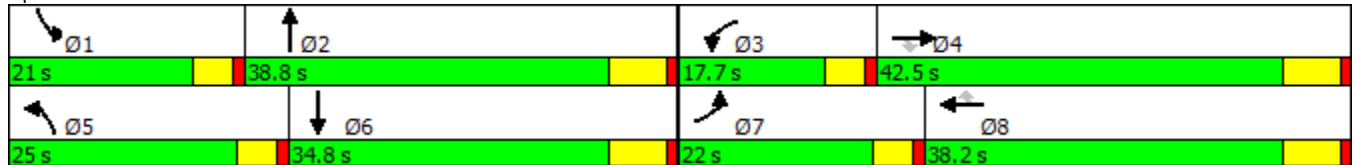


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↓	↘	↑↑↓
Traffic Volume (vph)	207	379	202	149	524	371	266	1262	304	812
Future Volume (vph)	207	379	202	149	524	371	266	1262	304	812
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	379	202	149	524	371	266	1262	154	304	812	206
Future Volume (veh/h)	207	379	202	149	524	371	266	1262	154	304	812	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	230	421	191	166	582	319	296	1402	161	338	902	156
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	239	992	438	180	867	380	280	1236	142	225	1023	176
Arrive On Green	0.15	0.29	0.29	0.11	0.25	0.25	0.17	0.28	0.28	0.14	0.24	0.24
Sat Flow, veh/h	1619	3420	1509	1619	3420	1498	1619	4470	513	1619	4218	726
Grp Volume(v), veh/h	230	421	191	166	582	319	296	1028	535	338	700	358
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1498	1619	1638	1707	1619	1638	1669
Q Serve(g_s), s	16.6	11.7	12.1	12.0	18.0	23.8	20.4	32.6	32.6	16.4	24.3	24.4
Cycle Q Clear(g_c), s	16.6	11.7	12.1	12.0	18.0	23.8	20.4	32.6	32.6	16.4	24.3	24.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.44
Lane Grp Cap(c), veh/h	239	992	438	180	867	380	280	906	472	225	795	405
V/C Ratio(X)	0.96	0.42	0.44	0.92	0.67	0.84	1.06	1.13	1.13	1.50	0.88	0.89
Avail Cap(c_a), veh/h	239	1053	465	180	928	407	280	906	472	225	795	405
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	33.9	34.0	51.9	39.6	41.7	48.7	42.6	42.6	50.7	43.0	43.1
Incr Delay (d2), s/veh	47.3	0.3	0.7	44.8	1.7	13.8	69.5	74.1	83.8	247.2	11.2	20.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	5.6	5.1	7.6	8.7	11.3	14.4	23.9	26.2	22.7	12.2	13.5
LnGrp Delay(d),s/veh	97.3	34.2	34.7	96.7	41.3	55.5	118.2	116.8	126.5	297.9	54.2	63.3
LnGrp LOS	F	C	C	F	D	E	F	F	F	F	D	E
Approach Vol, veh/h		842			1067			1859			1396	
Approach Delay, s/veh		51.5			54.2			119.8			115.6	
Approach LOS		D			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	38.8	17.7	40.4	25.0	34.8	22.0	36.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	18.4	34.6	14.0	14.1	22.4	26.4	18.6	25.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	2.0	0.0	3.8				
Intersection Summary												
HCM 2010 Ctrl Delay			94.0									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

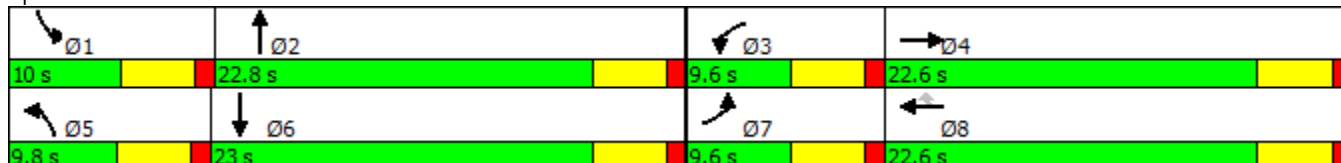


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↖↗↘	↖	↖↗
Traffic Volume (vph)	34	47	51	79	185	71	1451	91	1055
Future Volume (vph)	34	47	51	79	185	71	1451	91	1055
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 53.4
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	47	30	51	79	185	71	1451	66	91	1055	37
Future Volume (veh/h)	34	47	30	51	79	185	71	1451	66	91	1055	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	37	52	24	56	87	79	78	1595	69	100	1159	36
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	119	55	89	210	179	109	1831	79	125	1316	41
Arrive On Green	0.04	0.10	0.10	0.05	0.12	0.12	0.07	0.38	0.38	0.08	0.39	0.39
Sat Flow, veh/h	1619	1167	538	1619	1800	1530	1619	4830	209	1619	3386	105
Grp Volume(v), veh/h	37	0	76	56	87	79	78	1082	582	100	585	610
Grp Sat Flow(s),veh/h/ln	1619	0	1705	1619	1800	1530	1619	1638	1763	1619	1710	1781
Q Serve(g_s), s	1.1	0.0	2.0	1.6	2.1	2.3	2.2	14.6	14.6	2.9	15.1	15.2
Cycle Q Clear(g_c), s	1.1	0.0	2.0	1.6	2.1	2.3	2.2	14.6	14.6	2.9	15.1	15.2
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.12	1.00		0.06
Lane Grp Cap(c), veh/h	66	0	175	89	210	179	109	1242	668	125	664	692
V/C Ratio(X)	0.56	0.00	0.44	0.63	0.41	0.44	0.71	0.87	0.87	0.80	0.88	0.88
Avail Cap(c_a), veh/h	170	0	645	170	681	578	177	1252	674	184	664	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	20.1	22.0	19.5	19.6	21.7	13.7	13.7	21.6	13.5	13.5
Incr Delay (d2), s/veh	7.3	0.0	1.7	7.1	1.3	1.7	8.3	6.9	11.9	14.4	13.1	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.0	0.9	1.1	1.1	1.2	7.6	9.2	1.8	9.4	9.7
LnGrp Delay(d),s/veh	29.7	0.0	21.8	29.1	20.8	21.3	30.0	20.6	25.6	36.0	26.6	26.2
LnGrp LOS	C		C	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h		113			222			1742			1295	
Approach Delay, s/veh		24.4			23.1			22.7			27.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	22.6	7.2	9.5	7.8	23.1	6.5	10.2				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.9	16.6	3.6	4.0	4.2	17.2	3.1	4.3				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.8	0.0	1.2	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.5									
HCM 2010 LOS			C									

Intersection												
Int Delay, s/veh	18.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	6	9	20	11	27	13	20	1510	7	4	1136	4
Future Vol, veh/h	6	9	20	11	27	13	20	1510	7	4	1136	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	10	22	12	29	14	22	1641	8	4	1235	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2125	2938	620	2320	2937	824	1239	0	0	1649	0	0
Stage 1	1246	1246	-	1689	1689	-	-	-	-	-	-	-
Stage 2	879	1692	-	631	1248	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	29	15	436	21	~ 15	320	569	-	-	397	-	-
Stage 1	187	248	-	99	151	-	-	-	-	-	-	-
Stage 2	313	151	-	440	247	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	14	436	~ 8	~ 14	320	569	-	-	397	-	-
Mov Cap-2 Maneuver	-	14	-	~ 8	~ 14	-	-	-	-	-	-	-
Stage 1	180	246	-	95	145	-	-	-	-	-	-	-
Stage 2	229	145	-	397	245	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 984.4	0.2	0
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	569	-	-	-	42	8	20	397	-	-
HCM Lane V/C Ratio	0.038	-	-	-	0.751	1.495	2.174	0.011	-	-
HCM Control Delay (s)	11.6	-	-	-	213.9	1127.6	\$ 945	14.2	-	-
HCM Lane LOS	B	-	-	-	F	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	2.8	2.4	5.8	0	-	-

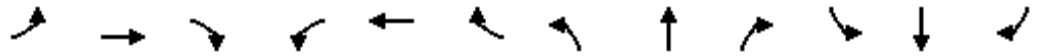
Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

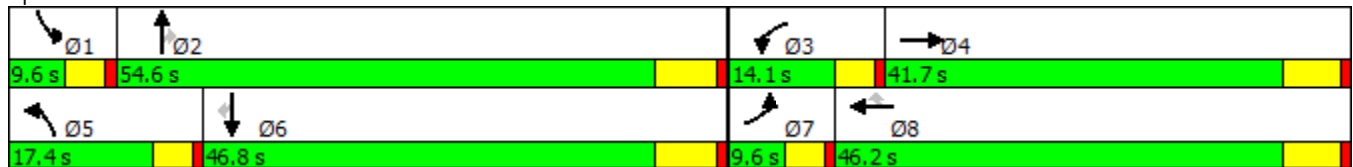


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗	↘	↖	↗↗	↘	↖	↗↗	↘
Traffic Volume (vph)	37	246	79	476	370	87	191	1377	425	79	1000	51
Future Volume (vph)	37	246	79	476	370	87	191	1377	425	79	1000	51
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

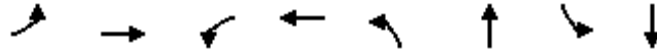
Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	246	79	476	370	87	191	1377	425	79	1000	51
Future Volume (veh/h)	37	246	79	476	370	87	191	1377	425	79	1000	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	39	262	0	506	394	45	203	1465	0	84	1064	35
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	687	307	266	466	396	196	1552	695	77	1300	581
Arrive On Green	0.03	0.20	0.00	0.09	0.26	0.26	0.12	0.45	0.00	0.05	0.38	0.38
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	39	262	0	506	394	45	203	1465	0	84	1064	35
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	1.4	7.0	0.0	9.5	21.9	2.4	12.8	43.2	0.0	5.0	29.5	1.5
Cycle Q Clear(g_c), s	1.4	7.0	0.0	9.5	21.9	2.4	12.8	43.2	0.0	5.0	29.5	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	687	307	266	466	396	196	1552	695	77	1300	581
V/C Ratio(X)	0.41	0.38	0.00	1.90	0.85	0.11	1.03	0.94	0.00	1.09	0.82	0.06
Avail Cap(c_a), veh/h	140	1151	515	266	683	580	196	1560	698	77	1307	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	36.5	0.0	48.0	37.1	29.9	46.3	27.5	0.0	50.2	29.4	20.7
Incr Delay (d2), s/veh	1.0	0.3	0.0	419.0	6.5	0.1	73.2	11.9	0.0	130.8	4.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.3	0.0	19.3	11.7	1.0	9.7	22.9	0.0	5.0	14.7	0.7
LnGrp Delay(d),s/veh	51.1	36.8	0.0	467.0	43.6	30.0	119.6	39.5	0.0	181.6	33.6	20.8
LnGrp LOS	D	D		F	D	C	F	D		F	C	C
Approach Vol, veh/h		301			945			1668			1183	
Approach Delay, s/veh		38.7			269.7			49.2			43.8	
Approach LOS		D			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	54.4	14.1	27.4	17.4	46.6	8.0	33.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	7.0	45.2	11.5	9.0	14.8	31.5	3.4	23.9				
Green Ext Time (p_c), s	0.0	2.7	0.0	3.9	0.0	7.6	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				97.7								
HCM 2010 LOS				F								

Timings
21: Archibald Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	29	0	60	0	23	1856	40	1510
Future Volume (vph)	29	0	60	0	23	1856	40	1510
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	38.2	38.2	38.2	38.2	9.7	72.2	9.6	72.1
Total Split (%)	31.8%	31.8%	31.8%	31.8%	8.1%	60.2%	8.0%	60.1%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.

Ø1	Ø2	Ø4
9.6 s	72.2 s	38.2 s
Ø5	Ø6	Ø8
9.7 s	72.1 s	38.2 s

HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

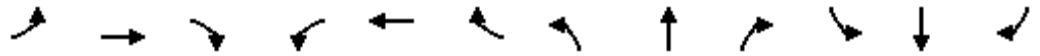
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	0	68	60	0	121	23	1856	46	40	1510	10
Future Volume (veh/h)	29	0	68	60	0	121	23	1856	46	40	1510	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	30	0	70	62	0	95	24	1913	46	41	1557	10
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	91	20	144	121	12	123	40	2272	54	56	2353	15
Arrive On Green	0.13	0.00	0.13	0.13	0.00	0.13	0.02	0.67	0.67	0.03	0.68	0.68
Sat Flow, veh/h	325	151	1110	526	94	951	1619	3414	82	1619	3484	22
Grp Volume(v), veh/h	100	0	0	157	0	0	24	954	1005	41	764	803
Grp Sat Flow(s),veh/h/ln	1586	0	0	1571	0	0	1619	1710	1786	1619	1710	1796
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	1.4	40.5	41.2	2.4	25.1	25.1
Cycle Q Clear(g_c), s	5.5	0.0	0.0	9.0	0.0	0.0	1.4	40.5	41.2	2.4	25.1	25.1
Prop In Lane	0.30		0.70	0.39		0.61	1.00		0.05	1.00		0.01
Lane Grp Cap(c), veh/h	255	0	0	256	0	0	40	1138	1188	56	1155	1213
V/C Ratio(X)	0.39	0.00	0.00	0.61	0.00	0.00	0.60	0.84	0.85	0.73	0.66	0.66
Avail Cap(c_a), veh/h	577	0	0	568	0	0	86	1173	1224	84	1171	1230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	0.0	40.0	0.0	0.0	46.3	12.1	12.3	45.8	9.1	9.1
Incr Delay (d2), s/veh	1.0	0.0	0.0	2.4	0.0	0.0	13.7	5.4	5.5	6.6	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.2	0.0	0.0	0.8	20.5	21.9	1.2	12.1	12.7
LnGrp Delay(d),s/veh	39.7	0.0	0.0	42.4	0.0	0.0	59.9	17.6	17.8	52.4	10.5	10.4
LnGrp LOS	D			D			E	B	B	D	B	B
Approach Vol, veh/h		100			157			1983			1608	
Approach Delay, s/veh		39.7			42.4			18.2			11.5	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	70.3		17.6	7.0	71.2		17.6				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	5.0	65.7		* 34	5.1	65.6		33.0				
Max Q Clear Time (g_c+I1), s	4.4	43.2		7.5	3.4	27.1		11.0				
Green Ext Time (p_c), s	0.0	20.5		1.6	0.0	33.2		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

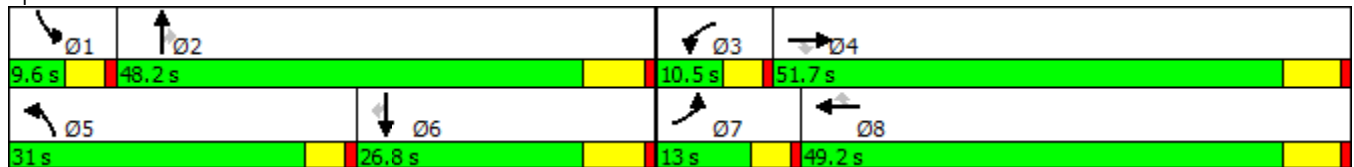


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	470	67	283	186	135	93	746	1351	83	79	698	854
Future Volume (vph)	470	67	283	186	135	93	746	1351	83	79	698	854
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	13.0	51.7	51.7	10.5	49.2	49.2	31.0	48.2	48.2	9.6	26.8	26.8
Total Split (%)	10.8%	43.1%	43.1%	8.8%	41.0%	41.0%	25.8%	40.2%	40.2%	8.0%	22.3%	22.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	67	283	186	135	93	746	1351	83	79	698	854
Future Volume (veh/h)	470	67	283	186	135	93	746	1351	83	79	698	854
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	485	69	240	192	139	33	769	1393	70	81	720	823
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	347	295	104	298	253	463	1569	702	140	752	337
Arrive On Green	0.09	0.19	0.19	0.06	0.17	0.17	0.29	0.46	0.46	0.05	0.22	0.22
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	485	69	240	192	139	33	769	1393	70	81	720	823
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	8.4	3.0	13.9	5.9	6.4	1.7	26.4	34.3	2.4	2.5	19.2	20.3
Cycle Q Clear(g_c), s	8.4	3.0	13.9	5.9	6.4	1.7	26.4	34.3	2.4	2.5	19.2	20.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	347	295	104	298	253	463	1569	702	140	752	337
V/C Ratio(X)	3.29	0.20	0.81	1.85	0.47	0.13	1.66	0.89	0.10	0.58	0.96	2.45
Avail Cap(c_a), veh/h	147	888	754	104	839	713	463	1569	702	160	752	337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	31.3	35.7	43.2	34.8	32.8	32.9	22.8	14.2	43.0	35.6	36.0
Incr Delay (d2), s/veh	1048.0	0.3	5.4	419.2	1.1	0.2	306.5	6.6	0.1	1.6	22.8	659.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	46.6	1.5	6.3	14.7	3.3	0.7	51.1	17.5	1.0	1.0	11.4	70.2
LnGrp Delay(d),s/veh	1090.0	31.6	41.1	462.4	36.0	33.1	339.4	29.4	14.2	44.6	58.3	695.2
LnGrp LOS	F	C	D	F	D	C	F	C	B	D	E	F
Approach Vol, veh/h		794			364			2232			1624	
Approach Delay, s/veh		680.9			260.6			135.8			380.4	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	48.8	10.5	24.0	31.0	26.8	13.0	21.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	41.7	5.9	45.5	26.4	20.3	8.4	43.0				
Max Q Clear Time (g_c+I1), s	4.5	36.3	7.9	15.9	28.4	22.3	10.4	8.4				
Green Ext Time (p_c), s	0.0	5.0	0.0	1.9	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			310.4									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	7	0	2180	1132	35
Future Vol, veh/h	0	7	0	2180	1132	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	8	0	2370	1230	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	634	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.1	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	365	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	365	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	365	-	-
HCM Lane V/C Ratio	-	0.021	-	-
HCM Control Delay (s)	-	15.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Timings

24: Archibald Av. & Driveway 4/Victoria Ln.

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↘	↘	↑↑↑	↘	↑↑↑	↘
Traffic Volume (vph)	22	0	54	0	78	2016	33	1076	30
Future Volume (vph)	22	0	54	0	78	2016	33	1076	30
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	35.6	35.6	35.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	35.6	35.6	35.6	35.6	25.2	74.6	9.8	59.2	59.2
Total Split (%)	29.7%	29.7%	29.7%	29.7%	21.0%	62.2%	8.2%	49.3%	49.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4/Victoria Ln.



HCM 2010 Signalized Intersection Summary
 24: Archibald Av. & Driveway 4/Victoria Ln.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	8	54	0	141	78	2016	174	33	1076	30
Future Volume (veh/h)	22	0	8	54	0	141	78	2016	174	33	1076	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	24	0	9	59	0	153	85	2191	189	36	1170	33
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	140	0	226	269	0	226	107	3024	258	53	3055	951
Arrive On Green	0.15	0.00	0.15	0.15	0.00	0.15	0.07	0.66	0.66	0.03	0.62	0.62
Sat Flow, veh/h	1184	0	1530	1349	0	1530	1619	4613	394	1619	4914	1530
Grp Volume(v), veh/h	24	0	9	59	0	153	85	1549	831	36	1170	33
Grp Sat Flow(s),veh/h/ln	1184	0	1530	1349	0	1530	1619	1638	1731	1619	1638	1530
Q Serve(g_s), s	1.8	0.0	0.5	3.7	0.0	8.9	4.9	29.0	29.9	2.1	11.1	0.8
Cycle Q Clear(g_c), s	10.7	0.0	0.5	4.2	0.0	8.9	4.9	29.0	29.9	2.1	11.1	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	140	0	226	269	0	226	107	2148	1135	53	3055	951
V/C Ratio(X)	0.17	0.00	0.04	0.22	0.00	0.68	0.79	0.72	0.73	0.69	0.38	0.03
Avail Cap(c_a), veh/h	356	0	505	515	0	505	355	2387	1261	90	3055	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	0.0	34.3	36.1	0.0	37.9	43.2	10.6	10.7	44.9	8.8	6.9
Incr Delay (d2), s/veh	0.6	0.0	0.1	0.4	0.0	3.5	12.2	1.0	2.0	14.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	1.4	0.0	4.0	2.5	13.2	14.7	1.1	5.0	0.3
LnGrp Delay(d),s/veh	43.5	0.0	34.4	36.5	0.0	41.4	55.4	11.5	12.7	59.6	8.9	6.9
LnGrp LOS	D		C	D		D	E	B	B	E	A	A
Approach Vol, veh/h		33			212			2465			1239	
Approach Delay, s/veh		41.0			40.0			13.4			10.3	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	67.7		18.5	10.8	64.6		18.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.2	68.4		31.0	20.6	53.0		31.0				
Max Q Clear Time (g_c+I1), s	4.1	31.9		12.7	6.9	13.1		10.9				
Green Ext Time (p_c), s	0.0	29.7		1.2	0.1	34.7		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				14.1								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	7	0	2268	1118	20
Future Vol, veh/h	0	7	0	2268	1118	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	8	0	2465	1215	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	608	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.1	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	380	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	380	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	380	-	-
HCM Lane V/C Ratio	-	0.02	-	-
HCM Control Delay (s)	-	14.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↑	↷	↶	↷
Traffic Volume (vph)	654	1148	984	438	430	675
Future Volume (vph)	654	1148	984	438	430	675
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	654	1148	984	438	430	675		
Future Volume (veh/h)	654	1148	984	438	430	675		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	681	1131	1025	456	448	703		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	467	713	814	1095	332	1241		
Arrive On Green	0.26	0.26	0.43	0.43	0.18	0.65		
Sat Flow, veh/h	1810	1615	1900	1581	1810	1900		
Grp Volume(v), veh/h	681	1131	1025	456	448	703		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1810	1900		
Q Serve(g_s), s	31.0	31.0	51.4	15.2	22.0	24.4		
Cycle Q Clear(g_c), s	31.0	31.0	51.4	15.2	22.0	24.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	467	713	814	1095	332	1241		
V/C Ratio(X)	1.46	1.59	1.26	0.42	1.35	0.57		
Avail Cap(c_a), veh/h	467	713	814	1095	332	1246		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	44.5	33.5	34.3	8.3	49.0	11.4		
Incr Delay (d2), s/veh	217.2	270.2	126.7	0.3	176.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	43.7	77.1	55.5	12.3	27.2	12.8		
LnGrp Delay(d),s/veh	261.7	303.7	161.0	8.6	225.4	11.8		
LnGrp LOS	F	F	F	A	F	B		
Approach Vol, veh/h	1812		1481			1151		
Approach Delay, s/veh	287.9		114.0			94.9		
Approach LOS	F		F			F		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.0	56.7				83.7		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	22.0	51.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	24.0	53.4				26.4		33.0
Green Ext Time (p_c), s	0.0	0.0				23.6		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			180.0					
HCM 2010 LOS			F					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

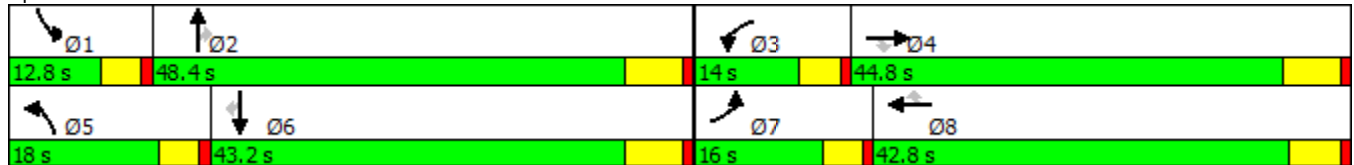


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	420	570	134	184	783	130	380	990	167	124	725	476
Future Volume (vph)	420	570	134	184	783	130	380	990	167	124	725	476
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	18.0	48.4	48.4	12.8	43.2	43.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	15.0%	40.3%	40.3%	10.7%	36.0%	36.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	570	134	184	783	130	380	990	167	124	725	476
Future Volume (veh/h)	420	570	134	184	783	130	380	990	167	124	725	476
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	472	640	100	207	880	115	427	1112	131	139	815	365
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	365	1520	464	268	1377	421	429	1955	599	199	1616	496
Arrive On Green	0.10	0.29	0.29	0.08	0.27	0.27	0.12	0.38	0.38	0.06	0.31	0.31
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1590	3510	5187	1593
Grp Volume(v), veh/h	472	640	100	207	880	115	427	1112	131	139	815	365
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1590	1755	1729	1593
Q Serve(g_s), s	11.4	10.9	5.2	6.3	16.5	6.3	13.3	18.6	6.1	4.3	14.1	22.4
Cycle Q Clear(g_c), s	11.4	10.9	5.2	6.3	16.5	6.3	13.3	18.6	6.1	4.3	14.1	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	1520	464	268	1377	421	429	1955	599	199	1616	496
V/C Ratio(X)	1.29	0.42	0.22	0.77	0.64	0.27	1.00	0.57	0.22	0.70	0.50	0.74
Avail Cap(c_a), veh/h	365	1825	557	301	1750	535	429	1996	612	262	1750	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	31.3	29.3	49.7	35.6	31.9	48.1	27.1	23.2	50.8	30.8	33.7
Incr Delay (d2), s/veh	151.1	0.2	0.2	8.9	0.5	0.3	42.2	0.4	0.2	2.8	0.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	5.2	2.3	3.4	7.9	2.8	8.9	8.9	2.7	2.1	6.8	10.6
LnGrp Delay(d),s/veh	200.3	31.4	29.5	58.7	36.1	32.2	90.3	27.5	23.4	53.6	31.1	38.5
LnGrp LOS	F	C	C	E	D	C	F	C	C	D	C	D
Approach Vol, veh/h		1212			1202			1670			1319	
Approach Delay, s/veh		97.0			39.6			43.2			35.5	
Approach LOS		F			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	47.6	13.0	38.3	18.0	40.4	16.0	35.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	13.4	37.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	6.3	20.6	8.3	12.9	15.3	24.4	13.4	18.5				
Green Ext Time (p_c), s	0.0	14.6	0.0	11.9	0.0	9.7	0.0	10.0				
Intersection Summary												
HCM 2010 Ctrl Delay			52.6									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

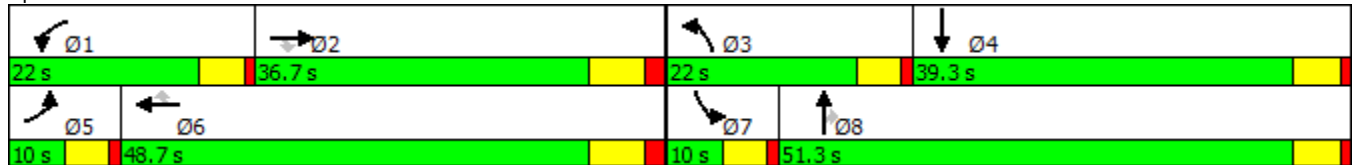


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	42	877	25	152	1633	48	147	64	251	153	87
Future Volume (vph)	42	877	25	152	1633	48	147	64	251	153	87
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	36.7	36.7	22.0	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	30.6%	30.6%	18.3%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	877	25	152	1633	48	147	64	251	153	87	113
Future Volume (veh/h)	42	877	25	152	1633	48	147	64	251	153	87	113
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	953	25	165	1775	52	160	70	239	166	95	102
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	68	1976	615	199	1637	717	194	403	342	98	132	142
Arrive On Green	0.04	0.38	0.38	0.11	0.45	0.45	0.11	0.21	0.21	0.05	0.16	0.16
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1613	1810	832	893
Grp Volume(v), veh/h	46	953	25	165	1775	52	160	70	239	166	0	197
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1613	1810	0	1725
Q Serve(g_s), s	2.3	12.8	0.9	8.2	41.7	1.7	8.0	2.8	12.6	5.0	0.0	10.0
Cycle Q Clear(g_c), s	2.3	12.8	0.9	8.2	41.7	1.7	8.0	2.8	12.6	5.0	0.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	68	1976	615	199	1637	717	194	403	342	98	0	275
V/C Ratio(X)	0.68	0.48	0.04	0.83	1.08	0.07	0.82	0.17	0.70	1.69	0.00	0.72
Avail Cap(c_a), veh/h	98	1976	615	334	1637	717	334	950	807	98	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.7	21.6	17.9	40.1	25.1	14.2	40.2	29.6	33.5	43.5	0.0	36.7
Incr Delay (d2), s/veh	4.3	0.2	0.0	3.3	48.9	0.0	3.3	0.2	2.6	349.1	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	6.1	0.4	4.3	31.8	0.7	4.2	1.5	5.9	12.0	0.0	5.0
LnGrp Delay(d),s/veh	48.0	21.8	17.9	43.4	74.1	14.2	43.6	29.8	36.1	392.6	0.0	40.2
LnGrp LOS	D	C	B	D	F	B	D	C	D	F		D
Approach Vol, veh/h		1024			1992			469			363	
Approach Delay, s/veh		22.9			70.0			37.7			201.3	
Approach LOS		C			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	42.0	14.9	19.9	8.5	48.7	10.0	24.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	17.0	29.7	17.0	34.0	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	10.2	14.8	10.0	12.0	4.3	43.7	7.0	14.6				
Green Ext Time (p_c), s	0.1	13.1	0.1	2.2	0.0	0.0	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			65.9									
HCM 2010 LOS			E									

Timings
29: Sumner Av. & Limonite Av.

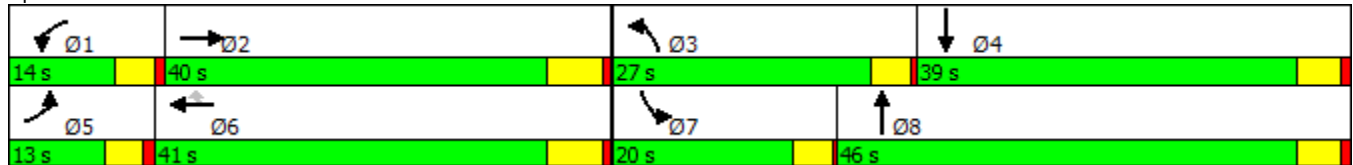


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖↖	↕↕↗	↖↖	↕↕↕	↖	↖	↕↗	↖	↕↗
Traffic Volume (vph)	96	1165	99	1457	52	165	181	181	141
Future Volume (vph)	96	1165	99	1457	52	165	181	181	141
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.5
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1165	39	99	1457	52	165	181	216	181	141	98
Future Volume (veh/h)	96	1165	39	99	1457	52	165	181	216	181	141	98
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	103	1253	34	106	1567	50	177	195	158	195	152	78
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	2164	59	175	2168	675	216	312	238	234	401	195
Arrive On Green	0.05	0.42	0.42	0.05	0.42	0.42	0.12	0.16	0.16	0.13	0.17	0.17
Sat Flow, veh/h	3510	5192	141	3510	5187	1615	1810	1936	1478	1810	2344	1140
Grp Volume(v), veh/h	103	834	453	106	1567	50	177	181	172	195	115	115
Grp Sat Flow(s),veh/h/ln	1755	1729	1875	1755	1729	1615	1810	1805	1610	1810	1805	1679
Q Serve(g_s), s	2.3	14.9	14.9	2.4	20.2	1.5	7.7	7.5	8.1	8.4	4.5	4.9
Cycle Q Clear(g_c), s	2.3	14.9	14.9	2.4	20.2	1.5	7.7	7.5	8.1	8.4	4.5	4.9
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.92	1.00		0.68
Lane Grp Cap(c), veh/h	171	1441	781	175	2168	675	216	291	260	234	309	287
V/C Ratio(X)	0.60	0.58	0.58	0.61	0.72	0.07	0.82	0.62	0.66	0.83	0.37	0.40
Avail Cap(c_a), veh/h	372	1465	794	415	2261	704	518	922	822	361	764	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	18.0	18.0	37.4	19.5	14.0	34.5	31.4	31.6	34.1	29.5	29.6
Incr Delay (d2), s/veh	1.3	0.6	1.0	1.3	1.1	0.0	2.9	1.6	2.2	5.5	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.2	7.9	1.2	9.8	0.7	4.0	3.8	3.7	4.6	2.3	2.3
LnGrp Delay(d),s/veh	38.7	18.6	19.0	38.6	20.6	14.1	37.4	33.0	33.8	39.7	30.0	30.3
LnGrp LOS	D	B	B	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1390			1723			530			425	
Approach Delay, s/veh		20.2			21.5			34.7			34.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	39.5	13.6	18.7	8.4	39.5	14.4	17.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	4.4	16.9	9.7	6.9	4.3	22.2	10.4	10.1				
Green Ext Time (p_c), s	0.0	14.7	0.1	2.6	0.0	11.3	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			24.1									
HCM 2010 LOS			C									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

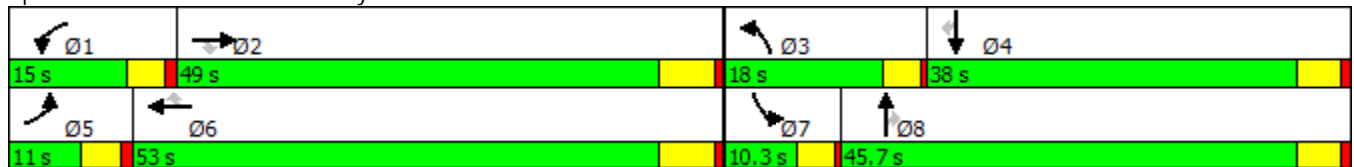


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗	↘	↙	↗	↘	↙	↗	↘	↙	↗	↘
Traffic Volume (vph)	26	1487	108	72	1404	16	126	113	178	30	150	45
Future Volume (vph)	26	1487	108	72	1404	16	126	113	178	30	150	45
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	1487	108	72	1404	16	126	113	178	30	150	45
Future Volume (veh/h)	26	1487	108	72	1404	16	126	113	178	30	150	45
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1616	108	78	1526	17	137	123	153	33	163	47
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	41	1843	824	101	1962	878	171	335	284	46	388	163
Arrive On Green	0.02	0.51	0.51	0.06	0.54	0.54	0.09	0.18	0.18	0.03	0.11	0.11
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1515
Grp Volume(v), veh/h	28	1616	108	78	1526	17	137	123	153	33	163	47
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1515
Q Serve(g_s), s	1.3	33.4	3.0	3.6	28.1	0.4	6.2	4.8	7.3	1.5	3.5	2.4
Cycle Q Clear(g_c), s	1.3	33.4	3.0	3.6	28.1	0.4	6.2	4.8	7.3	1.5	3.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	1843	824	101	1962	878	171	335	284	46	388	163
V/C Ratio(X)	0.68	0.88	0.13	0.77	0.78	0.02	0.80	0.37	0.54	0.71	0.42	0.29
Avail Cap(c_a), veh/h	140	1845	826	226	2017	902	301	919	780	136	1416	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	18.2	10.8	39.2	15.2	8.9	37.3	30.5	31.5	40.7	35.1	34.6
Incr Delay (d2), s/veh	7.0	5.1	0.1	4.6	1.9	0.0	3.3	0.5	1.2	7.3	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	17.7	1.3	1.9	14.3	0.2	3.3	2.6	3.3	0.9	1.8	1.0
LnGrp Delay(d),s/veh	47.8	23.4	10.9	43.8	17.1	8.9	40.6	31.0	32.7	48.0	35.6	35.3
LnGrp LOS	D	C	B	D	B	A	D	C	C	D	D	D
Approach Vol, veh/h		1752			1621			413			243	
Approach Delay, s/veh		23.0			18.3			34.8			37.2	
Approach LOS		C			B			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	48.9	11.9	14.0	6.4	51.7	6.1	19.8				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	5.6	35.4	8.2	5.5	3.3	30.1	3.5	9.3				
Green Ext Time (p_c), s	0.0	7.3	0.0	1.7	0.0	15.6	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

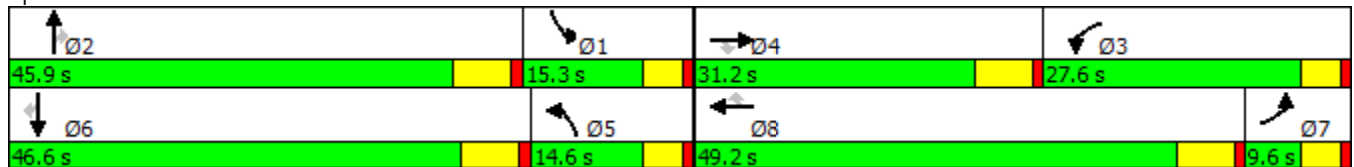


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	29	629	205	532	854	205	202	470	621	222	257	45
Future Volume (vph)	29	629	205	532	854	205	202	470	621	222	257	45
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	31.2	31.2	27.6	49.2	49.2	14.6	45.9	45.9	15.3	46.6	46.6
Total Split (%)	8.0%	26.0%	26.0%	23.0%	41.0%	41.0%	12.2%	38.3%	38.3%	12.8%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	629	205	532	854	205	202	470	621	222	257	45
Future Volume (veh/h)	29	629	205	532	854	205	202	470	621	222	257	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	669	192	566	909	165	215	500	615	236	273	39
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	169	888	277	634	1096	490	1191	1891	589	299	399	178
Arrive On Green	0.05	0.17	0.17	0.18	0.30	0.30	0.34	0.36	0.36	0.09	0.11	0.11
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	31	669	192	566	909	165	215	500	615	236	273	39
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	0.9	13.4	12.2	17.1	25.5	8.6	4.7	7.4	39.7	7.2	7.9	2.4
Cycle Q Clear(g_c), s	0.9	13.4	12.2	17.1	25.5	8.6	4.7	7.4	39.7	7.2	7.9	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	888	277	634	1096	490	1191	1891	589	299	399	178
V/C Ratio(X)	0.18	0.75	0.69	0.89	0.83	0.34	0.18	0.26	1.04	0.79	0.68	0.22
Avail Cap(c_a), veh/h	169	1191	371	742	1426	638	1191	1891	589	345	1340	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	42.9	42.4	43.6	35.3	29.4	25.3	24.3	34.6	48.9	46.6	44.1
Incr Delay (d2), s/veh	0.2	1.9	3.5	10.9	3.3	0.4	0.0	0.1	49.1	8.7	2.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.5	5.7	9.3	13.3	3.9	2.3	3.5	25.7	3.8	4.1	1.1
LnGrp Delay(d),s/veh	49.9	44.8	45.9	54.5	38.6	29.8	25.3	24.4	83.7	57.6	48.7	44.8
LnGrp LOS	D	D	D	D	D	C	C	C	F	E	D	D
Approach Vol, veh/h		892			1640			1330			548	
Approach Delay, s/veh		45.2			43.2			52.0			52.2	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	45.9	24.3	24.8	41.5	18.2	9.8	39.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	10.7	39.7	23.0	25.0	10.0	40.4	5.0	43.0				
Max Q Clear Time (g_c+I1), s	9.2	41.7	19.1	15.4	6.7	9.9	2.9	27.5				
Green Ext Time (p_c), s	0.1	0.0	0.5	3.3	0.3	1.7	0.3	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			47.4									
HCM 2010 LOS			D									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

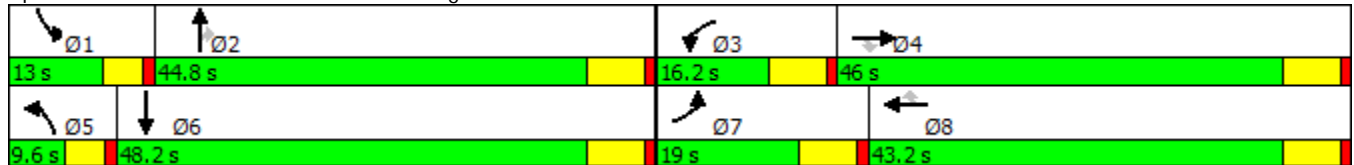


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↖	↖↗	↑↑	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	408	194	17	139	157	114	12	788	272	136	474
Future Volume (vph)	408	194	17	139	157	114	12	788	272	136	474
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	19.0	46.0	46.0	16.2	43.2	43.2	9.6	44.8	44.8	13.0	48.2
Total Split (%)	15.8%	38.3%	38.3%	13.5%	36.0%	36.0%	8.0%	37.3%	37.3%	10.8%	40.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

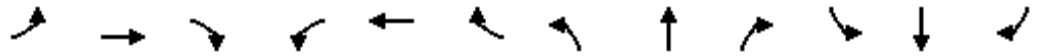
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	408	194	17	139	157	114	12	788	272	136	474	113
Future Volume (veh/h)	408	194	17	139	157	114	12	788	272	136	474	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	429	204	13	146	165	48	13	829	246	143	499	107
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	523	297	249	463	504	225	29	1590	495	179	1674	351
Arrive On Green	0.15	0.16	0.16	0.13	0.14	0.14	0.02	0.31	0.31	0.10	0.39	0.39
Sat Flow, veh/h	3510	1900	1591	3510	3610	1615	1810	5187	1615	1810	4298	900
Grp Volume(v), veh/h	429	204	13	146	165	48	13	829	246	143	399	207
Grp Sat Flow(s),veh/h/ln	1755	1900	1591	1755	1805	1615	1810	1729	1615	1810	1729	1740
Q Serve(g_s), s	9.0	7.7	0.5	2.9	3.1	2.0	0.5	10.0	9.4	5.9	6.0	6.2
Cycle Q Clear(g_c), s	9.0	7.7	0.5	2.9	3.1	2.0	0.5	10.0	9.4	5.9	6.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	523	297	249	463	504	225	29	1590	495	179	1346	678
V/C Ratio(X)	0.82	0.69	0.05	0.32	0.33	0.21	0.45	0.52	0.50	0.80	0.30	0.31
Avail Cap(c_a), veh/h	593	998	836	463	1763	789	119	2643	823	201	1917	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	30.2	27.2	29.8	29.4	28.9	37.0	21.7	21.5	33.4	16.0	16.0
Incr Delay (d2), s/veh	8.1	2.8	0.1	0.4	0.4	0.5	4.1	0.3	0.8	16.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	4.3	0.2	1.4	1.6	0.9	0.3	4.8	4.3	3.7	2.9	3.0
LnGrp Delay(d),s/veh	39.3	33.0	27.3	30.2	29.8	29.4	41.1	21.9	22.3	49.5	16.1	16.3
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	B	B
Approach Vol, veh/h		646			359			1088			749	
Approach Delay, s/veh		37.1			29.9			22.2			22.5	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	29.4	16.2	18.1	5.8	35.7	17.5	16.8				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	8.4	38.6	10.0	39.8	5.0	42.0	12.8	37.0				
Max Q Clear Time (g_c+I1), s	7.9	12.0	4.9	9.7	2.5	8.2	11.0	5.1				
Green Ext Time (p_c), s	0.0	11.1	0.2	2.2	0.0	12.1	0.3	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

10/03/2017

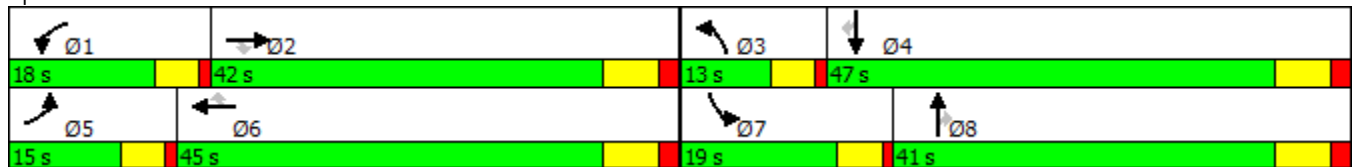


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	270	1290	84	229	1109	267	177	584	431	380	306	188
Future Volume (vph)	270	1290	84	229	1109	267	177	584	431	380	306	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

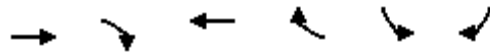
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	1290	84	229	1109	267	177	584	431	380	306	188
Future Volume (veh/h)	270	1290	84	229	1109	267	177	584	431	380	306	188
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	278	1330	81	236	1143	237	182	602	326	392	315	141
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	299	1684	523	294	1167	521	238	1392	425	418	1154	515
Arrive On Green	0.09	0.32	0.32	0.08	0.32	0.32	0.07	0.27	0.27	0.12	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1611	3510	5187	1585	3510	3610	1610
Grp Volume(v), veh/h	278	1330	81	236	1143	237	182	602	326	392	315	141
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1611	1755	1729	1585	1755	1805	1610
Q Serve(g_s), s	9.2	27.4	4.2	7.8	36.9	13.7	6.0	11.3	22.3	13.0	7.6	7.7
Cycle Q Clear(g_c), s	9.2	27.4	4.2	7.8	36.9	13.7	6.0	11.3	22.3	13.0	7.6	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	299	1684	523	294	1167	521	238	1392	425	418	1154	515
V/C Ratio(X)	0.93	0.79	0.15	0.80	0.98	0.46	0.76	0.43	0.77	0.94	0.27	0.27
Avail Cap(c_a), veh/h	299	1684	523	388	1167	521	239	1500	459	418	1228	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	36.1	28.2	52.9	39.4	31.6	53.9	35.6	39.6	51.3	29.8	29.8
Incr Delay (d2), s/veh	33.9	3.0	0.3	6.4	21.6	1.3	12.4	0.5	8.8	28.4	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	13.5	1.9	4.0	21.9	6.3	3.3	5.5	10.8	8.0	3.8	3.5
LnGrp Delay(d),s/veh	87.3	39.1	28.5	59.3	60.9	32.9	66.2	36.0	48.4	79.8	30.1	30.4
LnGrp LOS	F	D	C	E	E	C	E	D	D	E	C	C
Approach Vol, veh/h		1689			1616			1110			848	
Approach Delay, s/veh		46.5			56.6			44.6			53.1	
Approach LOS		D			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	45.2	13.0	44.6	15.0	45.0	19.0	38.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	9.8	29.4	8.0	9.7	11.2	38.9	15.0	24.3				
Green Ext Time (p_c), s	0.1	5.5	0.0	16.7	0.0	0.0	0.0	7.3				
Intersection Summary												
HCM 2010 Ctrl Delay			50.3									
HCM 2010 LOS			D									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

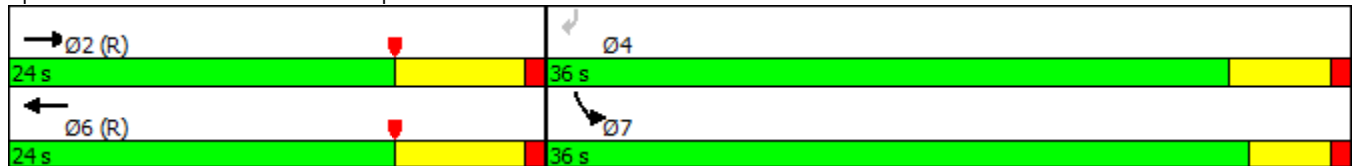


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	905	341	754	67	381	978
Future Volume (vph)	905	341	754	67	381	978
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

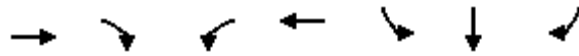
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↖		↗
Traffic Volume (veh/h)	0	905	341	0	754	67	0	0	0	381	0	978
Future Volume (veh/h)	0	905	341	0	754	67	0	0	0	381	0	978
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	953	0	0	794	0				401	0	885
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1487	463	0	1035	463				1837	0	845
Arrive On Green	0.00	0.29	0.00	0.00	0.29	0.00				0.52	0.00	0.52
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	953	0	0	794	0				401	0	885
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	9.6	0.0	0.0	12.1	0.0				3.7	0.0	31.4
Cycle Q Clear(g_c), s	0.0	9.6	0.0	0.0	12.1	0.0				3.7	0.0	31.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1487	463	0	1035	463				1837	0	845
V/C Ratio(X)	0.00	0.64	0.00	0.00	0.77	0.00				0.22	0.00	1.05
Avail Cap(c_a), veh/h	0	1487	463	0	1035	463				1837	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.00	0.00	0.53	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.7	0.0	0.0	19.6	0.0				7.7	0.0	14.3
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	3.0	0.0				0.1	0.0	44.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	0.0	0.0	6.4	0.0				1.8	0.0	23.9
LnGrp Delay(d),s/veh	0.0	19.9	0.0	0.0	22.5	0.0				7.8	0.0	58.3
LnGrp LOS		B			C					A		F
Approach Vol, veh/h		953			794						1286	
Approach Delay, s/veh		19.9			22.5						42.5	
Approach LOS		B			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.0		36.0		24.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		11.6		33.4		14.1						
Green Ext Time (p_c), s		4.2		0.0		2.5						
Intersection Summary												
HCM 2010 Ctrl Delay			30.2									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.

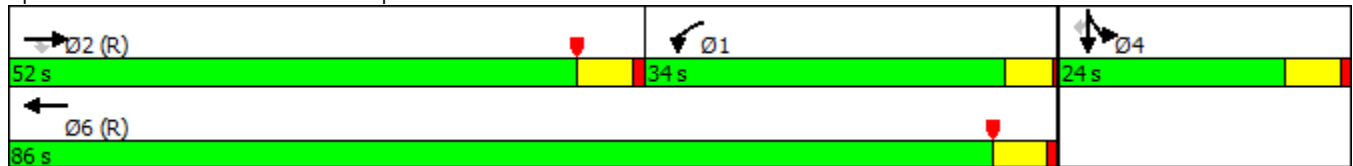


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↔	↑
Traffic Volume (vph)	1463	730	695	1198	164	2	616
Future Volume (vph)	1463	730	695	1198	164	2	616
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	52.0	52.0	34.0	86.0	24.0	24.0	24.0
Total Split (%)	47.3%	47.3%	30.9%	78.2%	21.8%	21.8%	21.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 59 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

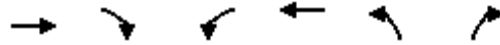
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1463	730	695	1198	0	0	0	0	164	2	616
Future Volume (veh/h)	0	1463	730	695	1198	0	0	0	0	164	2	616
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1608	801	764	1316	0				121	0	643
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1526	674	910	2642	0				304	0	543
Arrive On Green	0.00	0.42	0.42	0.52	1.00	0.00				0.17	0.00	0.17
Sat Flow, veh/h	0	3705	1595	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1608	801	764	1316	0				121	0	643
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	46.5	46.5	20.4	0.0	0.0				6.6	0.0	18.5
Cycle Q Clear(g_c), s	0.0	46.5	46.5	20.4	0.0	0.0				6.6	0.0	18.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1526	674	910	2642	0				304	0	543
V/C Ratio(X)	0.00	1.05	1.19	0.84	0.50	0.00				0.40	0.00	1.18
Avail Cap(c_a), veh/h	0	1526	674	941	2642	0				304	0	543
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.46	0.46	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	31.8	31.7	24.6	0.0	0.0				40.8	0.0	45.8
Incr Delay (d2), s/veh	0.0	32.2	91.9	0.6	0.1	0.0				0.3	0.0	100.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.9	37.6	9.8	0.0	0.0				3.3	0.0	15.8
LnGrp Delay(d),s/veh	0.0	63.9	123.6	25.2	0.1	0.0				41.1	0.0	146.0
LnGrp LOS		F	F	C	A					D		F
Approach Vol, veh/h		2409			2080						764	
Approach Delay, s/veh		83.8			9.3						129.4	
Approach LOS		F			A						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	34.0	52.0		24.0		86.0						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	29.5	* 47		18.5		80.5						
Max Q Clear Time (g_c+I1), s	22.4	48.5		20.5		2.0						
Green Ext Time (p_c), s	4.3	0.0		0.0		9.9						
Intersection Summary												
HCM 2010 Ctrl Delay			60.9									
HCM 2010 LOS			E									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	503	808	395	371	424	166
Future Volume (vph)	503	808	395	371	424	166
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	12.0	16.0	48.0	12.0	12.0
Total Split (%)	53.3%	20.0%	26.7%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↖↗	↑↑↑	↖↗	↑		
Traffic Volume (veh/h)	503	808	395	371	424	166		
Future Volume (veh/h)	503	808	395	371	424	166		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	541	764	425	399	456	89		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	826	585	3519	362	161		
Arrive On Green	0.69	0.69	0.17	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	541	764	425	399	456	89		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	2.4	24.7	6.9	1.6	6.0	3.1		
Cycle Q Clear(g_c), s	2.4	24.7	6.9	1.6	6.0	3.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	826	585	3519	362	161		
V/C Ratio(X)	0.25	0.92	0.73	0.11	1.26	0.55		
Avail Cap(c_a), veh/h	2135	826	585	3519	362	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.85	0.85	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.9	7.0	23.7	3.4	27.0	25.7		
Incr Delay (d2), s/veh	0.2	15.5	7.7	0.0	137.5	12.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	15.9	3.9	0.7	9.9	2.0		
LnGrp Delay(d),s/veh	6.1	22.5	31.4	3.4	164.5	38.6		
LnGrp LOS	A	C	C	A	F	D		
Approach Vol, veh/h	1305			824	545			
Approach Delay, s/veh	15.7			17.8	143.9			
Approach LOS	B			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.0	32.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	10.0	24.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	8.9	26.7				3.6		8.0
Green Ext Time (p_c), s	0.2	0.0				11.5		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			42.5					
HCM 2010 LOS			D					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.

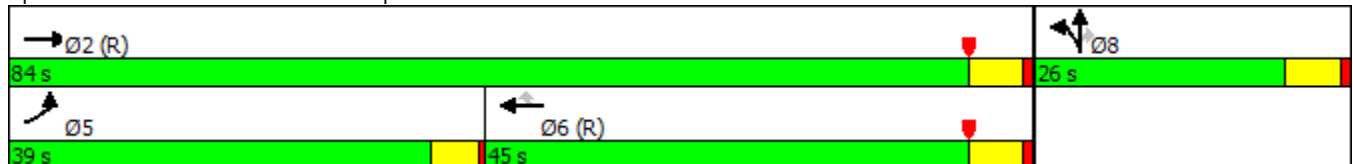


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	881	746	1246	368	647	2	338
Future Volume (vph)	881	746	1246	368	647	2	338
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	39.0	84.0	45.0	45.0	26.0	26.0	26.0
Total Split (%)	35.5%	76.4%	40.9%	40.9%	23.6%	23.6%	23.6%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	881	746	0	0	1246	368	647	2	338	0	0	0
Future Volume (veh/h)	881	746	0	0	1246	368	647	2	338	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	979	829	0	0	1384	349	762	0	91			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	1037	2576	0	0	1362	601	674	0	301			
Arrive On Green	0.49	1.00	0.00	0.00	0.38	0.38	0.19	0.00	0.19			
Sat Flow, veh/h	3510	3705	0	0	3705	1593	3619	0	1615			
Grp Volume(v), veh/h	979	829	0	0	1384	349	762	0	91			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1593	1810	0	1615			
Q Serve(g_s), s	29.1	0.0	0.0	0.0	41.5	19.2	20.5	0.0	5.3			
Cycle Q Clear(g_c), s	29.1	0.0	0.0	0.0	41.5	19.2	20.5	0.0	5.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1037	2576	0	0	1362	601	674	0	301			
V/C Ratio(X)	0.94	0.32	0.00	0.00	1.02	0.58	1.13	0.00	0.30			
Avail Cap(c_a), veh/h	1101	2576	0	0	1362	601	674	0	301			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.0	0.0	0.0	0.0	34.2	27.3	44.8	0.0	38.6			
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	28.4	4.1	76.2	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	14.1	0.0	0.0	0.0	26.0	9.1	17.3	0.0	2.4			
LnGrp Delay(d),s/veh	29.0	0.0	0.0	0.0	62.7	31.4	121.0	0.0	39.1			
LnGrp LOS	C	A			F	C	F		D			
Approach Vol, veh/h		1808			1733			853				
Approach Delay, s/veh		15.7			56.4			112.2				
Approach LOS		B			E			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		84.0			37.0	47.0		26.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		78.5			34.5	39.5		20.5				
Max Q Clear Time (g_c+I1), s		2.0			31.1	43.5		22.5				
Green Ext Time (p_c), s		17.7			1.4	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				50.5								
HCM 2010 LOS				D								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	5	21	248	0	2	1649	410	728	1157
Future Volume (vph)	5	21	248	0	2	1649	410	728	1157
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

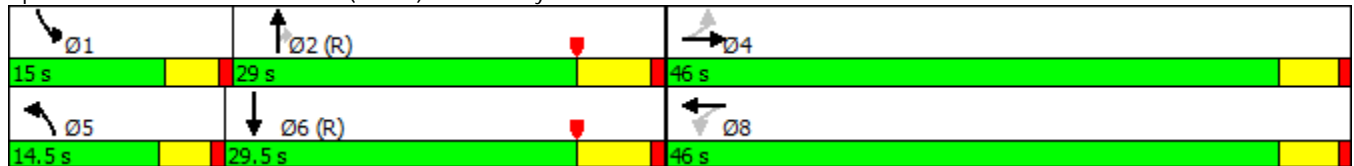
Actuated Cycle Length: 90

Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	21	11	248	0	541	2	1649	410	728	1157	1
Future Volume (veh/h)	5	21	11	248	0	541	2	1649	410	728	1157	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	23	4	267	0	554	2	1773	412	783	1244	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	119	515	84	272	2	459	9	874	382	189	1286	1
Arrive On Green	0.46	0.46	0.46	0.46	0.00	0.46	0.01	0.26	0.26	0.12	0.37	0.37
Sat Flow, veh/h	160	1131	184	480	5	1007	1619	3420	1495	1619	3507	3
Grp Volume(v), veh/h	32	0	0	821	0	0	2	1773	412	783	607	638
Grp Sat Flow(s),veh/h/ln	1475	0	0	1492	0	0	1619	1710	1495	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	40.1	0.0	0.0	0.1	23.0	23.0	10.5	31.3	31.3
Cycle Q Clear(g_c), s	0.9	0.0	0.0	41.0	0.0	0.0	0.1	23.0	23.0	10.5	31.3	31.3
Prop In Lane	0.16		0.12	0.33		0.67	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	718	0	0	733	0	0	9	874	382	189	627	660
V/C Ratio(X)	0.04	0.00	0.00	1.12	0.00	0.00	0.23	2.03	1.08	4.15	0.97	0.97
Avail Cap(c_a), veh/h	718	0	0	733	0	0	180	874	382	189	627	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	0.0	25.9	0.0	0.0	44.6	33.5	33.5	39.8	28.0	28.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	71.6	0.0	0.0	0.4	463.2	40.4	1427.8	28.7	27.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	32.7	0.0	0.0	0.1	67.0	13.7	79.6	19.7	20.5
LnGrp Delay(d),s/veh	13.6	0.0	0.0	97.5	0.0	0.0	45.0	496.7	73.9	1467.6	56.7	55.8
LnGrp LOS	B			F			D	F	F	F	E	E
Approach Vol, veh/h		32			821			2187			2028	
Approach Delay, s/veh		13.6			97.5			416.7			601.1	
Approach LOS		B			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	29.0		46.0	5.0	39.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	25.0		2.9	2.1	33.3		43.0				
Green Ext Time (p_c), s	0.0	0.0		4.2	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			436.2									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

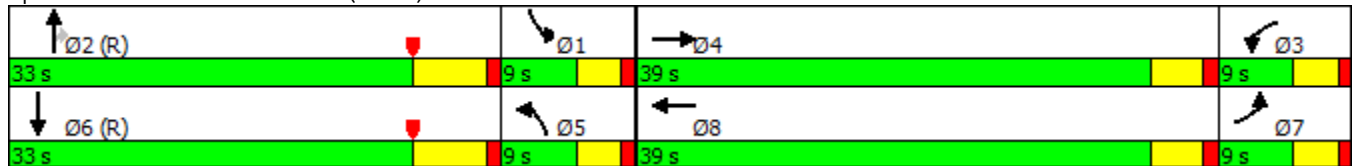


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	657	784	188	398	136	968	99	276	972
Future Volume (vph)	657	784	188	398	136	968	99	276	972
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated


























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



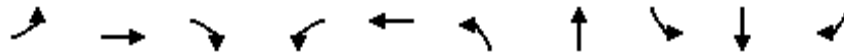
HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	657	784	92	188	398	383	136	968	99	276	972	222
Future Volume (veh/h)	657	784	92	188	398	383	136	968	99	276	972	222
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	684	817	92	196	415	365	142	1008	88	288	1012	213
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	144	964	109	90	480	420	207	1026	459	207	842	177
Arrive On Green	0.09	0.31	0.31	0.06	0.28	0.28	0.26	0.60	0.60	0.13	0.30	0.30
Sat Flow, veh/h	1619	3099	349	1619	1730	1513	1619	3420	1530	1619	2808	589
Grp Volume(v), veh/h	684	451	458	196	410	370	142	1008	88	288	615	610
Grp Sat Flow(s),veh/h/ln	1619	1710	1738	1619	1710	1533	1619	1710	1530	1619	1710	1687
Q Serve(g_s), s	8.0	22.2	22.2	5.0	20.5	20.7	7.1	25.8	2.3	11.5	27.0	27.0
Cycle Q Clear(g_c), s	8.0	22.2	22.2	5.0	20.5	20.7	7.1	25.8	2.3	11.5	27.0	27.0
Prop In Lane	1.00		0.20	1.00		0.99	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	144	532	541	90	475	426	207	1026	459	207	513	506
V/C Ratio(X)	4.74	0.85	0.85	2.18	0.86	0.87	0.69	0.98	0.19	1.39	1.20	1.20
Avail Cap(c_a), veh/h	144	656	666	90	656	588	207	1026	459	207	513	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.24	0.24	0.24
Uniform Delay (d), s/veh	41.0	29.0	29.0	42.5	30.9	30.9	31.9	17.8	13.1	39.3	31.5	31.5
Incr Delay (d2), s/veh	1699.3	8.5	8.4	565.3	6.8	7.9	0.7	5.3	0.1	184.0	94.7	96.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	71.7	11.6	11.8	16.3	10.6	9.7	3.2	12.5	1.0	15.7	26.2	26.1
LnGrp Delay(d),s/veh	1740.3	37.5	37.4	607.8	37.6	38.8	32.6	23.1	13.2	223.2	126.2	128.4
LnGrp LOS	F	D	D	F	D	D	C	C	B	F	F	F
Approach Vol, veh/h		1593			976			1238			1513	
Approach Delay, s/veh		768.6			152.6			23.5			145.5	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	33.0	9.0	32.5	15.5	33.0	12.0	29.5				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+1), s	13.5	27.8	7.0	24.2	9.1	29.0	10.0	22.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.8	0.0	0.0	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			305.0									
HCM 2010 LOS			F									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

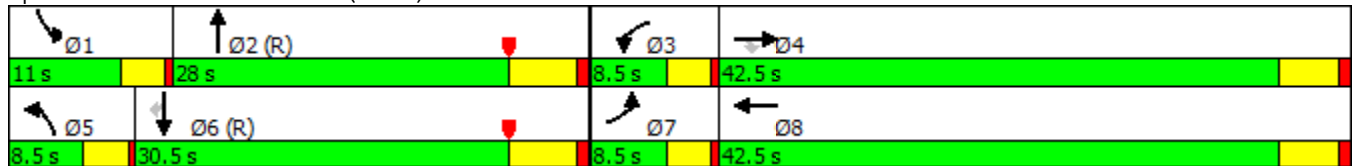


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↗	↖	↑↑	↗
Traffic Volume (vph)	115	119	118	130	42	47	911	217	1018	78
Future Volume (vph)	115	119	118	130	42	47	911	217	1018	78
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



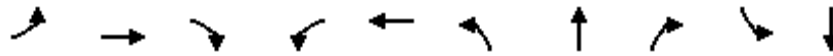
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	119	118	130	42	121	47	911	215	217	1018	78
Future Volume (veh/h)	115	119	118	130	42	121	47	911	215	217	1018	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	128	132	112	144	47	122	52	1012	229	241	1131	87
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	248	211	90	61	159	65	1461	329	135	1955	857
Arrive On Green	0.06	0.14	0.14	0.06	0.14	0.14	0.04	0.53	0.53	0.03	0.19	0.19
Sat Flow, veh/h	1619	1800	1530	1619	444	1153	1619	2762	623	1619	3420	1498
Grp Volume(v), veh/h	128	132	112	144	0	169	52	625	616	241	1131	87
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	0	1597	1619	1710	1675	1619	1710	1498
Q Serve(g_s), s	5.0	6.1	6.1	5.0	0.0	9.2	2.9	24.4	24.7	7.5	27.1	4.3
Cycle Q Clear(g_c), s	5.0	6.1	6.1	5.0	0.0	9.2	2.9	24.4	24.7	7.5	27.1	4.3
Prop In Lane	1.00		1.00	1.00		0.72	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	90	248	211	90	0	220	65	904	886	135	1955	857
V/C Ratio(X)	1.42	0.53	0.53	1.60	0.00	0.77	0.79	0.69	0.70	1.79	0.58	0.10
Avail Cap(c_a), veh/h	90	750	637	90	0	665	90	904	886	135	1955	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	36.1	36.1	42.5	0.0	37.4	42.8	15.7	15.8	43.8	26.6	17.4
Incr Delay (d2), s/veh	243.1	0.7	0.8	316.0	0.0	2.1	2.1	0.4	0.4	356.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	3.1	2.6	10.1	0.0	4.2	1.3	11.6	11.4	16.7	12.9	1.8
LnGrp Delay(d),s/veh	285.6	36.8	36.9	358.5	0.0	39.5	44.9	16.1	16.2	400.3	26.7	17.4
LnGrp LOS	F	D	D	F		D	D	B	B	F	C	B
Approach Vol, veh/h		372			313			1293			1459	
Approach Delay, s/veh		122.4			186.3			17.3			87.9	
Approach LOS		F			F			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	53.1	8.5	17.4	7.1	57.0	8.5	17.4				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+1), s	9.5	26.7	7.0	8.1	4.9	29.1	7.0	11.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			74.0									
HCM 2010 LOS			E									

Timings
4: Euclid Av. (SR-83) & Pine Av.

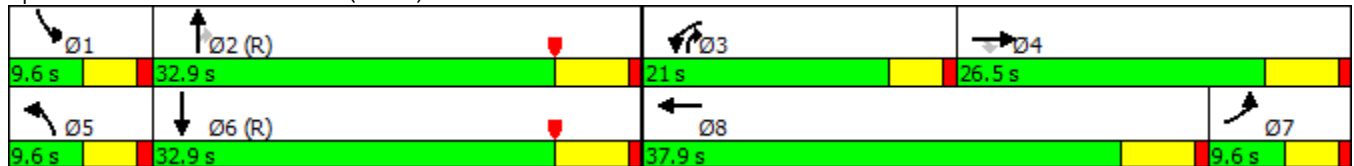


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	15	358	29	554	94	34	1027	1163	147	1066
Future Volume (vph)	15	358	29	554	94	34	1027	1163	147	1066
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.5	26.5	21.0	37.9	9.6	32.9	21.0	9.6	32.9
Total Split (%)	10.7%	29.4%	29.4%	23.3%	42.1%	10.7%	36.6%	23.3%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



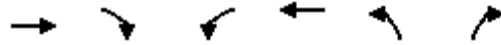
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	358	29	554	94	80	34	1027	1163	147	1066	15
Future Volume (veh/h)	15	358	29	554	94	80	34	1027	1163	147	1066	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	15	369	0	571	97	76	35	1059	766	152	1099	11
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	416	403	343	539	127	99	52	1042	745	90	1137	11
Arrive On Green	0.26	0.22	0.00	0.18	0.14	0.14	0.03	0.30	0.30	0.06	0.33	0.33
Sat Flow, veh/h	1619	1800	1530	2956	937	734	1619	3420	1530	1619	3468	35
Grp Volume(v), veh/h	15	369	0	571	0	173	35	1059	766	152	542	568
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1670	1619	1710	1530	1619	1710	1793
Q Serve(g_s), s	0.6	18.0	0.0	16.4	0.0	9.0	1.9	27.4	27.4	5.0	28.1	28.1
Cycle Q Clear(g_c), s	0.6	18.0	0.0	16.4	0.0	9.0	1.9	27.4	27.4	5.0	28.1	28.1
Prop In Lane	1.00		1.00	1.00		0.44	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	416	403	343	539	0	226	52	1042	745	90	561	588
V/C Ratio(X)	0.04	0.91	0.00	1.06	0.00	0.77	0.67	1.02	1.03	1.69	0.97	0.97
Avail Cap(c_a), veh/h	416	412	350	539	0	594	90	1042	745	90	561	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.64	0.64	0.64
Uniform Delay (d), s/veh	25.1	34.1	0.0	36.8	0.0	37.6	43.1	31.3	23.1	42.5	29.7	29.8
Incr Delay (d2), s/veh	0.0	24.9	0.0	55.6	0.0	7.5	0.5	12.7	18.1	339.3	23.3	22.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.7	0.0	10.8	0.0	4.6	0.9	14.7	22.0	10.7	16.9	17.6
LnGrp Delay(d),s/veh	25.1	59.0	0.0	92.4	0.0	45.1	43.6	44.0	41.2	381.8	53.0	52.4
LnGrp LOS	C	E		F		D	D	F	F	F	D	D
Approach Vol, veh/h		384			744			1860			1262	
Approach Delay, s/veh		57.6			81.4			42.9			92.3	
Approach LOS		E			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	33.3	21.0	26.1	7.5	35.4	29.0	18.1				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	5.9	* 5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.4	20.6	5.0	27.0	5.0	* 32				
Max Q Clear Time (g_c+I1), s	7.0	29.4	18.4	20.0	3.9	30.1	2.6	11.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	0.0	0.6	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			65.6									
HCM 2010 LOS			E									
Notes												

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

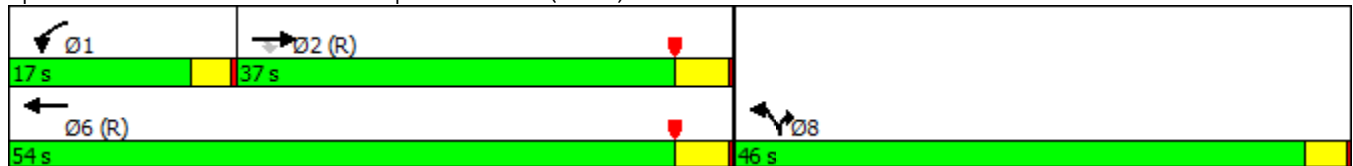


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↓
Traffic Volume (vph)	898	179	355	1342	154	1419
Future Volume (vph)	898	179	355	1342	154	1419
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	37.0	37.0	17.0	54.0	46.0	46.0
Total Split (%)	37.0%	37.0%	17.0%	54.0%	46.0%	46.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated







Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	898	179	355	1342	154	1419		
Future Volume (veh/h)	898	179	355	1342	154	1419		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	926	0	366	1384	159	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2320	1038	231	2901	239	110		
Arrive On Green	0.45	0.00	0.14	0.85	0.07	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	926	0	366	1384	159	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	18.0	0.0	13.5	10.3	4.7	0.0		
Cycle Q Clear(g_c), s	18.0	0.0	13.5	10.3	4.7	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2320	1038	231	2901	239	110		
V/C Ratio(X)	0.40	0.00	1.58	0.48	0.67	0.00		
Avail Cap(c_a), veh/h	2320	1038	231	2901	1413	650		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.17	0.17	1.00	0.00		
Uniform Delay (d), s/veh	13.7	0.0	43.3	1.9	45.2	0.0		
Incr Delay (d2), s/veh	0.5	0.0	265.2	0.1	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.7	0.0	23.4	4.7	2.2	0.0		
LnGrp Delay(d),s/veh	14.2	0.0	308.4	2.0	48.4	0.0		
LnGrp LOS	B		F	A	D			
Approach Vol, veh/h	926			1750	159			
Approach Delay, s/veh	14.2			66.1	48.4			
Approach LOS	B			E	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.0	72.3				89.3		10.7
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	13.5	32.5				49.5		42.5
Max Q Clear Time (g_c+I1), s	15.5	20.0				12.3		6.7
Green Ext Time (p_c), s	0.0	9.3				19.0		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			48.2					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

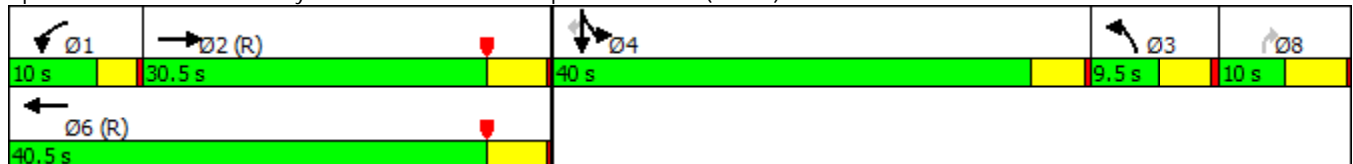


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↗	↖	↖	↗
Traffic Volume (vph)	374	102	291	30	16	758	145	158
Future Volume (vph)	374	102	291	30	16	758	145	158
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	30.5	10.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	30.5%	10.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 54 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Future Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	416	49	113	323	0	33	0	18	957	0	176
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1490	175	105	1994	0	0	0	0	1043	0	493
Arrive On Green	0.00	0.48	0.48	0.13	1.00	0.00	0.00	0.00	0.00	0.32	0.00	0.32
Sat Flow, veh/h	0	3175	361	1619	3510	0		0		3238	0	1530
Grp Volume(v), veh/h	0	230	235	113	323	0		0.0		957	0	176
Grp Sat Flow(s),veh/h/ln	0	1710	1736	1619	1710	0				1619	0	1530
Q Serve(g_s), s	0.0	8.0	8.1	6.5	0.0	0.0				28.4	0.0	8.8
Cycle Q Clear(g_c), s	0.0	8.0	8.1	6.5	0.0	0.0				28.4	0.0	8.8
Prop In Lane	0.00		0.21	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	826	839	105	1994	0				1043	0	493
V/C Ratio(X)	0.00	0.28	0.28	1.07	0.16	0.00				0.92	0.00	0.36
Avail Cap(c_a), veh/h	0	826	839	105	1994	0				1150	0	543
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.4	15.5	43.5	0.0	0.0				32.6	0.0	26.0
Incr Delay (d2), s/veh	0.0	0.8	0.8	109.0	0.2	0.0				10.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.0	4.1	6.1	0.0	0.0				14.2	0.0	3.8
LnGrp Delay(d),s/veh	0.0	16.3	16.3	152.7	0.2	0.0				43.4	0.0	26.3
LnGrp LOS		B	B	F	A					D		C
Approach Vol, veh/h		465			436						1133	
Approach Delay, s/veh		16.3			39.7						40.7	
Approach LOS		B			D						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.0	53.3		36.7		63.3						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	6.5	25.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.5	10.1		30.4		2.0						
Green Ext Time (p_c), s	0.0	2.5		1.7		2.9						
Intersection Summary												
HCM 2010 Ctrl Delay				34.9								
HCM 2010 LOS				C								
Notes												

Intersection	
Intersection Delay, s/veh	242.4
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↔		↔			↔	
Traffic Vol, veh/h	0	123	784	0	580	235	0	238	47
Future Vol, veh/h	0	123	784	0	580	235	0	238	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	134	852	0	630	255	0	259	51
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	323.1	229	23.6
HCM LOS	F	F	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	84%
Vol Thru, %	86%	71%	0%
Vol Right, %	0%	29%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	907	815	285
LT Vol	123	0	238
Through Vol	784	580	0
RT Vol	0	235	47
Lane Flow Rate	986	886	310
Geometry Grp	1	1	1
Degree of Util (X)	1.661	1.443	0.608
Departure Headway (Hd)	6.703	6.735	8.395
Convergence, Y/N	Yes	Yes	Yes
Cap	552	549	434
Service Time	4.703	4.735	6.395
HCM Lane V/C Ratio	1.786	1.614	0.714
HCM Control Delay	323.1	229	23.6
HCM Lane LOS	F	F	C
HCM 95th-tile Q	50.9	37.3	3.9

Intersection

Int Delay, s/veh 211.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	981	181	122	643	166	164
Future Vol, veh/h	981	181	122	643	166	164
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1055	195	131	691	178	176

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1057	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	667	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	667	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	\$ 1441.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	89	-	-	667	-
HCM Lane V/C Ratio	3.987	-	-	0.197	-
HCM Control Delay (s)	\$ 1441.6	-	-	11.7	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	36.8	-	-	0.7	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	1133	31	23	634	72	62
Future Vol, veh/h	1133	31	23	634	72	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1232	34	25	689	78	67

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1232
Stage 1	-	-	1232
Stage 2	-	-	739
Critical Hdwy	-	4.1	7.3
Critical Hdwy Stg 1	-	-	6.5
Critical Hdwy Stg 2	-	-	6.1
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	573	~ 42
Stage 1	-	-	191
Stage 2	-	-	412
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	573	~ 41
Mov Cap-2 Maneuver	-	-	134
Stage 1	-	-	191
Stage 2	-	-	394

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	41.2
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	438	-	-	573	-
HCM Lane V/C Ratio	0.584	0.154	-	-	0.044	-
HCM Control Delay (s)	64.1	14.7	-	-	11.6	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	3	0.5	-	-	0.1	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	24.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↙		↗						↙	↗	
Traffic Vol, veh/h	0	339	0	403	0	0	0	0	0	166	154	0
Future Vol, veh/h	0	339	0	403	0	0	0	0	0	166	154	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	365	0	433	0	0	0	0	0	178	166	0
Number of Lanes	0	1	0	1	0	0	0	0	0	1	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	2
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	2	2
Conflicting Approach Right	NB	
Conflicting Lanes Right	2	0
HCM Control Delay	29.4	15.9
HCM LOS	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	154	339	403	322	201
LT Vol	166	0	339	0	0	0
Through Vol	0	154	0	0	322	0
RT Vol	0	0	0	403	0	201
Lane Flow Rate	178	166	365	433	346	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.414	0.36	0.769	0.767	0.724	0.409
Departure Headway (Hd)	8.34	7.824	7.708	6.485	7.525	6.805
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	434	462	474	563	485	532
Service Time	6.056	5.54	5.408	4.185	5.225	4.505
HCM Lane V/C Ratio	0.41	0.359	0.77	0.769	0.713	0.406
HCM Control Delay	16.8	14.9	31.7	27.4	27.5	14.1
HCM Lane LOS	C	B	D	D	D	B
HCM 95th-tile Q	2	1.6	6.7	6.9	5.8	2

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↑	↑
Traffic Vol, veh/h	0	0	322	201
Future Vol, veh/h	0	0	322	201
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	0	346	216
Number of Lanes	0	0	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	22.4
HCM LOS	C

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

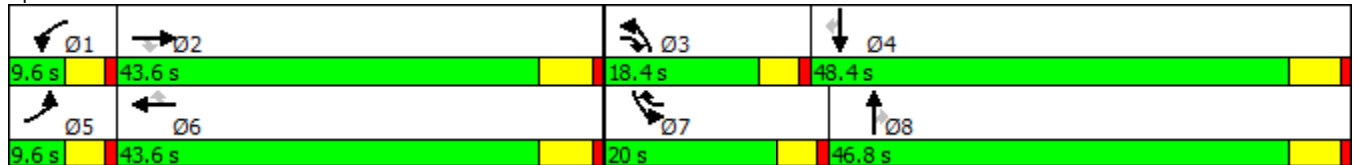


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	1467	413	34	711	212	158	138	44	640	287	15
Future Volume (vph)	9	1467	413	34	711	212	158	138	44	640	287	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1467	413	34	711	212	158	138	44	640	287	15
Future Volume (veh/h)	9	1467	413	34	711	212	158	138	44	640	287	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	9	1512	397	35	733	214	163	142	37	660	296	14
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	1482	781	97	1556	966	227	407	182	522	748	334
Arrive On Green	0.01	0.43	0.43	0.03	0.45	0.45	0.08	0.12	0.12	0.18	0.22	0.22
Sat Flow, veh/h	2956	3420	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	9	1512	397	35	733	214	163	142	37	660	296	14
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.3	37.8	15.0	1.0	13.0	5.2	4.7	3.3	1.9	15.4	6.5	0.6
Cycle Q Clear(g_c), s	0.3	37.8	15.0	1.0	13.0	5.2	4.7	3.3	1.9	15.4	6.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	1482	781	97	1556	966	227	407	182	522	748	334
V/C Ratio(X)	0.27	1.02	0.51	0.36	0.47	0.22	0.72	0.35	0.20	1.26	0.40	0.04
Avail Cap(c_a), veh/h	169	1482	781	169	1556	966	468	1607	719	522	1670	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	24.7	14.1	41.3	16.5	6.9	39.3	35.3	34.7	35.9	29.2	26.9
Incr Delay (d2), s/veh	1.6	28.6	0.5	0.8	0.2	0.1	1.6	0.5	0.5	133.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	23.6	6.4	0.4	6.2	2.2	2.0	1.6	0.8	15.9	3.1	0.3
LnGrp Delay(d),s/veh	44.4	53.4	14.7	42.1	16.7	7.0	40.9	35.8	35.2	169.7	29.5	26.9
LnGrp LOS	D	F	B	D	B	A	D	D	D	F	C	C
Approach Vol, veh/h		1918			982			342			970	
Approach Delay, s/veh		45.3			15.5			38.2			124.9	
Approach LOS		D			B			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	43.6	11.3	24.9	5.6	45.5	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	3.0	39.8	6.7	8.5	2.3	15.0	17.4	5.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.9	0.0	18.1	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			56.1									
HCM 2010 LOS			E									

Intersection

Int Delay, s/veh 0.3

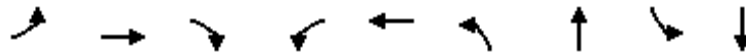
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1571	12	0	769	0	43
Future Vol, veh/h	1571	12	0	769	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1708	13	0	836	0	47

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	860
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.9
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	303
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	303
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	303	-	-	-
HCM Lane V/C Ratio	0.154	-	-	-
HCM Control Delay (s)	19	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Timings
13: Driveway 2 & Merrill Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	71	1537	6	34	681	45	0	54	0
Future Volume (vph)	71	1537	6	34	681	45	0	54	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases			2			8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	31.6	31.6	31.6	31.6
Total Split (s)	14.9	48.8	48.8	9.6	43.5	31.6	31.6	31.6	31.6
Total Split (%)	16.6%	54.2%	54.2%	10.7%	48.3%	35.1%	35.1%	35.1%	35.1%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2		4.6		4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 72.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated




















Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1537	6	34	681	92	45	0	60	54	0	42
Future Volume (veh/h)	71	1537	6	34	681	92	45	0	60	54	0	42
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	77	1671	7	37	740	100	49	0	65	59	0	46
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	96	2009	899	60	1712	231	149	25	130	191	21	101
Arrive On Green	0.06	0.59	0.59	0.04	0.57	0.57	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	1619	3420	1530	1619	3029	409	494	170	880	729	144	681
Grp Volume(v), veh/h	77	1671	7	37	418	422	114	0	0	105	0	0
Grp Sat Flow(s),veh/h/ln	1619	1710	1530	1619	1710	1728	1544	0	0	1554	0	0
Q Serve(g_s), s	3.2	26.7	0.1	1.5	9.5	9.5	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	26.7	0.1	1.5	9.5	9.5	4.3	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.24	0.43		0.57	0.56		0.44
Lane Grp Cap(c), veh/h	96	2009	899	60	967	977	304	0	0	313	0	0
V/C Ratio(X)	0.80	0.83	0.01	0.62	0.43	0.43	0.37	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	247	2154	964	120	967	977	672	0	0	672	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.4	11.3	5.8	32.1	8.5	8.5	26.4	0.0	0.0	26.2	0.0	0.0
Incr Delay (d2), s/veh	14.3	2.8	0.0	3.8	0.3	0.3	0.8	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	13.1	0.1	0.7	4.5	4.5	2.0	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	45.8	14.0	5.8	35.9	8.8	8.8	27.1	0.0	0.0	26.8	0.0	0.0
LnGrp LOS	D	B	A	D	A	A	C			C		
Approach Vol, veh/h		1755			877			114			105	
Approach Delay, s/veh		15.4			9.9			27.1			26.8	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	45.9		14.6	8.6	44.4		14.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	42.6		27.0	10.3	37.3		27.0				
Max Q Clear Time (g_c+I1), s	3.5	28.7		5.8	5.2	11.5		6.3				
Green Ext Time (p_c), s	0.0	11.1		1.3	0.1	18.9		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			14.6									
HCM 2010 LOS			B									

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↘	↑↑↑	↑↑↑
Traffic Volume (vph)	6	192	627	658	1280
Future Volume (vph)	6	192	627	658	1280
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	577	6	192	627	658	0	0	1280	391
Future Volume (veh/h)	0	0	0	577	6	192	627	658	0	0	1280	391
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				627	7	93	682	715	0	0	1391	285
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				433	5	391	951	4666	0	0	1547	316
Arrive On Green				0.26	0.26	0.26	0.78	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1696	19	1530	1619	5076	0	0	5445	1062
Grp Volume(v), veh/h				634	0	93	682	715	0	0	1244	432
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1610
Q Serve(g_s), s				23.0	0.0	4.3	18.9	0.0	0.0	0.0	23.1	23.2
Cycle Q Clear(g_c), s				23.0	0.0	4.3	18.9	0.0	0.0	0.0	23.1	23.2
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.66
Lane Grp Cap(c), veh/h				438	0	391	951	4666	0	0	1383	480
V/C Ratio(X)				1.45	0.00	0.24	0.72	0.15	0.00	0.00	0.90	0.90
Avail Cap(c_a), veh/h				438	0	391	951	4666	0	0	1404	487
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	26.6	6.1	0.0	0.0	0.0	30.3	30.3
Incr Delay (d2), s/veh				213.4	0.0	0.7	0.2	0.0	0.0	0.0	9.6	22.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				36.8	0.0	4.1	8.0	0.0	0.0	0.0	11.0	13.3
LnGrp Delay(d),s/veh				246.9	0.0	27.2	6.3	0.0	0.0	0.0	39.9	52.9
LnGrp LOS				F		C	A	A			D	D
Approach Vol, veh/h					727			1397			1676	
Approach Delay, s/veh					218.8			3.1			43.2	
Approach LOS					F			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		91.3		29.0	58.6	32.6						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	20.9	25.2						
Green Ext Time (p_c), s		5.8		0.0	1.7	1.6						
Intersection Summary												
HCM 2010 Ctrl Delay				62.1								
HCM 2010 LOS				E								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

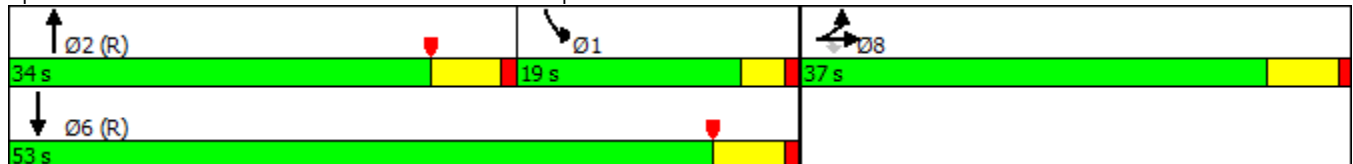


Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	5	646	1171	284	1573
Future Volume (vph)	5	646	1171	284	1573
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



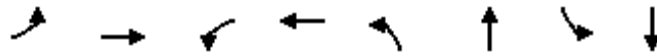
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	5	646	0	0	0	0	1171	775	284	1573	0
Future Volume (veh/h)	113	5	646	0	0	0	0	1171	775	284	1573	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	122	5	494				0	1259	662	305	1691	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	561	23	520				0	1455	468	974	4813	0
Arrive On Green	0.34	0.34	0.34				0.00	0.31	0.31	0.20	0.32	0.00
Sat Flow, veh/h	1650	68	1530				0	4896	1494	1619	5076	0
Grp Volume(v), veh/h	127	0	494				0	1259	662	305	1691	0
Grp Sat Flow(s),veh/h/ln	1718	0	1530				0	1548	1494	1619	1638	0
Q Serve(g_s), s	4.7	0.0	28.3				0.0	23.0	28.2	14.5	23.6	0.0
Cycle Q Clear(g_c), s	4.7	0.0	28.3				0.0	23.0	28.2	14.5	23.6	0.0
Prop In Lane	0.96		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	584	0	520				0	1455	468	974	4813	0
V/C Ratio(X)	0.22	0.00	0.95				0.00	0.87	1.41	0.31	0.35	0.00
Avail Cap(c_a), veh/h	595	0	530				0	1455	468	974	4813	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.39	0.39	0.14	0.14	0.00
Uniform Delay (d), s/veh	21.2	0.0	29.0				0.0	29.1	30.9	20.2	8.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	26.7				0.0	3.0	191.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.7				0.0	10.2	36.5	6.5	11.1	0.0
LnGrp Delay(d),s/veh	21.4	0.0	55.7				0.0	32.1	222.3	20.2	8.7	0.0
LnGrp LOS	C		E					C	F	C	A	
Approach Vol, veh/h		621						1921			1996	
Approach Delay, s/veh		48.7						97.6			10.4	
Approach LOS		D						F			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	61.2	34.0				95.2		36.4				
Change Period (Y+Rc), s	5.8	* 5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	* 28				47.2		31.2				
Max Q Clear Time (g_c+I1), s	16.5	30.2				25.6		30.3				
Green Ext Time (p_c), s	0.0	0.0				12.3		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			52.6									
HCM 2010 LOS			D									
Notes												

Timings
16: Archibald Av. & Walnut Av.

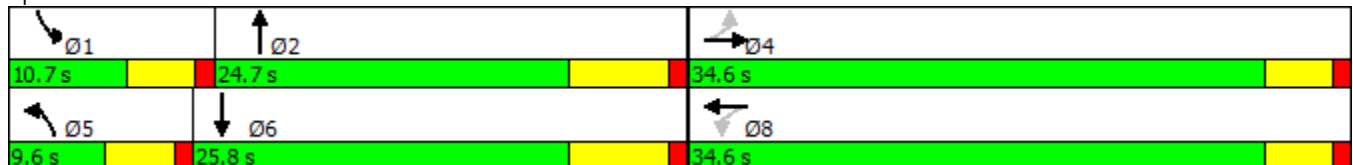


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↖	←	↖	↑↑↑	↗	↑↑↑
Traffic Volume (vph)	18	7	59	14	66	1577	114	1856
Future Volume (vph)	18	7	59	14	66	1577	114	1856
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	24.7	10.7	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.3%	15.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 54.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

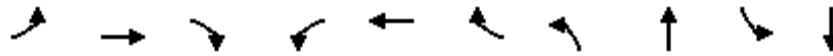
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	7	31	59	14	67	66	1577	67	114	1856	18
Future Volume (veh/h)	18	7	31	59	14	67	66	1577	67	114	1856	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	19	7	6	62	15	17	69	1660	71	120	1954	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	376	166	142	394	142	161	103	1901	81	148	2118	20
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.39	0.39	0.09	0.42	0.42
Sat Flow, veh/h	1313	896	768	1344	769	871	1619	4827	206	1619	5022	46
Grp Volume(v), veh/h	19	0	13	62	0	32	69	1126	605	120	1275	697
Grp Sat Flow(s),veh/h/ln	1313	0	1664	1344	0	1640	1619	1638	1757	1619	1638	1792
Q Serve(g_s), s	0.6	0.0	0.3	1.9	0.0	0.8	1.9	14.8	14.8	3.4	17.2	17.2
Cycle Q Clear(g_c), s	1.3	0.0	0.3	2.2	0.0	0.8	1.9	14.8	14.8	3.4	17.2	17.2
Prop In Lane	1.00		0.46	1.00		0.53	1.00		0.12	1.00		0.03
Lane Grp Cap(c), veh/h	376	0	307	394	0	303	103	1290	692	148	1382	756
V/C Ratio(X)	0.05	0.00	0.04	0.16	0.00	0.11	0.67	0.87	0.87	0.81	0.92	0.92
Avail Cap(c_a), veh/h	977	0	1070	1010	0	1055	173	1299	697	212	1382	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	15.6	16.5	0.0	15.8	21.4	13.1	13.1	20.8	12.8	12.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	0.2	2.8	6.8	11.8	9.6	10.4	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.7	0.0	0.4	0.9	7.8	9.3	1.9	9.6	11.9
LnGrp Delay(d),s/veh	16.4	0.0	15.7	16.7	0.0	16.0	24.2	19.8	24.9	30.4	23.2	29.6
LnGrp LOS	B		B	B		B	C	B	C	C	C	C
Approach Vol, veh/h		32			94			1800			2092	
Approach Delay, s/veh		16.1			16.4			21.7			25.7	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	24.6		13.2	7.6	25.9		13.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.1	18.5		30.0	5.0	19.6		30.0				
Max Q Clear Time (g_c+I1), s	5.4	16.8		3.3	3.9	19.2		4.2				
Green Ext Time (p_c), s	0.0	1.5		0.5	0.0	0.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

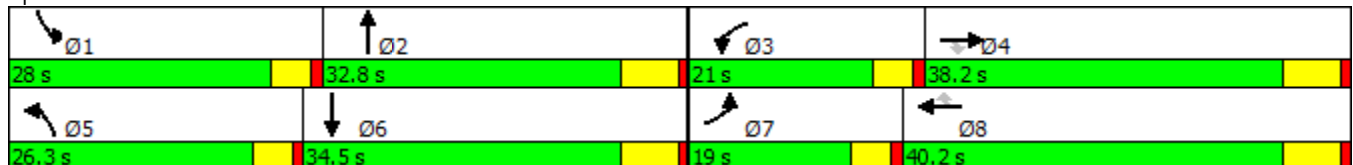


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	177	741	314	223	506	305	340	1080	456	1169
Future Volume (vph)	177	741	314	223	506	305	340	1080	456	1169
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	741	314	223	506	305	340	1080	168	456	1169	212
Future Volume (veh/h)	177	741	314	223	506	305	340	1080	168	456	1169	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	188	788	262	237	538	268	362	1149	162	485	1244	154
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	195	898	392	223	955	426	294	969	137	318	1048	130
Arrive On Green	0.12	0.26	0.26	0.14	0.28	0.28	0.18	0.22	0.22	0.20	0.24	0.24
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	1619	4348	613	1619	4418	547
Grp Volume(v), veh/h	188	788	262	237	538	268	362	866	445	485	922	476
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1619	1638	1685	1619	1638	1689
Q Serve(g_s), s	13.8	26.3	18.7	16.4	16.1	18.3	21.7	26.6	26.6	23.4	28.3	28.3
Cycle Q Clear(g_c), s	13.8	26.3	18.7	16.4	16.1	18.3	21.7	26.6	26.6	23.4	28.3	28.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.32
Lane Grp Cap(c), veh/h	195	898	392	223	955	426	294	730	376	318	777	401
V/C Ratio(X)	0.96	0.88	0.67	1.07	0.56	0.63	1.23	1.19	1.19	1.53	1.19	1.19
Avail Cap(c_a), veh/h	195	917	400	223	975	435	294	730	376	318	777	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	42.2	39.4	51.5	36.8	37.6	48.8	46.4	46.4	48.0	45.5	45.5
Incr Delay (d2), s/veh	53.0	9.6	4.1	78.6	0.7	2.8	129.4	96.9	107.5	252.8	97.0	106.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	13.7	8.2	12.2	7.6	8.1	20.2	21.8	23.5	32.7	23.2	25.0
LnGrp Delay(d),s/veh	105.2	51.7	43.5	130.1	37.5	40.4	178.2	143.2	153.8	300.8	142.5	152.2
LnGrp LOS	F	D	D	F	D	D	F	F	F	F	F	F
Approach Vol, veh/h		1238			1043			1673			1883	
Approach Delay, s/veh		58.1			59.3			153.6			185.7	
Approach LOS		E			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	32.8	21.0	37.5	26.3	34.5	19.0	39.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	25.4	28.6	18.4	28.3	23.7	30.3	15.8	20.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	8.1				
Intersection Summary												
HCM 2010 Ctrl Delay			126.9									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

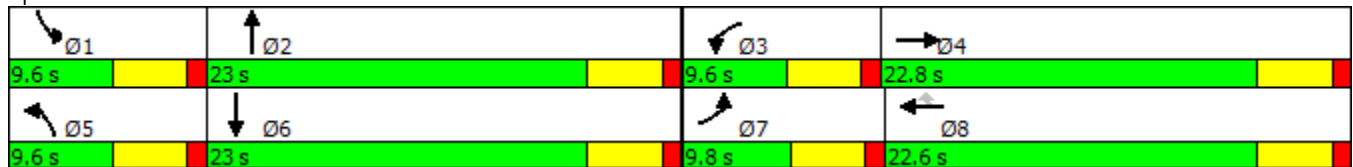


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↕	↖	↗
Traffic Volume (vph)	99	99	54	16	88	47	1403	99	1426
Future Volume (vph)	99	99	54	16	88	47	1403	99	1426
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 53.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	99	60	54	16	88	47	1403	66	99	1426	22
Future Volume (veh/h)	99	99	60	54	16	88	47	1403	66	99	1426	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	101	101	58	55	16	29	48	1432	62	101	1455	22
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	124	151	87	87	212	181	79	1720	74	124	1325	20
Arrive On Green	0.08	0.14	0.14	0.05	0.12	0.12	0.05	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	1619	1074	617	1619	1800	1530	1619	4825	209	1619	3448	52
Grp Volume(v), veh/h	101	0	159	55	16	29	48	972	522	101	721	756
Grp Sat Flow(s),veh/h/ln	1619	0	1691	1619	1800	1530	1619	1638	1758	1619	1710	1790
Q Serve(g_s), s	3.0	0.0	4.4	1.6	0.4	0.8	1.4	13.4	13.4	3.0	19.0	19.0
Cycle Q Clear(g_c), s	3.0	0.0	4.4	1.6	0.4	0.8	1.4	13.4	13.4	3.0	19.0	19.0
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.12	1.00		0.03
Lane Grp Cap(c), veh/h	124	0	238	87	212	181	79	1168	627	124	657	688
V/C Ratio(X)	0.82	0.00	0.67	0.63	0.08	0.16	0.61	0.83	0.83	0.82	1.10	1.10
Avail Cap(c_a), veh/h	170	0	623	164	656	557	164	1220	655	164	657	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	20.1	22.9	19.4	19.6	23.0	14.5	14.5	22.5	15.2	15.2
Incr Delay (d2), s/veh	18.9	0.0	3.2	7.4	0.1	0.4	7.3	4.9	8.7	20.6	64.7	64.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.2	0.9	0.2	0.4	0.8	6.7	7.9	2.1	20.6	21.5
LnGrp Delay(d),s/veh	41.4	0.0	23.3	30.3	19.5	20.0	30.3	19.4	23.3	43.1	80.0	79.8
LnGrp LOS	D		C	C	B	B	C	B	C	D	F	F
Approach Vol, veh/h		260			100			1542			1578	
Approach Delay, s/veh		30.3			25.6			21.1			77.5	
Approach LOS		C			C			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	22.2	7.2	11.6	7.0	23.6	8.4	10.4				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	5.0	15.4	3.6	6.4	3.4	21.0	5.0	2.8				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.7	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			47.5									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	9	30	20	12	18	8	20	1528	12	14	1512	11
Future Vol, veh/h	9	30	20	12	18	8	20	1528	12	14	1512	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	33	22	13	20	9	22	1661	13	15	1643	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2564	3397	828	2579	3397	837	1655	0	0	1674	0	0
Stage 1	1680	1680	-	1711	1711	-	-	-	-	-	-	-
Stage 2	884	1717	-	868	1686	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	13	~ 8	318	~ 13	~ 8	314	395	-	-	388	-	-
Stage 1	101	153	-	96	147	-	-	-	-	-	-	-
Stage 2	311	146	-	318	152	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 7	318	-	~ 7	314	395	-	-	388	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 7	-	-	-	-	-	-	-
Stage 1	95	147	-	91	139	-	-	-	-	-	-	-
Stage 2	245	138	-	222	146	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.2	0.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	395	-	-	-	11	-	10	388	-	-
HCM Lane V/C Ratio	0.055	-	-	-	4.941	-	2.826	0.039	-	-
HCM Control Delay (s)	14.6	-	-	\$ 2449.3		\$ 1567.5		14.7	-	-
HCM Lane LOS	B	-	-	-	F	-	F	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	8	-	4.6	0.1	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

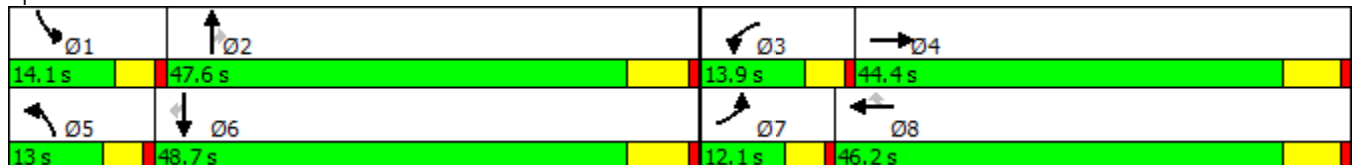


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	118	223	128	470	317	115	88	1310	534	106	1372	49
Future Volume (vph)	118	223	128	470	317	115	88	1310	534	106	1372	49
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



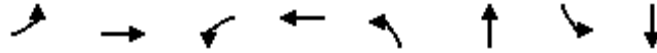
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	223	128	470	317	115	88	1310	534	106	1372	49
Future Volume (veh/h)	118	223	128	470	317	115	88	1310	534	106	1372	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	225	0	475	320	96	89	1323	0	107	1386	40
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	630	282	280	398	338	110	1426	638	131	1470	658
Arrive On Green	0.06	0.18	0.00	0.09	0.22	0.22	0.07	0.42	0.00	0.08	0.43	0.43
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	119	225	0	475	320	96	89	1323	0	107	1386	40
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	3.9	5.6	0.0	9.3	16.5	5.1	5.3	36.1	0.0	6.4	38.1	1.5
Cycle Q Clear(g_c), s	3.9	5.6	0.0	9.3	16.5	5.1	5.3	36.1	0.0	6.4	38.1	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	630	282	280	398	338	110	1426	638	131	1470	658
V/C Ratio(X)	0.70	0.36	0.00	1.70	0.80	0.28	0.81	0.93	0.00	0.82	0.94	0.06
Avail Cap(c_a), veh/h	226	1331	595	280	734	624	139	1432	641	157	1470	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	35.0	0.0	44.4	36.2	31.8	45.1	27.2	0.0	44.4	26.8	16.4
Incr Delay (d2), s/veh	3.1	0.3	0.0	328.1	3.8	0.5	19.2	10.7	0.0	20.5	12.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.7	0.0	16.5	8.6	2.2	3.0	19.0	0.0	3.6	20.4	0.6
LnGrp Delay(d),s/veh	48.5	35.3	0.0	372.5	40.0	32.2	64.3	37.9	0.0	64.8	39.2	16.4
LnGrp LOS	D	D		F	D	C	E	D		E	D	B
Approach Vol, veh/h		344			891			1412			1533	
Approach Delay, s/veh		39.8			216.4			39.6			40.4	
Approach LOS		D			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	47.4	13.9	24.3	11.3	48.7	10.3	27.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	8.4	38.1	11.3	7.6	7.3	40.1	5.9	18.5				
Green Ext Time (p_c), s	0.0	2.8	0.0	3.4	0.0	2.0	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				77.6								
HCM 2010 LOS				E								

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↕
Traffic Volume (vph)	19	0	38	0	76	1844	130	1814
Future Volume (vph)	19	0	38	0	76	1844	130	1814
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	38.2	38.2	38.2	38.2	10.0	67.8	14.0	71.8
Total Split (%)	31.8%	31.8%	31.8%	31.8%	8.3%	56.5%	11.7%	59.8%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	45	38	0	74	76	1844	89	130	1814	33
Future Volume (veh/h)	19	0	45	38	0	74	76	1844	89	130	1814	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	21	0	49	41	0	66	83	2004	95	141	1972	36
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	17	115	100	13	98	90	2103	99	157	2315	42
Arrive On Green	0.10	0.00	0.10	0.10	0.00	0.10	0.06	0.63	0.63	0.10	0.67	0.67
Sat Flow, veh/h	314	167	1121	473	124	961	1619	3326	156	1619	3436	63
Grp Volume(v), veh/h	70	0	0	107	0	0	83	1023	1076	141	978	1030
Grp Sat Flow(s),veh/h/ln	1601	0	0	1557	0	0	1619	1710	1772	1619	1710	1789
Q Serve(g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	4.9	53.0	55.1	8.3	42.3	42.9
Cycle Q Clear(g_c), s	3.9	0.0	0.0	6.2	0.0	0.0	4.9	53.0	55.1	8.3	42.3	42.9
Prop In Lane	0.30		0.70	0.38		0.62	1.00		0.09	1.00		0.03
Lane Grp Cap(c), veh/h	212	0	0	211	0	0	90	1081	1121	157	1152	1205
V/C Ratio(X)	0.33	0.00	0.00	0.51	0.00	0.00	0.92	0.95	0.96	0.90	0.85	0.85
Avail Cap(c_a), veh/h	572	0	0	561	0	0	90	1082	1122	157	1153	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	0.0	41.7	0.0	0.0	45.5	16.3	16.7	43.3	12.1	12.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.9	0.0	0.0	68.8	16.0	18.1	42.4	6.2	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	2.9	0.0	0.0	3.9	29.5	32.2	5.6	21.5	22.9
LnGrp Delay(d),s/veh	41.7	0.0	0.0	43.6	0.0	0.0	114.3	32.3	34.8	85.7	18.2	18.3
LnGrp LOS	D			D			F	C	C	F	B	B
Approach Vol, veh/h		70			107			2182			2149	
Approach Delay, s/veh		41.7			43.6			36.6			22.7	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	67.8		15.1	10.0	71.8		15.1				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	9.4	61.3		* 34	5.4	65.3		33.0				
Max Q Clear Time (g_c+I1), s	10.3	57.1		5.9	6.9	44.9		8.2				
Green Ext Time (p_c), s	0.0	4.2		1.0	0.0	19.8		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				30.2								
HCM 2010 LOS				C								
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

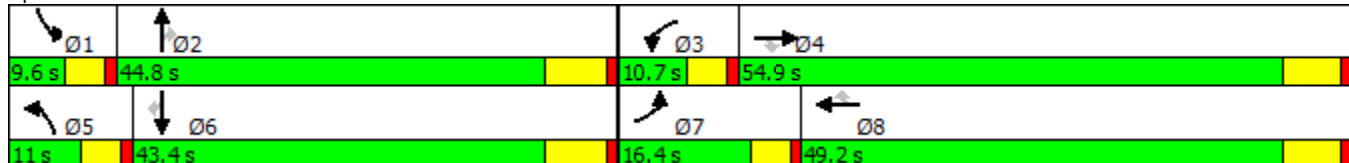


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	755	161	735	114	106	66	333	1178	121	52	1468	367
Future Volume (vph)	755	161	735	114	106	66	333	1178	121	52	1468	367
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	161	735	114	106	66	333	1178	121	52	1468	367
Future Volume (veh/h)	755	161	735	114	106	66	333	1178	121	52	1468	367
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	786	168	601	119	110	27	347	1227	112	54	1529	371
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	728	619	83	642	546	87	1118	500	103	1054	472
Arrive On Green	0.10	0.40	0.40	0.05	0.36	0.36	0.05	0.33	0.33	0.03	0.31	0.31
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	786	168	601	119	110	27	347	1227	112	54	1529	371
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	11.8	7.3	46.1	6.1	5.0	1.4	6.4	39.1	6.4	2.1	36.9	26.5
Cycle Q Clear(g_c), s	11.8	7.3	46.1	6.1	5.0	1.4	6.4	39.1	6.4	2.1	36.9	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	728	619	83	642	546	87	1118	500	103	1054	472
V/C Ratio(X)	4.92	0.23	0.97	1.44	0.17	0.05	4.01	1.10	0.22	0.52	1.45	0.79
Avail Cap(c_a), veh/h	160	732	623	83	647	550	87	1118	500	123	1054	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	23.4	35.0	56.8	26.4	25.2	56.6	40.3	29.3	56.8	41.4	37.8
Incr Delay (d2), s/veh	1780.0	0.2	28.9	254.6	0.1	0.0	1380.9	57.6	0.2	1.5	208.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	84.2	3.7	24.4	8.5	2.5	0.6	36.0	27.3	2.7	0.9	47.7	12.3
LnGrp Delay(d),s/veh	1834.0	23.6	63.8	311.4	26.5	25.2	1437.6	97.9	29.5	58.3	249.4	46.4
LnGrp LOS	F	C	E	F	C	C	F	F	C	E	F	D
Approach Vol, veh/h		1555			256			1686			1954	
Approach Delay, s/veh		954.2			158.8			369.1			205.5	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	45.6	10.7	54.6	11.0	43.4	16.4	48.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	4.1	41.1	8.1	48.1	8.4	38.9	13.8	7.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay			467.5									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	24	0	1632	2302	15
Future Vol, veh/h	0	24	0	1632	2302	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	1774	2502	16

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1259	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.2	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	193	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	193	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	26.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	193	-	-
HCM Lane V/C Ratio	-	0.135	-	-
HCM Control Delay (s)	-	26.5	-	-
HCM Lane LOS	-	D	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Timings

24: Archibald Av. & Driveway 4/Victoria Ln.

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑	↗
Traffic Volume (vph)	77	0	50	0	33	1522	22	2291	13
Future Volume (vph)	77	0	50	0	33	1522	22	2291	13
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	35.6	35.6	35.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	35.6	35.6	35.6	35.6	11.0	73.5	10.9	73.4	73.4
Total Split (%)	29.7%	29.7%	29.7%	29.7%	9.2%	61.3%	9.1%	61.2%	61.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated























Splits and Phases: 24: Archibald Av. & Driveway 4/Victoria Ln.

Ø1	Ø2	Ø4
10.9 s	73.5 s	35.6 s
Ø5	Ø6	Ø8
11 s	73.4 s	35.6 s

HCM 2010 Signalized Intersection Summary
 24: Archibald Av. & Driveway 4/Victoria Ln.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	29	50	0	33	33	1522	156	22	2291	13
Future Volume (veh/h)	77	0	29	50	0	33	33	1522	156	22	2291	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	84	0	32	54	0	36	36	1654	170	24	2490	14
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	196	0	172	199	0	172	52	3172	325	40	3404	1060
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.03	0.70	0.70	0.02	0.69	0.69
Sat Flow, veh/h	1316	0	1530	1321	0	1530	1619	4529	465	1619	4914	1530
Grp Volume(v), veh/h	84	0	32	54	0	36	36	1195	629	24	2490	14
Grp Sat Flow(s),veh/h/ln	1316	0	1530	1321	0	1530	1619	1638	1718	1619	1638	1530
Q Serve(g_s), s	5.9	0.0	1.8	3.7	0.0	2.0	2.1	16.3	16.4	1.4	29.9	0.3
Cycle Q Clear(g_c), s	7.9	0.0	1.8	5.5	0.0	2.0	2.1	16.3	16.4	1.4	29.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	196	0	172	199	0	172	52	2294	1203	40	3404	1060
V/C Ratio(X)	0.43	0.00	0.19	0.27	0.00	0.21	0.69	0.52	0.52	0.60	0.73	0.01
Avail Cap(c_a), veh/h	479	0	501	484	0	501	109	2329	1221	108	3488	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	38.1	40.6	0.0	38.2	45.3	6.7	6.7	45.7	9.1	4.5
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.7	0.0	0.6	14.8	0.2	0.4	13.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.8	1.4	0.0	0.9	1.1	7.4	7.8	0.8	13.4	0.1
LnGrp Delay(d),s/veh	43.3	0.0	38.6	41.3	0.0	38.8	60.2	6.9	7.1	59.2	9.8	4.5
LnGrp LOS	D		D	D		D	E	A	A	E	A	A
Approach Vol, veh/h		116			90			1860			2528	
Approach Delay, s/veh		42.0			40.3			8.0			10.3	
Approach LOS		D			D			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	72.5		15.2	7.7	71.8		15.2				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.3	67.3		31.0	6.4	67.2		31.0				
Max Q Clear Time (g_c+I1), s	3.4	18.4		9.9	4.1	31.9		7.5				
Green Ext Time (p_c), s	0.0	45.9		0.8	0.0	33.7		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	24	0	1711	2362	8
Future Vol, veh/h	0	24	0	1711	2362	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	1860	2567	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1284	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.2	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	187	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	187	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	27.3	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	187	-	-
HCM Lane V/C Ratio	-	0.14	-	-
HCM Control Delay (s)	-	27.3	-	-
HCM Lane LOS	-	D	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

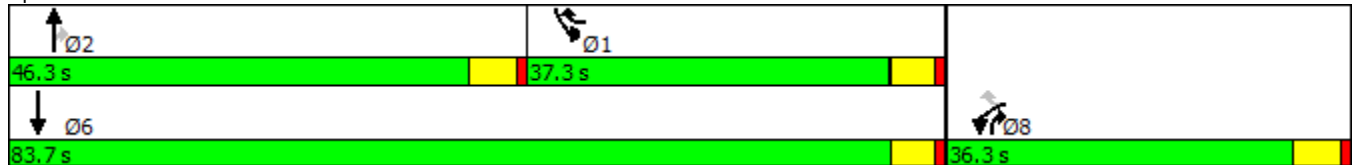














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↕	↷	↶	↕
Traffic Volume (vph)	556	545	1164	716	1052	1257
Future Volume (vph)	556	545	1164	716	1052	1257
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.3	46.3	36.3	37.3	83.7
Total Split (%)	30.3%	31.1%	38.6%	30.3%	31.1%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



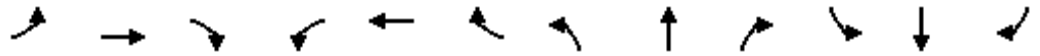
								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	556	545	1164	716	1052	1257		
Future Volume (veh/h)	556	545	1164	716	1052	1257		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	625	570	1308	804	1182	1412		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	467	853	649	969	489	1246		
Arrive On Green	0.26	0.26	0.34	0.34	0.27	0.66		
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900		
Grp Volume(v), veh/h	625	570	1308	804	1182	1412		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900		
Q Serve(g_s), s	31.0	0.0	41.0	41.0	32.4	78.7		
Cycle Q Clear(g_c), s	31.0	0.0	41.0	41.0	32.4	78.7		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	467	853	649	969	489	1246		
V/C Ratio(X)	1.34	0.67	2.01	0.83	2.42	1.13		
Avail Cap(c_a), veh/h	467	853	649	969	489	1246		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	44.5	20.6	39.5	17.8	43.8	20.6		
Incr Delay (d2), s/veh	165.6	1.6	462.1	6.3	644.9	70.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	37.0	14.2	104.8	28.3	103.7	65.2		
LnGrp Delay(d),s/veh	210.1	22.3	501.6	24.1	688.7	91.0		
LnGrp LOS	F	C	F	C	F	F		
Approach Vol, veh/h	1195		2112		2594			
Approach Delay, s/veh	120.5		319.8		363.4			
Approach LOS	F		F		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.4	46.3				83.7		36.3
Change Period (Y+Rc), s	5.0	5.3				5.0		5.3
Max Green Setting (Gmax), s	32.3	41.0				78.7		31.0
Max Q Clear Time (g_c+I1), s	34.4	43.0				80.7		33.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			298.6					
HCM 2010 LOS			F					

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

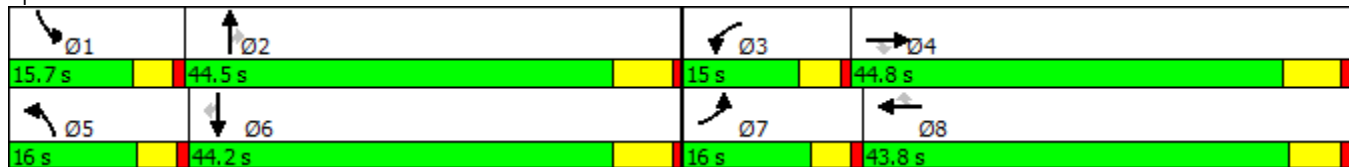


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	489	1192	506	107	378	67	237	882	107	214	1018	614
Future Volume (vph)	489	1192	506	107	378	67	237	882	107	214	1018	614
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	15.0	43.8	43.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	12.5%	36.5%	36.5%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	489	1192	506	107	378	67	237	882	107	214	1018	614
Future Volume (veh/h)	489	1192	506	107	378	67	237	882	107	214	1018	614
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	520	1268	451	114	402	66	252	938	79	228	1083	516
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	356	1722	524	171	1450	446	312	1788	546	289	1754	535
Arrive On Green	0.10	0.33	0.33	0.05	0.28	0.28	0.09	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	3510	5187	1577	3510	5187	1594	3510	5187	1583	3510	5187	1582
Grp Volume(v), veh/h	520	1268	451	114	402	66	252	938	79	228	1083	516
Grp Sat Flow(s),veh/h/ln	1755	1729	1577	1755	1729	1594	1755	1729	1583	1755	1729	1582
Q Serve(g_s), s	11.4	24.3	30.1	3.6	6.8	3.5	7.9	16.3	3.9	7.2	19.6	36.0
Cycle Q Clear(g_c), s	11.4	24.3	30.1	3.6	6.8	3.5	7.9	16.3	3.9	7.2	19.6	36.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	1722	524	171	1450	446	312	1788	546	289	1754	535
V/C Ratio(X)	1.46	0.74	0.86	0.66	0.28	0.15	0.81	0.52	0.14	0.79	0.62	0.97
Avail Cap(c_a), veh/h	356	1781	542	325	1754	539	356	1788	546	347	1754	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	33.2	35.1	52.6	31.6	30.4	50.3	29.5	25.4	50.6	31.1	36.5
Incr Delay (d2), s/veh	222.2	1.6	13.0	1.7	0.1	0.2	10.0	0.3	0.1	8.0	0.7	30.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.5	11.9	14.9	1.8	3.3	1.6	4.3	7.8	1.7	3.8	9.4	20.2
LnGrp Delay(d),s/veh	272.7	34.8	48.1	54.2	31.7	30.6	60.3	29.7	25.5	58.6	31.8	66.7
LnGrp LOS	F	C	D	D	C	C	E	C	C	E	C	E
Approach Vol, veh/h		2239			582			1269			1827	
Approach Delay, s/veh		92.7			36.0			35.5			45.0	
Approach LOS		F			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	45.0	10.1	43.5	14.6	44.2	16.0	37.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	10.4	38.6	11.4	38.0	11.4	* 38				
Max Q Clear Time (g_c+I1), s	9.2	18.3	5.6	32.1	9.9	38.0	13.4	8.8				
Green Ext Time (p_c), s	0.1	14.7	0.1	5.3	0.1	0.0	0.0	16.0				
Intersection Summary												
HCM 2010 Ctrl Delay			60.1									
HCM 2010 LOS			E									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

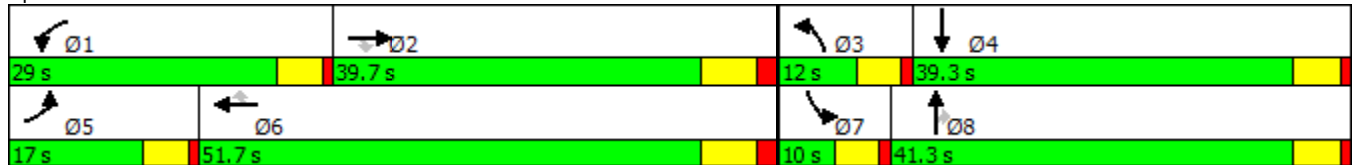


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	142	1655	59	238	1096	155	54	58	181	97	32
Future Volume (vph)	142	1655	59	238	1096	155	54	58	181	97	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1655	59	238	1096	155	54	58	181	97	32	70
Future Volume (veh/h)	142	1655	59	238	1096	155	54	58	181	97	32	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	1839	65	264	1218	172	60	64	172	108	36	71
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	2012	613	301	1617	723	78	270	226	101	88	173
Arrive On Green	0.11	0.39	0.39	0.17	0.45	0.45	0.04	0.14	0.14	0.06	0.15	0.15
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1591	1810	567	1118
Grp Volume(v), veh/h	158	1839	65	264	1218	172	60	64	172	108	0	107
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1591	1810	0	1685
Q Serve(g_s), s	7.7	30.2	2.4	12.8	25.2	5.9	2.9	2.7	9.3	5.0	0.0	5.1
Cycle Q Clear(g_c), s	7.7	30.2	2.4	12.8	25.2	5.9	2.9	2.7	9.3	5.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	192	2012	613	301	1617	723	78	270	226	101	0	260
V/C Ratio(X)	0.82	0.91	0.11	0.88	0.75	0.24	0.77	0.24	0.76	1.07	0.00	0.41
Avail Cap(c_a), veh/h	242	2012	613	483	1796	804	141	761	637	101	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	26.1	17.6	36.6	20.7	15.3	42.5	34.2	37.1	42.4	0.0	34.3
Incr Delay (d2), s/veh	13.6	7.0	0.1	6.4	1.7	0.2	5.8	0.4	5.2	110.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	15.6	1.0	6.9	12.9	2.6	1.6	1.4	4.4	5.6	0.0	2.5
LnGrp Delay(d),s/veh	52.9	33.1	17.6	42.9	22.3	15.5	48.3	34.7	42.3	153.2	0.0	35.3
LnGrp LOS	D	C	B	D	C	B	D	C	D	F		D
Approach Vol, veh/h		2062			1654			296			215	
Approach Delay, s/veh		34.1			24.9			41.9			94.5	
Approach LOS		C			C			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.9	41.8	8.9	19.2	14.5	47.2	10.0	18.1				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	14.8	32.2	4.9	7.1	9.7	27.2	7.0	11.3				
Green Ext Time (p_c), s	0.2	0.5	0.0	1.4	0.0	13.0	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			34.1									
HCM 2010 LOS			C									

Timings
29: Sumner Av. & Limonite Av.

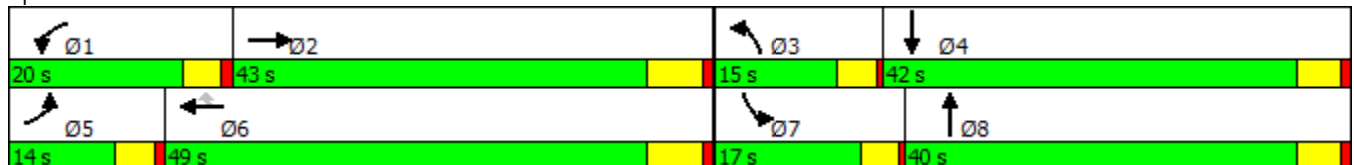


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	124	1687	210	1296	157	67	120	145	164
Future Volume (vph)	124	1687	210	1296	157	67	120	145	164
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1687	78	210	1296	157	67	120	168	145	164	102
Future Volume (veh/h)	124	1687	78	210	1296	157	67	120	168	145	164	102
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	128	1739	74	216	1336	141	69	124	99	149	169	78
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	201	2288	97	300	2472	769	89	255	188	184	440	194
Arrive On Green	0.06	0.45	0.45	0.09	0.48	0.48	0.05	0.13	0.13	0.10	0.18	0.18
Sat Flow, veh/h	3510	5102	217	3510	5187	1614	1810	1978	1458	1810	2426	1068
Grp Volume(v), veh/h	128	1178	635	216	1336	141	69	112	111	149	124	123
Grp Sat Flow(s),veh/h/ln	1755	1729	1861	1755	1729	1614	1810	1805	1631	1810	1805	1689
Q Serve(g_s), s	3.0	23.6	23.6	5.0	15.0	4.1	3.1	4.8	5.3	6.7	5.0	5.3
Cycle Q Clear(g_c), s	3.0	23.6	23.6	5.0	15.0	4.1	3.1	4.8	5.3	6.7	5.0	5.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.89	1.00		0.63
Lane Grp Cap(c), veh/h	201	1550	835	300	2472	769	89	232	210	184	327	306
V/C Ratio(X)	0.64	0.76	0.76	0.72	0.54	0.18	0.77	0.48	0.53	0.81	0.38	0.40
Avail Cap(c_a), veh/h	403	1550	835	657	2695	839	241	763	690	284	807	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	19.1	19.1	36.9	15.3	12.4	38.9	33.5	33.7	36.4	29.8	29.9
Incr Delay (d2), s/veh	1.2	2.2	4.1	1.2	0.2	0.1	5.2	1.2	1.5	4.9	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.6	12.9	2.5	7.2	1.9	1.7	2.4	2.5	3.6	2.5	2.6
LnGrp Delay(d),s/veh	39.4	21.3	23.2	38.1	15.5	12.5	44.1	34.6	35.2	41.2	30.3	30.6
LnGrp LOS	D	C	C	D	B	B	D	C	D	D	C	C
Approach Vol, veh/h		1941			1693			292			396	
Approach Delay, s/veh		23.2			18.1			37.1			34.5	
Approach LOS		C			B			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	43.1	8.1	20.0	9.2	45.4	12.4	15.7				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	7.0	25.6	5.1	7.3	5.0	17.0	8.7	7.3				
Green Ext Time (p_c), s	0.2	10.6	0.0	2.1	0.0	22.4	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			23.2									
HCM 2010 LOS			C									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

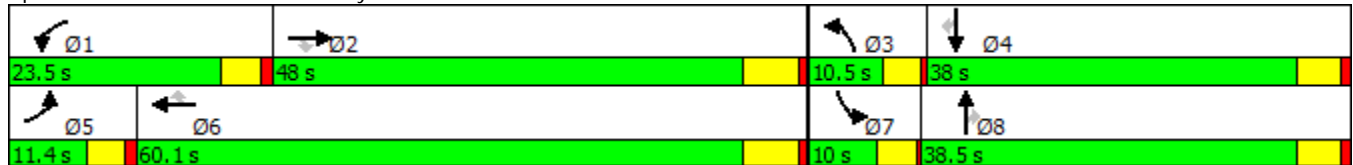


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	42	1882	94	179	1607	37	90	27	152	27	75	16
Future Volume (vph)	42	1882	94	179	1607	37	90	27	152	27	75	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

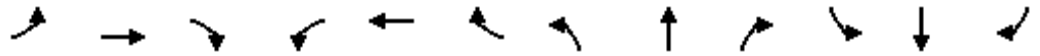
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1882	94	179	1607	37	90	27	152	27	75	16
Future Volume (veh/h)	42	1882	94	179	1607	37	90	27	152	27	75	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	1920	94	183	1640	38	92	28	107	28	77	13
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	55	1857	819	221	2188	956	118	208	177	41	242	106
Arrive On Green	0.03	0.51	0.51	0.12	0.61	0.61	0.07	0.11	0.11	0.02	0.07	0.07
Sat Flow, veh/h	1810	3610	1592	1810	3610	1578	1810	1900	1611	1810	3610	1583
Grp Volume(v), veh/h	43	1920	94	183	1640	38	92	28	107	28	77	13
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1578	1810	1900	1611	1810	1805	1583
Q Serve(g_s), s	2.0	43.3	2.6	8.3	27.6	0.8	4.2	1.1	5.3	1.3	1.7	0.7
Cycle Q Clear(g_c), s	2.0	43.3	2.6	8.3	27.6	0.8	4.2	1.1	5.3	1.3	1.7	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	55	1857	819	221	2188	956	118	208	177	41	242	106
V/C Ratio(X)	0.79	1.03	0.11	0.83	0.75	0.04	0.78	0.13	0.61	0.68	0.32	0.12
Avail Cap(c_a), veh/h	148	1857	819	408	2318	1013	140	755	640	129	1414	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	20.5	10.6	36.1	12.0	6.7	38.8	33.9	35.8	40.9	37.5	37.0
Incr Delay (d2), s/veh	9.0	30.3	0.1	3.1	1.3	0.0	17.1	0.2	2.5	7.0	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	29.2	1.1	4.4	14.1	0.4	2.7	0.6	2.5	0.7	0.9	0.3
LnGrp Delay(d),s/veh	49.6	50.7	10.6	39.2	13.3	6.7	55.9	34.1	38.3	47.9	38.0	37.3
LnGrp LOS	D	F	B	D	B	A	E	C	D	D	D	D
Approach Vol, veh/h		2057			1861			227			118	
Approach Delay, s/veh		48.9			15.7			44.9			40.3	
Approach LOS		D			B			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	49.3	9.5	10.7	7.0	57.1	5.9	14.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	10.3	45.3	6.2	3.7	4.0	29.6	3.3	7.3				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.7	0.0	21.4	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			34.0									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

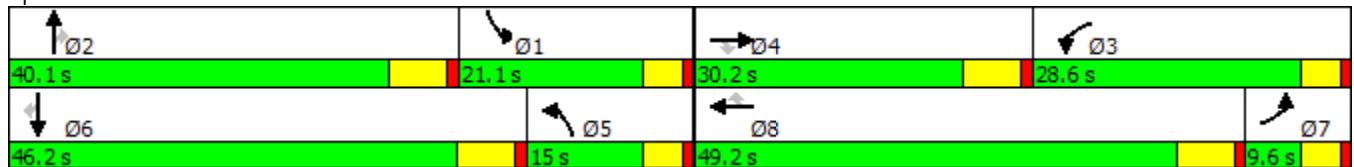


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	46	906	408	643	749	272	309	326	613	374	464	48
Future Volume (vph)	46	906	408	643	749	272	309	326	613	374	464	48
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	9.6	30.2	30.2	28.6	49.2	49.2	15.0	40.1	40.1	21.1	46.2	46.2
Total Split (%)	8.0%	25.2%	25.2%	23.8%	41.0%	41.0%	12.5%	33.4%	33.4%	17.6%	38.5%	38.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	906	408	643	749	272	309	326	613	374	464	48
Future Volume (veh/h)	46	906	408	643	749	272	309	326	613	374	464	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	954	293	677	788	217	325	343	636	394	488	46
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	484	1041	320	711	958	428	837	1484	462	451	636	283
Arrive On Green	0.14	0.20	0.20	0.20	0.27	0.27	0.24	0.29	0.29	0.13	0.18	0.18
Sat Flow, veh/h	3510	5187	1594	3510	3610	1615	3510	5187	1615	3510	3610	1609
Grp Volume(v), veh/h	48	954	293	677	788	217	325	343	636	394	488	46
Grp Sat Flow(s),veh/h/ln	1755	1729	1594	1755	1805	1615	1755	1729	1615	1755	1805	1609
Q Serve(g_s), s	1.4	21.3	21.3	22.6	24.3	13.5	9.2	6.0	33.9	13.1	15.3	2.9
Cycle Q Clear(g_c), s	1.4	21.3	21.3	22.6	24.3	13.5	9.2	6.0	33.9	13.1	15.3	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	484	1041	320	711	958	428	837	1484	462	451	636	283
V/C Ratio(X)	0.10	0.92	0.92	0.95	0.82	0.51	0.39	0.23	1.38	0.87	0.77	0.16
Avail Cap(c_a), veh/h	484	1050	323	711	1310	586	837	1484	462	489	1218	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	46.4	46.4	46.7	40.9	37.0	37.9	32.3	42.3	50.7	46.5	41.4
Incr Delay (d2), s/veh	0.0	12.2	29.4	22.5	3.2	0.9	0.1	0.1	182.8	14.2	2.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	11.3	12.0	13.1	12.6	6.1	4.5	2.9	38.5	7.2	7.8	1.3
LnGrp Delay(d),s/veh	44.7	58.6	75.8	69.2	44.1	37.9	38.0	32.4	225.1	64.9	48.5	41.7
LnGrp LOS	D	E	E	E	D	D	D	C	F	E	D	D
Approach Vol, veh/h		1295			1682			1304			928	
Approach Delay, s/veh		62.0			53.4			127.8			55.1	
Approach LOS		E			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	40.1	28.6	30.0	32.9	27.1	21.0	37.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.5	33.9	24.0	24.0	10.4	40.0	5.0	43.0				
Max Q Clear Time (g_c+I1), s	15.1	35.9	24.6	23.3	11.2	17.3	3.4	26.3				
Green Ext Time (p_c), s	0.2	0.0	0.0	0.4	0.0	3.0	0.3	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			74.5									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

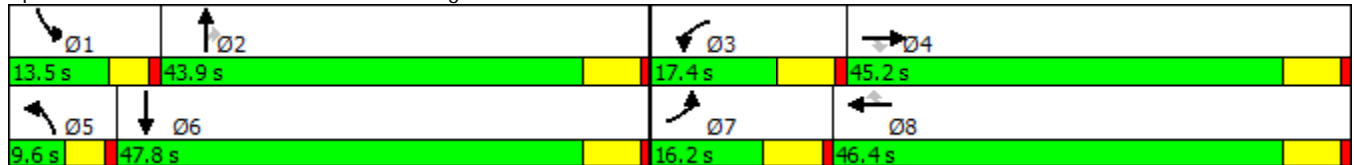


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↗	↖↗	↑↑	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	131	132	23	319	183	140	6	749	240	126	1093
Future Volume (vph)	131	132	23	319	183	140	6	749	240	126	1093
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	16.2	45.2	45.2	17.4	46.4	46.4	9.6	43.9	43.9	13.5	47.8
Total Split (%)	13.5%	37.7%	37.7%	14.5%	38.7%	38.7%	8.0%	36.6%	36.6%	11.3%	39.8%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 81.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	132	23	319	183	140	6	749	240	126	1093	283
Future Volume (veh/h)	131	132	23	319	183	140	6	749	240	126	1093	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	138	13	332	191	106	6	780	204	131	1139	281
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	445	241	205	445	458	205	14	1872	583	165	1844	455
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.01	0.36	0.36	0.09	0.44	0.44
Sat Flow, veh/h	3510	1900	1615	3510	3610	1615	1810	5187	1615	1810	4152	1024
Grp Volume(v), veh/h	136	138	13	332	191	106	6	780	204	131	949	471
Grp Sat Flow(s),veh/h/ln	1755	1900	1615	1755	1805	1615	1810	1729	1615	1810	1729	1718
Q Serve(g_s), s	2.8	5.4	0.6	7.2	3.8	4.8	0.3	8.9	7.3	5.6	16.6	16.6
Cycle Q Clear(g_c), s	2.8	5.4	0.6	7.2	3.8	4.8	0.3	8.9	7.3	5.6	16.6	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	445	241	205	445	458	205	14	1872	583	165	1536	763
V/C Ratio(X)	0.31	0.57	0.06	0.75	0.42	0.52	0.42	0.42	0.35	0.79	0.62	0.62
Avail Cap(c_a), veh/h	445	940	799	499	1841	824	115	2481	772	204	1825	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	32.4	30.3	33.2	31.7	32.2	38.9	18.9	18.4	35.1	16.8	16.8
Incr Delay (d2), s/veh	0.4	2.1	0.1	5.4	0.6	2.0	7.3	0.1	0.4	12.7	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.0	0.3	3.8	1.9	2.3	0.2	4.3	3.3	3.4	8.0	8.1
LnGrp Delay(d),s/veh	31.6	34.5	30.4	38.6	32.3	34.2	46.3	19.1	18.8	47.8	17.2	17.7
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		287			629			990			1551	
Approach Delay, s/veh		33.0			35.9			19.2			20.0	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	34.6	16.2	16.2	5.2	41.2	16.2	16.2				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	8.9	37.7	11.2	39.0	5.0	41.6	10.0	40.2				
Max Q Clear Time (g_c+I1), s	7.6	10.9	9.2	7.4	2.3	18.6	4.8	6.8				
Green Ext Time (p_c), s	0.0	17.4	0.2	2.2	0.0	15.7	0.2	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			23.7									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

10/03/2017

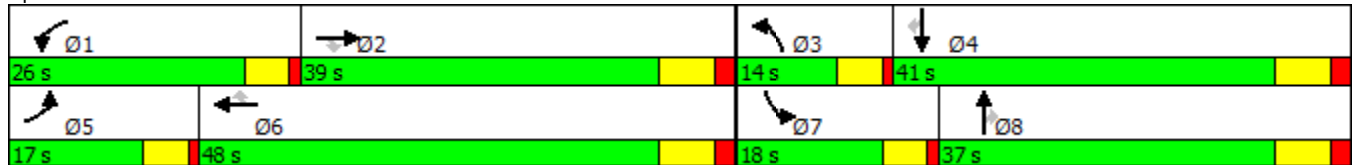


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	340	1560	127	446	1308	355	212	463	263	421	611	316
Future Volume (vph)	340	1560	127	446	1308	355	212	463	263	421	611	316
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

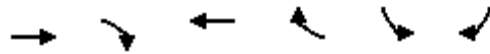
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	1560	127	446	1308	355	212	463	263	421	611	316
Future Volume (veh/h)	340	1560	127	446	1308	355	212	463	263	421	611	316
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	347	1592	111	455	1335	293	216	472	191	430	623	281
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	361	1593	485	515	1267	565	270	1191	360	391	952	425
Arrive On Green	0.10	0.31	0.31	0.15	0.35	0.35	0.08	0.23	0.23	0.11	0.26	0.26
Sat Flow, veh/h	3510	5187	1578	3510	3610	1611	3510	5187	1570	3510	3610	1611
Grp Volume(v), veh/h	347	1592	111	455	1335	293	216	472	191	430	623	281
Grp Sat Flow(s),veh/h/ln	1755	1729	1578	1755	1805	1611	1755	1729	1570	1755	1805	1611
Q Serve(g_s), s	11.5	35.8	6.1	14.8	41.0	16.9	7.1	9.0	12.5	13.0	17.9	18.2
Cycle Q Clear(g_c), s	11.5	35.8	6.1	14.8	41.0	16.9	7.1	9.0	12.5	13.0	17.9	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	1593	485	515	1267	565	270	1191	360	391	952	425
V/C Ratio(X)	0.96	1.00	0.23	0.88	1.05	0.52	0.80	0.40	0.53	1.10	0.65	0.66
Avail Cap(c_a), veh/h	361	1593	485	631	1267	565	270	1332	403	391	1051	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	40.5	30.2	48.9	37.9	30.1	53.0	38.1	39.5	51.9	38.3	38.3
Incr Delay (d2), s/veh	37.1	22.4	0.5	10.8	40.7	1.6	14.3	0.5	2.6	75.5	2.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	20.3	2.7	8.0	27.4	7.7	4.0	4.3	5.7	10.3	9.2	8.6
LnGrp Delay(d),s/veh	89.3	62.8	30.7	59.6	78.6	31.7	67.4	38.6	42.0	127.4	40.2	42.9
LnGrp LOS	F	E	C	E	F	C	E	D	D	F	D	D
Approach Vol, veh/h		2050			2083			879			1334	
Approach Delay, s/veh		65.6			67.9			46.4			68.9	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	42.9	14.0	37.8	17.0	48.0	18.0	33.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	16.8	37.8	9.1	20.2	13.5	43.0	15.0	14.5				
Green Ext Time (p_c), s	0.3	0.0	0.0	10.6	0.0	0.0	0.0	11.7				
Intersection Summary												
HCM 2010 Ctrl Delay			64.4									
HCM 2010 LOS			E									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1204	466	676	188	501	885
Future Volume (vph)	1204	466	676	188	501	885
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

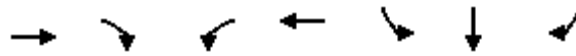
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	1204	466	0	676	188	0	0	0	501	0	885
Future Volume (veh/h)	0	1204	466	0	676	188	0	0	0	501	0	885
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	1309	0	0	735	0				545	0	816
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1297	404	0	903	404				1928	0	887
Arrive On Green	0.00	0.25	0.00	0.00	0.25	0.00				0.55	0.00	0.55
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	1309	0	0	735	0				545	0	816
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	14.2	0.0	0.0	10.9	0.0				4.7	0.0	26.1
Cycle Q Clear(g_c), s	0.0	14.2	0.0	0.0	10.9	0.0				4.7	0.0	26.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1297	404	0	903	404				1928	0	887
V/C Ratio(X)	0.00	1.01	0.00	0.00	0.81	0.00				0.28	0.00	0.92
Avail Cap(c_a), veh/h	0	1297	404	0	903	404				2126	0	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.3	0.0	0.0	20.1	0.0				6.8	0.0	11.7
Incr Delay (d2), s/veh	0.0	27.3	0.0	0.0	5.8	0.0				0.1	0.0	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.9	0.0	0.0	6.1	0.0				2.3	0.0	14.5
LnGrp Delay(d),s/veh	0.0	48.6	0.0	0.0	25.9	0.0				6.9	0.0	24.4
LnGrp LOS		F			C					A		C
Approach Vol, veh/h		1309			735						1361	
Approach Delay, s/veh		48.6			25.9						17.4	
Approach LOS		D			C						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.0		35.8		21.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		16.2		28.1		12.9						
Green Ext Time (p_c), s		0.0		3.1		1.2						
Intersection Summary												
HCM 2010 Ctrl Delay			31.2									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↕	↑
Traffic Volume (vph)	1698	918	446	1605	208	0	784
Future Volume (vph)	1698	918	446	1605	208	0	784
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
35: I-15 SB Ramps & Limonite Av.

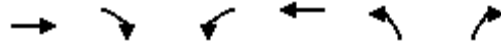
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1698	918	446	1605	0	0	0	0	208	0	784
Future Volume (veh/h)	0	1698	918	446	1605	0	0	0	0	208	0	784
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1751	946	460	1655	0				143	0	798
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1694	758	523	2379	0				436	0	778
Arrive On Green	0.00	0.47	0.47	0.15	0.66	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	3705	1615	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1751	946	460	1655	0				143	0	798
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	51.6	51.6	14.1	31.7	0.0				7.2	0.0	26.5
Cycle Q Clear(g_c), s	0.0	51.6	51.6	14.1	31.7	0.0				7.2	0.0	26.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1694	758	523	2379	0				436	0	778
V/C Ratio(X)	0.00	1.03	1.25	0.88	0.70	0.00				0.33	0.00	1.03
Avail Cap(c_a), veh/h	0	1694	758	590	2379	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.16	0.16	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.2	29.2	45.8	11.8	0.0				34.4	0.0	41.8
Incr Delay (d2), s/veh	0.0	19.2	113.6	1.5	0.2	0.0				0.2	0.0	38.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	30.2	46.9	6.9	15.7	0.0				3.6	0.0	16.0
LnGrp Delay(d),s/veh	0.0	48.4	142.8	47.3	12.0	0.0				34.6	0.0	80.7
LnGrp LOS		F	F	D	B					C		F
Approach Vol, veh/h		2697			2115						941	
Approach Delay, s/veh		81.5			19.7						73.7	
Approach LOS		F			B						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.9	57.1		32.0		78.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	16.1	53.6		28.5		33.7						
Green Ext Time (p_c), s	0.3	0.0		0.0		31.1						
Intersection Summary												
HCM 2010 Ctrl Delay			57.5									
HCM 2010 LOS			E									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

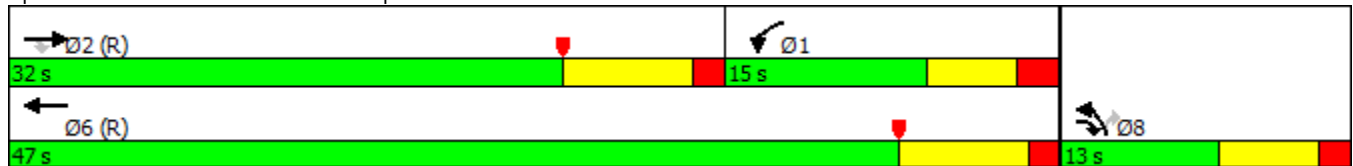


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	633	1082	303	414	441	124
Future Volume (vph)	633	1082	303	414	441	124
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	13.0	15.0	47.0	13.0	13.0
Total Split (%)	53.3%	21.7%	25.0%	78.3%	21.7%	21.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	633	1082	303	414	441	124		
Future Volume (veh/h)	633	1082	303	414	441	124		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	659	1001	316	431	459	79		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	853	541	3565	422	188		
Arrive On Green	0.41	0.41	0.15	0.69	0.12	0.12		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	659	1001	316	431	459	79		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	5.1	24.7	5.0	1.7	7.0	2.7		
Cycle Q Clear(g_c), s	5.1	24.7	5.0	1.7	7.0	2.7		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	853	541	3565	422	188		
V/C Ratio(X)	0.31	1.17	0.58	0.12	1.09	0.42		
Avail Cap(c_a), veh/h	2135	853	541	3565	422	188		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.44	0.44	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.9	12.5	23.6	3.2	26.5	24.6		
Incr Delay (d2), s/veh	0.2	83.8	1.6	0.1	69.3	6.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.5	33.8	2.5	0.8	7.5	1.6		
LnGrp Delay(d),s/veh	12.1	96.3	25.2	3.3	95.8	31.3		
LnGrp LOS	B	F	C	A	F	C		
Approach Vol, veh/h	1660			747	538			
Approach Delay, s/veh	62.9			12.5	86.3			
Approach LOS	E			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.6	32.0				48.6		13.0
Change Period (Y+Rc), s	7.3	* 7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	* 25				39.7		7.0
Max Q Clear Time (g_c+I1), s	7.0	26.7				3.7		9.0
Green Ext Time (p_c), s	0.7	0.0				3.9		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			54.4					
HCM 2010 LOS			D					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	731	1174	1315	175	737	1	678
Future Volume (vph)	731	1174	1315	175	737	1	678
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	26.0	72.0	46.0	46.0	38.0	38.0	38.0
Total Split (%)	23.6%	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	731	1174	0	0	1315	175	737	1	678	0	0	0
Future Volume (veh/h)	731	1174	0	0	1315	175	737	1	678	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	738	1186	0	0	1328	148	885	0	302			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	686	2266	0	0	1413	624	986	0	439			
Arrive On Green	0.26	0.83	0.00	0.00	0.39	0.39	0.27	0.00	0.27			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	738	1186	0	0	1328	148	885	0	302			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	21.5	10.6	0.0	0.0	39.0	6.9	25.9	0.0	18.4			
Cycle Q Clear(g_c), s	21.5	10.6	0.0	0.0	39.0	6.9	25.9	0.0	18.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	686	2266	0	0	1413	624	986	0	439			
V/C Ratio(X)	1.08	0.52	0.00	0.00	0.94	0.24	0.90	0.00	0.69			
Avail Cap(c_a), veh/h	686	2266	0	0	1413	624	1069	0	477			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.10	0.10	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.7	4.3	0.0	0.0	32.2	22.5	38.5	0.0	35.8			
Incr Delay (d2), s/veh	37.5	0.1	0.0	0.0	13.4	0.9	9.7	0.0	3.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	13.9	5.0	0.0	0.0	22.0	3.2	14.2	0.0	8.7			
LnGrp Delay(d),s/veh	78.2	4.3	0.0	0.0	45.6	23.4	48.2	0.0	39.6			
LnGrp LOS	F	A			D	C	D		D			
Approach Vol, veh/h		1924			1476			1187				
Approach Delay, s/veh		32.7			43.4			46.0				
Approach LOS		C			D			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		74.5			26.0	48.5		35.5				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		12.6			23.5	41.0		27.9				
Green Ext Time (p_c), s		19.8			0.0	0.0		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				39.6								
HCM 2010 LOS				D								
Notes												

APPENDIX 6.3:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS TRAFFIC
SIGNAL WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CHS</u>	TRAFFIC CONDITIONS	2019 NP
Jurisdiction: <u>City of Chino</u>				CHK <u>CHS</u>		DATE <u>07/26/17</u>
Major Street: <u>Merrill Avenue</u>					Critical Approach Speed (Major)	<u>50</u> mph
Minor Street: <u>Hellman Avenue/Vineyard Avenue</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>21,772</u>	vpd	Minor Street Future ADT =	<u>1,293</u> vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); or **RURAL (R)**

In built up area of isolated community of < 10,000 population

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 21,772	1 1,293	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 21,772	1 1,293	12,000	8,400 *	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	77%	100%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CHS</u>	TRAFFIC CONDITIONS	2019 NP	
Jurisdiction: <u>City of Ontario</u>				CHK <u>CHS</u>		DATE <u>07/26/17</u>	
Major Street: <u>Archibald Avenue</u>					Critical Approach Speed (Major)	<u>55</u> mph	
Minor Street: <u>Schaefer Avenue</u>					Critical Approach Speed (Minor)	<u>25</u> mph	
Major Street Approach Lanes =		<u>2</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane	
Major Street Future ADT =		<u>36,454</u>	vpd	Minor Street Future ADT =	<u>562</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input checked="" type="checkbox"/>	RURAL (R)
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	8,000	5,600	2,400	1,680
2 + 36,454	1 562	9,600	6,720 *	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1	1	12,000	8,400	1,200	850
2 + 36,454	1 562	14,400	10,080 *	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	33%				
	B				
	66%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 6.4:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS TRAFFIC SIGNAL
WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

	TRAFFIC CONDITIONS	2019 WP
DIST	CO	RTE
PM	CALC	DATE
Jurisdiction: <u>City of Ontario</u>		<u>CHS</u> 10/03/17
Major Street: <u>Driveway 2</u>		DATE 10/03/17
Minor Street: <u>Merrill Avenue</u>		Critical Approach Speed (Major) <u>50</u> mph
		Critical Approach Speed (Minor) <u>25</u> mph
Major Street Approach Lanes =	<u>1</u> lane	Minor Street Approach Lanes: <u>1</u> lane
Major Street Future ADT =	<u>27,741</u> vpd	Minor Street Future ADT = <u>1,233</u> vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); or **RURAL (R)**

In built up area of isolated community of < 10,000 population

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 27,741	1 1,233	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 27,741	1 1,233	12,000	8,400 *	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	73%	100%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

	TRAFFIC CONDITIONS	2019 WP
DIST _____	CALC <u>CHS</u>	DATE <u>10/03/17</u>
CO _____	CHK <u>CHS</u>	DATE <u>10/03/17</u>
RTE _____	Critical Approach Speed (Major) <u>55</u> mph	Critical Approach Speed (Minor) <u>25</u> mph
PM _____		
Jurisdiction: <u>City of Ontario</u>		
Major Street: <u>Archibald Avenue</u>		
Minor Street: <u>Schaefer Avenue</u>		
Major Street Approach Lanes = <u>2</u> lane	Minor Street Approach Lanes: <u>1</u> lane	
Major Street Future ADT = <u>37,493</u> vpd	Minor Street Future ADT = <u>562</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input checked="" type="checkbox"/>	RURAL (R)
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	XX <u>Not Satisfied</u>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1	1	8,000	5,600	2,400	1,680
2 + 37,493	1 562	9,600	6,720 *	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	XX <u>Not Satisfied</u>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1	1	12,000	8,400	1,200	850
2 + 37,493	1 562	14,400	10,080 *	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	XX <u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more					
	A 33%	B 66%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

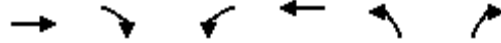
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 6.5:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS OFF-RAMP
QUEUING ANALYSIS WORKSHEETS**

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	650	316	628	1360	76	1089
v/c Ratio	0.62	0.46	0.98	0.56	0.11	1.34
Control Delay	18.5	3.8	63.2	7.8	32.9	176.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	3.8	63.2	7.8	32.9	176.7
Queue Length 50th (ft)	161	16	390	186	20	~569
Queue Length 95th (ft)	112	m19	#624	234	40	#821
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1043	686	641	2445	679	814
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.46	0.98	0.56	0.11	1.34

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	950	440	319	69	333	186	188	40
v/c Ratio	0.78	2.60	0.19	0.86	0.80	0.63	0.60	0.09
Control Delay	36.0	756.5	11.8	117.2	20.7	45.5	43.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	756.5	11.8	117.2	20.7	45.5	43.4	0.4
Queue Length 50th (ft)	267	-483	31	45	0	118	118	0
Queue Length 95th (ft)	#521	#676	86	#128	#137	155	154	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1222	169	1703	80	417	521	556	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	2.60	0.19	0.86	0.80	0.36	0.34	0.06

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	615	564	832	1594	805
v/c Ratio	1.40	1.21	1.39	0.53	0.64
Control Delay	224.5	138.0	208.8	22.5	30.8
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	224.5	138.0	208.8	23.0	30.8
Queue Length 50th (ft)	~473	~348	~617	290	106
Queue Length 95th (ft)	#678	#551	m#594	m270	131
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	468	598	3013	1858
Starvation Cap Reductn	0	0	0	890	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.40	1.21	1.39	0.75	0.43

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	445	567	2522	138	1022
v/c Ratio	0.75	0.98	1.17	0.67	0.40
Control Delay	35.3	60.8	109.8	37.2	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	60.8	109.8	37.2	26.7
Queue Length 50th (ft)	221	279	~498	86	199
Queue Length 95th (ft)	#340	#504	#610	m102	m190
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	594	576	2157	269	2577
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.98	1.17	0.51	0.40

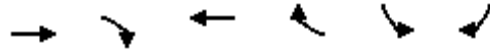
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

07/26/2017



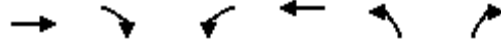
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	935	359	786	71	401	978
v/c Ratio	0.63	0.22	0.76	0.04	0.22	1.15
Control Delay	20.9	0.3	21.9	0.0	8.1	97.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	0.3	21.9	0.0	8.1	97.3
Queue Length 50th (ft)	106	0	156	0	36	~418
Queue Length 95th (ft)	145	0	m158	m0	57	#627
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1486	1615	1034	1615	1832	854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.22	0.76	0.04	0.22	1.15

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

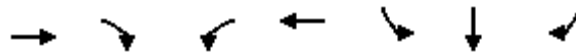


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	539	853	425	391	474	160
v/c Ratio	0.25	0.82	0.73	0.11	1.34	0.55
Control Delay	8.0	16.6	32.6	3.4	197.6	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	16.6	32.6	3.4	197.6	13.1
Queue Length 50th (ft)	25	127	76	14	-120	0
Queue Length 95th (ft)	44	#471	#131	22	#203	51
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1035	583	3518	354	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.82	0.73	0.11	1.34	0.55

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1604	791	764	1270	162	352	345
v/c Ratio	0.99	0.83	0.89	0.48	0.58	1.05	1.01
Control Delay	51.1	21.7	33.9	2.9	51.7	95.6	82.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	21.7	33.9	2.9	51.7	95.6	82.3
Queue Length 50th (ft)	~604	250	221	109	112	~221	~186
Queue Length 95th (ft)	#784	#536	m207	m86	187	#426	#389
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	1621	948	939	2658	280	334	343
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.83	0.81	0.48	0.58	1.05	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

37: I-15 NB Ramps & Limonite Av.

07/26/2017

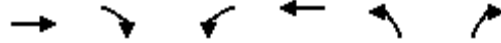


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	979	826	1376	409	368	364	327
v/c Ratio	0.98	0.31	0.94	0.48	1.28	1.31	0.70
Control Delay	37.4	1.6	45.4	6.5	187.5	199.7	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	1.6	45.4	6.5	187.5	199.7	20.1
Queue Length 50th (ft)	272	17	483	29	-347	-362	49
Queue Length 95th (ft)	m#289	m3	#637	102	#542	#570	157
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	1002	2641	1460	848	288	278	466
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.31	0.94	0.48	1.28	1.31	0.70

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	926	185	366	1347	159	1448
v/c Ratio	0.92	0.32	1.38	0.81	0.11	1.64
Control Delay	28.8	4.7	227.7	26.8	17.1	313.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	4.7	227.7	26.8	17.1	313.3
Queue Length 50th (ft)	268	13	~311	369	30	~1206
Queue Length 95th (ft)	m#381	m21	#490	465	50	#1470
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1008	581	265	1658	1442	883
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.32	1.38	0.81	0.11	1.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	465	113	323	33	18	497	506	176
v/c Ratio	0.49	0.77	0.23	0.40	0.08	0.94	0.89	0.27
Control Delay	33.2	55.0	16.9	60.9	0.7	60.0	50.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	55.0	16.9	60.9	0.7	60.0	50.3	4.7
Queue Length 50th (ft)	136	72	95	21	0	314	311	0
Queue Length 95th (ft)	190	m90	m111	#53	0	#523	#507	44
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	942	155	1381	82	226	544	587	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.73	0.23	0.40	0.08	0.91	0.86	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	623	209	646	704	1812
v/c Ratio	1.42	0.39	1.50	0.23	0.98
Control Delay	232.2	7.2	265.1	21.4	46.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	232.2	7.2	265.1	21.4	46.2
Queue Length 50th (ft)	~483	5	~491	132	282
Queue Length 95th (ft)	#688	58	m#485	m131	#372
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	538	430	3013	1858
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.42	0.39	1.50	0.23	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	127	681	2018	305	1676
v/c Ratio	0.21	1.17	1.31dr	1.13	0.65
Control Delay	22.0	119.5	60.4	92.3	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.9
Total Delay	22.0	119.5	60.4	92.3	26.7
Queue Length 50th (ft)	50	-434	-340	-213	352
Queue Length 95th (ft)	93	#649	#418	m#185	m325
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	595	583	1939	269	2577
Starvation Cap Reductn	0	0	0	0	563
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	1.17	1.04	1.13	0.83

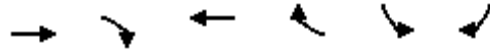
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.
- dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

07/26/2017



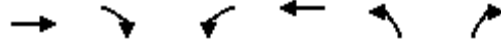
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1245	507	732	204	545	939
v/c Ratio	1.01	0.31	0.86	0.13	0.27	1.01
Control Delay	54.8	0.5	34.3	0.2	6.9	47.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	0.5	34.3	0.2	6.9	47.2
Queue Length 50th (ft)	~169	0	133	0	45	~297
Queue Length 95th (ft)	#260	0	#222	0	68	#563
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1227	1615	854	1615	2007	932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.31	0.86	0.13	0.27	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

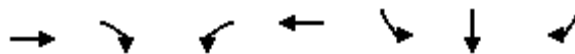


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	652	1073	316	428	472	116
v/c Ratio	0.29	0.99	0.62	0.12	1.34	0.46
Control Delay	11.6	39.3	29.9	3.5	196.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	39.3	29.9	3.5	196.9	12.8
Queue Length 50th (ft)	53	~307	56	15	~119	0
Queue Length 95th (ft)	76	#624	91	24	#203	43
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2244	1079	525	3518	353	251
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.99	0.60	0.12	1.34	0.46

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1741	908	460	1636	193	417	412
v/c Ratio	1.05	0.83	0.84	0.69	0.47	1.02	0.98
Control Delay	65.5	15.0	50.2	3.3	40.1	85.7	74.4
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	65.5	15.0	50.2	3.7	40.1	85.7	74.4
Queue Length 50th (ft)	~720	163	143	57	123	~300	262
Queue Length 95th (ft)	#859	398	m147	m60	200	#516	#475
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	1663	1094	588	2379	413	408	421
Starvation Cap Reductn	0	0	0	295	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.83	0.78	0.79	0.47	1.02	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	738	1177	1324	177	489	475	452
v/c Ratio	1.08	0.54	1.00	0.26	0.97	0.97	0.90
Control Delay	70.8	22.5	59.0	7.2	71.7	69.9	52.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	22.5	59.0	7.2	71.7	69.9	52.7
Queue Length 50th (ft)	~309	436	485	14	357	335	271
Queue Length 95th (ft)	m#298	m416	#646	61	#578	#571	#475
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	684	2182	1329	678	506	489	504
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.54	1.00	0.26	0.97	0.97	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.6:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS OFF-RAMP
QUEUING ANALYSIS WORKSHEETS**

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	650	316	628	1371	76	1123
v/c Ratio	0.60	0.45	1.01	0.56	0.11	1.41
Control Delay	22.7	4.6	70.7	7.9	32.9	207.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	4.6	70.7	7.9	32.9	207.0
Queue Length 50th (ft)	210	33	~400	188	20	~636
Queue Length 95th (ft)	155	m19	#635	236	40	#890
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1077	698	624	2445	679	799
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.45	1.01	0.56	0.11	1.41

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	950	440	319	69	333	186	188	40
v/c Ratio	0.78	2.57	0.19	0.86	0.80	0.63	0.60	0.09
Control Delay	36.2	745.8	27.0	117.2	20.7	45.5	43.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	745.8	27.0	117.2	20.7	45.5	43.4	0.4
Queue Length 50th (ft)	267	-472	81	45	0	118	118	0
Queue Length 95th (ft)	#522	#668	146	#128	#137	155	154	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1218	171	1703	80	417	521	556	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	2.57	0.19	0.86	0.80	0.36	0.34	0.06

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	642	564	842	1598	816
v/c Ratio	1.47	1.21	1.42	0.53	0.65
Control Delay	250.4	138.0	219.1	22.5	30.9
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	250.4	138.0	219.1	23.1	30.9
Queue Length 50th (ft)	~505	~348	~630	291	108
Queue Length 95th (ft)	#712	#551	m#600	m269	133
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	468	595	3013	1858
Starvation Cap Reductn	0	0	0	891	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.47	1.21	1.42	0.75	0.44

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	445	600	2543	138	1058
v/c Ratio	0.75	1.04	1.18	0.67	0.41
Control Delay	35.3	75.9	113.7	35.9	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	75.9	113.7	35.9	26.9
Queue Length 50th (ft)	221	~340	~505	86	206
Queue Length 95th (ft)	#340	#547	#618	m101	m192
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	594	576	2158	269	2577
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	1.04	1.18	0.51	0.41

Intersection Summary

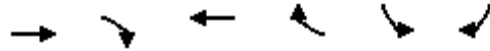
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



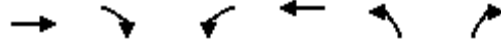
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	953	359	794	71	401	1029
v/c Ratio	0.64	0.22	0.77	0.04	0.22	1.20
Control Delay	21.1	0.3	22.2	0.0	8.1	121.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	0.3	22.2	0.0	8.1	121.9
Queue Length 50th (ft)	109	0	158	0	36	~459
Queue Length 95th (ft)	147	0	m160	m0	57	#673
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1486	1615	1034	1615	1832	854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.22	0.77	0.04	0.22	1.20

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

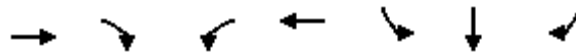


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	541	869	425	399	474	160
v/c Ratio	0.25	0.84	0.73	0.11	1.34	0.55
Control Delay	8.0	17.6	32.6	3.5	197.6	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	17.6	32.6	3.5	197.6	13.1
Queue Length 50th (ft)	25	135	76	14	-120	0
Queue Length 95th (ft)	45	#488	#131	22	#203	51
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1035	583	3518	354	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.84	0.73	0.11	1.34	0.55

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1608	802	764	1316	162	352	345
v/c Ratio	1.05	0.87	0.81	0.50	0.56	1.06	1.01
Control Delay	70.4	24.1	49.0	14.3	50.5	98.6	85.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	24.1	49.0	14.3	50.5	98.6	85.0
Queue Length 50th (ft)	~655	257	230	413	111	~231	~195
Queue Length 95th (ft)	#793	#543	m219	m365	186	#436	#397
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	1526	926	939	2641	288	332	341
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.87	0.81	0.50	0.56	1.06	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

37: I-15 NB Ramps & Limonite Av.

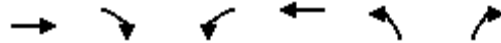


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	979	829	1384	409	381	378	338
v/c Ratio	0.92	0.32	1.04	0.52	1.19	1.23	0.70
Control Delay	19.1	4.7	71.0	9.1	153.9	167.7	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	4.7	71.0	9.1	153.9	167.7	21.4
Queue Length 50th (ft)	207	81	~570	44	~343	~362	64
Queue Length 95th (ft)	m193	m77	#707	131	#541	#572	176
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	1098	2576	1329	786	319	307	481
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.32	1.04	0.52	1.19	1.23	0.70

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	926	185	366	1384	159	1463
v/c Ratio	0.83	0.30	1.59	0.82	0.11	1.74
Control Delay	44.2	11.5	316.8	26.4	17.7	356.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	11.5	316.8	26.4	17.7	356.3
Queue Length 50th (ft)	338	40	~334	378	30	~1272
Queue Length 95th (ft)	m387	m64	#513	475	51	#1536
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1111	622	230	1692	1409	843
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.30	1.59	0.82	0.11	1.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	465	113	323	33	18	497	506	176
v/c Ratio	0.50	0.75	0.23	0.40	0.08	0.94	0.89	0.27
Control Delay	32.4	73.4	8.9	60.9	0.7	60.0	50.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	73.4	8.9	60.9	0.7	60.0	50.3	4.7
Queue Length 50th (ft)	131	-77	41	21	0	314	311	0
Queue Length 95th (ft)	182	m#126	m48	#53	0	#523	#507	44
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	935	150	1381	82	226	544	587	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.75	0.23	0.40	0.08	0.91	0.86	0.27

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	634	209	682	715	1816
v/c Ratio	1.45	0.39	1.59	0.24	0.98
Control Delay	242.7	7.5	302.9	21.5	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	242.7	7.5	302.9	21.5	46.6
Queue Length 50th (ft)	~496	6	~578	140	283
Queue Length 95th (ft)	#701	59	m#545	m134	#373
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	536	430	3013	1858
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.45	0.39	1.59	0.24	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



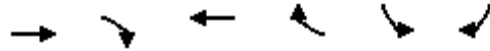
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	127	695	2092	305	1691
v/c Ratio	0.21	1.16	1.35dr	1.13	0.66
Control Delay	22.0	116.2	73.7	108.4	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.9
Total Delay	22.0	116.2	73.7	108.4	27.9
Queue Length 50th (ft)	50	-433	-367	-202	257
Queue Length 95th (ft)	93	#650	#445	m#173	m236
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	595	598	1939	269	2577
Starvation Cap Reductn	0	0	0	0	542
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	1.16	1.08	1.13	0.83

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.
- dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



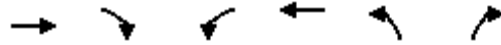
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1309	507	735	204	545	962
v/c Ratio	1.07	0.31	0.86	0.13	0.27	1.03
Control Delay	70.7	0.5	34.6	0.2	6.9	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.7	0.5	34.6	0.2	6.9	54.2
Queue Length 50th (ft)	~198	0	134	0	45	~339
Queue Length 95th (ft)	#279	0	#223	0	68	#583
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1227	1615	854	1615	2007	932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.31	0.86	0.13	0.27	1.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

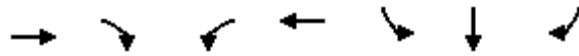


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	659	1127	316	431	472	116
v/c Ratio	0.31	1.05	0.60	0.13	1.15	0.42
Control Delay	12.4	56.1	29.2	3.9	119.2	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	56.1	29.2	3.9	119.2	11.3
Queue Length 50th (ft)	56	-452	56	17	-106	0
Queue Length 95th (ft)	79	#672	91	26	#190	43
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1072	525	3432	412	273
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	1.05	0.60	0.13	1.15	0.42

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1751	946	460	1655	193	417	412
v/c Ratio	1.05	0.86	0.84	0.70	0.47	1.02	0.98
Control Delay	67.5	17.7	50.2	3.3	40.1	85.7	74.4
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Total Delay	67.5	17.7	50.2	3.8	40.1	85.7	74.4
Queue Length 50th (ft)	~727	203	143	57	123	~300	262
Queue Length 95th (ft)	#867	#565	m146	m59	200	#516	#475
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	1663	1096	588	2379	413	408	421
Starvation Cap Reductn	0	0	0	293	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.86	0.78	0.79	0.47	1.02	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	738	1186	1328	177	498	480	452
v/c Ratio	1.08	0.54	1.00	0.26	0.98	0.98	0.90
Control Delay	70.5	22.6	59.8	7.3	75.8	72.3	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	22.6	59.8	7.3	75.8	72.3	53.4
Queue Length 50th (ft)	~309	441	487	15	367	340	273
Queue Length 95th (ft)	m#295	m418	#650	61	#594	#580	#477
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	684	2182	1329	677	506	489	502
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.54	1.00	0.26	0.98	0.98	0.90

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.7:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS BASIC
FREEWAY SEGMENT ANALYSIS WORKSHEETS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4475	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2469	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	51.3	x f _p)	
D = v _p / S	48.1	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4674	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			16
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.926
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1829	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	65.4	x f _p)	
S	mph	S	mph
D = v _p / S	28.0	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6249	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1732	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	66.7	x f _p)	
S	mph	S	mph
D = v _p / S	26.0	D = v _p / S	pc/mi/ln
26.0	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6386	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1423	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	69.4	x f _p)	
D = v _p / S	20.5	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7365	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2081	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	61.0	x f _p)	
D = v _p / S	34.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7135	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2016	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	62.3	x f _p)	
S	mph	S	mph
D = v _p / S	32.4	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6741	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1896	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	64.4	x f _p)	
D = v _p / S	29.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5894	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2210	Design LOS	
S	58.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	38.0	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6535	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2439	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	52.2	x f _p)	
D = v _p / S	46.7	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	7/26/17	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>Opening Year (2019) NP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6654	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1461	Design LOS	
S	69.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	21.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET															
General Information		Site Information													
Analyst	CHS	Highway/Direction of Travel <i>I-15 Northbound</i>													
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>												
Date Performed	<i>7/26/17</i>	Jurisdiction	<i>Caltrans</i>												
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) NP</i>												
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>															
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)													
<input type="checkbox"/> Planning Data															
Flow Inputs															
Volume, V	6132	veh/h	Peak-Hour Factor, PHF												
AADT		veh/day	0.92												
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T												
Peak-Hr Direction Prop, D			2												
DDHV = AADT x K x D		veh/h	%RVs, P _R												
			0												
			General Terrain: <i>Level</i>												
			Grade % Length <i>mi</i>												
			Up/Down %												
Calculate Flow Adjustments															
f _p	1.00	E _R	1.2												
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990													
Speed Inputs		Calc Speed Adj and FFS													
Lane Width	ft	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">f_{LW}</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">f_{LC}</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">TRD Adjustment</td> <td style="padding: 5px;">mph</td> </tr> <tr> <td style="padding: 5px;">FFS</td> <td style="padding: 5px;">70.0</td> </tr> <tr> <td style="padding: 5px;">FFS (measured)</td> <td style="padding: 5px;">70.0</td> </tr> <tr> <td style="padding: 5px;">Base free-flow Speed, BFFS</td> <td style="padding: 5px;">mph</td> </tr> </table>		f _{LW}	mph	f _{LC}	mph	TRD Adjustment	mph	FFS	70.0	FFS (measured)	70.0	Base free-flow Speed, BFFS	mph
f _{LW}	mph														
f _{LC}	mph														
TRD Adjustment	mph														
FFS	70.0														
FFS (measured)	70.0														
Base free-flow Speed, BFFS	mph														
Rt-Side Lat. Clearance	ft														
Number of Lanes, N	3														
Total Ramp Density, TRD	ramps/mi														
FFS (measured)	70.0														
Base free-flow Speed, BFFS	mph														
LOS and Performance Measures		Design (N)													
<u>Operational (LOS)</u>		<u>Design (N)</u>													
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2244	pc/h/ln	Design LOS												
S	57.4	mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)												
D = v _p / S	39.1	pc/mi/ln	pc/h/ln												
LOS	E		S												
			mph												
			D = v _p / S												
			pc/mi/ln												
			Required Number of Lanes, N												
Glossary		Factor Location													
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8												
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9												
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11												
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3													
DDHV - Directional design hour volume															

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>S of Limonite</i>
Date Performed	7/26/17	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>Opening Year (2019) NP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5803	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			<i>Level</i>
			Grade % Length
			<i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
		0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2124	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	60.1	x f _p)	
S	mph	S	mph
D = v _p / S	35.3	D = v _p / S	pc/mi/ln
pc/mi/ln			
LOS	E	Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	3750	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
			0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
x f _p)	2079	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	61.0	x f _p)	pc/h/ln
D = v _p / S	34.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4807	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			12
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
			0.943
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1846	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	65.2	x f _p)	
S	mph	S	mph
D = v _p / S	28.3	D = v _p / S	pc/mi/ln
28.3	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6092	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1680	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	67.3	x f _p)	
D = v _p / S	25.0	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5852	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1298	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	69.9	x f _p)	
S	mph	S	mph
D = v _p / S	18.6	D = v _p / S	pc/mi/ln
18.6	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7106	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1979	Design LOS	
S	63.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	31.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7342	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
			0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2055	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	61.5	x f _p)	
mph		S	mph
D = v _p / S	33.4	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6677	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1869	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	64.8	x f _p)	
D = v _p / S	28.8	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5996	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2238	Design LOS	
S	57.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	38.9	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6275	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2353	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	54.6	x f _p)	
S	mph	S	mph
D = v _p / S	43.1	D = v _p / S	pc/mi/ln
43.1	pc/mi/ln	Required Number of Lanes, N	
LOS	E		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6209	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1363	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	69.7	x f _p)	
D = v _p / S	19.6	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>Cantu to Limonite</i>
Date Performed	7/26/17	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>Opening Year (2019) NP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5500	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2013	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.3	x f _p)	
D = v _p / S	32.3	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	7/26/17	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5996	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2194	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	58.5	x f _p)	
mph		S	
D = v _p / S	37.5	mph	
pc/mi/ln		D = v _p / S	
LOS	E	pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 6.8:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS BASIC FREEWAY
SEGMENT ANALYSIS WORKSHEETS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4481	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2472	Design LOS	
S	51.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	48.3	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4692	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			16
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.926
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1836	Design LOS	
S	65.3	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6259	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1735	Design LOS	
S	66.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	26.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6401	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1426	Design LOS	
S	69.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	20.5	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7155	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2022	Design LOS	
S	62.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	32.5	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6776	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1906	Design LOS	
S	64.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	29.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service speed	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5894</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>7</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.966</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>2210</i>	Design LOS	
S	<i>58.2</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>38.0</i>	S	mph
LOS	<i>E</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>6541</i>	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	<i>0.92</i>
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			<i>6</i>
DDHV = AADT x K x D		veh/h	%RVs, P _R
			<i>0</i>
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.971</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>2441</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>52.1</i>	x f _p)	
D = v _p / S	<i>46.8</i>	S	mph
LOS	<i>F</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6665	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1463	Design LOS	
S	69.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	21.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6132	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2244	Design LOS	
S	57.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	39.1	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5823	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2131	Design LOS	
S	59.9	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	35.5	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	3769	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2089	Design LOS	
S	60.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	34.3	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4815	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			12
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.943
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1849	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	65.1	x f _p)	
S	mph	S	mph
D = v _p / S	28.4	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6128	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1690	Design LOS	
S	67.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	25.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5874	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1302	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	69.9	pc/h/ln	
D = v _p / S	18.6	S	
LOS	C	mph	
		D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7120	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1983	Design LOS	
S	62.9	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	31.5	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7360	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2060	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	61.4	x f _p)	
D = v _p / S	33.5	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6692	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1873	Design LOS	
S	64.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.9	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5996	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.971	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2238	Design LOS	
S	57.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	38.9	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6296	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2361	Design LOS	
S	54.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	43.4	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6246	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1371	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	69.7	x f _p)	
D = v _p / S	19.7	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Opening Year (2019) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5500</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>2</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.990</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>2013</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>62.3</i>	x f _p)	
D = v _p / S	<i>32.3</i>	S	mph
LOS	<i>D</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6004	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2197	Design LOS	
S	58.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	37.6	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 6.9:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS RAMP
JUNCTION ANALYSIS WORKSHEETS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1460 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 311 veh/h	Freeway Volume, V _F		3323		V _D = veh/h				
	Ramp Volume, V _R		610						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3323	0.92	Level	2	0	0.990	1.00	3648	
Ramp	610	0.92	Level	13	0	0.939	1.00	706	
UpStream	311	0.92	Level	10	0	0.952	1.00	355	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 1.000 using Equation (Exhibit 13-6) V ₁₂ = 3648 pc/h V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4354	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4354	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 36.1 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.601 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 53.2 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 53.2 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-71 Southbound-Downstream					
Agency or Company	Urban Crossroads, Inc.		Junction	Loop On-ramp at Euclid					
Date Performed	7/26/2017		Jurisdiction	Caltrans					
Analysis Time Period	AM Peak Hour		Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2		Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A			475		<input type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = ft		Deceleration Lane Length L _D					L _{down} = 1200 ft		
V _u = veh/h		Freeway Volume, V _F			3323		V _D = 542 veh/h		
		Ramp Volume, V _R			610				
		Freeway Free-Flow Speed, S _{FF}			70.0				
		Ramp Free-Flow Speed, S _{FR}			25.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3323	0.92	Level	2	0	0.990	1.00	3648	
Ramp	610	0.92	Level	13	0	0.939	1.00	706	
UpStream									
DownStream	542	0.92	Level	1	0	0.995	1.00	592	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 1.000 using Equation (Exhibit 13-6) V ₁₂ = 3648 pc/h V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4354	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4354	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 36.1 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.601 (Exhibit 13-11)				D _S =	(Exhibit 13-12)			
S _R =	53.2 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	N/A mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	53.2 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N				3	Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N				1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D				0	L _{down} = 1500 ft			
V _u = veh/h	Freeway Volume, V _F				4674	V _D = 866 veh/h			
	Ramp Volume, V _R				962				
	Freeway Free-Flow Speed, S _{FF}				70.0				
	Ramp Free-Flow Speed, S _{FR}				45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4674	0.92	Level	16	0	0.926	1.00	5487	
Ramp	962	0.92	Level	12	0	0.943	1.00	1108	
UpStream									
DownStream	866	0.92	Level	4	0	0.980	1.00	960	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.572 using Equation (Exhibit 13-7) V ₁₂ = 3612 pc/h V ₃ or V _{av34} 1875 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5487	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	4379	Exhibit 13-8	7200	No
					V _R	1108	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3612	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.3 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.398 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 58.9 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.4 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 63.1 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information				Site Information					
Analyst	CHS	Freeway/Dir of Travel	SR-60 Westbound	Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald	Date Performed	7/26/2017
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP	Date Performed	7/26/2017	Jurisdiction	Caltrans	Analysis Year	Opening Year (2019) NP
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Freeway Number of Lanes, N	4	Downstream Adj Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> On	Freeway Volume, V _F	5367	L _{down} =	ft
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Ramp Volume, V _R	882	V _D =	veh/h
L _{up} =	1970 ft	Acceleration Lane Length, L _A	750			Freeway Free-Flow Speed, S _{FF}	70.0		
V _u =	1019 veh/h	Deceleration Lane Length L _D				Ramp Free-Flow Speed, S _{FR}	45.0		
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5367	0.92	Level	4	0	0.980	1.00	5950	
Ramp	882	0.92	Level	6	0	0.971	1.00	987	
UpStream	1019	0.92	Level	10	0	0.952	1.00	1163	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.094 using Equation (Exhibit 13-6) V ₁₂ = 562 pc/h V ₃ or V _{av34} = 2694 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2380 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = V ₃ or V _{av34} = Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?		
V _{FO}	6937	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?		
V _{R12}	3367	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)				Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.6 (pc/mi/ln) LOS = C (Exhibit 13-2)				$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					
Speed Determination				Speed Determination					
M _S =	0.367 (Exhibit 13-11)			D _s =	(Exhibit 13-12)				
S _R =	59.7 mph (Exhibit 13-11)			S _R =	mph (Exhibit 13-12)				
S ₀ =	65.4 mph (Exhibit 13-11)			S ₀ =	mph (Exhibit 13-12)				
S =	62.5 mph (Exhibit 13-13)			S =	mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	CHS		Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.		Junction	Off Ramp at Archibald						
Date Performed	7/26/2017		Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour		Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp		Freeway Number of Lanes, N			5			Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A						<input type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = ft		Deceleration Lane Length L _D			0			L _{down} = 1970 ft		
V _u = veh/h		Freeway Volume, V _F			6386			V _D = 882 veh/h		
		Ramp Volume, V _R			1019					
		Freeway Free-Flow Speed, S _{FF}			70.0					
		Ramp Free-Flow Speed, S _{FR}			45.0					
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	6386	0.92	Level	5	0	0.976	1.00	7115		
Ramp	1019	0.92	Level	10	0	0.952	1.00	1163		
UpStream										
DownStream	882	0.92	Level	6	0	0.971	1.00	987		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3138 pc/h V ₃ or V _{av34} 1277 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	5692	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	4529	Exhibit 13-8	9600	No	
					V _R	1163	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3138	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.2 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.403 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 58.7 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 75.7 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 65.3 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald							
Date Performed	7/26/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N Ramp Number of Lanes, N Acceleration Lane Length, L _A Deceleration Lane Length L _D Freeway Volume, V _F Ramp Volume, V _R Freeway Free-Flow Speed, S _{FF} Ramp Free-Flow Speed, S _{FR}	4 1 200 7365 928 70.0 45.0					Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	L _{down} = 2060 ft V _D = 692 veh/h		
L _{up} = ft V _u = veh/h										
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	7365	0.92	Level	8	0	0.962	1.00	8326		
Ramp	928	0.92	Level	8	0	0.962	1.00	1049		
UpStream										
DownStream	692	0.92	Level	13	0	0.939	1.00	801		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4222 pc/h V ₃ or V _{av34} 2052 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	8326	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	7277	Exhibit 13-8	9600	No	
					V _R	1049	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4222	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 38.8 (pc/mi/ln) LOS = E (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11) S _R = mph (Exhibit 13-11) S ₀ = mph (Exhibit 13-11) S = mph (Exhibit 13-13)					D _S = 0.392 (Exhibit 13-12) S _R = 59.0 mph (Exhibit 13-12) S ₀ = 72.7 mph (Exhibit 13-12) S = 65.0 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 928 veh/h	Freeway Volume, V _F = 6437				V _D = veh/h				
	Ramp Volume, V _R = 698								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6437	0.92	Level	7	0	0.966	1.00	7242	
Ramp	698	0.92	Level	13	0	0.939	1.00	808	
UpStream	928	0.92	Level	8	0	0.962	1.00	1049	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.117 using Equation (Exhibit 13-6) V ₁₂ = 846 pc/h V ₃ or V _{av34} = 3198 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2896 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	8050	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3704	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.9 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.406 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 58.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 61.4 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano							
Date Performed	7/26/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N Ramp Number of Lanes, N Acceleration Lane Length, L _A Deceleration Lane Length L _D Freeway Volume, V _F Ramp Volume, V _R Freeway Free-Flow Speed, S _{FF} Ramp Free-Flow Speed, S _{FR}	4 1 150 6741 1196 70.0 45.0	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	L _{down} = 1150 ft V _D = 36 veh/h						
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	6741	0.92	Level	7	0	0.966	1.00	7584		
Ramp	1196	0.92	Level	8	0	0.962	1.00	1352		
UpStream										
DownStream	36	0.92	Level	54	0	0.787	1.00	50		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4069 pc/h V ₃ or V _{av34} 1757 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	7584	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	6232	Exhibit 13-8	9600	No	
					V _R	1352	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	4069	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 37.9 (pc/mi/ln) LOS = E (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.420 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 58.2 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.8 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 64.6 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET								
General Information				Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound					
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite					
Date Performed	7/26/2017	Jurisdiction	Caltrans					
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)								
Inputs								
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp					
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On					
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	675	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off					
L _{up} = 1930 ft	Deceleration Lane Length L _D		L _{down} = ft					
V _u = 703 veh/h	Freeway Volume, V _F	5191	V _D = veh/h					
	Ramp Volume, V _R	1344						
	Freeway Free-Flow Speed, S _{FF}	70.0						
	Ramp Free-Flow Speed, S _{FR}	45.0						
Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5191	0.92	Level	6	0	0.971	1.00	5812
Ramp	1344	0.92	Level	9	0	0.957	1.00	1527
UpStream	703	0.92	Level	16	0	0.926	1.00	825
DownStream								
Merge Areas				Diverge Areas				
Estimation of v ₁₂				Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1821.65 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3466 pc/h V ₃ or V _{av34} = 2346 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3466 pc/h (Equation 13-16, 13-18, or 13-19)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?	Actual	Capacity	LOS F?		
V _{FO}	7339	Exhibit 13-8	Yes	V _F	Exhibit 13-8			
				V _{FO} = V _F - V _R	Exhibit 13-8			
				V _R	Exhibit 13-10			
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?	Actual	Max Desirable	Violation?		
V _{R12}	4993	Exhibit 13-8	4600:All	Yes	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)				Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 39.5 (pc/mi/ln) LOS = F (Exhibit 13-2)				$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination				Speed Determination				
M _S = 0.835 (Exhibit 13-11)				D _s = (Exhibit 13-12)				
S _R = 46.6 mph (Exhibit 13-11)				S _R = mph (Exhibit 13-12)				
S ₀ = 63.2 mph (Exhibit 13-11)				S ₀ = mph (Exhibit 13-12)				
S = 50.9 mph (Exhibit 13-13)				S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information				Site Information					
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound	Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano	Date Performed	7/26/2017
Date Performed	7/26/2017	Jurisdiction	Caltrans	Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP	Project Description	
Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Freeway Number of Lanes, N	3	Downstream Adj Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2		
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Deceleration Lane Length L _D			
L _{up} =	1260 ft	Freeway Volume, V _F	5589	L _{down} =	ft	Freeway Free-Flow Speed, S _{FF}	70.0	V _D = veh/h	
V _u =	543 veh/h	Ramp Volume, V _R	1065			Ramp Free-Flow Speed, S _{FR}	45.0		
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5589	0.92	Level	1	0	0.995	1.00	6105	
Ramp	1065	0.92	Level	7	0	0.966	1.00	1198	
UpStream	543	0.92	Level	7	0	0.966	1.00	611	
DownStream									
Merge Areas				Diverge Areas					
Estimation of v ₁₂				Estimation of v ₁₂					
L _{EQ} =	V ₁₂ = V _F (P _{FM})	(Equation 13-6 or 13-7)			L _{EQ} =	V ₁₂ = V _R + (V _F - V _R)P _{FD}	(Equation 13-12 or 13-13)		
P _{FM} =	0.555	using Equation (Exhibit 13-6)			P _{FD} =		using Equation (Exhibit 13-7)		
V ₁₂ =	3388	pc/h			V ₁₂ =		pc/h		
V ₃ or V _{av34}	2717	pc/h (Equation 13-14 or 13-17)			V ₃ or V _{av34}		pc/h (Equation 13-14 or 13-17)		
Is V ₃ or V _{av34} > 2,700 pc/h?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes <input type="checkbox"/> No			
If Yes, V _{12a} =	3488	pc/h (Equation 13-16, 13-18, or 13-19)			If Yes, V _{12a} =		pc/h (Equation 13-16, 13-18, or 13-19)		
Capacity Checks				Capacity Checks					
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?		
V _{FO}	7303	Exhibit 13-8	Yes	V _F		Exhibit 13-8			
				V _{FO} = V _F - V _R		Exhibit 13-8			
				V _R		Exhibit 13-10			
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?		
V _{R12}	4686	Exhibit 13-8	4600:All	Yes	V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)				Level of Service Determination (if not F)					
D _R =	5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A			D _R =	4.252 + 0.0086 V ₁₂ - 0.009 L _D				
D _R =	41.5 (pc/mi/ln)			D _R =	(pc/mi/ln)				
LOS =	F (Exhibit 13-2)			LOS =	(Exhibit 13-2)				
Speed Determination				Speed Determination					
M _S =	0.744 (Exhibit 13-11)			D _s =	(Exhibit 13-12)				
S _R =	49.2 mph (Exhibit 13-11)			S _R =	mph (Exhibit 13-12)				
S ₀ =	61.6 mph (Exhibit 13-11)			S ₀ =	mph (Exhibit 13-12)				
S =	53.0 mph (Exhibit 13-13)			S =	mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	5803	$L_{down} =$	2010 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$	Ramp Number of Lanes, N	1	$V_D =$	Ramp Volume, V_R	881			Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0				
	Deceleration Lane Length L_D	200		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5803	0.92	Level	2	0	0.990	1.00	6371	
Ramp	881	0.92	Level	9	0	0.957	1.00	1001	
UpStream									
DownStream	1210	0.92	Level	7	0	0.966	1.00	1361	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$	(Equation 13-6 or 13-7)			$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 13-12 or 13-13)		
$P_{FM} =$	using Equation	(Exhibit 13-6)			$P_{FD} =$	0.555	using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h				$V_{12} =$	3980	pc/h		
V_3 or V_{av34}	pc/h	(Equation 13-14 or 13-17)			V_3 or V_{av34}	2391	pc/h (Equation 13-14 or 13-17)		
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h	(Equation 13-16, 13-18, or 13-19)			If Yes, $V_{12a} =$	pc/h	(Equation 13-16, 13-18, or 13-19)		
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	6371	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	5370	Exhibit 13-8	7200	No
					V_R	1001	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3980	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	36.7 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.388 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	59.1 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	71.4 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	63.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 2				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 475				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1460 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1033 veh/h	Freeway Volume, V _F = 2755				V _D = veh/h				
	Ramp Volume, V _R = 926								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 25.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2755	0.92	Level	1	0	0.995	1.00	3010	
Ramp	926	0.92	Level	11	0	0.948	1.00	1062	
UpStream	1033	0.92	Level	4	0	0.980	1.00	1145	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
L _{EQ} =					L _{EQ} =				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3010 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4072	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4072	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A					D _R = 4.252 + 0.0086 V ₁₂ - 0.009 L _D				
D _R = 33.8 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.526 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 55.3 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 55.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-71 Southbound-Downstream					
Agency or Company	Urban Crossroads, Inc.		Junction	Loop On-ramp at Euclid					
Date Performed	7/26/2017		Jurisdiction	Caltrans					
Analysis Time Period	PM Peak Hour		Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2		Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A			475		<input type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = ft		Deceleration Lane Length L _D					L _{down} = 1200 ft		
V _u = veh/h		Freeway Volume, V _F			2755		V _D = 69 veh/h		
		Ramp Volume, V _R			926				
		Freeway Free-Flow Speed, S _{FF}			70.0				
		Ramp Free-Flow Speed, S _{FR}			25.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2755	0.92	Level	1	0	0.995	1.00	3010	
Ramp	926	0.92	Level	11	0	0.948	1.00	1062	
UpStream									
DownStream	69	0.92	Level	8	0	0.962	1.00	78	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
L _{EQ} =					L _{EQ} =				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3010 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4072	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4072	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 33.8 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.526 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 55.3 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 55.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	4807	L _{down} =	1500 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1472			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	0		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4807	0.92	Level	12	0	0.943	1.00	5538	
Ramp	1472	0.92	Level	8	0	0.962	1.00	1664	
UpStream									
DownStream	503	0.92	Level	2	0	0.990	1.00	552	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.545 using Equation (Exhibit 13-7) V ₁₂ = 3775 pc/h V ₃ or V _{av34} 1763 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5538	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	3874	Exhibit 13-8	7200	No
					V _R	1664	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3775	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 36.7 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.448 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	57.5 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	61.8 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Westbound		Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald	
Date Performed	7/26/2017	Jurisdiction	Caltrans		Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP	
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		750		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 699 veh/h	Freeway Volume, V _F		5153		V _D = veh/h				
	Ramp Volume, V _R		939						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5153	0.92	Level	3	0	0.985	1.00	5685	
Ramp	939	0.92	Level	4	0	0.980	1.00	1041	
UpStream	699	0.92	Level	10	0	0.952	1.00	798	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.088 using Equation (Exhibit 13-6) V ₁₂ = 498 pc/h V ₃ or V _{av34} = 2593 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2274 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6726	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3315	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.2 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.361 (Exhibit 13-11) S _R = 59.9 mph (Exhibit 13-11) S ₀ = 65.7 mph (Exhibit 13-11) S = 62.7 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-60 Westbound					
Agency or Company	Urban Crossroads, Inc.		Junction	Off Ramp at Archibald					
Date Performed	7/26/2017		Jurisdiction	Caltrans					
Analysis Time Period	PM Peak Hour		Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			5			Downstream Adj Ramp	
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1			<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On	
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A						<input type="checkbox"/> No <input type="checkbox"/> Off	
L _{up} = ft		Deceleration Lane Length L _D			0			L _{down} = 1970 ft	
V _u = veh/h		Freeway Volume, V _F			5852			V _D = 939 veh/h	
		Ramp Volume, V _R			699				
		Freeway Free-Flow Speed, S _{FF}			70.0				
		Ramp Free-Flow Speed, S _{FR}			45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5852	0.92	Level	4	0	0.980	1.00	6488	
Ramp	699	0.92	Level	10	0	0.952	1.00	798	
UpStream									
DownStream	939	0.92	Level	4	0	0.980	1.00	1041	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2855 pc/h V ₃ or V _{av34} 1330 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5515	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4717	Exhibit 13-8	9600	No
					V _R	798	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	2855	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 28.8 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.370 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.6 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 75.5 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 66.4 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	CHS		Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.		Junction	Off Ramp at Archibald						
Date Performed	7/26/2017		Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour		Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp					
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On					
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off					
L _{up} = ft	Deceleration Lane Length L _D		200		L _{down} = 2060 ft					
V _u = veh/h	Freeway Volume, V _F		7106		V _D = 934 veh/h					
	Ramp Volume, V _R		698							
	Freeway Free-Flow Speed, S _{FF}		70.0							
	Ramp Free-Flow Speed, S _{FR}		45.0							
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	7106	0.92	Level	5	0	0.976	1.00	7917		
Ramp	698	0.92	Level	5	0	0.976	1.00	778		
UpStream										
DownStream	934	0.92	Level	9	0	0.957	1.00	1061		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3891 pc/h V ₃ or V _{av34} 2013 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	7917	Exhibit 13-8		9600	No
					V _{FO} = V _F - V _R	7139	Exhibit 13-8		9600	No
					V _R	778	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3891	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.9 (pc/mi/ln) LOS = E (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.368 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 59.7 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 72.8 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 65.7 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 688 veh/h	Freeway Volume, V _F	6408	V _D = veh/h						
	Ramp Volume, V _R	934							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6408	0.92	Level	5	0	0.976	1.00	7139	
Ramp	934	0.92	Level	9	0	0.957	1.00	1061	
UpStream	688	0.92	Level	5	0	0.976	1.00	767	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.085 using Equation (Exhibit 13-6) V ₁₂ = 608 pc/h V ₃ or V _{av34} = 3265 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2855 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	8200	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3916	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 30.5 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.444 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 57.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.1 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 60.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6677	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1311			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Deceleration Lane Length L _D	150				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6677	0.92	Level	6	0	0.971	1.00	7475	
Ramp	1311	0.92	Level	3	0	0.985	1.00	1446	
UpStream									
DownStream	179	0.92	Level	2	0	0.990	1.00	197	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4075 pc/h V ₃ or V _{av34} 1700 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7475	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6029	Exhibit 13-8	9600	No
					V _R	1446	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4075	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 37.9 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.428 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.0 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	74.1 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.4 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	I-15 Southbound					
Agency or Company	Urban Crossroads, Inc.		Junction	On-ramp at Limonite					
Date Performed	7/26/2017		Jurisdiction	Caltrans					
Analysis Time Period	PM Peak Hour		Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Freeway Number of Lanes, N	3		Downstream Adj Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off		
			Ramp Number of Lanes, N	1			L _{down} = ft		
			Acceleration Lane Length, L _A	675			V _D = veh/h		
			Deceleration Lane Length L _D						
L _{up} =	1930 ft		Freeway Volume, V _F	5029					
V _u =	951 veh/h		Ramp Volume, V _R	1246					
			Freeway Free-Flow Speed, S _{FF}	70.0					
			Ramp Free-Flow Speed, S _{FR}	45.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5029	0.92	Level	6	0	0.971	1.00	5630	
Ramp	1246	0.92	Level	8	0	0.962	1.00	1409	
UpStream	951	0.92	Level	6	0	0.971	1.00	1065	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1757.45 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3358 pc/h V ₃ or V _{av34} = 2272 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3358 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7039	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4767	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.8 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.719 (Exhibit 13-11)				D _s =	(Exhibit 13-12)			
S _R =	49.9 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	63.6 mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	53.6 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET								
General Information				Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound					
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano					
Date Performed	7/26/2017	Jurisdiction	Caltrans					
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP					
Project Description Colony Commerce Center East Specific Plan (JN 10522)								
Inputs								
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp					
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2	<input type="checkbox"/> Yes <input type="checkbox"/> On					
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off					
L _{up} = 1260 ft	Deceleration Lane Length L _D		L _{down} = ft					
V _u = 520 veh/h	Freeway Volume, V _F	4980	V _D = veh/h					
	Ramp Volume, V _R	1229						
	Freeway Free-Flow Speed, S _{FF}	70.0						
	Ramp Free-Flow Speed, S _{FR}	45.0						
Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4980	0.92	Level	1	0	0.995	1.00	5440
Ramp	1229	0.92	Level	4	0	0.980	1.00	1363
UpStream	520	0.92	Level	6	0	0.971	1.00	582
DownStream								
Merge Areas				Diverge Areas				
Estimation of v ₁₂				Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3019 pc/h V ₃ or V _{av34} = 2421 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3108 pc/h (Equation 13-16, 13-18, or 13-19)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}	6803	Exhibit 13-8	No	V _F		Exhibit 13-8		
				V _{FO} = V _F - V _R		Exhibit 13-8		
				V _R		Exhibit 13-10		
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}	4471	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)				Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 39.7 (pc/mi/ln) LOS = E (Exhibit 13-2)				$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination				Speed Determination				
M _S = 0.662 (Exhibit 13-11)				D _s = (Exhibit 13-12)				
S _R = 51.5 mph (Exhibit 13-11)				S _R = mph (Exhibit 13-12)				
S ₀ = 63.3 mph (Exhibit 13-11)				S ₀ = mph (Exhibit 13-12)				
S = 55.0 mph (Exhibit 13-13)				S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	7/26/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) NP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	869 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200				
$V_u =$	veh/h	Freeway Volume, V_F		Ramp Volume, V_R	1366				
		Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5996	0.92	Level	2	0	0.990	1.00	6583	
Ramp	1366	0.92	Level	6	0	0.971	1.00	1529	
UpStream									
DownStream	869	0.92	Level	7	0	0.966	1.00	978	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.525 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	4183 pc/h	V_3 or V_{av34}	2400 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)		If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	6583	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	5054	Exhibit 13-8	7200	No
					V_R	1529	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	4183	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	38.4 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.436 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.8 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	71.3 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	62.1 mph (Exhibit 13-13)			

APPENDIX 6.10:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS RAMP JUNCTION
ANALYSIS WORKSHEETS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1460 ft		Deceleration Lane Length L _D			L _{down} = ft				
V _u = 311 veh/h		Freeway Volume, V _F	3323		V _D = veh/h				
		Ramp Volume, V _R	616						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3323	0.92	Level	2	0	0.990	1.00	3648	
Ramp	616	0.92	Level	14	0	0.935	1.00	716	
UpStream	311	0.92	Level	10	0	0.952	1.00	355	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3648 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4364	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4364	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 36.2 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = E (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.604 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 53.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 53.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft		Deceleration Lane Length L _D			L _{down} = 1200 ft				
V _u = veh/h		Freeway Volume, V _F	3323		V _D = 542 veh/h				
		Ramp Volume, V _R	616						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3323	0.92	Level	2	0	0.990	1.00	3648	
Ramp	616	0.92	Level	14	0	0.935	1.00	716	
UpStream									
DownStream	542	0.92	Level	1	0	0.995	1.00	592	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3648 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4364	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4364	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 36.2 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = E (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.604 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 53.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 53.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1500 ft V _D = 866 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	0
	Freeway Volume, V _F	4692		Ramp Volume, V _R	980	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4692	0.92	Level	16	0	0.926	1.00	5508	
Ramp	980	0.92	Level	13	0	0.939	1.00	1134	
UpStream									
DownStream	866	0.92	Level	4	0	0.980	1.00	960	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.570 using Equation (Exhibit 13-7) V ₁₂ = 3628 pc/h V ₃ or V _{av34} 1880 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5508	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	4374	Exhibit 13-8	7200	No
					V _R	1134	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3628	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.5 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.400 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 58.8 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.4 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 63.1 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1029 veh/h	Freeway Volume, V _F 5372				V _D = veh/h				
	Ramp Volume, V _R 887								
	Freeway Free-Flow Speed, S _{FF} 70.0								
	Ramp Free-Flow Speed, S _{FR} 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5372	0.92	Level	4	0	0.980	1.00	5956	
Ramp	887	0.92	Level	6	0	0.971	1.00	993	
UpStream	1029	0.92	Level	11	0	0.948	1.00	1180	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.094 using Equation (Exhibit 13-6) V ₁₂ = 558 pc/h V ₃ or V _{av34} = 2699 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2382 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6949	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3375	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.6 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.367 (Exhibit 13-11) S _R = 59.7 mph (Exhibit 13-11) S ₀ = 65.4 mph (Exhibit 13-11) S = 62.5 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 5					Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1					<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D = 0					L _{down} = 1970 ft			
V _u = veh/h	Freeway Volume, V _F = 6401					V _D = 887 veh/h			
	Ramp Volume, V _R = 1029								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6401	0.92	Level	5	0	0.976	1.00	7132	
Ramp	1029	0.92	Level	11	0	0.948	1.00	1180	
UpStream									
DownStream	887	0.92	Level	6	0	0.971	1.00	993	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3153 pc/h V ₃ or V _{av34} = 1276 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5706	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4526	Exhibit 13-8	9600	No
					V _R	1180	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3153	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.4 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.404 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.7 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	75.7 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2060 ft V _D = 701 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200
	Freeway Volume, V _F	7399		Ramp Volume, V _R	945	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7399	0.92	Level	8	0	0.962	1.00	8364	
Ramp	945	0.92	Level	9	0	0.957	1.00	1073	
UpStream									
DownStream	701	0.92	Level	13	0	0.939	1.00	811	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4252 pc/h V ₃ or V _{av34} 2056 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	8364	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	7291	Exhibit 13-8	9600	No
					V _R	1073	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4252	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 39.0 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.395 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.0 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	72.7 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.0 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 945 veh/h	Freeway Volume, V _F	6454	V _D = veh/h						
	Ramp Volume, V _R	701							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6454	0.92	Level	8	0	0.962	1.00	7296	
Ramp	701	0.92	Level	13	0	0.939	1.00	811	
UpStream	945	0.92	Level	9	0	0.957	1.00	1073	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.116 using Equation (Exhibit 13-6) V ₁₂ = 849 pc/h V ₃ or V _{av34} = 3223 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2918 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	8107	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3729	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.410 (Exhibit 13-11) S _R = 58.5 mph (Exhibit 13-11) S ₀ = 63.9 mph (Exhibit 13-11) S = 61.3 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6776	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1231				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	150							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6776	0.92	Level	7	0	0.966	1.00	7623	
Ramp	1231	0.92	Level	8	0	0.962	1.00	1392	
UpStream									
DownStream	36	0.92	Level	54	0	0.787	1.00	50	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4109 pc/h V ₃ or V _{av34} 1757 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7623	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6231	Exhibit 13-8	9600	No
					V _R	1392	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4109	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 38.2 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.423 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.1 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.5 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 703 veh/h	Freeway Volume, V _F		5191		V _D = veh/h				
	Ramp Volume, V _R		1350						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5191	0.92	Level	6	0	0.971	1.00	5812	
Ramp	1350	0.92	Level	9	0	0.957	1.00	1533	
UpStream	703	0.92	Level	16	0	0.926	1.00	825	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1822.93 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3466 pc/h V ₃ or V _{av34} = 2346 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3466 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7345	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4999	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 39.5 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.838 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 46.5 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 63.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 50.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 543 veh/h	Freeway Volume, V _F		5589		V _D = veh/h				
	Ramp Volume, V _R		1076						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5589	0.92	Level	1	0	0.995	1.00	6105	
Ramp	1076	0.92	Level	8	0	0.962	1.00	1216	
UpStream	543	0.92	Level	7	0	0.966	1.00	611	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3388 pc/h V ₃ or V _{av34} = 2717 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3488 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7321	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4704	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 41.6 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.752 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 49.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 61.6 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 52.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2010 ft V _D = 1210 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200
	Freeway Volume, V _F	5823		Ramp Volume, V _R	901	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5823	0.92	Level	2	0	0.990	1.00	6393	
Ramp	901	0.92	Level	10	0	0.952	1.00	1028	
UpStream									
DownStream	1210	0.92	Level	7	0	0.966	1.00	1361	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.553 using Equation (Exhibit 13-7) V ₁₂ = 3994 pc/h V ₃ or V _{av34} 2399 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6393	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	5365	Exhibit 13-8	7200	No
					V _R	1028	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3994	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 36.8 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.391 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.1 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 71.3 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 63.1 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
		Deceleration Lane Length L _D			L _{down} =	ft			
L _{up} =	1460 ft	Freeway Volume, V _F	2755		V _D =	veh/h			
V _u =	1033 veh/h	Ramp Volume, V _R	945						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2755	0.92	Level	1	0	0.995	1.00	3010	
Ramp	945	0.92	Level	13	0	0.939	1.00	1094	
UpStream	1033	0.92	Level	4	0	0.980	1.00	1145	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3010 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4104	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4104	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 34.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.534 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 55.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 55.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes	<input type="checkbox"/> On	Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No	<input type="checkbox"/> Off	Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft		Deceleration Lane Length L _D			L _{down} = 1200 ft				
V _u = veh/h		Freeway Volume, V _F	2755		V _D = 69 veh/h				
		Ramp Volume, V _R	945						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2755	0.92	Level	1	0	0.995	1.00	3010	
Ramp	945	0.92	Level	13	0	0.939	1.00	1094	
UpStream									
DownStream	69	0.92	Level	8	0	0.962	1.00	78	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 3010 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4104	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4104	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 34.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.534 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 55.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 55.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	513 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	4815	Ramp Volume, V_R	1480
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4815	0.92	Level	12	0	0.943	1.00	5548	
Ramp	1480	0.92	Level	9	0	0.957	1.00	1681	
UpStream									
DownStream	513	0.92	Level	2	0	0.990	1.00	563	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.544 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3785 pc/h	V_3 or V_{av34}	1763 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)		If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5548	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	3867	Exhibit 13-8	7200	No
					V_R	1681	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3785	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	36.8 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.449 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.4 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.8 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	61.8 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	750	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1970 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 703 veh/h	Freeway Volume, V _F	5171	V _D = veh/h						
	Ramp Volume, V _R	957							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5171	0.92	Level	3	0	0.985	1.00	5705	
Ramp	957	0.92	Level	4	0	0.980	1.00	1061	
UpStream	703	0.92	Level	10	0	0.952	1.00	802	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.085 using Equation (Exhibit 13-6) V ₁₂ = 486 pc/h V ₃ or V _{av34} = 2609 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2282 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	6766	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3343	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.4 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.364 (Exhibit 13-11) S _R = 59.8 mph (Exhibit 13-11) S ₀ = 65.6 mph (Exhibit 13-11) S = 62.6 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5874	L _{down} =	1970 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	703				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	0							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5874	0.92	Level	4	0	0.980	1.00	6512	
Ramp	703	0.92	Level	10	0	0.952	1.00	802	
UpStream									
DownStream	957	0.92	Level	5	0	0.976	1.00	1066	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2866 pc/h V ₃ or V _{av34} 1335 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5536	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4734	Exhibit 13-8	9600	No
					V _R	802	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2866	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 28.9 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.370 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	75.5 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	66.4 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2060 ft V _D = 945 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200
	Freeway Volume, V _F	7120		Ramp Volume, V _R	705	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7120	0.92	Level	5	0	0.976	1.00	7933	
Ramp	705	0.92	Level	6	0	0.971	1.00	789	
UpStream									
DownStream	945	0.92	Level	10	0	0.952	1.00	1079	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3904 pc/h V ₃ or V _{av34} 2014 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7933	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	7144	Exhibit 13-8	9600	No
					V _R	789	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3904	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 36.0 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.369 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.7 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 72.8 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.7 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 706 veh/h	Freeway Volume, V _F = 6415				V _D = veh/h				
	Ramp Volume, V _R = 945								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6415	0.92	Level	5	0	0.976	1.00	7147	
Ramp	945	0.92	Level	10	0	0.952	1.00	1079	
UpStream	706	0.92	Level	6	0	0.971	1.00	790	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.083 using Equation (Exhibit 13-6) V ₁₂ = 593 pc/h V ₃ or V _{av34} = 3277 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2858 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	8226	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3937	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 30.6 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.448 (Exhibit 13-11) S _R = 57.5 mph (Exhibit 13-11) S ₀ = 64.1 mph (Exhibit 13-11) S = 60.7 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	6692	$L_{down} =$	1150 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$	Ramp Number of Lanes, N	1	$L_{down} =$	Ramp Volume, V_R	1326	$V_D =$	179 veh/h	Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0			Ramp Free-Flow Speed, S_{FR}	45.0
	Deceleration Lane Length L_D	150							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	6692	0.92	Level	6	0	0.971	1.00	7492	
Ramp	1326	0.92	Level	4	0	0.980	1.00	1470	
UpStream									
DownStream	179	0.92	Level	5	0	0.976	1.00	199	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)			
$P_{FM} =$					$P_{FD} =$	0.436			
$V_{12} =$	pc/h				$V_{12} =$	4096 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1698 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	7492	Exhibit 13-8		9600
					$V_{FO} = V_F - V_R$	6022	Exhibit 13-8		9600
					V_R	1470	Exhibit 13-10		2100
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	4096	Exhibit 13-8		4400:All
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 38.1 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.430 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 58.0 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 74.1 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 64.3 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	675	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1930 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 968 veh/h	Freeway Volume, V _F	5029	V _D = veh/h						
	Ramp Volume, V _R	1267							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5029	0.92	Level	6	0	0.971	1.00	5630	
Ramp	1267	0.92	Level	9	0	0.957	1.00	1439	
UpStream	968	0.92	Level	6	0	0.971	1.00	1084	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1763.87 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3358 pc/h V ₃ or V _{av34} = 2272 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3358 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7069	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4797	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 38.0 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.733 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 49.5 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 63.6 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 53.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1260 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 520 veh/h	Freeway Volume, V _F	4980	V _D = veh/h						
	Ramp Volume, V _R	1266							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4980	0.92	Level	1	0	0.995	1.00	5440	
Ramp	1266	0.92	Level	5	0	0.976	1.00	1410	
UpStream	520	0.92	Level	6	0	0.971	1.00	582	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3019 pc/h V ₃ or V _{av34} = 2421 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3108 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	6850	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	4518	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 40.1 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.678 (Exhibit 13-11) S _R = 51.0 mph (Exhibit 13-11) S ₀ = 63.3 mph (Exhibit 13-11) S = 54.6 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Opening Year (2019) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D		200		L _{down} = 2010 ft				
V _u = veh/h	Freeway Volume, V _F		6004		V _D = 869 veh/h				
	Ramp Volume, V _R		1374						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6004	0.92	Level	2	0	0.990	1.00	6591	
Ramp	1374	0.92	Level	6	0	0.971	1.00	1538	
UpStream									
DownStream	869	0.92	Level	7	0	0.966	1.00	978	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.524 using Equation (Exhibit 13-7) V ₁₂ = 4188 pc/h V ₃ or V _{av34} 2403 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6591	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	5053	Exhibit 13-8	7200	No
					V _R	1538	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	4188	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 38.5 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.436 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 57.8 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 71.3 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 62.1 mph (Exhibit 13-13)				

APPENDIX 6.11:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings

Colony Commerce Center East SP (JN 10522)

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

07/26/2017

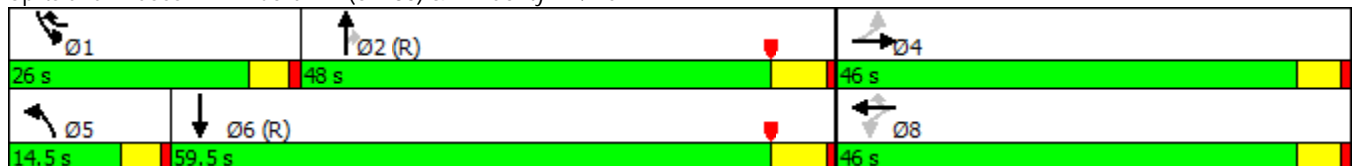


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↗	↑↑↑
Traffic Volume (vph)	8	6	431	48	656	19	1097	205	506	1649
Future Volume (vph)	8	6	431	48	656	19	1097	205	506	1649
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	26.0	14.5	48.0	48.0	26.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	21.7%	12.1%	40.0%	40.0%	21.7%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	431	48	656	19	1097	205	506	1649	44
Future Volume (veh/h)	8	6	4	431	48	656	19	1097	205	506	1649	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	8	6	3	485	0	637	20	1143	188	527	1718	43
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	213	154	69	1045	0	790	66	1720	535	530	2409	60
Arrive On Green	0.34	0.34	0.34	0.34	0.00	0.34	0.04	0.35	0.35	0.18	0.49	0.49
Sat Flow, veh/h	496	451	203	2698	0	1509	1619	4914	1530	2956	4931	123
Grp Volume(v), veh/h	17	0	0	485	0	637	20	1143	188	527	1141	620
Grp Sat Flow(s),veh/h/ln	1149	0	0	1349	0	1509	1619	1638	1530	1478	1638	1778
Q Serve(g_s), s	0.0	0.0	0.0	16.3	0.0	41.0	1.4	23.6	10.9	21.4	32.8	32.8
Cycle Q Clear(g_c), s	0.8	0.0	0.0	17.1	0.0	41.0	1.4	23.6	10.9	21.4	32.8	32.8
Prop In Lane	0.47		0.18	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	437	0	0	1045	0	790	66	1720	535	530	1601	869
V/C Ratio(X)	0.04	0.00	0.00	0.46	0.00	0.81	0.30	0.66	0.35	0.99	0.71	0.71
Avail Cap(c_a), veh/h	437	0	0	1045	0	790	135	1720	535	530	1601	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	31.6	0.0	23.8	55.9	33.0	28.9	49.2	24.1	24.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	5.7	0.7	1.5	1.4	37.7	2.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	6.4	0.0	18.7	0.7	10.9	4.8	11.5	15.3	17.2
LnGrp Delay(d),s/veh	26.3	0.0	0.0	31.7	0.0	29.6	56.6	34.6	30.3	86.9	26.8	29.0
LnGrp LOS	C			C		C	E	C	C	F	C	C
Approach Vol, veh/h		17			1122			1351			2288	
Approach Delay, s/veh		26.3			30.5			34.3			41.3	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	48.0		46.0	9.4	64.6		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	21.5	42.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	23.4	25.6		2.8	3.4	34.8		43.0				
Green Ext Time (p_c), s	0.0	14.1		2.3	0.0	15.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				36.7								
HCM 2010 LOS				D								
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

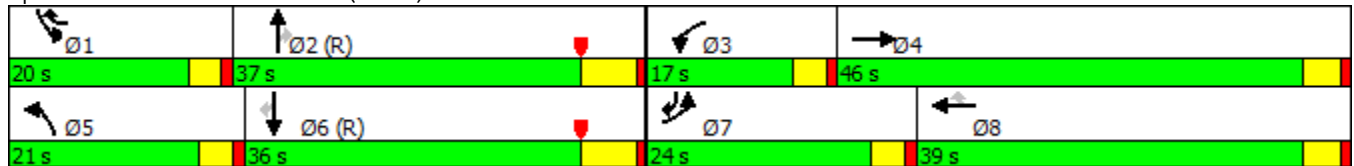


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔	↔	↕↕	↔	↔	↕↕↕	↔	↔↔	↕↕↕	↔
Traffic Volume (vph)	285	381	85	577	153	181	825	181	444	868	648
Future Volume (vph)	285	381	85	577	153	181	825	181	444	868	648
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	24.0	46.0	17.0	39.0	20.0	21.0	37.0	37.0	20.0	36.0	24.0
Total Split (%)	20.0%	38.3%	14.2%	32.5%	16.7%	17.5%	30.8%	30.8%	16.7%	30.0%	20.0%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 92 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated






























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (veh/h)	285	381	54	85	577	153	181	825	181	444	868	648
Future Volume (veh/h)	285	381	54	85	577	153	181	825	181	444	868	648
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	291	389	53	87	589	134	185	842	177	453	886	623
Adj No. of Lanes	2	2	0	1	2	1	1	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	342	799	108	107	733	532	211	1879	585	394	1894	759
Arrive On Green	0.12	0.26	0.26	0.07	0.21	0.21	0.04	0.13	0.13	0.13	0.39	0.39
Sat Flow, veh/h	2956	3028	410	1619	3420	1530	1619	4914	1530	2956	4914	1511
Grp Volume(v), veh/h	291	219	223	87	589	134	185	842	177	453	886	623
Grp Sat Flow(s),veh/h/ln	1478	1710	1728	1619	1710	1530	1619	1638	1530	1478	1638	1511
Q Serve(g_s), s	11.6	12.9	13.1	6.4	19.6	7.5	13.6	19.0	12.6	16.0	16.2	42.0
Cycle Q Clear(g_c), s	11.6	12.9	13.1	6.4	19.6	7.5	13.6	19.0	12.6	16.0	16.2	42.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	342	451	456	107	733	532	211	1879	585	394	1894	759
V/C Ratio(X)	0.85	0.48	0.49	0.81	0.80	0.25	0.88	0.45	0.30	1.15	0.47	0.82
Avail Cap(c_a), veh/h	493	591	597	175	983	644	229	1879	585	394	1894	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65	0.75	0.75	0.75
Uniform Delay (d), s/veh	52.0	37.3	37.3	55.3	44.7	28.0	56.5	40.7	37.9	52.0	27.6	25.4
Incr Delay (d2), s/veh	6.7	0.8	0.8	5.5	2.6	0.1	18.9	0.5	0.9	87.4	0.6	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	6.2	6.4	3.0	9.5	3.2	7.2	8.8	5.5	11.3	7.4	19.0
LnGrp Delay(d),s/veh	58.8	38.1	38.1	60.8	47.3	28.1	75.4	41.2	38.8	139.4	28.3	32.9
LnGrp LOS	E	D	D	E	D	C	E	D	D	F	C	C
Approach Vol, veh/h		733			810			1204			1962	
Approach Delay, s/veh		46.3			45.6			46.1			55.4	
Approach LOS		D			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	51.9	11.9	36.2	19.6	52.3	17.9	30.2				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	16.0	31.0	13.0	41.5	17.0	30.0	20.0	34.5				
Max Q Clear Time (g_c+I1), s	18.0	21.0	8.4	15.1	15.6	44.0	13.6	21.6				
Green Ext Time (p_c), s	0.0	7.9	0.0	5.1	0.0	0.0	0.3	4.1				
Intersection Summary												
HCM 2010 Ctrl Delay			49.9									
HCM 2010 LOS			D									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

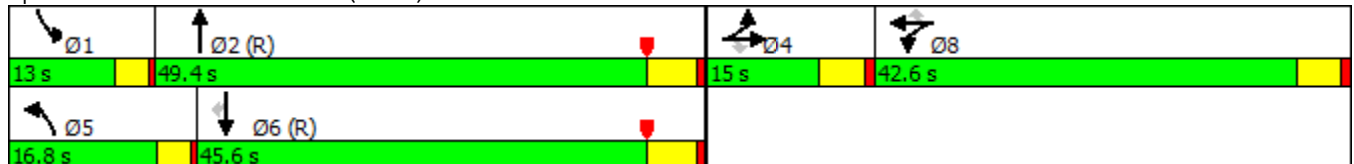


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	28	52	284	407	257	79	923	77	718	111
Future Volume (vph)	85	28	52	284	407	257	79	923	77	718	111
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	4	4	4	8	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	42.5	42.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	15.0	15.0	15.0	42.6	42.6	42.6	16.8	49.4	13.0	45.6	45.6
Total Split (%)	12.5%	12.5%	12.5%	35.5%	35.5%	35.5%	14.0%	41.2%	10.8%	38.0%	38.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag							Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 23 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



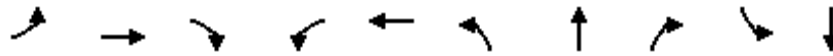
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	28	52	284	407	257	79	923	82	77	718	111
Future Volume (veh/h)	85	28	52	284	407	257	79	923	82	77	718	111
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	90	30	53	302	433	260	84	982	86	82	764	109
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	116	129	109	428	476	404	103	1413	124	100	1514	677
Arrive On Green	0.07	0.07	0.07	0.26	0.26	0.26	0.13	0.89	0.89	0.12	0.89	0.89
Sat Flow, veh/h	1619	1800	1524	1619	1800	1530	1619	3182	279	1619	3420	1530
Grp Volume(v), veh/h	90	30	53	302	433	260	84	528	540	82	764	109
Grp Sat Flow(s),veh/h/ln	1619	1800	1524	1619	1800	1530	1619	1710	1751	1619	1710	1530
Q Serve(g_s), s	6.6	1.9	4.0	20.2	28.0	18.1	6.1	10.8	10.8	5.9	5.6	1.1
Cycle Q Clear(g_c), s	6.6	1.9	4.0	20.2	28.0	18.1	6.1	10.8	10.8	5.9	5.6	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	116	129	109	428	476	404	103	759	778	100	1514	677
V/C Ratio(X)	0.78	0.23	0.49	0.71	0.91	0.64	0.82	0.69	0.69	0.82	0.50	0.16
Avail Cap(c_a), veh/h	135	150	127	507	564	479	179	759	778	128	1514	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.46	0.46	0.46	0.76	0.76	0.76
Uniform Delay (d), s/veh	54.8	52.6	53.6	39.9	42.8	39.1	51.7	4.3	4.3	51.9	4.2	3.9
Incr Delay (d2), s/veh	17.9	0.3	1.3	2.5	15.8	1.3	2.8	2.4	2.4	17.2	0.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.0	1.7	9.4	15.9	7.7	2.8	5.2	5.3	3.1	2.5	0.5
LnGrp Delay(d),s/veh	72.7	53.0	54.9	42.5	58.6	40.4	54.6	6.8	6.7	69.1	5.1	4.3
LnGrp LOS	E	D	D	D	E	D	D	A	A	E	A	A
Approach Vol, veh/h		173			995			1152			955	
Approach Delay, s/veh		63.8			48.9			10.2			10.5	
Approach LOS		E			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	58.8		13.6	11.1	58.6		36.7				
Change Period (Y+Rc), s	3.5	5.5		5.0	3.5	5.5		5.0				
Max Green Setting (Gmax), s	9.5	43.9		10.0	13.3	40.1		37.6				
Max Q Clear Time (g_c+I1), s	7.9	12.8		8.6	8.1	7.6		30.0				
Green Ext Time (p_c), s	0.0	8.1		0.0	0.0	8.1		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

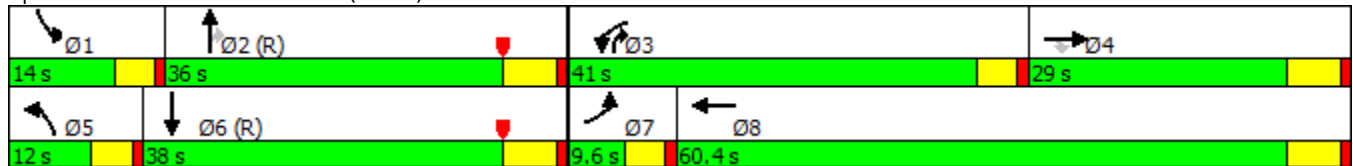


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑	↘	↙↘	↘	↙	↑↑↑	↘	↙	↑↑↑
Traffic Volume (vph)	5	236	33	950	179	58	1028	548	99	934
Future Volume (vph)	5	236	33	950	179	58	1028	548	99	934
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	29.0	29.0	41.0	60.4	12.0	36.0	41.0	14.0	38.0
Total Split (%)	8.0%	24.2%	24.2%	34.2%	50.3%	10.0%	30.0%	34.2%	11.7%	31.7%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 105 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	236	33	950	179	132	58	1028	548	99	934	15
Future Volume (veh/h)	5	236	33	950	179	132	58	1028	548	99	934	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	238	0	960	181	118	59	1038	376	100	943	10
Adj No. of Lanes	1	1	1	2	1	0	1	3	1	1	3	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	10	286	243	897	462	301	74	1413	894	122	1591	17
Arrive On Green	0.01	0.16	0.00	0.30	0.46	0.46	0.05	0.29	0.29	0.02	0.10	0.10
Sat Flow, veh/h	1619	1800	1530	2956	1013	660	1619	4914	1495	1619	5012	53
Grp Volume(v), veh/h	5	238	0	960	0	299	59	1038	376	100	616	337
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1674	1619	1638	1495	1619	1638	1789
Q Serve(g_s), s	0.4	15.4	0.0	36.4	0.0	14.2	4.3	22.9	16.5	7.4	21.5	21.6
Cycle Q Clear(g_c), s	0.4	15.4	0.0	36.4	0.0	14.2	4.3	22.9	16.5	7.4	21.5	21.6
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	10	286	243	897	0	763	74	1413	894	122	1040	568
V/C Ratio(X)	0.48	0.83	0.00	1.07	0.00	0.39	0.80	0.73	0.42	0.82	0.59	0.59
Avail Cap(c_a), veh/h	67	347	295	897	0	763	100	1413	894	127	1040	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.81	0.81	0.81
Uniform Delay (d), s/veh	59.4	48.9	0.0	41.8	0.0	21.6	56.7	38.6	13.4	57.7	46.3	46.3
Incr Delay (d2), s/veh	12.4	14.8	0.0	50.8	0.0	0.5	2.2	0.3	0.1	25.3	2.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.8	0.0	21.1	0.0	6.7	2.0	10.4	6.8	4.2	10.1	11.3
LnGrp Delay(d),s/veh	71.8	63.8	0.0	92.6	0.0	22.1	58.9	38.9	13.5	82.9	48.3	50.0
LnGrp LOS	E	E		F		C	E	D	B	F	D	D
Approach Vol, veh/h		243			1259			1473			1053	
Approach Delay, s/veh		63.9			75.9			33.3			52.1	
Approach LOS		E			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	40.4	41.0	25.0	10.0	44.0	5.4	60.6				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	9.4	30.1	36.4	23.1	7.4	32.1	5.0	54.5				
Max Q Clear Time (g_c+I1), s	9.4	24.9	38.4	17.4	6.3	23.6	2.4	16.2				
Green Ext Time (p_c), s	0.0	3.7	0.0	1.7	0.0	5.4	0.0	4.8				
Intersection Summary												
HCM 2010 Ctrl Delay			53.4									
HCM 2010 LOS			D									

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

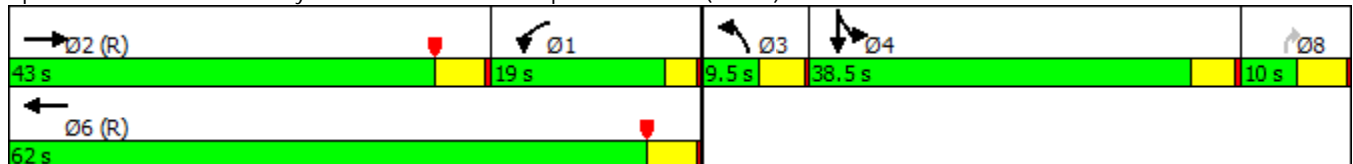


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	847	400	290	63	303	319	21
Future Volume (vph)	847	400	290	63	303	319	21
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA
Protected Phases	2	1	6	3		4	4
Permitted Phases					8		
Detector Phase	2	1	6	3	8	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5
Total Split (s)	43.0	19.0	62.0	9.5	10.0	38.5	38.5
Total Split (%)	35.8%	15.8%	51.7%	7.9%	8.3%	32.1%	32.1%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		
Traffic Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Future Volume (veh/h)	0	847	17	400	290	0	63	0	303	319	21	36
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1600	1800	1800
Adj Flow Rate, veh/h	0	931	19	440	319	0	69	0	333	351	23	40
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1005	21	720	2666	0	0	0	0	418	83	144
Arrive On Green	0.00	0.29	0.29	0.44	0.78	0.00	0.00	0.00	0.00	0.14	0.14	0.14
Sat Flow, veh/h	0	3516	70	1619	3510	0		0		2956	585	1017
Grp Volume(v), veh/h	0	465	485	440	319	0		0.0		351	0	63
Grp Sat Flow(s),veh/h/ln	0	1710	1786	1619	1710	0				1478	0	1602
Q Serve(g_s), s	0.0	31.6	31.6	24.9	2.7	0.0				13.9	0.0	4.2
Cycle Q Clear(g_c), s	0.0	31.6	31.6	24.9	2.7	0.0				13.9	0.0	4.2
Prop In Lane	0.00		0.04	1.00		0.00				1.00		0.63
Lane Grp Cap(c), veh/h	0	502	524	720	2666	0				418	0	226
V/C Ratio(X)	0.00	0.93	0.93	0.61	0.12	0.00				0.84	0.00	0.28
Avail Cap(c_a), veh/h	0	542	565	720	2666	0				838	0	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	41.1	41.1	25.4	3.2	0.0				50.2	0.0	46.1
Incr Delay (d2), s/veh	0.0	25.5	24.7	1.1	0.1	0.0				3.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.5	19.2	11.3	1.3	0.0				5.9	0.0	1.9
LnGrp Delay(d),s/veh	0.0	66.6	65.9	26.5	3.3	0.0				53.7	0.0	46.5
LnGrp LOS		E	E	C	A					D		D
Approach Vol, veh/h		950			759						414	
Approach Delay, s/veh		66.2			16.8						52.6	
Approach LOS		E			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	58.3	40.2		21.5		98.5						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	15.5	* 38		34.0		57.0						
Max Q Clear Time (g_c+I1), s	26.9	33.6		15.9		4.7						
Green Ext Time (p_c), s	0.0	1.6		1.1		1.8						
Intersection Summary												
HCM 2010 Ctrl Delay				45.9								
HCM 2010 LOS				D								
Notes												

Timings
7: Merrill Av. & Grove Av.

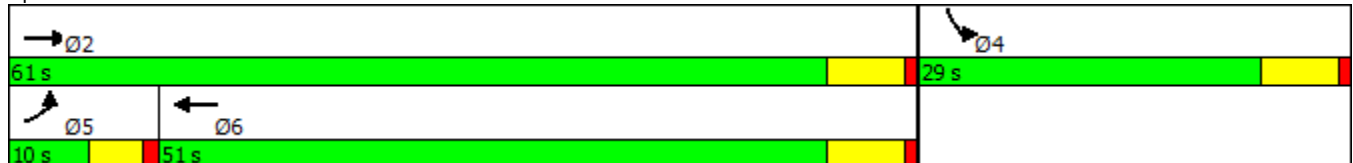


Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	60	574	1073	185
Future Volume (vph)	60	574	1073	185
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	10.0	61.0	51.0	29.0
Total Split (%)	11.1%	67.8%	56.7%	32.2%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 83.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	574	1073	294	185	110		
Future Volume (veh/h)	60	574	1073	294	185	110		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800		
Adj Flow Rate, veh/h	70	667	1248	342	215	128		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	87	2107	1359	366	234	140		
Arrive On Green	0.05	0.62	0.51	0.51	0.24	0.24		
Sat Flow, veh/h	1619	3510	2756	717	969	577		
Grp Volume(v), veh/h	70	667	792	798	344	0		
Grp Sat Flow(s),veh/h/ln	1619	1710	1710	1673	1550	0		
Q Serve(g_s), s	3.7	8.1	36.9	39.0	18.9	0.0		
Cycle Q Clear(g_c), s	3.7	8.1	36.9	39.0	18.9	0.0		
Prop In Lane	1.00			0.43	0.62	0.37		
Lane Grp Cap(c), veh/h	87	2107	871	853	375	0		
V/C Ratio(X)	0.81	0.32	0.91	0.94	0.92	0.00		
Avail Cap(c_a), veh/h	100	2147	878	859	405	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	40.8	8.0	19.6	20.1	32.2	0.0		
Incr Delay (d2), s/veh	28.8	0.1	13.2	17.1	24.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	3.8	20.4	21.8	10.6	0.0		
LnGrp Delay(d),s/veh	69.7	8.1	32.8	37.2	56.8	0.0		
LnGrp LOS	E	A	C	D	E			
Approach Vol, veh/h		737	1590		344			
Approach Delay, s/veh		13.9	35.0		56.8			
Approach LOS		B	C		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.0		27.3	9.3	50.7		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		54.8		22.8	5.4	44.8		
Max Q Clear Time (g_c+I1), s		10.1		20.9	5.7	41.0		
Green Ext Time (p_c), s		27.8		0.2	0.0	3.5		
Intersection Summary								
HCM 2010 Ctrl Delay			32.0					
HCM 2010 LOS			C					
Notes								

Timings
8: Flight Av. & Merrill Av.

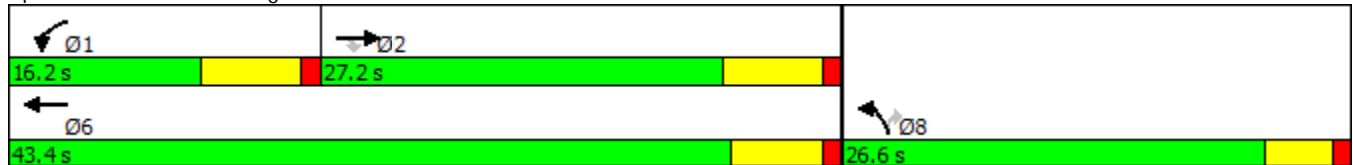


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	628	170	130	1277	226	113
Future Volume (vph)	628	170	130	1277	226	113
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	24.2	24.2	16.2	15.8	26.6	26.6
Total Split (s)	27.2	27.2	16.2	43.4	26.6	26.6
Total Split (%)	38.9%	38.9%	23.1%	62.0%	38.0%	38.0%
Yellow Time (s)	5.2	5.2	5.2	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	5.8	4.6	4.6
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 57.1
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	628	170	130	1277	226	113		
Future Volume (veh/h)	628	170	130	1277	226	113		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	690	187	143	1403	248	124		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1168	523	257	2090	318	301		
Arrive On Green	0.34	0.34	0.16	0.61	0.20	0.20		
Sat Flow, veh/h	3510	1530	1619	3510	1619	1530		
Grp Volume(v), veh/h	690	187	143	1403	248	124		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1710	1619	1530		
Q Serve(g_s), s	9.3	5.1	4.6	15.2	8.2	4.0		
Cycle Q Clear(g_c), s	9.3	5.1	4.6	15.2	8.2	4.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1168	523	257	2090	318	301		
V/C Ratio(X)	0.59	0.36	0.56	0.67	0.78	0.41		
Avail Cap(c_a), veh/h	1280	573	288	2291	635	600		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	13.9	21.8	7.2	21.4	19.7		
Incr Delay (d2), s/veh	0.6	0.4	0.7	0.7	4.1	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.5	2.2	2.1	7.2	4.0	1.7		
LnGrp Delay(d),s/veh	15.9	14.3	22.5	7.9	25.5	20.6		
LnGrp LOS	B	B	C	A	C	C		
Approach Vol, veh/h	877			1546	372			
Approach Delay, s/veh	15.5			9.2	23.9			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.1	25.4				40.5		15.6
Change Period (Y+Rc), s	6.2	6.2				* 6.2		4.6
Max Green Setting (Gmax), s	10.0	21.0				* 38		22.0
Max Q Clear Time (g_c+I1), s	6.6	11.3				17.2		10.2
Green Ext Time (p_c), s	0.1	7.8				14.3		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			13.2					
HCM 2010 LOS			B					
Notes								

Timings
9: Hellman Av. & Merrill Av.

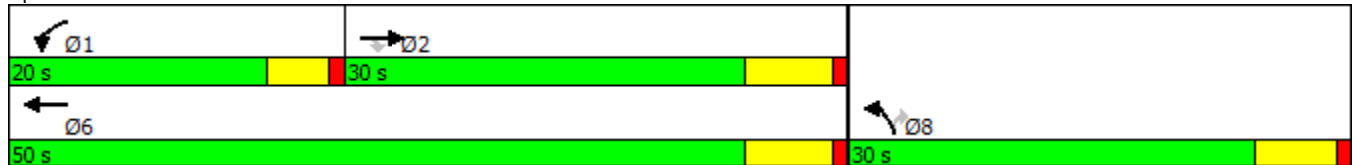


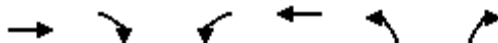
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	521	169	270	999	427	147
Future Volume (vph)	521	169	270	999	427	147
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.2	28.2	9.6	16.2	27.8	27.8
Total Split (s)	30.0	30.0	20.0	50.0	30.0	30.0
Total Split (%)	37.5%	37.5%	25.0%	62.5%	37.5%	37.5%
Yellow Time (s)	5.2	5.2	3.6	5.2	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	5.8	5.8
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 73.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Hellman Av. & Merrill Av.





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	521	169	270	999	427	147		
Future Volume (veh/h)	521	169	270	999	427	147		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	566	184	293	1086	464	160		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	920	412	328	1821	500	472		
Arrive On Green	0.27	0.27	0.20	0.53	0.31	0.31		
Sat Flow, veh/h	3510	1530	1619	3510	1619	1530		
Grp Volume(v), veh/h	566	184	293	1086	464	160		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1710	1619	1530		
Q Serve(g_s), s	10.9	7.5	13.3	16.4	21.0	6.1		
Cycle Q Clear(g_c), s	10.9	7.5	13.3	16.4	21.0	6.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	920	412	328	1821	500	472		
V/C Ratio(X)	0.62	0.45	0.89	0.60	0.93	0.34		
Avail Cap(c_a), veh/h	1079	483	330	1986	519	491		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.2	22.9	29.3	12.1	25.3	20.1		
Incr Delay (d2), s/veh	0.8	0.8	24.3	0.4	22.8	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.2	3.3	8.2	7.8	12.5	2.6		
LnGrp Delay(d),s/veh	24.9	23.7	53.6	12.5	48.1	20.6		
LnGrp LOS	C	C	D	B	D	C		
Approach Vol, veh/h	750			1379	624			
Approach Delay, s/veh	24.6			21.2	41.1			
Approach LOS	C			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.9	26.5				46.4		29.1
Change Period (Y+Rc), s	4.6	6.2				6.2		5.8
Max Green Setting (Gmax), s	15.4	23.8				43.8		24.2
Max Q Clear Time (g_c+I1), s	15.3	12.9				18.4		23.0
Green Ext Time (p_c), s	0.0	7.4				12.8		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			26.7					
HCM 2010 LOS			C					

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

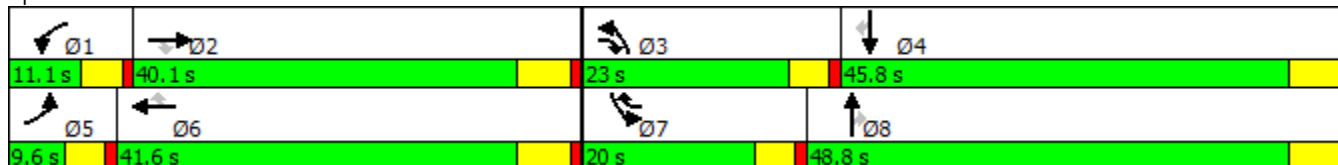


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	9	639	317	74	1184	271	451	378	52	74	147	15
Future Volume (vph)	9	639	317	74	1184	271	451	378	52	74	147	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	639	317	74	1184	271	451	378	52	74	147	15
Future Volume (veh/h)	9	639	317	74	1184	271	451	378	52	74	147	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	10	695	333	80	1287	262	490	411	47	80	160	15
Adj No. of Lanes	2	3	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1907	876	150	1458	730	561	888	392	150	413	185
Arrive On Green	0.01	0.39	0.39	0.05	0.43	0.43	0.19	0.26	0.26	0.05	0.12	0.12
Sat Flow, veh/h	2956	4914	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	10	695	333	80	1287	262	490	411	47	80	160	15
Grp Sat Flow(s),veh/h/ln	1478	1638	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.3	8.4	9.9	2.2	28.7	9.0	13.3	8.4	2.0	2.2	3.6	0.7
Cycle Q Clear(g_c), s	0.3	8.4	9.9	2.2	28.7	9.0	13.3	8.4	2.0	2.2	3.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	1907	876	150	1458	730	561	888	392	150	413	185
V/C Ratio(X)	0.27	0.36	0.38	0.53	0.88	0.36	0.87	0.46	0.12	0.53	0.39	0.08
Avail Cap(c_a), veh/h	178	2033	915	232	1477	738	656	1774	783	549	1650	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	18.1	9.5	38.4	21.9	13.7	32.6	25.8	23.5	38.4	33.6	32.4
Incr Delay (d2), s/veh	1.5	0.1	0.3	1.1	6.6	0.3	10.1	0.4	0.1	1.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.8	4.1	0.9	14.7	3.8	6.2	4.0	0.8	0.9	1.7	0.3
LnGrp Delay(d),s/veh	42.0	18.2	9.8	39.5	28.5	14.0	42.7	26.2	23.6	39.5	34.2	32.6
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1038			1629			948			255	
Approach Delay, s/veh		15.7			26.7			34.6			35.8	
Approach LOS		B			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.0	20.3	15.8	5.6	41.1	8.8	27.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.2	11.9	15.3	5.6	2.3	30.7	4.2	10.4				
Green Ext Time (p_c), s	0.0	17.3	0.4	4.3	0.0	4.7	0.1	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			26.3									
HCM 2010 LOS			C									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

07/26/2017

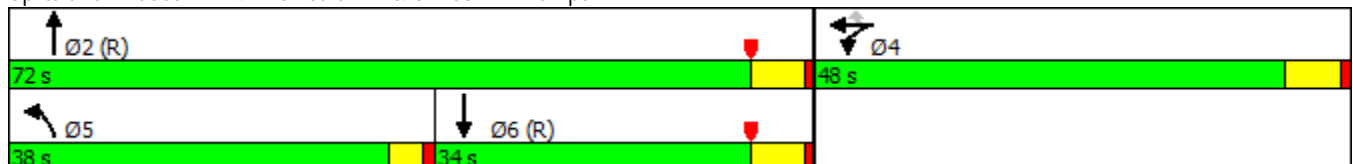


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↷	↷	↶↷	↑↑↑	↑↑↑
Traffic Volume (vph)	550	4	508	749	1435	528
Future Volume (vph)	550	4	508	749	1435	528
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	48.0	48.0	48.0	38.0	72.0	34.0
Total Split (%)	40.0%	40.0%	40.0%	31.7%	60.0%	28.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

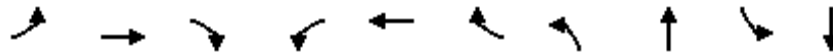
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	550	4	508	749	1435	0	0	528	196
Future Volume (veh/h)	0	0	0	550	4	508	749	1435	0	0	528	196
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1600	1800	0	0	1800	1800
Adj Flow Rate, veh/h				614	0	388	832	1594	0	0	587	138
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				978	0	462	838	2946	0	0	1440	325
Arrive On Green				0.30	0.00	0.30	0.28	0.60	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3238	0	1530	2956	5076	0	0	5342	1147
Grp Volume(v), veh/h				614	0	388	832	1594	0	0	533	192
Grp Sat Flow(s),veh/h/ln				1619	0	1530	1478	1638	0	0	1548	1593
Q Serve(g_s), s				19.6	0.0	28.5	33.7	23.1	0.0	0.0	11.2	11.8
Cycle Q Clear(g_c), s				19.6	0.0	28.5	33.7	23.1	0.0	0.0	11.2	11.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.72
Lane Grp Cap(c), veh/h				978	0	462	838	2946	0	0	1314	451
V/C Ratio(X)				0.63	0.00	0.84	0.99	0.54	0.00	0.00	0.41	0.43
Avail Cap(c_a), veh/h				1133	0	535	838	2946	0	0	1314	451
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.1	0.0	39.2	42.9	14.2	0.0	0.0	34.9	35.1
Incr Delay (d2), s/veh				1.6	0.0	12.3	7.9	0.1	0.0	0.0	0.9	2.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.0	0.0	23.4	14.7	10.3	0.0	0.0	4.9	5.5
LnGrp Delay(d),s/veh				37.6	0.0	51.4	50.7	14.3	0.0	0.0	35.8	38.0
LnGrp LOS				D		D	D	B			D	D
Approach Vol, veh/h					1002			2426			725	
Approach Delay, s/veh					43.0			26.8			36.4	
Approach LOS					D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		77.8		42.2	38.0	39.8						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		66.2		42.0	34.0	28.2						
Max Q Clear Time (g_c+I1), s		25.1		30.5	35.7	13.8						
Green Ext Time (p_c), s		23.2		5.8	0.0	11.2						
Intersection Summary												
HCM 2010 Ctrl Delay				32.4								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

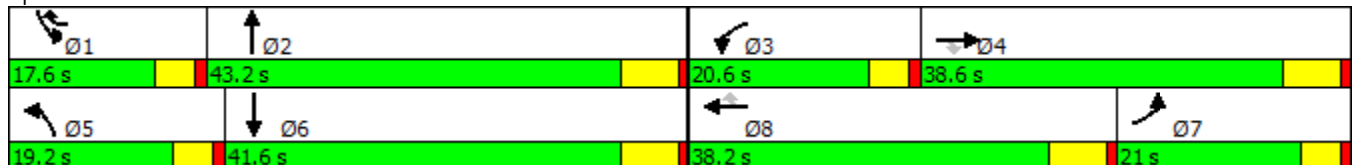


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↗	↘↗	↑↑↗
Traffic Volume (vph)	207	379	200	147	524	371	265	1243	304	747
Future Volume (vph)	207	379	200	147	524	371	265	1243	304	747
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	21.0	38.6	38.6	20.6	38.2	17.6	19.2	43.2	17.6	41.6
Total Split (%)	17.5%	32.2%	32.2%	17.2%	31.8%	14.7%	16.0%	36.0%	14.7%	34.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	379	200	147	524	371	265	1243	153	304	747	206
Future Volume (veh/h)	207	379	200	147	524	371	265	1243	153	304	747	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	230	421	189	163	582	319	294	1381	160	338	830	156
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	886	391	188	745	500	343	1439	167	336	1331	249
Arrive On Green	0.14	0.26	0.26	0.12	0.22	0.22	0.12	0.32	0.32	0.11	0.32	0.32
Sat Flow, veh/h	1619	3420	1509	1619	3420	1496	2956	4465	517	2956	4160	777
Grp Volume(v), veh/h	230	421	189	163	582	319	294	1013	528	338	653	333
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1496	1478	1638	1706	1478	1638	1660
Q Serve(g_s), s	16.2	11.9	12.1	11.3	18.4	11.7	11.2	34.7	34.7	13.0	19.4	19.6
Cycle Q Clear(g_c), s	16.2	11.9	12.1	11.3	18.4	11.7	11.2	34.7	34.7	13.0	19.4	19.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.47
Lane Grp Cap(c), veh/h	232	886	391	188	745	500	343	1056	550	336	1049	531
V/C Ratio(X)	0.99	0.48	0.48	0.87	0.78	0.64	0.86	0.96	0.96	1.01	0.62	0.63
Avail Cap(c_a), veh/h	232	968	427	226	956	592	377	1059	552	336	1049	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	35.8	35.9	49.7	42.2	13.1	49.7	38.0	38.0	50.7	33.0	33.1
Incr Delay (d2), s/veh	56.4	0.4	0.9	22.0	3.2	1.7	15.2	18.6	28.3	50.7	1.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	5.7	5.1	6.2	9.0	5.0	5.3	18.3	20.6	7.6	8.9	9.3
LnGrp Delay(d),s/veh	105.3	36.2	36.8	71.7	45.4	14.9	64.9	56.6	66.3	101.4	34.2	35.4
LnGrp LOS	F	D	D	E	D	B	E	E	E	F	C	D
Approach Vol, veh/h		840			1064			1835			1324	
Approach Delay, s/veh		55.3			40.3			60.7			51.7	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	43.1	17.9	35.8	17.9	42.8	22.6	31.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	6.2	* 6.2				
Max Green Setting (Gmax), s	13.0	37.0	16.0	32.4	14.6	35.4	16.4	* 32				
Max Q Clear Time (g_c+I1), s	15.0	36.7	13.3	14.1	13.2	21.6	18.2	20.4				
Green Ext Time (p_c), s	0.0	0.2	0.1	3.1	0.1	11.1	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			53.2									
HCM 2010 LOS			D									
Notes												

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

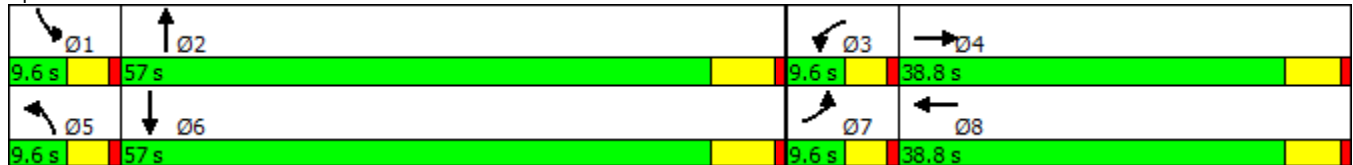


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	6	9	11	27	20	1489	4	1066
Future Volume (vph)	6	9	11	27	20	1489	4	1066
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	23.5	9.6	23.5
Total Split (s)	9.6	38.8	9.6	38.8	9.6	57.0	9.6	57.0
Total Split (%)	8.3%	33.7%	8.3%	33.7%	8.3%	49.6%	8.3%	49.6%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 115
 Actuated Cycle Length: 79.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	9	20	11	27	13	20	1489	7	4	1066	4
Future Volume (veh/h)	6	9	20	11	27	13	20	1489	7	4	1066	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	7	10	22	12	29	14	22	1618	8	4	1159	4
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	54	118	24	130	63	39	2074	10	9	2011	7
Arrive On Green	0.01	0.11	0.11	0.01	0.11	0.11	0.02	0.59	0.59	0.01	0.58	0.58
Sat Flow, veh/h	1619	502	1104	1619	1148	554	1619	3490	17	1619	3496	12
Grp Volume(v), veh/h	7	0	32	12	0	43	22	793	833	4	567	596
Grp Sat Flow(s),veh/h/ln	1619	0	1605	1619	0	1702	1619	1710	1797	1619	1710	1798
Q Serve(g_s), s	0.3	0.0	1.4	0.6	0.0	1.8	1.0	27.1	27.1	0.2	16.3	16.3
Cycle Q Clear(g_c), s	0.3	0.0	1.4	0.6	0.0	1.8	1.0	27.1	27.1	0.2	16.3	16.3
Prop In Lane	1.00		0.69	1.00		0.33	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	15	0	172	24	0	192	39	1016	1068	9	984	1034
V/C Ratio(X)	0.48	0.00	0.19	0.50	0.00	0.22	0.56	0.78	0.78	0.46	0.58	0.58
Avail Cap(c_a), veh/h	105	0	686	105	0	727	105	1118	1175	105	1118	1176
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	31.4	37.8	0.0	31.2	37.3	11.8	11.8	38.3	10.4	10.4
Incr Delay (d2), s/veh	8.8	0.0	0.5	6.0	0.0	0.6	4.5	3.3	3.2	13.7	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.3	0.0	0.9	0.5	13.5	14.1	0.1	7.7	8.1
LnGrp Delay(d),s/veh	46.8	0.0	31.9	43.8	0.0	31.8	41.8	15.1	15.0	52.0	11.0	11.0
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		39			55			1648			1167	
Approach Delay, s/veh		34.6			34.4			15.4			11.1	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	52.4	5.7	14.1	6.5	50.9	5.3	14.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.0	50.5	5.0	33.0	5.0	50.5	5.0	33.0				
Max Q Clear Time (g_c+I1), s	2.2	29.1	2.6	3.4	3.0	18.3	2.3	3.8				
Green Ext Time (p_c), s	0.0	16.8	0.0	0.3	0.0	23.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			14.3									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/26/2017

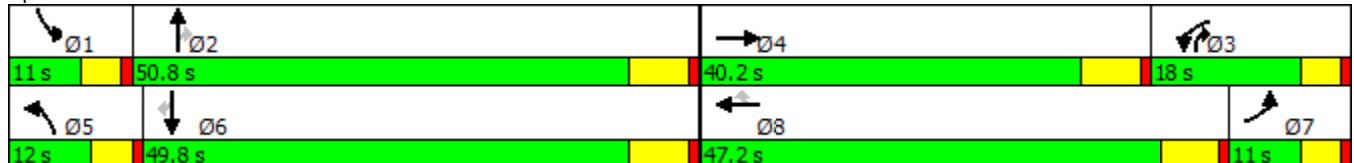


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗	↘	↖↖	↗↗	↘	↖	↗↗	↘
Traffic Volume (vph)	37	246	77	414	370	87	190	1356	406	79	930	51
Future Volume (vph)	37	246	77	414	370	87	190	1356	406	79	930	51
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	11.0	40.2		18.0	47.2	47.2	12.0	50.8	18.0	11.0	49.8	49.8
Total Split (%)	9.2%	33.5%		15.0%	39.3%	39.3%	10.0%	42.3%	15.0%	9.2%	41.5%	41.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	246	77	414	370	87	190	1356	406	79	930	51
Future Volume (veh/h)	37	246	77	414	370	87	190	1356	406	79	930	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	39	262	0	440	394	45	202	1443	0	84	989	35
Adj No. of Lanes	2	2	1	2	1	1	2	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	88	369	165	509	450	383	217	1502	935	103	1468	657
Arrive On Green	0.03	0.11	0.00	0.17	0.25	0.25	0.07	0.44	0.00	0.06	0.43	0.43
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	2956	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	39	262	0	440	394	45	202	1443	0	84	989	35
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1478	1710	1530	1619	1710	1530
Q Serve(g_s), s	1.3	7.5	0.0	14.6	21.2	1.8	6.8	41.2	0.0	5.2	23.4	1.0
Cycle Q Clear(g_c), s	1.3	7.5	0.0	14.6	21.2	1.8	6.8	41.2	0.0	5.2	23.4	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	88	369	165	509	450	383	217	1502	935	103	1468	657
V/C Ratio(X)	0.44	0.71	0.00	0.86	0.88	0.12	0.93	0.96	0.00	0.82	0.67	0.05
Avail Cap(c_a), veh/h	188	1154	516	509	733	623	217	1504	936	103	1470	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.4	0.0	40.6	36.3	17.4	46.4	27.4	0.0	46.6	23.1	9.6
Incr Delay (d2), s/veh	1.3	2.5	0.0	13.8	6.9	0.1	41.5	14.9	0.0	36.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	0.0	6.9	11.4	0.9	4.0	22.6	0.0	3.3	11.2	0.6
LnGrp Delay(d),s/veh	49.3	46.0	0.0	54.4	43.1	17.5	87.9	42.4	0.0	82.6	24.3	9.6
LnGrp LOS	D	D		D	D	B	F	D		F	C	A
Approach Vol, veh/h		301			879			1645			1108	
Approach Delay, s/veh		46.4			47.4			48.0			28.3	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.7	21.9	17.1	12.0	49.7	7.6	31.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.4	44.3	13.4	34.0	7.4	43.3	6.4	41.0				
Max Q Clear Time (g_c+I1), s	7.2	43.2	16.6	9.5	8.8	25.4	3.3	23.2				
Green Ext Time (p_c), s	0.0	1.0	0.0	1.4	0.0	13.8	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			42.2									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/26/2017

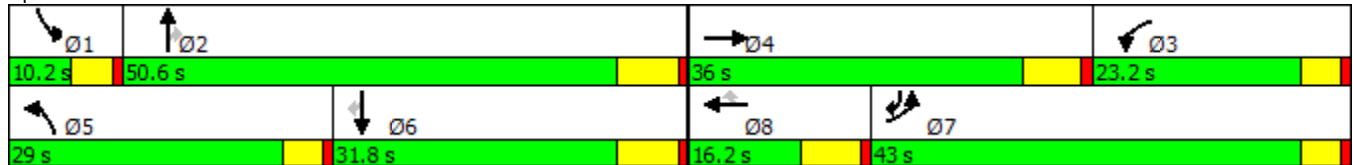


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	447	67	262	186	135	93	726	1333	83	79	628	791
Future Volume (vph)	447	67	262	186	135	93	726	1333	83	79	628	791
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	43.0	36.0		23.2	16.2	16.2	29.0	50.6	50.6	10.2	31.8	43.0
Total Split (%)	35.8%	30.0%		19.3%	13.5%	13.5%	24.2%	42.2%	42.2%	8.5%	26.5%	35.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.6
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	67	262	186	135	93	726	1333	83	79	628	791
Future Volume (veh/h)	447	67	262	186	135	93	726	1333	83	79	628	791
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	461	69	0	192	139	33	748	1374	70	81	647	758
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	541	347	155	287	347	155	755	2228	694	134	1232	655
Arrive On Green	0.18	0.10	0.00	0.18	0.10	0.10	0.25	0.45	0.45	0.05	0.25	0.25
Sat Flow, veh/h	3048	3420	1530	1619	3420	1530	3048	4914	1530	2956	4914	1530
Grp Volume(v), veh/h	461	69	0	192	139	33	748	1374	70	81	647	758
Grp Sat Flow(s),veh/h/ln	1524	1710	1530	1619	1710	1530	1524	1638	1530	1478	1638	1530
Q Serve(g_s), s	14.4	1.8	0.0	10.9	3.7	1.6	24.1	20.9	1.2	2.6	11.2	21.7
Cycle Q Clear(g_c), s	14.4	1.8	0.0	10.9	3.7	1.6	24.1	20.9	1.2	2.6	11.2	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	541	347	155	287	347	155	755	2228	694	134	1232	655
V/C Ratio(X)	0.85	0.20	0.00	0.67	0.40	0.21	0.99	0.62	0.10	0.61	0.53	1.16
Avail Cap(c_a), veh/h	1189	1035	463	306	347	155	755	2228	694	168	1263	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	40.6	0.0	37.8	41.4	27.8	36.9	20.4	3.4	46.1	31.8	9.8
Incr Delay (d2), s/veh	1.5	0.3	0.0	3.9	0.7	0.7	30.2	0.5	0.1	1.6	0.4	87.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.9	0.0	5.2	1.8	0.8	13.2	9.5	1.0	1.1	5.1	24.8
LnGrp Delay(d),s/veh	40.8	40.8	0.0	41.7	42.2	28.5	67.1	20.9	3.5	47.8	32.2	96.9
LnGrp LOS	D	D		D	D	C	E	C	A	D	C	F
Approach Vol, veh/h		530			364			2192			1486	
Approach Delay, s/veh		40.8			40.7			36.1			66.1	
Approach LOS		D			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	51.1	22.1	16.2	29.0	31.2	22.1	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.6	44.1	18.6	29.8	24.4	25.3	38.4	10.0				
Max Q Clear Time (g_c+I1), s	4.6	22.9	12.9	3.8	26.1	23.7	16.4	5.7				
Green Ext Time (p_c), s	0.0	16.4	0.7	0.3	0.0	1.0	1.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			46.8									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕↕	↗	↖↗	↕↕
Traffic Volume (vph)	654	1091	947	438	413	663
Future Volume (vph)	654	1091	947	438	413	663
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	35.0	48.7	36.3	35.0	83.7
Total Split (%)	30.3%	29.2%	40.6%	30.3%	29.2%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.4
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	654	1091	947	438	413	663		
Future Volume (veh/h)	654	1091	947	438	413	663		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	681	1071	986	456	430	691		
Adj No. of Lanes	2	2	2	1	2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1104	1326	1354	1101	534	2087		
Arrive On Green	0.31	0.31	0.38	0.38	0.15	0.58		
Sat Flow, veh/h	3510	2842	3705	1581	3510	3705		
Grp Volume(v), veh/h	681	1071	986	456	430	691		
Grp Sat Flow(s),veh/h/ln	1755	1421	1805	1581	1755	1805		
Q Serve(g_s), s	16.3	31.0	23.1	12.4	11.7	9.8		
Cycle Q Clear(g_c), s	16.3	31.0	23.1	12.4	11.7	9.8		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	1104	1326	1354	1101	534	2087		
V/C Ratio(X)	0.62	0.81	0.73	0.41	0.80	0.33		
Avail Cap(c_a), veh/h	1104	1326	1589	1204	1068	2882		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	28.7	22.5	26.5	6.7	40.4	10.9		
Incr Delay (d2), s/veh	0.8	3.5	1.5	0.3	2.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.0	13.1	11.8	11.0	5.9	4.9		
LnGrp Delay(d),s/veh	29.5	26.0	28.0	7.0	43.3	10.9		
LnGrp LOS	C	C	C	A	D	B		
Approach Vol, veh/h	1752		1442			1121		
Approach Delay, s/veh	27.4		21.4			23.3		
Approach LOS	C		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	42.3				62.3		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	30.0	43.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	13.7	25.1				11.8		33.0
Green Ext Time (p_c), s	1.3	11.8				21.5		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			24.3					
HCM 2010 LOS			C					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

07/26/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	397	570	134	184	783	125	380	980	167	122	722	469
Future Volume (vph)	397	570	134	184	783	125	380	980	167	122	722	469
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4 5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	43.2	9.6	9.6	42.8	9.6	9.6	43.2	9.6	9.6	43.2	9.6
Total Split (s)	16.0	44.8	17.0	14.0	42.8	12.8	17.0	48.4	14.0	12.8	44.2	16.0
Total Split (%)	13.3%	37.3%	14.2%	11.7%	35.7%	10.7%	14.2%	40.3%	11.7%	10.7%	36.8%	13.3%
Yellow Time (s)	3.6	5.2	3.6	3.6	4.8	3.6	3.6	5.2	3.6	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	5.8	4.6	4.6	6.2	4.6	4.6	6.2	4.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None

Intersection Summary

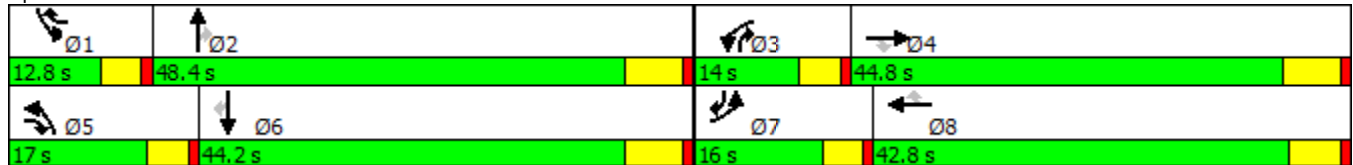
Cycle Length: 120

Actuated Cycle Length: 93.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	397	570	134	184	783	125	380	980	167	122	722	469
Future Volume (veh/h)	397	570	134	184	783	125	380	980	167	122	722	469
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	446	640	100	207	880	109	427	1101	131	137	811	357
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	374	1549	660	270	1395	517	407	1900	706	198	1592	661
Arrive On Green	0.11	0.30	0.30	0.08	0.27	0.27	0.12	0.37	0.37	0.06	0.31	0.31
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1589	3510	5187	1593
Grp Volume(v), veh/h	446	640	100	207	880	109	427	1101	131	137	811	357
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1589	1755	1729	1593
Q Serve(g_s), s	11.4	10.6	4.2	6.2	16.0	5.3	12.4	18.3	5.4	4.1	13.7	18.1
Cycle Q Clear(g_c), s	11.4	10.6	4.2	6.2	16.0	5.3	12.4	18.3	5.4	4.1	13.7	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	1549	660	270	1395	517	407	1900	706	198	1592	661
V/C Ratio(X)	1.19	0.41	0.15	0.77	0.63	0.21	1.05	0.58	0.19	0.69	0.51	0.54
Avail Cap(c_a), veh/h	374	1871	758	308	1793	639	407	2045	751	269	1841	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	30.0	19.6	48.5	34.4	26.2	47.3	27.3	18.1	49.6	30.5	23.7
Incr Delay (d2), s/veh	110.2	0.2	0.1	8.1	0.5	0.2	58.3	0.4	0.1	2.0	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	5.1	1.9	3.3	7.7	2.4	9.3	8.7	2.4	2.1	6.6	8.0
LnGrp Delay(d),s/veh	158.1	30.2	19.7	56.6	34.9	26.4	105.7	27.6	18.2	51.6	30.7	24.4
LnGrp LOS	F	C	B	E	C	C	F	C	B	D	C	C
Approach Vol, veh/h		1186			1196			1659			1305	
Approach Delay, s/veh		77.4			37.9			47.0			31.2	
Approach LOS		E			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	45.4	12.8	38.2	17.0	39.1	16.0	35.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	6.1	20.3	8.2	12.6	14.4	20.1	13.4	18.0				
Green Ext Time (p_c), s	0.0	14.7	0.0	12.0	0.0	12.7	0.0	10.2				
Intersection Summary												
HCM 2010 Ctrl Delay			47.8									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

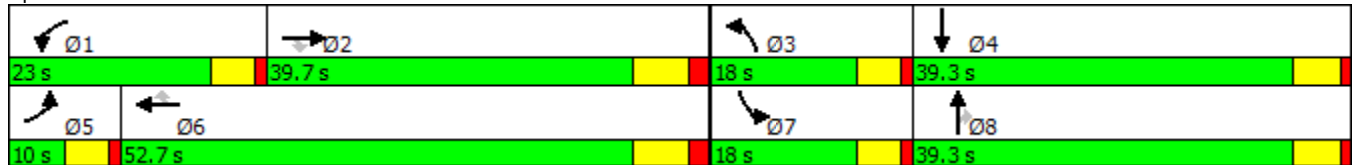


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑	↗	↖	↗
Traffic Volume (vph)	42	860	24	152	1578	48	145	64	251	153	87
Future Volume (vph)	42	860	24	152	1578	48	145	64	251	153	87
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	39.7	39.7	23.0	52.7	52.7	18.0	39.3	39.3	18.0	39.3
Total Split (%)	8.3%	33.1%	33.1%	19.2%	43.9%	43.9%	15.0%	32.8%	32.8%	15.0%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	860	24	152	1578	48	145	64	251	153	87	113
Future Volume (veh/h)	42	860	24	152	1578	48	145	64	251	153	87	113
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	935	24	165	1715	52	158	70	239	166	95	102
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	1876	584	198	2254	687	190	357	303	198	160	172
Arrive On Green	0.04	0.36	0.36	0.11	0.43	0.43	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	1810	5187	1615	1810	5187	1581	1810	1900	1612	1810	832	893
Grp Volume(v), veh/h	46	935	24	165	1715	52	158	70	239	166	0	197
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1729	1581	1810	1900	1612	1810	0	1725
Q Serve(g_s), s	2.4	13.5	0.9	8.6	27.0	1.9	8.3	3.0	13.6	8.7	0.0	10.0
Cycle Q Clear(g_c), s	2.4	13.5	0.9	8.6	27.0	1.9	8.3	3.0	13.6	8.7	0.0	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	66	1876	584	198	2254	687	190	357	303	198	0	332
V/C Ratio(X)	0.69	0.50	0.04	0.83	0.76	0.08	0.83	0.20	0.79	0.84	0.00	0.59
Avail Cap(c_a), veh/h	94	1876	584	338	2456	749	244	669	568	244	0	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	24.0	20.0	42.1	23.1	16.0	42.3	33.0	37.3	42.1	0.0	35.5
Incr Delay (d2), s/veh	4.7	0.2	0.0	3.5	1.3	0.0	13.8	0.3	4.6	15.8	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.4	0.4	4.5	13.1	0.8	4.9	1.6	6.4	5.2	0.0	4.9
LnGrp Delay(d),s/veh	50.7	24.2	20.0	45.6	24.4	16.0	56.2	33.3	41.9	57.9	0.0	37.2
LnGrp LOS	D	C	B	D	C	B	E	C	D	E		D
Approach Vol, veh/h		1005			1932			467			363	
Approach Delay, s/veh		25.3			26.0			45.4			46.7	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	41.9	15.1	23.9	8.5	48.9	15.6	23.4				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	18.0	32.7	13.0	34.0	5.0	45.7	13.0	34.0				
Max Q Clear Time (g_c+I1), s	10.6	15.5	10.3	12.0	4.4	29.0	10.7	15.6				
Green Ext Time (p_c), s	0.1	14.4	0.0	2.2	0.0	13.0	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			30.2									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

07/26/2017

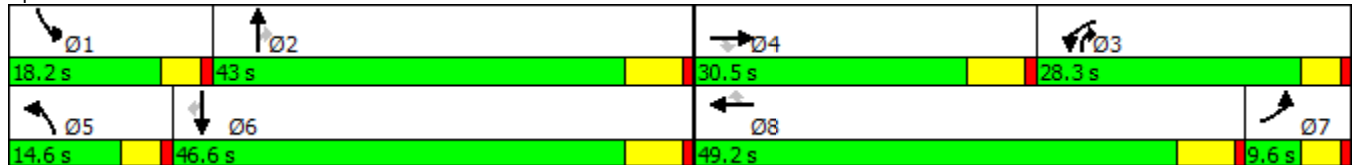


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	28	612	204	532	799	205	199	470	621	222	257	42
Future Volume (vph)	28	612	204	532	799	205	199	470	621	222	257	42
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	9.6	46.2	46.2
Total Split (s)	9.6	30.5	30.5	28.3	49.2	49.2	14.6	43.0	28.3	18.2	46.6	46.6
Total Split (%)	8.0%	25.4%	25.4%	23.6%	41.0%	41.0%	12.2%	35.8%	23.6%	15.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	612	204	532	799	205	199	470	621	222	257	42
Future Volume (veh/h)	28	612	204	532	799	205	199	470	621	222	257	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	651	191	566	850	165	212	500	615	236	273	36
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	239	1004	313	679	1151	515	302	1198	685	331	864	386
Arrive On Green	0.07	0.19	0.19	0.19	0.32	0.32	0.09	0.23	0.23	0.09	0.24	0.24
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1613
Grp Volume(v), veh/h	30	651	191	566	850	165	212	500	615	236	273	36
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1613
Q Serve(g_s), s	0.6	8.7	5.8	11.6	15.7	3.8	4.4	6.2	7.2	4.9	4.7	0.9
Cycle Q Clear(g_c), s	0.6	8.7	5.8	11.6	15.7	3.8	4.4	6.2	7.2	4.9	4.7	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	1004	313	679	1151	515	302	1198	685	331	864	386
V/C Ratio(X)	0.13	0.65	0.61	0.83	0.74	0.32	0.70	0.42	0.90	0.71	0.32	0.09
Avail Cap(c_a), veh/h	239	1679	523	1108	2068	925	468	2543	1104	636	1943	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	27.9	14.1	29.1	22.8	8.2	33.4	24.6	6.1	33.0	23.5	11.6
Incr Delay (d2), s/veh	0.1	0.7	1.9	1.3	0.9	0.4	1.1	0.2	6.2	1.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.2	3.3	5.8	7.9	2.3	2.2	2.9	6.6	2.4	2.3	0.6
LnGrp Delay(d),s/veh	33.0	28.6	16.1	30.4	23.7	8.6	34.5	24.8	12.3	34.1	23.7	11.7
LnGrp LOS	C	C	B	C	C	A	C	C	B	C	C	B
Approach Vol, veh/h		872			1581			1327			545	
Approach Delay, s/veh		26.0			24.5			20.5			27.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	23.5	19.1	20.7	11.1	24.2	9.7	30.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.6	36.8	23.7	24.3	10.0	40.4	5.0	43.0				
Max Q Clear Time (g_c+I1), s	6.9	9.2	13.6	10.7	6.4	6.7	2.6	17.7				
Green Ext Time (p_c), s	0.2	8.0	0.9	3.8	0.1	8.4	0.4	6.2				
Intersection Summary												
HCM 2010 Ctrl Delay			24.0									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

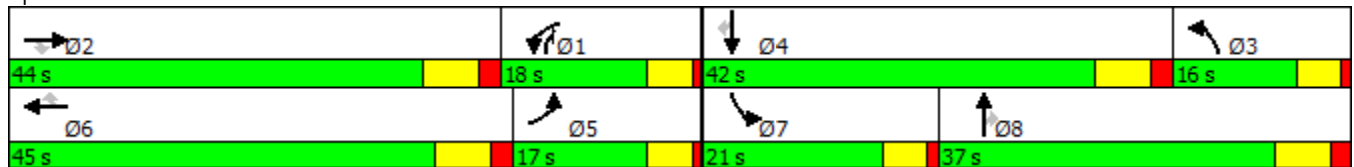


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (vph)	270	1277	81	229	1067	267	169	584	431	380	306	188
Future Volume (vph)	270	1277	81	229	1067	267	169	584	431	380	306	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	10.0	10.0	37.0	37.0
Total Split (s)	17.0	44.0	44.0	18.0	45.0	45.0	16.0	37.0	18.0	21.0	42.0	42.0
Total Split (%)	14.2%	36.7%	36.7%	15.0%	37.5%	37.5%	13.3%	30.8%	15.0%	17.5%	35.0%	35.0%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 110.4
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



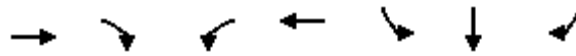
HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	1277	81	229	1067	267	169	584	431	380	306	188
Future Volume (veh/h)	270	1277	81	229	1067	267	169	584	431	380	306	188
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	278	1316	78	236	1100	237	174	602	326	392	315	141
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	373	1751	544	311	1659	515	547	1073	470	459	584	260
Arrive On Green	0.11	0.34	0.34	0.09	0.32	0.32	0.16	0.21	0.21	0.13	0.16	0.16
Sat Flow, veh/h	3510	5187	1612	3510	5187	1610	3510	5187	1582	3510	3610	1606
Grp Volume(v), veh/h	278	1316	78	236	1100	237	174	602	326	392	315	141
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1729	1610	1755	1729	1582	1755	1805	1606
Q Serve(g_s), s	7.8	22.9	3.4	6.7	18.6	7.6	4.5	10.6	6.2	11.1	8.1	8.2
Cycle Q Clear(g_c), s	7.8	22.9	3.4	6.7	18.6	7.6	4.5	10.6	6.2	11.1	8.1	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	1751	544	311	1659	515	547	1073	470	459	584	260
V/C Ratio(X)	0.75	0.75	0.14	0.76	0.66	0.46	0.32	0.56	0.69	0.85	0.54	0.54
Avail Cap(c_a), veh/h	415	1891	588	450	1942	603	547	1533	611	553	1245	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	29.8	23.4	45.2	29.8	11.1	38.1	36.1	13.9	43.2	39.1	39.1
Incr Delay (d2), s/veh	5.3	2.1	0.3	2.3	1.1	1.4	0.1	1.0	4.2	9.3	1.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.2	1.6	3.3	9.0	4.7	2.2	5.2	7.8	6.0	4.2	3.9
LnGrp Delay(d),s/veh	49.3	31.9	23.7	47.5	30.9	12.4	38.2	37.1	18.1	52.5	40.7	42.8
LnGrp LOS	D	C	C	D	C	B	D	D	B	D	D	D
Approach Vol, veh/h		1672			1573			1102			848	
Approach Delay, s/veh		34.4			30.6			31.7			46.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	41.3	22.8	23.4	15.8	39.5	18.3	28.0				
Change Period (Y+Rc), s	5.0	7.0	7.0	* 7	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	37.0	11.0	* 35	12.0	38.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	8.7	24.9	6.5	10.2	9.8	20.6	13.1	12.6				
Green Ext Time (p_c), s	0.3	9.4	3.0	4.6	0.2	11.9	0.2	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay			34.7									
HCM 2010 LOS			C									
Notes												

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↑	↔	↑
Traffic Volume (vph)	1460	720	695	1156	164	2	616
Future Volume (vph)	1460	720	695	1156	164	2	616
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	50.0	50.0	30.0	80.0	30.0	30.0	30.0
Total Split (%)	45.5%	45.5%	27.3%	72.7%	27.3%	27.3%	27.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 62 (56%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1460	720	695	1156	0	0	0	0	164	2	616
Future Volume (veh/h)	0	1460	720	695	1156	0	0	0	0	164	2	616
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1604	790	764	1270	0				121	0	643
Adj No. of Lanes	0	3	1	2	3	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2135	657	814	3550	0				390	0	696
Arrive On Green	0.00	0.41	0.41	0.23	0.68	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	5358	1595	3510	5358	0				1810	0	3230
Grp Volume(v), veh/h	0	1604	790	764	1270	0				121	0	643
Grp Sat Flow(s),veh/h/ln	0	1729	1595	1755	1729	0				1810	0	1615
Q Serve(g_s), s	0.0	29.0	45.3	23.5	11.3	0.0				6.2	0.0	21.4
Cycle Q Clear(g_c), s	0.0	29.0	45.3	23.5	11.3	0.0				6.2	0.0	21.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2135	657	814	3550	0				390	0	696
V/C Ratio(X)	0.00	0.75	1.20	0.94	0.36	0.00				0.31	0.00	0.92
Avail Cap(c_a), veh/h	0	2135	657	814	3550	0				403	0	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.54	0.54	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.6	32.4	41.5	7.3	0.0				36.3	0.0	42.3
Incr Delay (d2), s/veh	0.0	1.3	99.5	2.5	0.0	0.0				0.2	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	38.0	11.6	5.3	0.0				3.1	0.0	11.2
LnGrp Delay(d),s/veh	0.0	28.9	131.9	44.0	7.3	0.0				36.4	0.0	59.1
LnGrp LOS		C	F	D	A					D		E
Approach Vol, veh/h		2394			2034						764	
Approach Delay, s/veh		62.9			21.1						55.5	
Approach LOS		E			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	50.8		29.2		80.8						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	25.5	44.5		24.5		74.5						
Max Q Clear Time (g_c+I1), s	25.5	47.3		23.4		13.3						
Green Ext Time (p_c), s	0.0	0.0		0.3		31.8						
Intersection Summary												
HCM 2010 Ctrl Delay			45.4									
HCM 2010 LOS			D									
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↖	↑↑↑
Traffic Volume (vph)	5	21	222	0	524	2	1649	400	721	1157
Future Volume (vph)	5	21	222	0	524	2	1649	400	721	1157
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	32.0	14.5	42.0	42.0	32.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	26.7%	12.1%	35.0%	35.0%	26.7%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	21	11	222	0	524	2	1649	400	721	1157	1
Future Volume (veh/h)	5	21	11	222	0	524	2	1649	400	721	1157	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1872	1700	1800	1800	1664	1800	1800
Adj Flow Rate, veh/h	5	23	4	239	0	535	2	1773	401	775	1244	1
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	341	55	863	0	806	9	1791	550	705	2984	2
Arrive On Green	0.28	0.28	0.28	0.28	0.00	0.28	0.01	0.36	0.36	0.23	0.59	0.59
Sat Flow, veh/h	165	1230	199	2654	0	1591	1619	4914	1510	3074	5071	4
Grp Volume(v), veh/h	32	0	0	239	0	535	2	1773	401	775	804	441
Grp Sat Flow(s),veh/h/ln	1594	0	0	1327	0	1591	1619	1638	1510	1537	1638	1799
Q Serve(g_s), s	0.0	0.0	0.0	6.6	0.0	30.0	0.1	43.0	27.6	27.5	16.1	16.1
Cycle Q Clear(g_c), s	1.6	0.0	0.0	8.2	0.0	30.0	0.1	43.0	27.6	27.5	16.1	16.1
Prop In Lane	0.16		0.12	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	476	0	0	863	0	806	9	1791	550	705	1927	1059
V/C Ratio(X)	0.07	0.00	0.00	0.28	0.00	0.66	0.23	0.99	0.73	1.10	0.42	0.42
Avail Cap(c_a), veh/h	574	0	0	1035	0	908	135	1791	550	705	1927	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.47	0.47	0.47	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	0.0	34.2	0.0	22.0	59.4	37.9	33.0	46.3	13.5	13.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.1	2.3	12.4	4.0	64.6	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.1	0.0	13.4	0.1	21.4	12.1	18.0	7.4	8.3
LnGrp Delay(d),s/veh	32.0	0.0	0.0	34.3	0.0	23.1	61.7	50.3	37.0	110.8	14.1	14.7
LnGrp LOS	C			C		C	E	D	D	F	B	B
Approach Vol, veh/h		32			774			2176			2020	
Approach Delay, s/veh		32.0			26.6			47.8			51.4	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	49.7		38.3	5.1	76.6		38.3				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	27.5	36.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	29.5	45.0		3.6	2.1	18.1		32.0				
Green Ext Time (p_c), s	0.0	0.0		1.5	0.0	28.8		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			45.9									
HCM 2010 LOS			D									
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

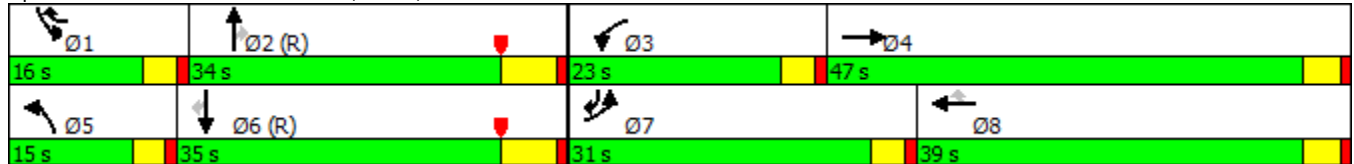


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	657	782	188	393	383	136	958	99	276	946	222
Future Volume (vph)	657	782	188	393	383	136	958	99	276	946	222
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	31.0	47.0	23.0	39.0	16.0	15.0	34.0	34.0	16.0	35.0	31.0
Total Split (%)	25.8%	39.2%	19.2%	32.5%	13.3%	12.5%	28.3%	28.3%	13.3%	29.2%	25.8%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 74 (62%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	657	782	92	188	393	383	136	958	99	276	946	222
Future Volume (veh/h)	657	782	92	188	393	383	136	958	99	276	946	222
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	684	815	92	196	409	365	142	998	88	288	985	213
Adj No. of Lanes	2	2	0	1	2	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	665	1072	121	220	879	546	148	1296	404	296	1337	755
Arrive On Green	0.22	0.35	0.35	0.14	0.26	0.26	0.03	0.09	0.09	0.10	0.27	0.27
Sat Flow, veh/h	2956	3099	350	1619	3420	1530	1619	4914	1530	2956	4914	1510
Grp Volume(v), veh/h	684	450	457	196	409	365	142	998	88	288	985	213
Grp Sat Flow(s),veh/h/ln	1478	1710	1738	1619	1710	1530	1619	1638	1530	1478	1638	1510
Q Serve(g_s), s	27.0	28.0	28.0	14.3	12.1	24.2	10.5	23.8	6.4	11.7	21.9	9.9
Cycle Q Clear(g_c), s	27.0	28.0	28.0	14.3	12.1	24.2	10.5	23.8	6.4	11.7	21.9	9.9
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	665	592	601	220	879	546	148	1296	404	296	1337	755
V/C Ratio(X)	1.03	0.76	0.76	0.89	0.47	0.67	0.96	0.77	0.22	0.97	0.74	0.28
Avail Cap(c_a), veh/h	665	606	616	256	983	593	148	1296	404	296	1337	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.30	0.30	0.30	0.93	0.93	0.93
Uniform Delay (d), s/veh	46.5	34.8	34.8	51.0	37.6	32.6	57.9	51.2	43.3	53.8	39.8	17.7
Incr Delay (d2), s/veh	42.3	5.5	5.4	24.9	0.1	1.9	29.4	1.4	0.4	43.3	3.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	14.1	14.4	7.9	5.8	10.4	5.9	11.0	2.8	6.5	10.4	4.3
LnGrp Delay(d),s/veh	88.8	40.3	40.2	75.9	37.8	34.5	87.4	52.6	43.6	97.1	43.2	18.5
LnGrp LOS	F	D	D	E	D	C	F	D	D	F	D	B
Approach Vol, veh/h		1591			970			1228			1486	
Approach Delay, s/veh		61.1			44.2			56.0			50.1	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	37.7	20.3	46.0	15.0	38.7	31.0	35.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	12.0	28.0	19.0	42.5	11.0	29.0	27.0	34.5				
Max Q Clear Time (g_c+I1), s	13.7	25.8	16.3	30.0	12.5	23.9	29.0	26.2				
Green Ext Time (p_c), s	0.0	1.9	0.1	6.1	0.0	4.3	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			53.7									
HCM 2010 LOS			D									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

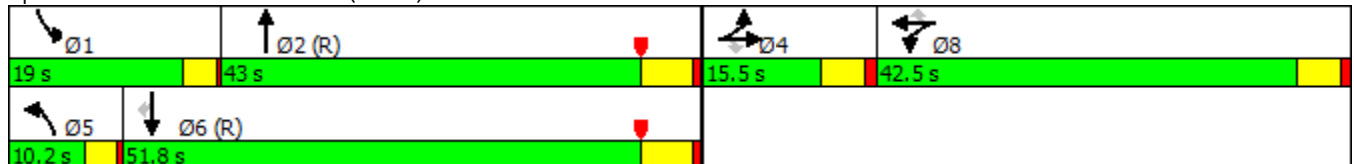


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	115	119	118	130	42	121	47	901	217	992	78
Future Volume (vph)	115	119	118	130	42	121	47	901	217	992	78
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	4	4	4	8	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	42.5	42.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	15.5	15.5	15.5	42.5	42.5	42.5	10.2	43.0	19.0	51.8	51.8
Total Split (%)	12.9%	12.9%	12.9%	35.4%	35.4%	35.4%	8.5%	35.8%	15.8%	43.2%	43.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag							Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 19 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



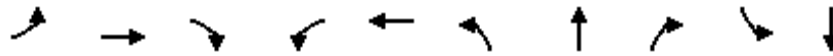
HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	119	118	130	42	121	47	901	215	217	992	78
Future Volume (veh/h)	115	119	118	130	42	121	47	901	215	217	992	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	128	132	112	144	47	122	52	1001	229	241	1102	87
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	142	158	134	175	194	165	64	1424	325	209	2074	909
Arrive On Green	0.09	0.09	0.09	0.11	0.11	0.11	0.08	1.00	1.00	0.26	1.00	1.00
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	2755	628	1619	3420	1498
Grp Volume(v), veh/h	128	132	112	144	47	122	52	620	610	241	1102	87
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1673	1619	1710	1498
Q Serve(g_s), s	9.4	8.7	8.6	10.4	2.9	9.3	3.8	0.0	0.0	15.5	0.0	0.0
Cycle Q Clear(g_c), s	9.4	8.7	8.6	10.4	2.9	9.3	3.8	0.0	0.0	15.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	142	158	134	175	194	165	64	884	865	209	2074	909
V/C Ratio(X)	0.90	0.84	0.84	0.82	0.24	0.74	0.81	0.70	0.70	1.15	0.53	0.10
Avail Cap(c_a), veh/h	142	158	134	506	563	478	90	884	865	209	2074	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.36	0.36	0.36	0.56	0.56	0.56
Uniform Delay (d), s/veh	54.2	53.9	53.9	52.4	49.0	51.9	54.8	0.0	0.0	44.5	0.0	0.0
Incr Delay (d2), s/veh	47.0	29.6	33.2	3.7	0.2	2.4	8.4	1.7	1.8	94.9	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	5.6	4.9	4.9	1.4	4.0	1.9	0.4	0.4	12.4	0.2	0.0
LnGrp Delay(d),s/veh	101.2	83.5	87.1	56.1	49.3	54.3	63.2	1.7	1.8	139.4	0.5	0.1
LnGrp LOS	F	F	F	E	D	D	E	A	A	F	A	A
Approach Vol, veh/h		372			313			1282			1430	
Approach Delay, s/veh		90.7			54.4			4.2			23.9	
Approach LOS		F			D			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	67.5		15.5	8.3	78.3		18.0				
Change Period (Y+Rc), s	3.5	5.5		5.0	3.5	5.5		5.0				
Max Green Setting (Gmax), s	15.5	37.5		10.5	6.7	46.3		37.5				
Max Q Clear Time (g_c+I1), s	17.5	2.0		11.4	5.8	2.0		12.4				
Green Ext Time (p_c), s	0.0	12.4		0.0	0.0	13.1		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			26.6									
HCM 2010 LOS			C									

Timings
4: Euclid Av. (SR-83) & Pine Av.

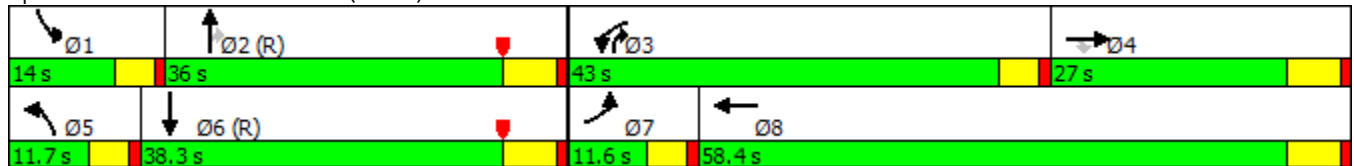


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↑	↷	↶↷	↷	↶	↑↑↑	↷	↶	↑↑↑
Traffic Volume (vph)	15	358	29	545	94	34	1017	1159	147	1040
Future Volume (vph)	15	358	29	545	94	34	1017	1159	147	1040
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	11.6	27.0	27.0	43.0	58.4	11.7	36.0	43.0	14.0	38.3
Total Split (%)	9.7%	22.5%	22.5%	35.8%	48.7%	9.8%	30.0%	35.8%	11.7%	31.9%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	358	29	545	94	80	34	1017	1159	147	1040	15
Future Volume (veh/h)	15	358	29	545	94	80	34	1017	1159	147	1040	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	15	369	0	562	97	76	35	1048	762	152	1072	11
Adj No. of Lanes	1	1	1	2	1	0	1	3	1	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	317	269	621	346	271	46	1773	873	127	2059	21
Arrive On Green	0.02	0.18	0.00	0.21	0.37	0.37	0.03	0.36	0.36	0.03	0.14	0.14
Sat Flow, veh/h	1619	1800	1530	2956	937	734	1619	4914	1530	1619	5014	51
Grp Volume(v), veh/h	15	369	0	562	0	173	35	1048	762	152	700	383
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1670	1619	1638	1530	1619	1638	1790
Q Serve(g_s), s	1.1	21.1	0.0	22.3	0.0	8.7	2.6	20.8	43.3	9.4	23.9	23.9
Cycle Q Clear(g_c), s	1.1	21.1	0.0	22.3	0.0	8.7	2.6	20.8	43.3	9.4	23.9	23.9
Prop In Lane	1.00		1.00	1.00		0.44	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	27	317	269	621	0	617	46	1773	873	127	1345	735
V/C Ratio(X)	0.57	1.17	0.00	0.91	0.00	0.28	0.75	0.59	0.87	1.20	0.52	0.52
Avail Cap(c_a), veh/h	94	317	269	946	0	731	96	1773	873	127	1345	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.79	0.79	0.79
Uniform Delay (d), s/veh	58.6	49.4	0.0	46.2	0.0	26.6	57.9	31.2	22.0	58.4	40.9	40.9
Incr Delay (d2), s/veh	6.8	103.5	0.0	6.2	0.0	0.3	0.8	0.1	1.2	134.4	1.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	19.6	0.0	9.6	0.0	4.1	1.2	9.4	21.8	9.0	11.1	12.3
LnGrp Delay(d),s/veh	65.4	152.9	0.0	52.4	0.0	27.0	58.7	31.3	23.3	192.9	42.0	43.0
LnGrp LOS	E	F		D		C	E	C	C	F	D	D
Approach Vol, veh/h		384			735			1845			1235	
Approach Delay, s/veh		149.5			46.4			28.5			60.9	
Approach LOS		F			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	49.2	29.8	27.0	8.0	55.2	6.6	50.2				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	9.4	30.1	38.4	21.1	7.1	32.4	7.0	52.5				
Max Q Clear Time (g_c+I1), s	11.4	45.3	24.3	23.1	4.6	25.9	3.1	10.7				
Green Ext Time (p_c), s	0.0	0.0	0.9	0.0	0.0	4.9	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			52.2									
HCM 2010 LOS			D									

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	374	102	291	30	16	758	145
Future Volume (vph)	374	102	291	30	16	758	145
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA
Protected Phases	2	1	6	3		4	4
Permitted Phases					8		
Detector Phase	2	1	6	3	8	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5
Total Split (s)	30.4	20.0	50.4	11.6	10.0	48.0	48.0
Total Split (%)	25.3%	16.7%	42.0%	9.7%	8.3%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5
Lead/Lag	Lag	Lead		Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min





















Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

Ø1 20 s	Ø2 (R) 30.4 s	Ø3 11.6 s	Ø4 48 s	Ø6 (R) 50.4 s	Ø8 10 s
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HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Future Volume (veh/h)	0	374	44	102	291	0	30	0	16	758	145	158
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1600	1800	1800
Adj Flow Rate, veh/h	0	416	49	113	323	0	33	0	18	842	161	176
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1523	178	136	2075	0	0	0	0	928	247	270
Arrive On Green	0.00	0.49	0.49	0.08	0.61	0.00	0.00	0.00	0.00	0.31	0.31	0.31
Sat Flow, veh/h	0	3175	361	1619	3510	0		0		2956	787	861
Grp Volume(v), veh/h	0	230	235	113	323	0		0.0		842	0	337
Grp Sat Flow(s),veh/h/ln	0	1710	1736	1619	1710	0				1478	0	1648
Q Serve(g_s), s	0.0	9.4	9.5	8.2	4.9	0.0				32.8	0.0	21.2
Cycle Q Clear(g_c), s	0.0	9.4	9.5	8.2	4.9	0.0				32.8	0.0	21.2
Prop In Lane	0.00		0.21	1.00		0.00				1.00		0.52
Lane Grp Cap(c), veh/h	0	844	857	136	2075	0				928	0	517
V/C Ratio(X)	0.00	0.27	0.27	0.83	0.16	0.00				0.91	0.00	0.65
Avail Cap(c_a), veh/h	0	844	857	223	2075	0				1072	0	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.8	17.8	54.1	10.2	0.0				39.5	0.0	35.5
Incr Delay (d2), s/veh	0.0	0.8	0.8	5.7	0.2	0.0				9.8	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	4.8	3.9	2.4	0.0				14.6	0.0	9.9
LnGrp Delay(d),s/veh	0.0	18.6	18.6	59.9	10.4	0.0				49.3	0.0	37.2
LnGrp LOS		B	B	E	B					D		D
Approach Vol, veh/h		465			436						1179	
Approach Delay, s/veh		18.6			23.2						45.8	
Approach LOS		B			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.6	64.3		42.2		77.8						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	16.5	25.4		43.5		45.4						
Max Q Clear Time (g_c+I1), s	10.2	11.5		34.8		6.9						
Green Ext Time (p_c), s	0.1	2.5		2.9		2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			35.0									
HCM 2010 LOS			D									

Timings
7: Merrill Av. & Grove Av.



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	123	767	537	231
Future Volume (vph)	123	767	537	231
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	11.0	36.8	25.8	28.2
Total Split (%)	16.9%	56.6%	39.7%	43.4%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 56.7
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	123	767	537	218	231	47		
Future Volume (veh/h)	123	767	537	218	231	47		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800		
Adj Flow Rate, veh/h	134	834	584	237	251	51		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	166	1816	813	329	308	63		
Arrive On Green	0.10	0.53	0.34	0.34	0.23	0.23		
Sat Flow, veh/h	1619	3510	2467	963	1314	267		
Grp Volume(v), veh/h	134	834	420	401	303	0		
Grp Sat Flow(s),veh/h/ln	1619	1710	1710	1630	1586	0		
Q Serve(g_s), s	4.3	8.0	11.3	11.4	9.6	0.0		
Cycle Q Clear(g_c), s	4.3	8.0	11.3	11.4	9.6	0.0		
Prop In Lane	1.00			0.59	0.83	0.17		
Lane Grp Cap(c), veh/h	166	1816	585	557	372	0		
V/C Ratio(X)	0.81	0.46	0.72	0.72	0.81	0.00		
Avail Cap(c_a), veh/h	196	1979	634	604	660	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	23.2	7.7	15.2	15.2	19.2	0.0		
Incr Delay (d2), s/veh	16.2	0.2	3.6	3.8	4.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.6	3.8	5.8	5.6	4.6	0.0		
LnGrp Delay(d),s/veh	39.5	7.9	18.8	19.0	23.5	0.0		
LnGrp LOS	D	A	B	B	C			
Approach Vol, veh/h		968	821		303			
Approach Delay, s/veh		12.2	18.9		23.5			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.3		18.6	10.0	24.3		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		30.6		22.0	6.4	19.6		
Max Q Clear Time (g_c+I1), s		10.0		11.6	6.3	13.4		
Green Ext Time (p_c), s		11.7		0.7	0.0	4.7		
Intersection Summary								
HCM 2010 Ctrl Delay			16.5					
HCM 2010 LOS			B					
Notes								

Timings
8: Flight Av. & Merrill Av.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	957	181	122	582	166	164
Future Volume (vph)	957	181	122	582	166	164
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	16.2	9.6	28.2	28.2
Total Split (s)	30.6	30.6	16.2	46.8	28.2	28.2
Total Split (%)	40.8%	40.8%	21.6%	62.4%	37.6%	37.6%
Yellow Time (s)	4.8	4.8	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 61.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated







Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	957	181	122	582	166	164		
Future Volume (veh/h)	957	181	122	582	166	164		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	1029	195	131	626	178	176		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1310	585	239	2168	269	255		
Arrive On Green	0.38	0.38	0.15	0.63	0.17	0.17		
Sat Flow, veh/h	3510	1526	1619	3510	1619	1530		
Grp Volume(v), veh/h	1029	195	131	626	178	176		
Grp Sat Flow(s),veh/h/ln	1710	1526	1619	1710	1619	1530		
Q Serve(g_s), s	16.0	5.4	4.5	4.9	6.2	6.5		
Cycle Q Clear(g_c), s	16.0	5.4	4.5	4.9	6.2	6.5		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1310	585	239	2168	269	255		
V/C Ratio(X)	0.79	0.33	0.55	0.29	0.66	0.69		
Avail Cap(c_a), veh/h	1411	630	269	2401	593	560		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.4	13.1	23.8	4.9	23.5	23.6		
Incr Delay (d2), s/veh	2.8	0.3	0.7	0.1	2.8	3.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.9	2.3	2.0	2.3	3.0	3.0		
LnGrp Delay(d),s/veh	19.2	13.4	24.5	5.0	26.2	26.9		
LnGrp LOS	B	B	C	A	C	C		
Approach Vol, veh/h	1224			757	354			
Approach Delay, s/veh	18.3			8.4	26.6			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.1	28.8				43.9		16.2
Change Period (Y+Rc), s	6.2	5.8				* 5.8		6.2
Max Green Setting (Gmax), s	10.0	24.8				* 42		22.0
Max Q Clear Time (g_c+I1), s	6.5	18.0				6.9		8.5
Green Ext Time (p_c), s	0.0	5.1				14.8		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			16.3					
HCM 2010 LOS			B					
Notes								

Timings
9: Hellman Av. & Merrill Av.

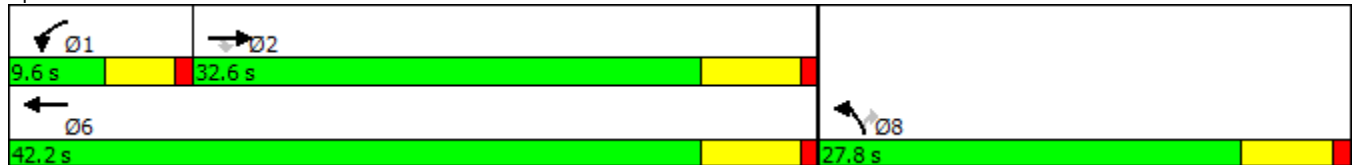


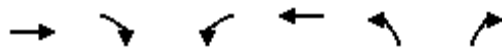
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑	↓	↓
Traffic Volume (vph)	1109	31	23	573	72	62
Future Volume (vph)	1109	31	23	573	72	62
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.2	28.2	9.6	16.2	27.8	27.8
Total Split (s)	32.6	32.6	9.6	42.2	27.8	27.8
Total Split (%)	46.6%	46.6%	13.7%	60.3%	39.7%	39.7%
Yellow Time (s)	5.2	5.2	3.6	5.2	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	5.8	5.8
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 50.4
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Hellman Av. & Merrill Av.





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑	↑	↑		
Traffic Volume (veh/h)	1109	31	23	573	72	62		
Future Volume (veh/h)	1109	31	23	573	72	62		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	1205	34	25	623	78	67		
Adj No. of Lanes	2	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1573	704	47	1039	311	294		
Arrive On Green	0.46	0.46	0.03	0.58	0.19	0.19		
Sat Flow, veh/h	3510	1530	1619	1800	1619	1530		
Grp Volume(v), veh/h	1205	34	25	623	78	67		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1800	1619	1530		
Q Serve(g_s), s	15.3	0.6	0.8	11.6	2.1	1.9		
Cycle Q Clear(g_c), s	15.3	0.6	0.8	11.6	2.1	1.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1573	704	47	1039	311	294		
V/C Ratio(X)	0.77	0.05	0.53	0.60	0.25	0.23		
Avail Cap(c_a), veh/h	1735	776	156	1245	684	647		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.7	7.8	24.9	7.1	17.8	17.8		
Incr Delay (d2), s/veh	1.9	0.0	3.4	0.6	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.4	0.3	0.4	5.9	1.0	0.8		
LnGrp Delay(d),s/veh	13.6	7.8	28.3	7.7	18.3	18.2		
LnGrp LOS	B	A	C	A	B	B		
Approach Vol, veh/h	1239			648	145			
Approach Delay, s/veh	13.5			8.5	18.2			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.1	30.1				36.3		15.8
Change Period (Y+Rc), s	4.6	6.2				6.2		5.8
Max Green Setting (Gmax), s	5.0	26.4				36.0		22.0
Max Q Clear Time (g_c+I1), s	2.8	17.3				13.6		4.1
Green Ext Time (p_c), s	0.0	6.6				12.6		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			12.2					
HCM 2010 LOS			B					

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

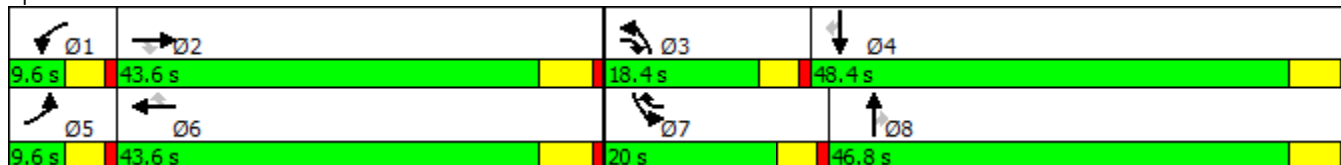
07/26/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1463	413	32	701	202	158	138	43	636	287	15
Future Volume (vph)	9	1463	413	32	701	202	158	138	43	636	287	15
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1463	413	32	701	202	158	138	43	636	287	15
Future Volume (veh/h)	9	1463	413	32	701	202	158	138	43	636	287	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	9	1508	397	33	723	203	163	142	36	656	296	14
Adj No. of Lanes	2	3	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	2061	760	94	1505	951	229	418	187	536	774	346
Arrive On Green	0.01	0.42	0.42	0.03	0.44	0.44	0.08	0.12	0.12	0.18	0.23	0.23
Sat Flow, veh/h	2956	4914	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	9	1508	397	33	723	203	163	142	36	656	296	14
Grp Sat Flow(s),veh/h/ln	1478	1638	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.3	21.8	15.0	0.9	12.7	4.9	4.6	3.2	1.8	15.4	6.2	0.6
Cycle Q Clear(g_c), s	0.3	21.8	15.0	0.9	12.7	4.9	4.6	3.2	1.8	15.4	6.2	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	2061	760	94	1505	951	229	418	187	536	774	346
V/C Ratio(X)	0.27	0.73	0.52	0.35	0.48	0.21	0.71	0.34	0.19	1.22	0.38	0.04
Avail Cap(c_a), veh/h	174	2188	800	174	1523	959	481	1652	739	536	1716	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	20.6	14.5	40.2	16.9	7.0	38.2	34.1	33.5	34.7	27.8	25.6
Incr Delay (d2), s/veh	1.6	1.2	0.6	0.8	0.2	0.1	1.5	0.5	0.5	116.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.0	6.4	0.4	6.1	2.1	1.9	1.5	0.8	14.8	3.0	0.3
LnGrp Delay(d),s/veh	43.2	21.8	15.1	41.1	17.1	7.1	39.8	34.6	34.0	151.0	28.1	25.7
LnGrp LOS	D	C	B	D	B	A	D	C	C	F	C	C
Approach Vol, veh/h		1914			959			341			966	
Approach Delay, s/veh		20.5			15.8			37.0			111.5	
Approach LOS		C			B			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	41.4	11.2	25.0	5.6	43.2	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	2.9	23.8	6.6	8.2	2.3	14.7	17.4	5.2				
Green Ext Time (p_c), s	0.0	11.8	0.1	2.9	0.0	17.9	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			41.8									
HCM 2010 LOS			D									

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↶	↶	↶	↕↗	↕↗
Traffic Volume (vph)	567	6	192	594	648	1276
Future Volume (vph)	567	6	192	594	648	1276
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	38.0	38.0	38.0	36.0	82.0	46.0
Total Split (%)	31.7%	31.7%	31.7%	30.0%	68.3%	38.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

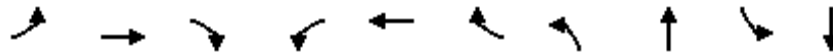
07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	567	6	192	594	648	0	0	1276	391
Future Volume (veh/h)	0	0	0	567	6	192	594	648	0	0	1276	391
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1600	1800	0	0	1800	1800
Adj Flow Rate, veh/h				621	0	93	646	704	0	0	1387	285
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				736	0	348	697	3314	0	0	2104	431
Arrive On Green				0.23	0.00	0.23	0.24	0.67	0.00	0.00	0.41	0.41
Sat Flow, veh/h				3238	0	1530	2956	5076	0	0	5442	1064
Grp Volume(v), veh/h				621	0	93	646	704	0	0	1241	431
Grp Sat Flow(s),veh/h/ln				1619	0	1530	1478	1638	0	0	1548	1611
Q Serve(g_s), s				22.0	0.0	6.0	25.6	6.5	0.0	0.0	26.0	26.1
Cycle Q Clear(g_c), s				22.0	0.0	6.0	25.6	6.5	0.0	0.0	26.0	26.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.66
Lane Grp Cap(c), veh/h				736	0	348	697	3314	0	0	1882	653
V/C Ratio(X)				0.84	0.00	0.27	0.93	0.21	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				863	0	408	788	3314	0	0	1882	653
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				44.3	0.0	38.1	44.9	7.4	0.0	0.0	29.0	29.0
Incr Delay (d2), s/veh				8.2	0.0	0.9	1.9	0.0	0.0	0.0	1.8	5.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.7	0.0	5.6	10.7	2.9	0.0	0.0	11.5	12.6
LnGrp Delay(d),s/veh				52.6	0.0	39.0	46.7	7.4	0.0	0.0	30.8	34.2
LnGrp LOS				D		D	D	A			C	C
Approach Vol, veh/h					714			1350			1672	
Approach Delay, s/veh					50.8			26.2			31.7	
Approach LOS					D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		86.7		33.3	32.3	54.4						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		76.2		32.0	32.0	40.2						
Max Q Clear Time (g_c+I1), s		8.5		24.0	27.6	28.1						
Green Ext Time (p_c), s		29.1		3.3	0.6	9.7						
Intersection Summary												
HCM 2010 Ctrl Delay				33.4								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

07/26/2017

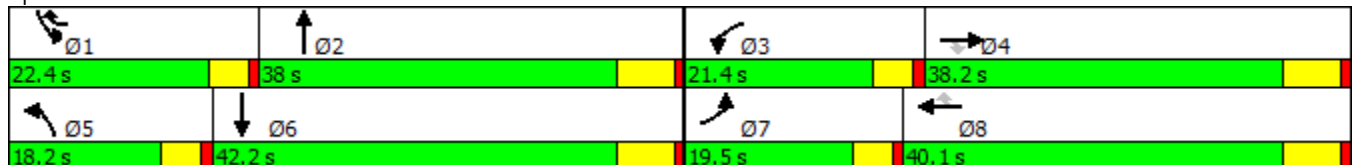


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↗	↘↗	↑↑↗
Traffic Volume (vph)	177	741	313	222	506	305	338	1010	456	1142
Future Volume (vph)	177	741	313	222	506	305	338	1010	456	1142
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	19.5	38.2	38.2	21.4	40.1	22.4	18.2	38.0	22.4	42.2
Total Split (%)	16.3%	31.8%	31.8%	17.8%	33.4%	18.7%	15.2%	31.7%	18.7%	35.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

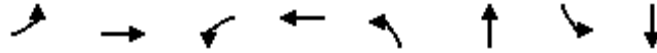
07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	741	313	222	506	305	338	1010	166	456	1142	212
Future Volume (veh/h)	177	741	313	222	506	305	338	1010	166	456	1142	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	188	788	261	236	538	268	360	1074	160	485	1215	154
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	898	392	228	952	653	337	1149	171	441	1328	168
Arrive On Green	0.12	0.26	0.26	0.14	0.28	0.28	0.11	0.27	0.27	0.15	0.30	0.30
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	2956	4315	642	2956	4406	558
Grp Volume(v), veh/h	188	788	261	236	538	268	360	815	419	485	903	466
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1478	1638	1681	1478	1638	1688
Q Serve(g_s), s	13.7	26.3	18.6	16.8	16.1	14.6	13.6	29.0	29.1	17.8	31.7	31.7
Cycle Q Clear(g_c), s	13.7	26.3	18.6	16.8	16.1	14.6	13.6	29.0	29.1	17.8	31.7	31.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.33
Lane Grp Cap(c), veh/h	202	898	392	228	952	653	337	872	448	441	988	509
V/C Ratio(X)	0.93	0.88	0.67	1.03	0.56	0.41	1.07	0.93	0.94	1.10	0.91	0.91
Avail Cap(c_a), veh/h	202	918	401	228	972	662	337	873	448	441	989	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	42.1	39.3	51.2	36.8	23.7	52.8	42.7	42.8	50.7	40.2	40.2
Incr Delay (d2), s/veh	43.2	9.5	4.0	69.0	0.7	0.4	68.2	16.8	27.2	72.5	12.7	21.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	13.7	8.1	11.8	7.6	6.2	8.7	15.2	16.9	11.7	16.0	17.7
LnGrp Delay(d),s/veh	94.9	51.7	43.3	120.3	37.6	24.1	121.1	59.5	69.9	123.3	52.9	61.4
LnGrp LOS	F	D	D	F	D	C	F	E	E	F	D	E
Approach Vol, veh/h		1237			1042			1594			1854	
Approach Delay, s/veh		56.5			52.8			76.2			73.4	
Approach LOS		E			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.4	38.0	21.4	37.5	18.2	42.2	19.5	39.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	17.8	31.8	16.8	32.0	13.6	36.0	14.9	33.9				
Max Q Clear Time (g_c+I1), s	19.8	31.1	18.8	28.3	15.6	33.7	15.7	18.1				
Green Ext Time (p_c), s	0.0	0.7	0.0	2.8	0.0	2.1	0.0	8.9				
Intersection Summary												
HCM 2010 Ctrl Delay			66.8									
HCM 2010 LOS			E									

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

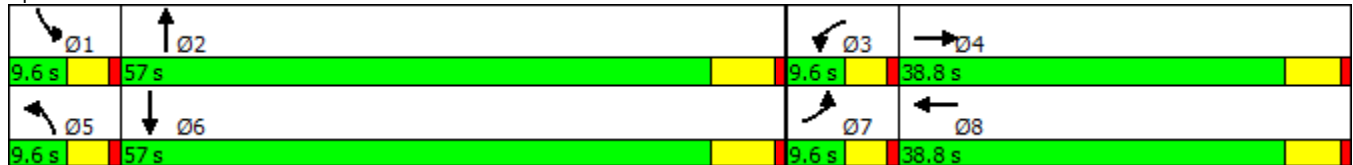


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	9	30	12	18	20	1453	14	1482
Future Volume (vph)	9	30	12	18	20	1453	14	1482
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	23.5	9.6	23.5
Total Split (s)	9.6	38.8	9.6	38.8	9.6	57.0	9.6	57.0
Total Split (%)	8.3%	33.7%	8.3%	33.7%	8.3%	49.6%	8.3%	49.6%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 115
 Actuated Cycle Length: 85.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

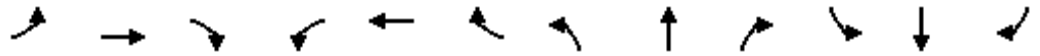
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	30	20	12	18	8	20	1453	12	14	1482	11
Future Volume (veh/h)	9	30	20	12	18	8	20	1453	12	14	1482	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	10	33	22	13	20	9	22	1579	13	15	1611	12
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	20	109	73	25	131	59	39	2070	17	29	2050	15
Arrive On Green	0.01	0.11	0.11	0.02	0.11	0.11	0.02	0.60	0.60	0.02	0.59	0.59
Sat Flow, veh/h	1619	1009	673	1619	1177	530	1619	3476	29	1619	3480	26
Grp Volume(v), veh/h	10	0	55	13	0	29	22	776	816	15	791	832
Grp Sat Flow(s),veh/h/ln	1619	0	1681	1619	0	1707	1619	1710	1795	1619	1710	1795
Q Serve(g_s), s	0.5	0.0	2.5	0.7	0.0	1.3	1.1	27.5	27.5	0.8	28.9	29.0
Cycle Q Clear(g_c), s	0.5	0.0	2.5	0.7	0.0	1.3	1.1	27.5	27.5	0.8	28.9	29.0
Prop In Lane	1.00		0.40	1.00		0.31	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	20	0	181	25	0	190	39	1018	1069	29	1007	1058
V/C Ratio(X)	0.50	0.00	0.30	0.51	0.00	0.15	0.56	0.76	0.76	0.52	0.79	0.79
Avail Cap(c_a), veh/h	99	0	679	99	0	690	99	1058	1110	99	1058	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	33.6	39.9	0.0	32.8	39.4	12.2	12.2	39.8	12.8	12.8
Incr Delay (d2), s/veh	6.9	0.0	0.9	5.9	0.0	0.4	4.7	3.2	3.1	5.4	3.8	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.2	0.3	0.0	0.6	0.5	13.6	14.3	0.4	14.5	15.2
LnGrp Delay(d),s/veh	47.0	0.0	34.5	45.7	0.0	33.2	44.1	15.4	15.3	45.2	16.6	16.5
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		65			42			1614			1638	
Approach Delay, s/veh		36.4			37.1			15.8			16.8	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	55.1	5.9	14.6	6.6	54.6	5.6	14.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.0	50.5	5.0	33.0	5.0	50.5	5.0	33.0				
Max Q Clear Time (g_c+I1), s	2.8	29.5	2.7	4.5	3.1	31.0	2.5	3.3				
Green Ext Time (p_c), s	0.0	18.3	0.0	0.4	0.0	17.1	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			17.0									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/26/2017

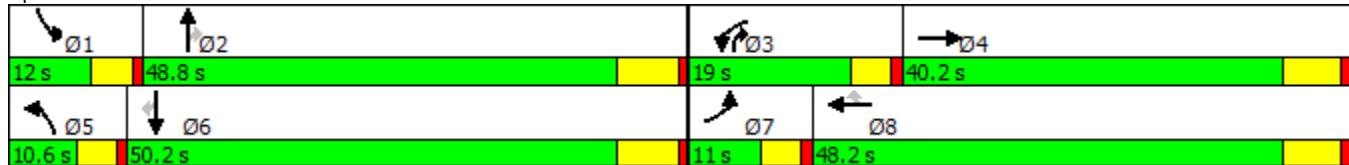


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗
Traffic Volume (vph)	118	223	127	444	317	115	86	1235	468	106	1342	49
Future Volume (vph)	118	223	127	444	317	115	86	1235	468	106	1342	49
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	11.0	40.2		19.0	48.2	48.2	10.6	48.8	19.0	12.0	50.2	50.2
Total Split (%)	9.2%	33.5%		15.8%	40.2%	40.2%	8.8%	40.7%	15.8%	10.0%	41.8%	41.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	223	127	444	317	115	86	1235	468	106	1342	49
Future Volume (veh/h)	118	223	127	444	317	115	86	1235	468	106	1342	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	225	0	448	320	96	87	1247	0	107	1356	40
Adj No. of Lanes	2	2	1	2	1	1	2	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	453	203	435	400	340	137	1438	869	123	1539	688
Arrive On Green	0.06	0.13	0.00	0.15	0.22	0.22	0.05	0.42	0.00	0.08	0.45	0.45
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	2956	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	119	225	0	448	320	96	87	1247	0	107	1356	40
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1478	1710	1530	1619	1710	1530
Q Serve(g_s), s	3.9	6.0	0.0	14.4	16.4	5.1	2.8	32.5	0.0	6.4	35.3	1.4
Cycle Q Clear(g_c), s	3.9	6.0	0.0	14.4	16.4	5.1	2.8	32.5	0.0	6.4	35.3	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	453	203	435	400	340	137	1438	869	123	1539	688
V/C Ratio(X)	0.70	0.50	0.00	1.03	0.80	0.28	0.64	0.87	0.00	0.87	0.88	0.06
Avail Cap(c_a), veh/h	194	1190	532	435	773	657	181	1480	887	123	1539	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	39.4	0.0	41.7	36.0	31.6	45.8	25.8	0.0	44.7	24.5	15.2
Incr Delay (d2), s/veh	6.8	0.8	0.0	50.7	3.8	0.5	1.8	5.6	0.0	43.8	6.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.9	0.0	8.9	8.6	2.2	1.2	16.4	0.0	4.3	17.9	0.6
LnGrp Delay(d),s/veh	52.0	40.2	0.0	92.4	39.7	32.0	47.6	31.4	0.0	88.5	30.8	15.2
LnGrp LOS	D	D		F	D	C	D	C		F	C	B
Approach Vol, veh/h		344			864			1334			1503	
Approach Delay, s/veh		44.3			66.2			32.5			34.5	
Approach LOS		D			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	47.6	19.0	19.1	9.1	50.5	10.2	27.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.4	42.3	14.4	34.0	6.0	43.7	6.4	42.0				
Max Q Clear Time (g_c+I1), s	8.4	34.5	16.4	8.0	4.8	37.3	5.9	18.4				
Green Ext Time (p_c), s	0.0	6.6	0.0	3.3	0.0	5.8	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			41.4									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

07/26/2017

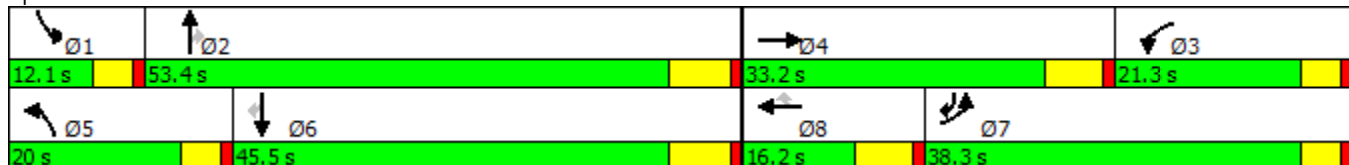


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	675	161	705	166	106	66	311	1116	121	75	1415	340
Future Volume (vph)	675	161	705	166	106	66	311	1116	121	75	1415	340
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	38.3	33.2		21.3	16.2	16.2	20.0	53.4	53.4	12.1	45.5	38.3
Total Split (%)	31.9%	27.7%		17.8%	13.5%	13.5%	16.7%	44.5%	44.5%	10.1%	37.9%	31.9%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	675	161	705	166	106	66	311	1116	121	75	1415	340
Future Volume (veh/h)	675	161	705	166	106	66	311	1116	121	75	1415	340
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	703	168	0	173	110	27	324	1162	112	78	1474	343
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	763	305	137	405	305	137	376	2084	649	120	1678	906
Arrive On Green	0.25	0.09	0.00	0.25	0.09	0.09	0.12	0.42	0.42	0.04	0.34	0.34
Sat Flow, veh/h	3048	3420	1530	1619	3420	1530	3048	4914	1530	2956	4914	1530
Grp Volume(v), veh/h	703	168	0	173	110	27	324	1162	112	78	1474	343
Grp Sat Flow(s),veh/h/ln	1524	1710	1530	1619	1710	1530	1524	1638	1530	1478	1638	1530
Q Serve(g_s), s	25.2	5.3	0.0	10.0	3.4	1.6	11.7	20.0	2.0	2.9	31.6	5.3
Cycle Q Clear(g_c), s	25.2	5.3	0.0	10.0	3.4	1.6	11.7	20.0	2.0	2.9	31.6	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	763	305	137	405	305	137	376	2084	649	120	1678	906
V/C Ratio(X)	0.92	0.55	0.00	0.43	0.36	0.20	0.86	0.56	0.17	0.65	0.88	0.38
Avail Cap(c_a), veh/h	917	824	369	405	305	137	419	2084	649	198	1711	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	48.8	0.0	35.2	48.0	34.1	48.2	24.3	3.1	52.9	34.7	3.5
Incr Delay (d2), s/veh	11.8	1.5	0.0	0.3	0.7	0.7	14.3	0.3	0.1	2.2	5.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	2.6	0.0	4.5	1.6	0.7	5.6	9.1	0.8	1.2	15.0	2.3
LnGrp Delay(d),s/veh	52.7	50.4	0.0	35.5	48.7	34.8	62.4	24.7	3.2	55.1	40.2	3.7
LnGrp LOS	D	D		D	D	C	E	C	A	E	D	A
Approach Vol, veh/h		871			310			1598			1895	
Approach Delay, s/veh		52.3			40.1			30.8			34.2	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	54.0	32.6	16.2	18.4	44.7	32.6	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.5	46.9	16.7	27.0	15.4	39.0	33.7	10.0				
Max Q Clear Time (g_c+I1), s	4.9	22.0	12.0	7.3	13.7	33.6	27.2	5.4				
Green Ext Time (p_c), s	0.0	20.3	0.9	0.8	0.1	4.6	0.9	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			36.8									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017




















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕↕	↖	↖↗	↕↕
Traffic Volume (vph)	556	521	1148	716	991	1217
Future Volume (vph)	556	521	1148	716	991	1217
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



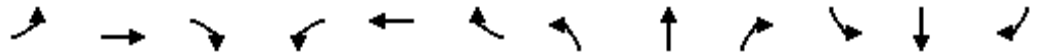
								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	 	 	 		 	 		
Traffic Volume (veh/h)	556	521	1148	716	991	1217		
Future Volume (veh/h)	556	521	1148	716	991	1217		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900		
Adj Flow Rate, veh/h	625	543	1290	804	1113	1367		
Adj No. of Lanes	2	2	2	1	2	2		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	711	1391	1339	926	1047	2536		
Arrive On Green	0.20	0.20	0.37	0.37	0.29	0.70		
Sat Flow, veh/h	3510	2842	3705	1615	3651	3705		
Grp Volume(v), veh/h	625	543	1290	804	1113	1367		
Grp Sat Flow(s),veh/h/ln	1755	1421	1805	1615	1825	1805		
Q Serve(g_s), s	19.3	13.5	39.0	41.4	32.0	20.2		
Cycle Q Clear(g_c), s	19.3	13.5	39.0	41.4	32.0	20.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	711	1391	1339	926	1047	2536		
V/C Ratio(X)	0.88	0.39	0.96	0.87	1.06	0.54		
Avail Cap(c_a), veh/h	975	1604	1339	926	1047	2545		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.2	18.0	34.4	19.0	39.8	8.0		
Incr Delay (d2), s/veh	5.6	0.1	16.6	8.9	46.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.9	5.3	22.4	26.9	22.7	9.9		
LnGrp Delay(d),s/veh	48.8	18.1	51.0	27.9	86.1	8.1		
LnGrp LOS	D	B	D	C	F	A		
Approach Vol, veh/h	1168		2094			2480		
Approach Delay, s/veh	34.5		42.1			43.1		
Approach LOS	C		D			D		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.0	46.7				83.7		27.9
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	32.0	41.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	34.0	43.4				22.2		21.3
Green Ext Time (p_c), s	0.0	0.0				42.2		1.3
Intersection Summary								
HCM 2010 Ctrl Delay			41.0					
HCM 2010 LOS			D					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

07/26/2017

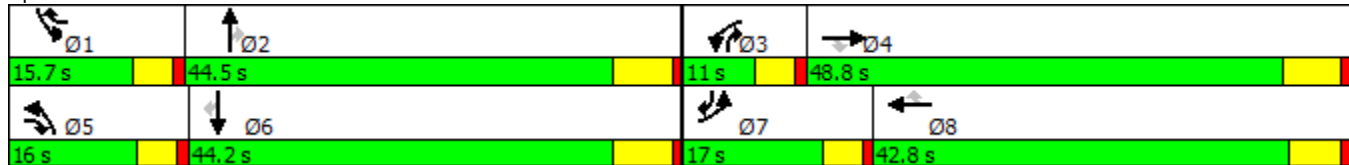


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	479	1192	506	107	378	65	237	878	107	209	1008	590
Future Volume (vph)	479	1192	506	107	378	65	237	878	107	209	1008	590
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	43.2	9.6	9.6	42.8	9.6	9.6	43.2	9.6	9.6	43.2	9.6
Total Split (s)	17.0	48.8	16.0	11.0	42.8	15.7	16.0	44.5	11.0	15.7	44.2	17.0
Total Split (%)	14.2%	40.7%	13.3%	9.2%	35.7%	13.1%	13.3%	37.1%	9.2%	13.1%	36.8%	14.2%
Yellow Time (s)	3.6	5.2	3.6	3.6	4.8	3.6	3.6	5.2	3.6	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	5.8	4.6	4.6	6.2	4.6	4.6	6.2	4.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
 27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	479	1192	506	107	378	65	237	878	107	209	1008	590
Future Volume (veh/h)	479	1192	506	107	378	65	237	878	107	209	1008	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	510	1268	451	114	402	64	252	934	79	222	1072	491
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	389	1761	680	170	1437	572	312	1753	613	283	1710	700
Arrive On Green	0.11	0.34	0.34	0.05	0.28	0.28	0.09	0.34	0.34	0.08	0.33	0.33
Sat Flow, veh/h	3510	5187	1578	3510	5187	1594	3510	5187	1583	3510	5187	1581
Grp Volume(v), veh/h	510	1268	451	114	402	64	252	934	79	222	1072	491
Grp Sat Flow(s),veh/h/ln	1755	1729	1578	1755	1729	1594	1755	1729	1583	1755	1729	1581
Q Serve(g_s), s	12.4	23.9	25.6	3.6	6.8	3.0	7.9	16.2	3.6	6.9	19.5	28.2
Cycle Q Clear(g_c), s	12.4	23.9	25.6	3.6	6.8	3.0	7.9	16.2	3.6	6.9	19.5	28.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	389	1761	680	170	1437	572	312	1753	613	283	1710	700
V/C Ratio(X)	1.31	0.72	0.66	0.67	0.28	0.11	0.81	0.53	0.13	0.78	0.63	0.70
Avail Cap(c_a), veh/h	389	1977	745	201	1717	658	358	1777	621	349	1763	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	32.3	25.6	52.3	31.7	24.0	50.0	29.9	22.1	50.4	31.7	25.4
Incr Delay (d2), s/veh	156.7	1.1	2.0	4.2	0.1	0.1	9.8	0.3	0.1	7.1	0.7	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	11.6	11.5	1.8	3.3	1.3	4.2	7.8	1.6	3.6	9.4	12.8
LnGrp Delay(d),s/veh	206.4	33.4	27.5	56.5	31.8	24.1	59.8	30.2	22.2	57.6	32.3	28.3
LnGrp LOS	F	C	C	E	C	C	E	C	C	E	C	C
Approach Vol, veh/h		2229			580			1265			1785	
Approach Delay, s/veh		71.8			35.8			35.6			34.4	
Approach LOS		E			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	44.0	10.0	44.2	14.5	43.1	17.0	37.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	8.9	18.2	5.6	27.6	9.9	30.2	14.4	8.8				
Green Ext Time (p_c), s	0.1	14.6	0.0	10.4	0.1	6.7	0.0	15.7				
Intersection Summary												
HCM 2010 Ctrl Delay			49.0									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

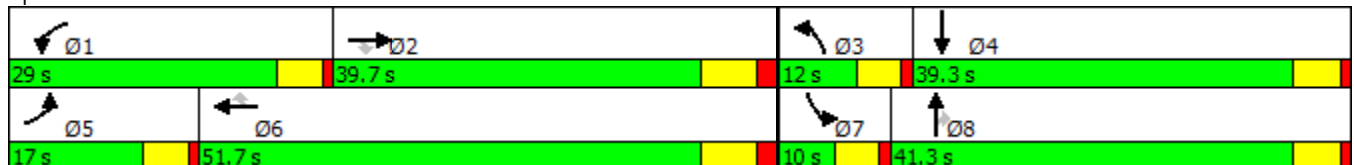


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↗	↙	↑	↗	↙	↘
Traffic Volume (vph)	142	1596	57	238	1072	155	53	58	181	97	32
Future Volume (vph)	142	1596	57	238	1072	155	53	58	181	97	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1596	57	238	1072	155	53	58	181	97	32	70
Future Volume (veh/h)	142	1596	57	238	1072	155	53	58	181	97	32	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	1773	62	264	1191	172	59	64	172	108	36	71
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1981	604	301	2293	714	78	271	227	102	88	174
Arrive On Green	0.11	0.38	0.38	0.17	0.44	0.44	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1810	5187	1581	1810	5187	1615	1810	1900	1591	1810	567	1118
Grp Volume(v), veh/h	158	1773	62	264	1191	172	59	64	172	108	0	107
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1729	1615	1810	1900	1591	1810	0	1685
Q Serve(g_s), s	7.6	28.4	2.2	12.6	14.7	5.9	2.8	2.6	9.2	5.0	0.0	5.1
Cycle Q Clear(g_c), s	7.6	28.4	2.2	12.6	14.7	5.9	2.8	2.6	9.2	5.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	192	1981	604	301	2293	714	78	271	227	102	0	263
V/C Ratio(X)	0.82	0.90	0.10	0.88	0.52	0.24	0.75	0.24	0.76	1.05	0.00	0.41
Avail Cap(c_a), veh/h	246	1981	604	492	2624	817	143	774	648	102	0	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	25.6	17.6	35.9	17.8	15.4	41.8	33.6	36.4	41.7	0.0	33.6
Incr Delay (d2), s/veh	12.8	5.8	0.1	5.7	0.2	0.2	5.4	0.4	5.1	104.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	14.5	1.0	6.8	7.0	2.6	1.5	1.4	4.4	5.4	0.0	2.4
LnGrp Delay(d),s/veh	51.5	31.4	17.6	41.6	18.0	15.6	47.1	34.0	41.5	146.8	0.0	34.6
LnGrp LOS	D	C	B	D	B	B	D	C	D	F		C
Approach Vol, veh/h		1993			1627			295			215	
Approach Delay, s/veh		32.6			21.6			41.0			91.0	
Approach LOS		C			C			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	40.7	8.8	19.1	14.4	46.1	10.0	17.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	14.6	30.4	4.8	7.1	9.6	16.7	7.0	11.2				
Green Ext Time (p_c), s	0.2	2.3	0.0	1.4	0.0	22.4	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			31.9									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

07/26/2017

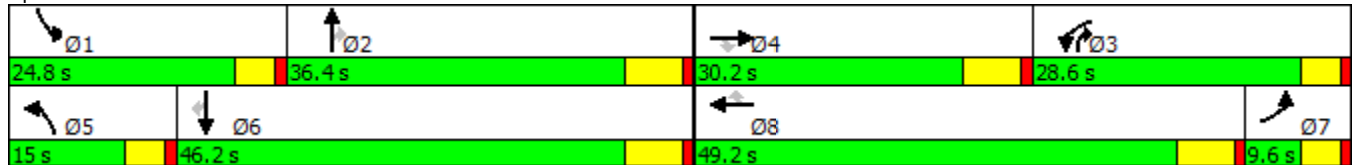


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	43	847	405	643	725	272	308	326	613	374	464	47
Future Volume (vph)	43	847	405	643	725	272	308	326	613	374	464	47
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	9.6	46.2	46.2
Total Split (s)	9.6	30.2	30.2	28.6	49.2	49.2	15.0	36.4	28.6	24.8	46.2	46.2
Total Split (%)	8.0%	25.2%	25.2%	23.8%	41.0%	41.0%	12.5%	30.3%	23.8%	20.7%	38.5%	38.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 07/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	847	405	643	725	272	308	326	613	374	464	47
Future Volume (veh/h)	43	847	405	643	725	272	308	326	613	374	464	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	892	290	677	763	217	324	343	636	394	488	44
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	558	1122	342	752	981	439	373	1109	691	473	874	390
Arrive On Green	0.16	0.22	0.22	0.21	0.27	0.27	0.11	0.21	0.21	0.13	0.24	0.24
Sat Flow, veh/h	3510	5187	1580	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	45	892	290	677	763	217	324	343	636	394	488	44
Grp Sat Flow(s),veh/h/ln	1755	1729	1580	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	1.1	15.9	12.5	18.4	19.1	7.3	8.9	5.4	11.5	10.7	11.6	1.3
Cycle Q Clear(g_c), s	1.1	15.9	12.5	18.4	19.1	7.3	8.9	5.4	11.5	10.7	11.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	558	1122	342	752	981	439	373	1109	691	473	874	390
V/C Ratio(X)	0.08	0.80	0.85	0.90	0.78	0.49	0.87	0.31	0.92	0.83	0.56	0.11
Avail Cap(c_a), veh/h	558	1273	388	862	1588	710	373	1602	845	725	1477	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	36.3	19.2	37.4	32.9	13.2	43.0	32.4	9.0	41.2	32.5	12.0
Incr Delay (d2), s/veh	0.0	3.2	14.7	10.5	1.4	0.9	18.3	0.2	13.3	2.9	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.9	7.4	10.0	9.7	4.3	5.3	2.6	10.3	5.4	5.8	0.9
LnGrp Delay(d),s/veh	35.0	39.5	33.9	47.9	34.3	14.1	61.3	32.5	22.3	44.2	33.0	12.1
LnGrp LOS	D	D	C	D	C	B	E	C	C	D	C	B
Approach Vol, veh/h		1227			1657			1303			926	
Approach Delay, s/veh		38.0			37.2			34.7			36.8	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	27.1	25.6	27.3	15.0	29.9	20.1	32.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	20.2	30.2	24.0	24.0	10.4	40.0	5.0	43.0				
Max Q Clear Time (g_c+I1), s	12.7	13.5	20.4	17.9	10.9	13.6	3.1	21.1				
Green Ext Time (p_c), s	0.5	7.1	0.6	3.2	0.0	8.6	0.4	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			36.7									
HCM 2010 LOS			D									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

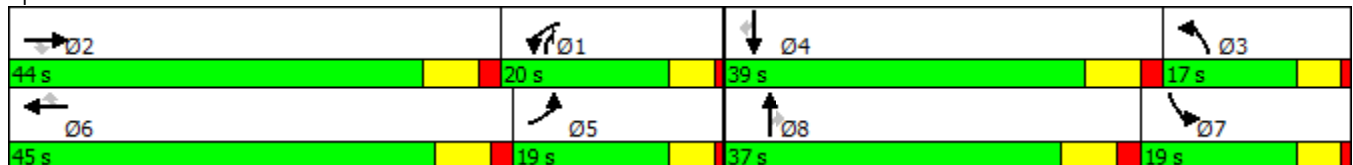


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (vph)	340	1515	118	446	1290	355	208	463	263	421	611	316
Future Volume (vph)	340	1515	118	446	1290	355	208	463	263	421	611	316
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	10.0	10.0	37.0	37.0
Total Split (s)	19.0	44.0	44.0	20.0	45.0	45.0	17.0	37.0	20.0	19.0	39.0	39.0
Total Split (%)	15.8%	36.7%	36.7%	16.7%	37.5%	37.5%	14.2%	30.8%	16.7%	15.8%	32.5%	32.5%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



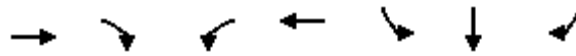
HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	1515	118	446	1290	355	208	463	263	421	611	316
Future Volume (veh/h)	340	1515	118	446	1290	355	208	463	263	421	611	316
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	347	1546	101	455	1316	293	212	472	191	430	623	281
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	487	1711	521	473	1690	525	274	913	493	505	873	389
Arrive On Green	0.14	0.33	0.33	0.13	0.33	0.33	0.08	0.18	0.18	0.14	0.24	0.24
Sat Flow, veh/h	3510	5187	1579	3510	5187	1611	3510	5187	1563	3510	3610	1611
Grp Volume(v), veh/h	347	1546	101	455	1316	293	212	472	191	430	623	281
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1611	1755	1729	1563	1755	1805	1611
Q Serve(g_s), s	10.5	31.7	5.1	14.3	25.5	16.7	6.6	9.2	0.0	13.3	17.6	17.8
Cycle Q Clear(g_c), s	10.5	31.7	5.1	14.3	25.5	16.7	6.6	9.2	0.0	13.3	17.6	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	487	1711	521	473	1690	525	274	913	493	505	873	389
V/C Ratio(X)	0.71	0.90	0.19	0.96	0.78	0.56	0.77	0.52	0.39	0.85	0.71	0.72
Avail Cap(c_a), veh/h	487	1724	525	473	1770	550	378	1398	639	505	1038	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	35.6	26.7	47.9	33.9	30.9	50.3	41.6	30.0	46.5	38.7	38.8
Incr Delay (d2), s/veh	4.2	7.5	0.4	31.5	2.6	2.1	4.1	1.0	1.1	12.5	2.9	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	16.2	2.3	9.0	12.6	7.7	3.4	4.5	4.7	7.3	9.1	8.6
LnGrp Delay(d),s/veh	50.0	43.1	27.1	79.4	36.6	33.1	54.4	42.5	31.1	59.0	41.6	45.3
LnGrp LOS	D	D	C	E	D	C	D	D	C	E	D	D
Approach Vol, veh/h		1994			2064			875			1334	
Approach Delay, s/veh		43.5			45.5			42.9			48.0	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	43.7	13.7	33.9	20.4	43.3	21.0	26.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	15.0	37.0	12.0	32.0	14.0	38.0	14.0	30.0				
Max Q Clear Time (g_c+I1), s	16.3	33.7	8.6	19.8	12.5	27.5	15.3	11.2				
Green Ext Time (p_c), s	0.0	3.0	0.1	6.4	0.3	8.8	0.0	6.3				
Intersection Summary												
HCM 2010 Ctrl Delay			45.0									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.

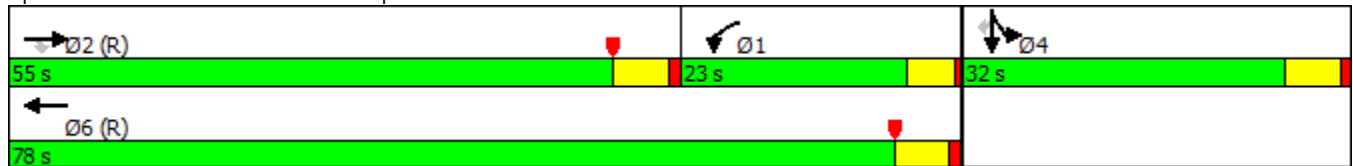


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑	↕	↑
Traffic Volume (vph)	1689	881	446	1587	208	0	784
Future Volume (vph)	1689	881	446	1587	208	0	784
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 64 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

07/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1689	881	446	1587	0	0	0	0	208	0	784
Future Volume (veh/h)	0	1689	881	446	1587	0	0	0	0	208	0	784
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1741	908	460	1636	0				143	0	798
Adj No. of Lanes	0	3	1	2	3	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2334	727	588	3463	0				436	0	778
Arrive On Green	0.00	0.45	0.45	0.34	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5358	1615	3510	5358	0				1810	0	3230
Grp Volume(v), veh/h	0	1741	908	460	1636	0				143	0	798
Grp Sat Flow(s),veh/h/ln	0	1729	1615	1755	1729	0				1810	0	1615
Q Serve(g_s), s	0.0	30.6	49.5	13.0	0.0	0.0				7.2	0.0	26.5
Cycle Q Clear(g_c), s	0.0	30.6	49.5	13.0	0.0	0.0				7.2	0.0	26.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2334	727	588	3463	0				436	0	778
V/C Ratio(X)	0.00	0.75	1.25	0.78	0.47	0.00				0.33	0.00	1.03
Avail Cap(c_a), veh/h	0	2334	727	590	3463	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.44	0.44	0.12	0.12	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.0	30.3	34.8	0.0	0.0				34.4	0.0	41.8
Incr Delay (d2), s/veh	0.0	1.0	117.4	0.8	0.1	0.0				0.2	0.0	38.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.7	45.7	6.3	0.0	0.0				3.6	0.0	16.0
LnGrp Delay(d),s/veh	0.0	26.0	147.6	35.5	0.1	0.0				34.6	0.0	80.7
LnGrp LOS		C	F	D	A					C		F
Approach Vol, veh/h		2649			2096						941	
Approach Delay, s/veh		67.7			7.8						73.7	
Approach LOS		E			A						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	23.9	55.0		32.0		78.9						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	* 50		26.5		72.5						
Max Q Clear Time (g_c+I1), s	15.0	51.5		28.5		2.0						
Green Ext Time (p_c), s	2.5	0.0		0.0		11.7						
Intersection Summary												
HCM 2010 Ctrl Delay			46.6									
HCM 2010 LOS			D									
Notes												

APPENDIX 6.12:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings

Colony Commerce Center East SP (JN 10522)

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↗	↑↑↑
Traffic Volume (vph)	8	6	438	48	661	19	1097	229	522	1649
Future Volume (vph)	8	6	438	48	661	19	1097	229	522	1649
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	26.0	14.5	48.0	48.0	26.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	21.7%	12.1%	40.0%	40.0%	21.7%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 120

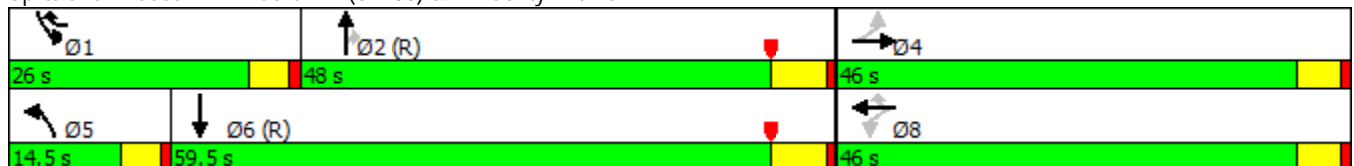
Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow























Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	438	48	661	19	1097	229	522	1649	44
Future Volume (veh/h)	8	6	4	438	48	661	19	1097	229	522	1649	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	8	6	3	492	0	643	20	1143	213	544	1718	43
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	213	154	69	1045	0	790	66	1720	535	530	2409	60
Arrive On Green	0.34	0.34	0.34	0.34	0.00	0.34	0.04	0.35	0.35	0.18	0.49	0.49
Sat Flow, veh/h	494	449	202	2698	0	1509	1619	4914	1530	2956	4931	123
Grp Volume(v), veh/h	17	0	0	492	0	643	20	1143	213	544	1141	620
Grp Sat Flow(s),veh/h/ln	1145	0	0	1349	0	1509	1619	1638	1530	1478	1638	1778
Q Serve(g_s), s	0.0	0.0	0.0	16.7	0.0	41.0	1.4	23.6	12.6	21.5	32.8	32.8
Cycle Q Clear(g_c), s	0.8	0.0	0.0	17.4	0.0	41.0	1.4	23.6	12.6	21.5	32.8	32.8
Prop In Lane	0.47		0.18	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	435	0	0	1045	0	790	66	1720	535	530	1601	869
V/C Ratio(X)	0.04	0.00	0.00	0.47	0.00	0.81	0.30	0.66	0.40	1.03	0.71	0.71
Avail Cap(c_a), veh/h	435	0	0	1045	0	790	135	1720	535	530	1601	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	0.0	31.7	0.0	24.0	55.9	33.0	29.4	49.2	24.1	24.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	6.1	0.7	1.5	1.6	46.2	2.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	6.6	0.0	18.9	0.7	10.9	5.6	12.2	15.3	17.2
LnGrp Delay(d),s/veh	26.3	0.0	0.0	31.8	0.0	30.1	56.6	34.6	31.1	95.4	26.8	29.0
LnGrp LOS	C			C		C	E	C	C	F	C	C
Approach Vol, veh/h		17			1135			1376			2305	
Approach Delay, s/veh		26.3			30.9			34.3			43.6	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	48.0		46.0	9.4	64.6		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	21.5	42.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	23.5	25.6		2.8	3.4	34.8		43.0				
Green Ext Time (p_c), s	0.0	14.2		2.3	0.0	15.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				37.9								
HCM 2010 LOS				D								
Notes												

Timings
7: Merrill Av. & Grove Av.



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↕	↕↗	↘
Traffic Volume (vph)	60	615	1085	201
Future Volume (vph)	60	615	1085	201
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	10.0	61.0	51.0	29.0
Total Split (%)	11.1%	67.8%	56.7%	32.2%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 85.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	615	1085	299	201	110		
Future Volume (veh/h)	60	615	1085	299	201	110		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800		
Adj Flow Rate, veh/h	70	715	1262	348	234	128		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	87	2082	1340	362	252	138		
Arrive On Green	0.05	0.61	0.50	0.50	0.25	0.25		
Sat Flow, veh/h	1619	3510	2753	720	1001	548		
Grp Volume(v), veh/h	70	715	801	809	363	0		
Grp Sat Flow(s),veh/h/ln	1619	1710	1710	1673	1553	0		
Q Serve(g_s), s	3.8	9.2	38.9	41.3	20.3	0.0		
Cycle Q Clear(g_c), s	3.8	9.2	38.9	41.3	20.3	0.0		
Prop In Lane	1.00			0.43	0.64	0.35		
Lane Grp Cap(c), veh/h	87	2082	861	842	391	0		
V/C Ratio(X)	0.81	0.34	0.93	0.96	0.93	0.00		
Avail Cap(c_a), veh/h	98	2110	862	844	399	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	41.6	8.6	20.6	21.2	32.5	0.0		
Incr Delay (d2), s/veh	30.0	0.1	16.4	21.8	27.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	4.3	22.2	24.0	11.7	0.0		
LnGrp Delay(d),s/veh	71.5	8.7	37.1	43.0	60.2	0.0		
LnGrp LOS	E	A	D	D	E			
Approach Vol, veh/h		785	1610		363			
Approach Delay, s/veh		14.3	40.0		60.2			
Approach LOS		B	D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.3		28.6	9.4	50.9		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		54.8		22.8	5.4	44.8		
Max Q Clear Time (g_c+I1), s		11.2		22.3	5.8	43.3		
Green Ext Time (p_c), s		28.4		0.1	0.0	1.4		
Intersection Summary								
HCM 2010 Ctrl Delay			35.4					
HCM 2010 LOS			D					
Notes								

Timings
8: Flight Av. & Merrill Av.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	685	170	130	1294	226	113
Future Volume (vph)	685	170	130	1294	226	113
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	24.2	24.2	16.2	15.8	26.6	26.6
Total Split (s)	27.2	27.2	16.2	43.4	26.6	26.6
Total Split (%)	38.9%	38.9%	23.1%	62.0%	38.0%	38.0%
Yellow Time (s)	5.2	5.2	5.2	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	5.8	4.6	4.6
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 57.9
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

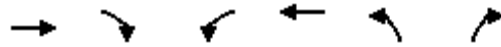
Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

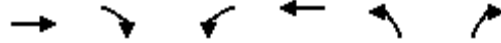
Colony Commerce Center East SP (JN 10522)

10/03/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	685	170	130	1294	226	113		
Future Volume (veh/h)	685	170	130	1294	226	113		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	753	187	143	1422	248	124		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1184	530	256	2098	317	300		
Arrive On Green	0.35	0.35	0.16	0.61	0.20	0.20		
Sat Flow, veh/h	3510	1530	1619	3510	1619	1530		
Grp Volume(v), veh/h	753	187	143	1422	248	124		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1710	1619	1530		
Q Serve(g_s), s	10.5	5.2	4.6	15.6	8.2	4.0		
Cycle Q Clear(g_c), s	10.5	5.2	4.6	15.6	8.2	4.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1184	530	256	2098	317	300		
V/C Ratio(X)	0.64	0.35	0.56	0.68	0.78	0.41		
Avail Cap(c_a), veh/h	1267	567	286	2269	628	594		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.5	13.8	22.0	7.3	21.6	19.9		
Incr Delay (d2), s/veh	1.0	0.4	0.7	0.7	4.2	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.1	2.2	2.1	7.3	4.0	1.7		
LnGrp Delay(d),s/veh	16.5	14.2	22.8	8.0	25.8	20.8		
LnGrp LOS	B	B	C	A	C	C		
Approach Vol, veh/h	940			1565	372			
Approach Delay, s/veh	16.0			9.3	24.2			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.1	25.8				41.0		15.7
Change Period (Y+Rc), s	6.2	6.2				* 6.2		4.6
Max Green Setting (Gmax), s	10.0	21.0				* 38		22.0
Max Q Clear Time (g_c+I1), s	6.6	12.5				17.6		10.2
Green Ext Time (p_c), s	0.1	7.2				14.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			13.5					
HCM 2010 LOS			B					
Notes								

Timings
9: Hellman Av. & Merrill Av.

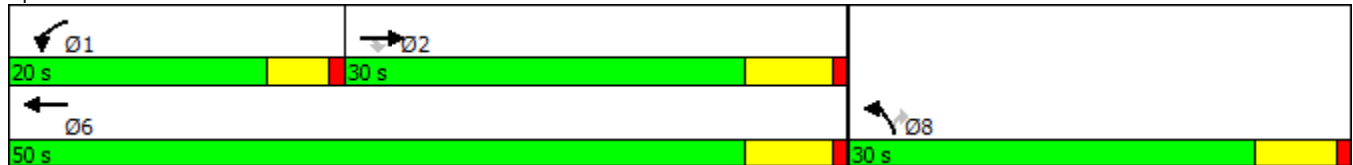


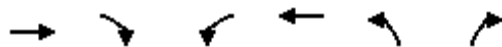
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	578	169	270	1016	427	147
Future Volume (vph)	578	169	270	1016	427	147
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.2	28.2	9.6	16.2	27.8	27.8
Total Split (s)	30.0	30.0	20.0	50.0	30.0	30.0
Total Split (%)	37.5%	37.5%	25.0%	62.5%	37.5%	37.5%
Yellow Time (s)	5.2	5.2	3.6	5.2	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	5.8	5.8
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 75.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Hellman Av. & Merrill Av.





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	578	169	270	1016	427	147		
Future Volume (veh/h)	578	169	270	1016	427	147		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	628	184	293	1104	464	160		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	945	423	325	1835	497	470		
Arrive On Green	0.28	0.28	0.20	0.54	0.31	0.31		
Sat Flow, veh/h	3510	1530	1619	3510	1619	1530		
Grp Volume(v), veh/h	628	184	293	1104	464	160		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1710	1619	1530		
Q Serve(g_s), s	12.5	7.6	13.6	17.0	21.4	6.2		
Cycle Q Clear(g_c), s	12.5	7.6	13.6	17.0	21.4	6.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	945	423	325	1835	497	470		
V/C Ratio(X)	0.66	0.44	0.90	0.60	0.93	0.34		
Avail Cap(c_a), veh/h	1059	474	325	1950	510	482		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.6	22.9	30.0	12.2	25.8	20.6		
Incr Delay (d2), s/veh	1.4	0.7	26.4	0.5	24.0	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.1	3.3	8.4	8.1	12.9	2.7		
LnGrp Delay(d),s/veh	26.0	23.6	56.4	12.7	49.9	21.0		
LnGrp LOS	C	C	E	B	D	C		
Approach Vol, veh/h	812			1397	624			
Approach Delay, s/veh	25.4			21.8	42.5			
Approach LOS	C			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.0	27.4				47.4		29.4
Change Period (Y+Rc), s	4.6	6.2				6.2		5.8
Max Green Setting (Gmax), s	15.4	23.8				43.8		24.2
Max Q Clear Time (g_c+I1), s	15.6	14.5				19.0		23.4
Green Ext Time (p_c), s	0.0	6.7				13.3		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			27.4					
HCM 2010 LOS			C					

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

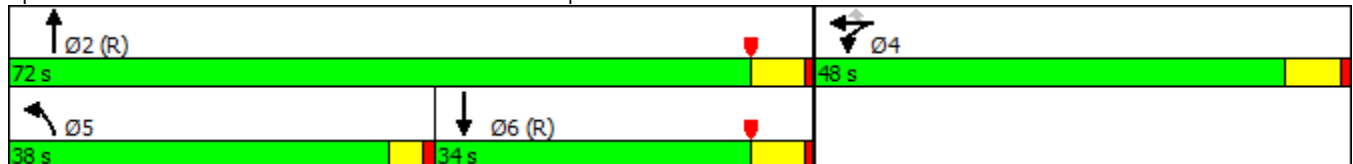


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↷	↷	↶↷	↑↑↑	↑↑↑
Traffic Volume (vph)	574	4	508	758	1438	538
Future Volume (vph)	574	4	508	758	1438	538
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	48.0	48.0	48.0	38.0	72.0	34.0
Total Split (%)	40.0%	40.0%	40.0%	31.7%	60.0%	28.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

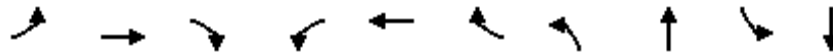
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	574	4	508	758	1438	0	0	538	196
Future Volume (veh/h)	0	0	0	574	4	508	758	1438	0	0	538	196
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1600	1800	0	0	1800	1800
Adj Flow Rate, veh/h				641	0	388	842	1598	0	0	598	138
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				981	0	464	838	2942	0	0	1440	319
Arrive On Green				0.30	0.00	0.30	0.28	0.60	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3238	0	1530	2956	5076	0	0	5360	1132
Grp Volume(v), veh/h				641	0	388	842	1598	0	0	541	195
Grp Sat Flow(s),veh/h/ln				1619	0	1530	1478	1638	0	0	1548	1596
Q Serve(g_s), s				20.6	0.0	28.4	34.0	23.2	0.0	0.0	11.4	12.0
Cycle Q Clear(g_c), s				20.6	0.0	28.4	34.0	23.2	0.0	0.0	11.4	12.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.71
Lane Grp Cap(c), veh/h				981	0	464	838	2942	0	0	1309	450
V/C Ratio(X)				0.65	0.00	0.84	1.01	0.54	0.00	0.00	0.41	0.43
Avail Cap(c_a), veh/h				1133	0	535	838	2942	0	0	1309	450
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.3	0.0	39.0	43.0	14.3	0.0	0.0	35.0	35.2
Incr Delay (d2), s/veh				1.8	0.0	12.0	10.6	0.1	0.0	0.0	1.0	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.5	0.0	23.4	15.1	10.4	0.0	0.0	5.0	5.7
LnGrp Delay(d),s/veh				38.2	0.0	51.1	53.6	14.4	0.0	0.0	36.0	38.2
LnGrp LOS				D		D	F	B			D	D
Approach Vol, veh/h					1029			2440			736	
Approach Delay, s/veh					43.0			27.9			36.6	
Approach LOS					D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		77.6		42.4	38.0	39.6						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		66.2		42.0	34.0	28.2						
Max Q Clear Time (g_c+I1), s		25.2		30.4	36.0	14.0						
Green Ext Time (p_c), s		23.3		6.0	0.0	11.1						
Intersection Summary												
HCM 2010 Ctrl Delay				33.1								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

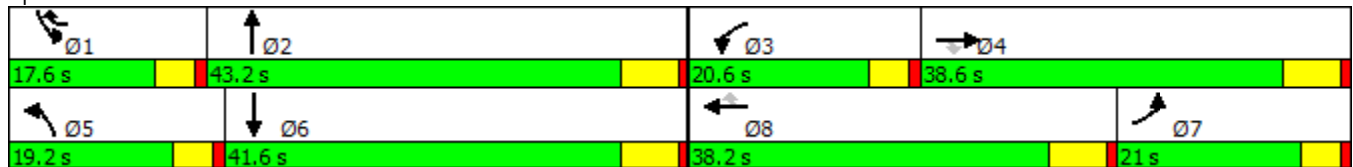


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↗	↘↗	↑↑↗
Traffic Volume (vph)	207	379	202	149	524	371	266	1262	304	812
Future Volume (vph)	207	379	202	149	524	371	266	1262	304	812
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	21.0	38.6	38.6	20.6	38.2	17.6	19.2	43.2	17.6	41.6
Total Split (%)	17.5%	32.2%	32.2%	17.2%	31.8%	14.7%	16.0%	36.0%	14.7%	34.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	379	202	149	524	371	266	1262	154	304	812	206
Future Volume (veh/h)	207	379	202	149	524	371	266	1262	154	304	812	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	230	421	191	166	582	319	296	1402	161	338	902	156
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	879	388	191	745	499	344	1444	166	335	1350	232
Arrive On Green	0.14	0.26	0.26	0.12	0.22	0.22	0.12	0.32	0.32	0.11	0.32	0.32
Sat Flow, veh/h	1619	3420	1509	1619	3420	1496	2956	4470	513	2956	4219	727
Grp Volume(v), veh/h	230	421	191	166	582	319	296	1027	536	338	700	358
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1496	1478	1638	1707	1478	1638	1669
Q Serve(g_s), s	16.3	11.9	12.3	11.5	18.4	11.7	11.3	35.4	35.5	13.0	21.2	21.3
Cycle Q Clear(g_c), s	16.3	11.9	12.3	11.5	18.4	11.7	11.3	35.4	35.5	13.0	21.2	21.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.44
Lane Grp Cap(c), veh/h	232	879	388	191	745	499	344	1058	551	335	1048	534
V/C Ratio(X)	0.99	0.48	0.49	0.87	0.78	0.64	0.86	0.97	0.97	1.01	0.67	0.67
Avail Cap(c_a), veh/h	232	967	427	226	955	591	377	1058	551	335	1048	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	36.1	36.2	49.6	42.2	13.2	49.7	38.2	38.3	50.8	33.7	33.7
Incr Delay (d2), s/veh	56.8	0.4	1.0	22.9	3.2	1.8	15.5	20.9	31.0	51.0	1.6	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	5.7	5.3	6.4	9.0	5.0	5.3	19.1	21.4	7.6	9.8	10.3
LnGrp Delay(d),s/veh	105.8	36.5	37.2	72.6	45.5	14.9	65.2	59.1	69.3	101.8	35.3	37.0
LnGrp LOS	F	D	D	E	D	B	E	E	E	F	D	D
Approach Vol, veh/h		842			1067			1859			1396	
Approach Delay, s/veh		55.6			40.5			63.0			51.9	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	43.2	18.1	35.6	17.9	42.9	22.6	31.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	6.2	* 6.2				
Max Green Setting (Gmax), s	13.0	37.0	16.0	32.4	14.6	35.4	16.4	* 32				
Max Q Clear Time (g_c+I1), s	15.0	37.5	13.5	14.3	13.3	23.3	18.3	20.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.1	0.1	10.1	0.0	3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			54.1									
HCM 2010 LOS			D									
Notes												

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

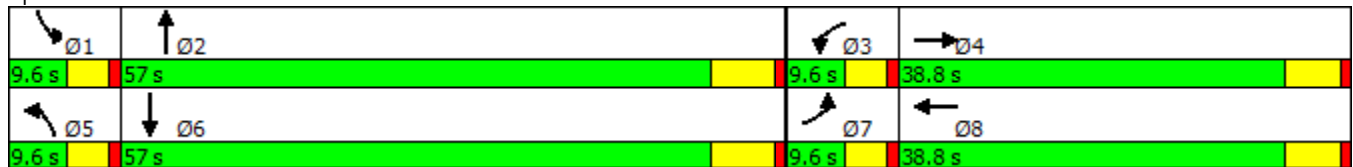


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	6	9	11	27	20	1510	4	1136
Future Volume (vph)	6	9	11	27	20	1510	4	1136
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	23.5	9.6	23.5
Total Split (s)	9.6	38.8	9.6	38.8	9.6	57.0	9.6	57.0
Total Split (%)	8.3%	33.7%	8.3%	33.7%	8.3%	49.6%	8.3%	49.6%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 115
 Actuated Cycle Length: 80.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	9	20	11	27	13	20	1510	7	4	1136	4
Future Volume (veh/h)	6	9	20	11	27	13	20	1510	7	4	1136	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	7	10	22	12	29	14	22	1641	8	4	1235	4
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	53	118	24	129	62	39	2086	10	9	2024	7
Arrive On Green	0.01	0.11	0.11	0.01	0.11	0.11	0.02	0.60	0.60	0.01	0.58	0.58
Sat Flow, veh/h	1619	502	1104	1619	1148	554	1619	3490	17	1619	3497	11
Grp Volume(v), veh/h	7	0	32	12	0	43	22	804	845	4	604	635
Grp Sat Flow(s),veh/h/ln	1619	0	1605	1619	0	1702	1619	1710	1797	1619	1710	1798
Q Serve(g_s), s	0.3	0.0	1.4	0.6	0.0	1.8	1.0	27.8	27.9	0.2	17.9	17.9
Cycle Q Clear(g_c), s	0.3	0.0	1.4	0.6	0.0	1.8	1.0	27.8	27.9	0.2	17.9	17.9
Prop In Lane	1.00		0.69	1.00		0.33	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	15	0	171	24	0	191	39	1022	1074	9	990	1041
V/C Ratio(X)	0.48	0.00	0.19	0.51	0.00	0.23	0.56	0.79	0.79	0.46	0.61	0.61
Avail Cap(c_a), veh/h	104	0	679	104	0	720	104	1107	1164	104	1107	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	31.8	38.1	0.0	31.5	37.6	11.9	11.9	38.7	10.7	10.7
Incr Delay (d2), s/veh	8.8	0.0	0.5	6.0	0.0	0.6	4.5	3.6	3.4	13.7	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.7	0.3	0.0	0.9	0.5	14.0	14.6	0.1	8.6	9.0
LnGrp Delay(d),s/veh	47.2	0.0	32.3	44.2	0.0	32.1	42.2	15.5	15.3	52.4	11.5	11.5
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		39			55			1671			1243	
Approach Delay, s/veh		35.0			34.8			15.7			11.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	53.1	5.7	14.1	6.5	51.6	5.3	14.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.0	50.5	5.0	33.0	5.0	50.5	5.0	33.0				
Max Q Clear Time (g_c+I1), s	2.2	29.9	2.6	3.4	3.0	19.9	2.3	3.8				
Green Ext Time (p_c), s	0.0	16.8	0.0	0.3	0.0	22.9	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			14.6									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

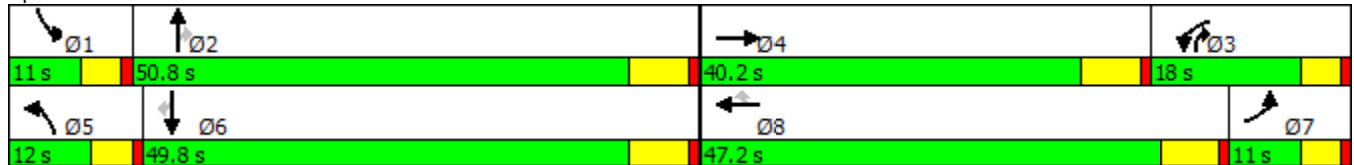


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑	↔	↔↔	↑↑	↔	↔	↑↑	↔
Traffic Volume (vph)	37	246	79	476	370	87	191	1377	425	79	1000	51
Future Volume (vph)	37	246	79	476	370	87	191	1377	425	79	1000	51
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	11.0	40.2		18.0	47.2	47.2	12.0	50.8	18.0	11.0	49.8	49.8
Total Split (%)	9.2%	33.5%		15.0%	39.3%	39.3%	10.0%	42.3%	15.0%	9.2%	41.5%	41.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

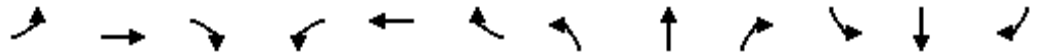
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	246	79	476	370	87	191	1377	425	79	1000	51
Future Volume (veh/h)	37	246	79	476	370	87	191	1377	425	79	1000	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	39	262	0	506	394	45	203	1465	0	84	1064	35
Adj No. of Lanes	2	2	1	2	1	1	2	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	87	369	165	507	450	383	217	1504	935	103	1470	658
Arrive On Green	0.03	0.11	0.00	0.17	0.25	0.25	0.07	0.44	0.00	0.06	0.43	0.43
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	2956	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	39	262	0	506	394	45	203	1465	0	84	1064	35
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1478	1710	1530	1619	1710	1530
Q Serve(g_s), s	1.3	7.5	0.0	17.2	21.2	1.8	6.9	42.3	0.0	5.2	25.9	1.0
Cycle Q Clear(g_c), s	1.3	7.5	0.0	17.2	21.2	1.8	6.9	42.3	0.0	5.2	25.9	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	369	165	507	450	383	217	1504	935	103	1470	658
V/C Ratio(X)	0.45	0.71	0.00	1.00	0.88	0.12	0.93	0.97	0.00	0.82	0.72	0.05
Avail Cap(c_a), veh/h	188	1154	516	507	732	623	217	1504	935	103	1470	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	43.4	0.0	41.7	36.3	17.4	46.4	27.7	0.0	46.6	23.8	9.6
Incr Delay (d2), s/veh	1.4	2.5	0.0	39.3	6.9	0.1	42.7	17.4	0.0	36.0	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	0.0	9.7	11.4	0.9	4.1	23.6	0.0	3.3	12.6	0.6
LnGrp Delay(d),s/veh	49.5	46.0	0.0	81.0	43.1	17.5	89.1	45.0	0.0	82.6	25.6	9.6
LnGrp LOS	D	D		F	D	B	F	D		F	C	A
Approach Vol, veh/h		301			945			1668			1183	
Approach Delay, s/veh		46.4			62.2			50.4			29.2	
Approach LOS		D			E			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.8	21.9	17.1	12.0	49.8	7.5	31.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.4	44.3	13.4	34.0	7.4	43.3	6.4	41.0				
Max Q Clear Time (g_c+I1), s	7.2	44.3	19.2	9.5	8.9	27.9	3.3	23.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	12.5	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			46.7									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

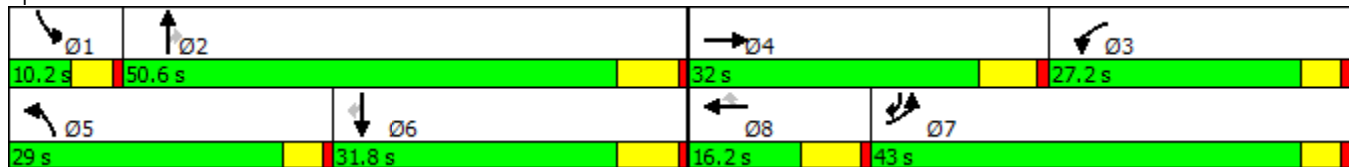


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	470	67	283	186	135	93	746	1351	83	79	698	854
Future Volume (vph)	470	67	283	186	135	93	746	1351	83	79	698	854
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	43.0	32.0		27.2	16.2	16.2	29.0	50.6	50.6	10.2	31.8	43.0
Total Split (%)	35.8%	26.7%		22.7%	13.5%	13.5%	24.2%	42.2%	42.2%	8.5%	26.5%	35.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	67	283	186	135	93	746	1351	83	79	698	854
Future Volume (veh/h)	470	67	283	186	135	93	746	1351	83	79	698	854
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1664	1800	1800	1600	1800	1872
Adj Flow Rate, veh/h	485	69	0	192	139	33	769	1393	70	81	720	823
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	564	344	154	300	344	154	777	2208	688	133	1224	691
Arrive On Green	0.19	0.10	0.00	0.19	0.10	0.10	0.25	0.45	0.45	0.04	0.25	0.25
Sat Flow, veh/h	3048	3420	1530	1619	3420	1530	3170	4914	1530	2956	4914	1591
Grp Volume(v), veh/h	485	69	0	192	139	33	769	1393	70	81	720	823
Grp Sat Flow(s),veh/h/ln	1524	1710	1530	1619	1710	1530	1585	1638	1530	1478	1638	1591
Q Serve(g_s), s	15.3	1.8	0.0	10.9	3.8	1.6	24.1	21.7	1.2	2.7	12.8	22.3
Cycle Q Clear(g_c), s	15.3	1.8	0.0	10.9	3.8	1.6	24.1	21.7	1.2	2.7	12.8	22.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	564	344	154	300	344	154	777	2208	688	133	1224	691
V/C Ratio(X)	0.86	0.20	0.00	0.64	0.40	0.21	0.99	0.63	0.10	0.61	0.59	1.19
Avail Cap(c_a), veh/h	1176	887	397	368	344	154	777	2208	688	166	1249	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	41.1	0.0	37.5	42.0	28.3	37.4	21.0	3.4	46.7	32.9	9.8
Incr Delay (d2), s/veh	1.5	0.3	0.0	1.3	0.8	0.7	29.5	0.6	0.1	1.7	0.7	100.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.9	0.0	5.0	1.8	0.8	13.7	9.9	1.1	1.1	5.9	28.8
LnGrp Delay(d),s/veh	40.8	41.4	0.0	38.8	42.7	29.0	66.9	21.6	3.4	48.4	33.6	109.8
LnGrp LOS	D	D		D	D	C	E	C	A	D	C	F
Approach Vol, veh/h		554			364			2232			1624	
Approach Delay, s/veh		40.9			39.4			36.7			72.9	
Approach LOS		D			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	51.2	23.0	16.2	29.0	31.3	23.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.6	44.1	22.6	25.8	24.4	25.3	38.4	10.0				
Max Q Clear Time (g_c+I1), s	4.7	23.7	12.9	3.8	26.1	24.3	17.3	5.8				
Green Ext Time (p_c), s	0.0	16.5	0.9	0.3	0.0	0.5	1.1	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			49.7									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017




















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↖↖	↕↕	↖	↖↖	↕↕
Traffic Volume (vph)	654	1148	984	438	430	675
Future Volume (vph)	654	1148	984	438	430	675
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	35.0	48.7	36.3	35.0	83.7
Total Split (%)	30.3%	29.2%	40.6%	30.3%	29.2%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.8
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	 	 	 		 	 		
Traffic Volume (veh/h)	654	1148	984	438	430	675		
Future Volume (veh/h)	654	1148	984	438	430	675		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	681	1131	1025	456	448	703		
Adj No. of Lanes	2	2	2	1	2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1083	1323	1369	1098	551	2115		
Arrive On Green	0.31	0.31	0.38	0.38	0.16	0.59		
Sat Flow, veh/h	3510	2842	3705	1581	3510	3705		
Grp Volume(v), veh/h	681	1131	1025	456	448	703		
Grp Sat Flow(s),veh/h/ln	1755	1421	1805	1581	1755	1805		
Q Serve(g_s), s	16.7	31.0	24.7	12.7	12.4	10.1		
Cycle Q Clear(g_c), s	16.7	31.0	24.7	12.7	12.4	10.1		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	1083	1323	1369	1098	551	2115		
V/C Ratio(X)	0.63	0.85	0.75	0.42	0.81	0.33		
Avail Cap(c_a), veh/h	1083	1323	1559	1181	1048	2828		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.8	23.8	27.0	6.9	40.9	10.7		
Incr Delay (d2), s/veh	0.9	5.4	1.9	0.3	3.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.2	14.8	12.6	11.1	6.3	5.0		
LnGrp Delay(d),s/veh	30.7	29.3	28.9	7.2	43.9	10.7		
LnGrp LOS	C	C	C	A	D	B		
Approach Vol, veh/h	1812		1481			1151		
Approach Delay, s/veh	29.8		22.2			23.6		
Approach LOS	C		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	20.8	43.4				64.2		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	30.0	43.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	14.4	26.7				12.1		33.0
Green Ext Time (p_c), s	1.4	11.4				22.6		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			25.7					
HCM 2010 LOS			C					
Notes								

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

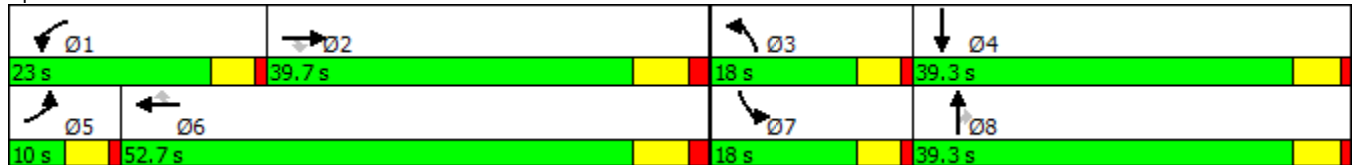


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↗
Traffic Volume (vph)	42	877	25	152	1633	48	147	64	251	153	87
Future Volume (vph)	42	877	25	152	1633	48	147	64	251	153	87
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	39.7	39.7	23.0	52.7	52.7	18.0	39.3	39.3	18.0	39.3
Total Split (%)	8.3%	33.1%	33.1%	19.2%	43.9%	43.9%	15.0%	32.8%	32.8%	15.0%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

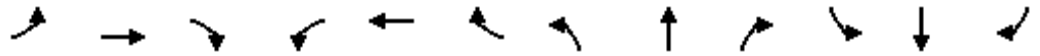
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	877	25	152	1633	48	147	64	251	153	87	113
Future Volume (veh/h)	42	877	25	152	1633	48	147	64	251	153	87	113
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	953	25	165	1775	52	160	70	239	166	95	102
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	1885	587	198	2263	690	192	357	303	198	159	171
Arrive On Green	0.04	0.36	0.36	0.11	0.44	0.44	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	1810	5187	1615	1810	5187	1581	1810	1900	1612	1810	832	893
Grp Volume(v), veh/h	46	953	25	165	1775	52	160	70	239	166	0	197
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1729	1581	1810	1900	1612	1810	0	1725
Q Serve(g_s), s	2.4	13.9	1.0	8.7	28.5	1.9	8.4	3.0	13.7	8.7	0.0	10.1
Cycle Q Clear(g_c), s	2.4	13.9	1.0	8.7	28.5	1.9	8.4	3.0	13.7	8.7	0.0	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	66	1885	587	198	2263	690	192	357	303	198	0	330
V/C Ratio(X)	0.69	0.51	0.04	0.83	0.78	0.08	0.83	0.20	0.79	0.84	0.00	0.60
Avail Cap(c_a), veh/h	93	1885	587	336	2442	744	242	666	565	242	0	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.2	24.1	20.0	42.4	23.4	15.9	42.5	33.2	37.6	42.4	0.0	35.8
Incr Delay (d2), s/veh	4.8	0.2	0.0	3.5	1.6	0.0	14.6	0.3	4.6	16.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.7	0.4	4.5	13.8	0.8	5.0	1.6	6.5	5.3	0.0	5.0
LnGrp Delay(d),s/veh	51.0	24.3	20.0	45.8	25.1	16.0	57.2	33.5	42.2	58.5	0.0	37.6
LnGrp LOS	D	C	C	D	C	B	E	C	D	E		D
Approach Vol, veh/h		1024			1992			469			363	
Approach Delay, s/veh		25.4			26.6			46.0			47.1	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	42.3	15.3	23.9	8.6	49.3	15.6	23.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	18.0	32.7	13.0	34.0	5.0	45.7	13.0	34.0				
Max Q Clear Time (g_c+I1), s	10.7	15.9	10.4	12.1	4.4	30.5	10.7	15.7				
Green Ext Time (p_c), s	0.1	14.4	0.0	2.2	0.0	11.9	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay			30.6									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

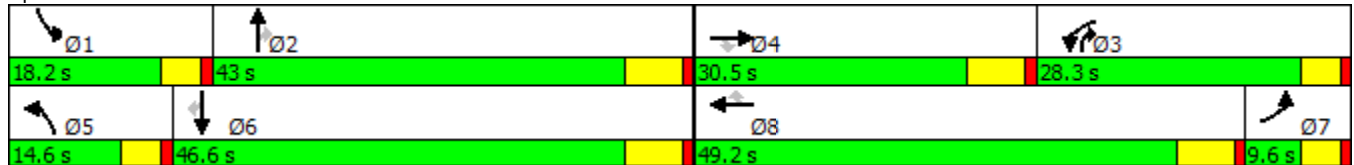


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	29	629	205	532	854	205	202	470	621	222	257	45
Future Volume (vph)	29	629	205	532	854	205	202	470	621	222	257	45
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	9.6	46.2	46.2
Total Split (s)	9.6	30.5	30.5	28.3	49.2	49.2	14.6	43.0	28.3	18.2	46.6	46.6
Total Split (%)	8.0%	25.4%	25.4%	23.6%	41.0%	41.0%	12.2%	35.8%	23.6%	15.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

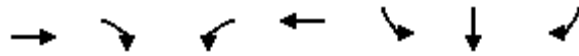
Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	629	205	532	854	205	202	470	621	222	257	45
Future Volume (veh/h)	29	629	205	532	854	205	202	470	621	222	257	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	669	192	566	909	165	215	500	615	236	273	39
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	187	1022	318	678	1216	544	304	1192	683	330	856	383
Arrive On Green	0.05	0.20	0.20	0.19	0.34	0.34	0.09	0.23	0.23	0.09	0.24	0.24
Sat Flow, veh/h	3510	5187	1615	3510	3610	1615	3510	5187	1615	3510	3610	1613
Grp Volume(v), veh/h	31	669	192	566	909	165	215	500	615	236	273	39
Grp Sat Flow(s),veh/h/ln	1755	1729	1615	1755	1805	1615	1755	1729	1615	1755	1805	1613
Q Serve(g_s), s	0.6	9.0	5.8	11.7	16.9	3.7	4.5	6.2	7.2	4.9	4.7	1.1
Cycle Q Clear(g_c), s	0.6	9.0	5.8	11.7	16.9	3.7	4.5	6.2	7.2	4.9	4.7	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	1022	318	678	1216	544	304	1192	683	330	856	383
V/C Ratio(X)	0.17	0.65	0.60	0.83	0.75	0.30	0.71	0.42	0.90	0.71	0.32	0.10
Avail Cap(c_a), veh/h	232	1668	519	1101	2054	919	464	2526	1098	632	1930	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	28.0	14.1	29.3	22.2	7.6	33.6	24.8	6.2	33.3	23.8	12.4
Incr Delay (d2), s/veh	0.2	0.7	1.8	1.4	0.9	0.3	1.1	0.2	6.4	1.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.3	3.4	5.8	8.5	2.3	2.2	3.0	6.7	2.4	2.4	0.6
LnGrp Delay(d),s/veh	34.3	28.7	15.9	30.7	23.1	8.0	34.7	25.0	12.7	34.3	24.0	12.5
LnGrp LOS	C	C	B	C	C	A	C	C	B	C	C	B
Approach Vol, veh/h		892			1640			1330			548	
Approach Delay, s/veh		26.1			24.2			20.9			27.6	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	23.6	19.2	21.1	11.2	24.1	8.6	31.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.6	36.8	23.7	24.3	10.0	40.4	5.0	43.0				
Max Q Clear Time (g_c+I1), s	6.9	9.2	13.7	11.0	6.5	6.7	2.6	18.9				
Green Ext Time (p_c), s	0.2	8.0	0.9	3.9	0.1	8.4	0.4	6.6				
Intersection Summary												
HCM 2010 Ctrl Delay			24.0									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↑	↔	↑
Traffic Volume (vph)	1463	730	695	1198	164	2	616
Future Volume (vph)	1463	730	695	1198	164	2	616
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	50.0	50.0	30.0	80.0	30.0	30.0	30.0
Total Split (%)	45.5%	45.5%	27.3%	72.7%	27.3%	27.3%	27.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 62 (56%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1463	730	695	1198	0	0	0	0	164	2	616
Future Volume (veh/h)	0	1463	730	695	1198	0	0	0	0	164	2	616
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1608	801	764	1316	0				121	0	643
Adj No. of Lanes	0	3	1	2	3	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2135	657	814	3550	0				390	0	696
Arrive On Green	0.00	0.41	0.41	0.23	0.68	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	5358	1595	3510	5358	0				1810	0	3230
Grp Volume(v), veh/h	0	1608	801	764	1316	0				121	0	643
Grp Sat Flow(s),veh/h/ln	0	1729	1595	1755	1729	0				1810	0	1615
Q Serve(g_s), s	0.0	29.1	45.3	23.5	11.8	0.0				6.2	0.0	21.4
Cycle Q Clear(g_c), s	0.0	29.1	45.3	23.5	11.8	0.0				6.2	0.0	21.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2135	657	814	3550	0				390	0	696
V/C Ratio(X)	0.00	0.75	1.22	0.94	0.37	0.00				0.31	0.00	0.92
Avail Cap(c_a), veh/h	0	2135	657	814	3550	0				403	0	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.53	0.53	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.6	32.4	41.5	7.3	0.0				36.3	0.0	42.3
Incr Delay (d2), s/veh	0.0	1.3	106.5	2.5	0.0	0.0				0.2	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	39.3	11.6	5.6	0.0				3.1	0.0	11.2
LnGrp Delay(d),s/veh	0.0	28.9	138.9	44.0	7.4	0.0				36.4	0.0	59.1
LnGrp LOS		C	F	D	A					D		E
Approach Vol, veh/h		2409			2080						764	
Approach Delay, s/veh		65.5			20.8						55.5	
Approach LOS		E			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	50.8		29.2		80.8						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	25.5	44.5		24.5		74.5						
Max Q Clear Time (g_c+I1), s	25.5	47.3		23.4		13.8						
Green Ext Time (p_c), s	0.0	0.0		0.3		32.6						
Intersection Summary												
HCM 2010 Ctrl Delay			46.3									
HCM 2010 LOS			D									
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↗	↑↑↑
Traffic Volume (vph)	5	21	248	0	541	2	1649	410	728	1157
Future Volume (vph)	5	21	248	0	541	2	1649	410	728	1157
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	33.0	14.5	41.0	41.0	33.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	27.5%	12.1%	34.2%	34.2%	27.5%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	21	11	248	0	541	2	1649	410	728	1157	1
Future Volume (veh/h)	5	21	11	248	0	541	2	1649	410	728	1157	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1872	1700	1800	1800	1664	1800	1800
Adj Flow Rate, veh/h	5	23	4	267	0	553	2	1773	412	783	1244	1
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	346	56	879	0	828	9	1722	529	730	2954	2
Arrive On Green	0.28	0.28	0.28	0.28	0.00	0.28	0.01	0.35	0.35	0.24	0.58	0.58
Sat Flow, veh/h	165	1224	198	2654	0	1591	1619	4914	1510	3074	5071	4
Grp Volume(v), veh/h	32	0	0	267	0	553	2	1773	412	783	804	441
Grp Sat Flow(s),veh/h/ln	1588	0	0	1327	0	1591	1619	1638	1510	1537	1638	1799
Q Serve(g_s), s	0.0	0.0	0.0	7.6	0.0	30.7	0.1	42.1	29.3	28.5	16.3	16.3
Cycle Q Clear(g_c), s	1.6	0.0	0.0	9.2	0.0	30.7	0.1	42.1	29.3	28.5	16.3	16.3
Prop In Lane	0.16		0.12	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	484	0	0	879	0	828	9	1722	529	730	1909	1048
V/C Ratio(X)	0.07	0.00	0.00	0.30	0.00	0.67	0.23	1.03	0.78	1.07	0.42	0.42
Avail Cap(c_a), veh/h	573	0	0	1035	0	922	135	1722	529	730	1909	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.46	0.46	0.46	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	0.0	34.1	0.0	21.2	59.4	39.0	34.8	45.7	13.9	13.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.1	2.3	23.0	5.3	54.4	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.5	0.0	13.7	0.1	22.6	12.9	17.6	7.5	8.5
LnGrp Delay(d),s/veh	31.4	0.0	0.0	34.1	0.0	22.3	61.7	62.0	40.1	100.2	14.5	15.1
LnGrp LOS	C			C		C	E	F	D	F	B	B
Approach Vol, veh/h		32			820			2187			2028	
Approach Delay, s/veh		31.4			26.2			57.9			47.7	
Approach LOS		C			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.0	48.1		38.9	5.1	75.9		38.9				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	28.5	35.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	30.5	44.1		3.6	2.1	18.3		32.7				
Green Ext Time (p_c), s	0.0	0.0		1.6	0.0	28.7		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			48.5									
HCM 2010 LOS			D									
Notes												

Timings
7: Merrill Av. & Grove Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	123	784	580	238
Future Volume (vph)	123	784	580	238
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	11.0	36.8	25.8	28.2
Total Split (%)	16.9%	56.6%	39.7%	43.4%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 65

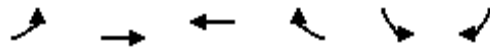
Actuated Cycle Length: 57.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

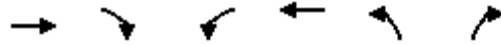
Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	123	784	580	235	238	47		
Future Volume (veh/h)	123	784	580	235	238	47		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800		
Adj Flow Rate, veh/h	134	852	630	255	259	51		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	166	1820	820	332	315	62		
Arrive On Green	0.10	0.53	0.34	0.34	0.24	0.24		
Sat Flow, veh/h	1619	3510	2468	962	1322	260		
Grp Volume(v), veh/h	134	852	453	432	311	0		
Grp Sat Flow(s),veh/h/ln	1619	1710	1710	1630	1587	0		
Q Serve(g_s), s	4.4	8.4	12.7	12.8	10.0	0.0		
Cycle Q Clear(g_c), s	4.4	8.4	12.7	12.8	10.0	0.0		
Prop In Lane	1.00			0.59	0.83	0.16		
Lane Grp Cap(c), veh/h	166	1820	590	562	378	0		
V/C Ratio(X)	0.81	0.47	0.77	0.77	0.82	0.00		
Avail Cap(c_a), veh/h	192	1937	621	592	646	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	23.7	7.9	15.8	15.8	19.5	0.0		
Incr Delay (d2), s/veh	17.2	0.2	5.5	5.8	4.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	4.0	6.8	6.5	4.8	0.0		
LnGrp Delay(d),s/veh	40.9	8.1	21.3	21.6	24.0	0.0		
LnGrp LOS	D	A	C	C	C			
Approach Vol, veh/h		986	885		311			
Approach Delay, s/veh		12.5	21.4		24.0			
Approach LOS		B	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		35.0		19.1	10.1	24.8		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		30.6		22.0	6.4	19.6		
Max Q Clear Time (g_c+I1), s		10.4		12.0	6.4	14.8		
Green Ext Time (p_c), s		12.1		0.7	0.0	3.9		
Intersection Summary								
HCM 2010 Ctrl Delay			17.8					
HCM 2010 LOS			B					
Notes								

Timings
8: Flight Av. & Merrill Av.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	981	181	122	643	166	164
Future Volume (vph)	981	181	122	643	166	164
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.8	23.8	16.2	9.6	28.2	28.2
Total Split (s)	30.6	30.6	16.2	46.8	28.2	28.2
Total Split (%)	40.8%	40.8%	21.6%	62.4%	37.6%	37.6%
Yellow Time (s)	4.8	4.8	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 62
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

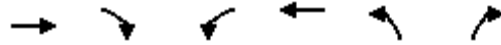
Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	981	181	122	643	166	164		
Future Volume (veh/h)	981	181	122	643	166	164		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	1055	195	131	691	178	176		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1323	590	238	2176	268	253		
Arrive On Green	0.39	0.39	0.15	0.64	0.17	0.17		
Sat Flow, veh/h	3510	1526	1619	3510	1619	1530		
Grp Volume(v), veh/h	1055	195	131	691	178	176		
Grp Sat Flow(s),veh/h/ln	1710	1526	1619	1710	1619	1530		
Q Serve(g_s), s	16.5	5.4	4.5	5.6	6.2	6.6		
Cycle Q Clear(g_c), s	16.5	5.4	4.5	5.6	6.2	6.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1323	590	238	2176	268	253		
V/C Ratio(X)	0.80	0.33	0.55	0.32	0.66	0.70		
Avail Cap(c_a), veh/h	1402	626	268	2386	589	557		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.4	13.0	23.9	5.0	23.7	23.8		
Incr Delay (d2), s/veh	3.2	0.3	0.7	0.1	2.8	3.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.3	2.3	2.1	2.6	3.0	3.0		
LnGrp Delay(d),s/veh	19.6	13.4	24.7	5.1	26.5	27.2		
LnGrp LOS	B	B	C	A	C	C		
Approach Vol, veh/h	1250			822	354			
Approach Delay, s/veh	18.6			8.2	26.9			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.1	29.2				44.3		16.2
Change Period (Y+Rc), s	6.2	5.8				* 5.8		6.2
Max Green Setting (Gmax), s	10.0	24.8				* 42		22.0
Max Q Clear Time (g_c+I1), s	6.5	18.5				7.6		8.6
Green Ext Time (p_c), s	0.0	4.8				15.8		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			16.3					
HCM 2010 LOS			B					
Notes								

Timings
9: Hellman Av. & Merrill Av.

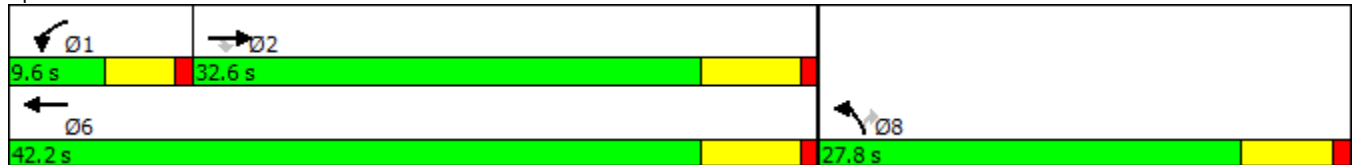


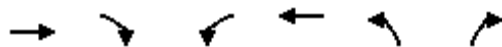
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑	↓	↓
Traffic Volume (vph)	1133	31	23	634	72	62
Future Volume (vph)	1133	31	23	634	72	62
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.2	28.2	9.6	16.2	27.8	27.8
Total Split (s)	32.6	32.6	9.6	42.2	27.8	27.8
Total Split (%)	46.6%	46.6%	13.7%	60.3%	39.7%	39.7%
Yellow Time (s)	5.2	5.2	3.6	5.2	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	5.8	5.8
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 51.3
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Hellman Av. & Merrill Av.





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑	↑	↑		
Traffic Volume (veh/h)	1133	31	23	634	72	62		
Future Volume (veh/h)	1133	31	23	634	72	62		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1700	1800	1700	1800		
Adj Flow Rate, veh/h	1232	34	25	689	78	67		
Adj No. of Lanes	2	1	1	1	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1588	710	47	1046	308	291		
Arrive On Green	0.46	0.46	0.03	0.58	0.19	0.19		
Sat Flow, veh/h	3510	1530	1619	1800	1619	1530		
Grp Volume(v), veh/h	1232	34	25	689	78	67		
Grp Sat Flow(s),veh/h/ln	1710	1530	1619	1800	1619	1530		
Q Serve(g_s), s	15.8	0.6	0.8	13.6	2.2	1.9		
Cycle Q Clear(g_c), s	15.8	0.6	0.8	13.6	2.2	1.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1588	710	47	1046	308	291		
V/C Ratio(X)	0.78	0.05	0.53	0.66	0.25	0.23		
Avail Cap(c_a), veh/h	1720	769	154	1234	678	641		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.8	7.7	25.1	7.5	18.1	18.0		
Incr Delay (d2), s/veh	2.1	0.0	3.4	1.0	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.8	0.3	0.4	7.0	1.0	0.8		
LnGrp Delay(d),s/veh	13.9	7.7	28.5	8.5	18.5	18.4		
LnGrp LOS	B	A	C	A	B	B		
Approach Vol, veh/h	1266			714	145			
Approach Delay, s/veh	13.7			9.2	18.4			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.1	30.6				36.7		15.8
Change Period (Y+Rc), s	4.6	6.2				6.2		5.8
Max Green Setting (Gmax), s	5.0	26.4				36.0		22.0
Max Q Clear Time (g_c+I1), s	2.8	17.8				15.6		4.2
Green Ext Time (p_c), s	0.0	6.5				12.6		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			12.5					
HCM 2010 LOS			B					

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

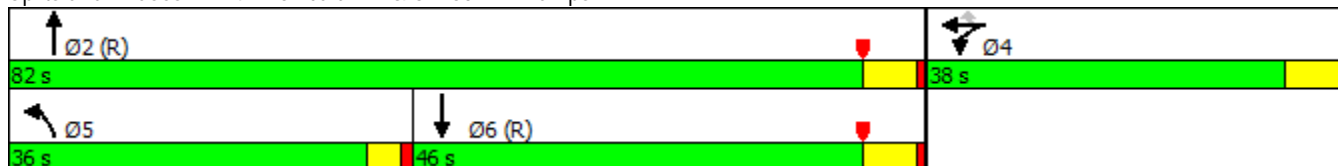


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↶	↶	↶↶	↶↶↶	↶↶↶
Traffic Volume (vph)	577	6	192	627	658	1280
Future Volume (vph)	577	6	192	627	658	1280
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	38.0	38.0	38.0	36.0	82.0	46.0
Total Split (%)	31.7%	31.7%	31.7%	30.0%	68.3%	38.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated




















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

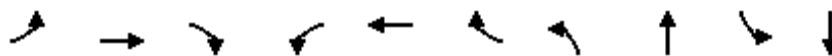
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	577	6	192	627	658	0	0	1280	391
Future Volume (veh/h)	0	0	0	577	6	192	627	658	0	0	1280	391
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1600	1800	0	0	1800	1800
Adj Flow Rate, veh/h				632	0	93	682	715	0	0	1391	285
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				745	0	352	730	3300	0	0	2033	416
Arrive On Green				0.23	0.00	0.23	0.25	0.67	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3238	0	1530	2956	5076	0	0	5445	1062
Grp Volume(v), veh/h				632	0	93	682	715	0	0	1244	432
Grp Sat Flow(s),veh/h/ln				1619	0	1530	1478	1638	0	0	1548	1611
Q Serve(g_s), s				22.4	0.0	6.0	27.1	6.7	0.0	0.0	26.7	26.8
Cycle Q Clear(g_c), s				22.4	0.0	6.0	27.1	6.7	0.0	0.0	26.7	26.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.66
Lane Grp Cap(c), veh/h				745	0	352	730	3300	0	0	1818	631
V/C Ratio(X)				0.85	0.00	0.26	0.93	0.22	0.00	0.00	0.68	0.69
Avail Cap(c_a), veh/h				863	0	408	788	3300	0	0	1818	631
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				44.2	0.0	37.9	44.2	7.6	0.0	0.0	30.3	30.4
Incr Delay (d2), s/veh				8.5	0.0	0.8	2.2	0.0	0.0	0.0	2.1	6.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.9	0.0	5.5	11.3	3.0	0.0	0.0	11.8	12.9
LnGrp Delay(d),s/veh				52.7	0.0	38.7	46.5	7.6	0.0	0.0	32.5	36.3
LnGrp LOS				D		D	D	A			C	D
Approach Vol, veh/h					725			1397			1676	
Approach Delay, s/veh					50.9			26.6			33.5	
Approach LOS					D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		86.4		33.6	33.6	52.8						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		76.2		32.0	32.0	40.2						
Max Q Clear Time (g_c+I1), s		8.7		24.4	29.1	28.8						
Green Ext Time (p_c), s		29.4		3.2	0.5	9.3						
Intersection Summary												
HCM 2010 Ctrl Delay				34.3								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

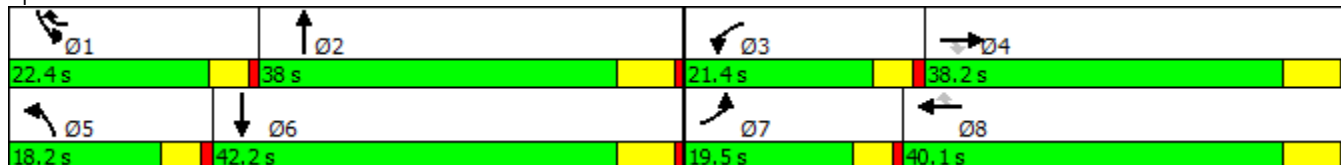


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖
Traffic Volume (vph)	177	741	314	223	506	305	340	1080	456	1169
Future Volume (vph)	177	741	314	223	506	305	340	1080	456	1169
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	19.5	38.2	38.2	21.4	40.1	22.4	18.2	38.0	22.4	42.2
Total Split (%)	16.3%	31.8%	31.8%	17.8%	33.4%	18.7%	15.2%	31.7%	18.7%	35.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	741	314	223	506	305	340	1080	168	456	1169	212
Future Volume (veh/h)	177	741	314	223	506	305	340	1080	168	456	1169	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	188	788	262	237	538	268	362	1149	162	485	1244	154
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	898	392	228	952	653	337	1159	163	441	1333	165
Arrive On Green	0.12	0.26	0.26	0.14	0.28	0.28	0.11	0.27	0.27	0.15	0.30	0.30
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	2956	4349	613	2956	4420	547
Grp Volume(v), veh/h	188	788	262	237	538	268	362	865	446	485	922	476
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1478	1638	1686	1478	1638	1691
Q Serve(g_s), s	13.7	26.3	18.7	16.8	16.1	14.6	13.6	31.4	31.4	17.8	32.6	32.6
Cycle Q Clear(g_c), s	13.7	26.3	18.7	16.8	16.1	14.6	13.6	31.4	31.4	17.8	32.6	32.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.32
Lane Grp Cap(c), veh/h	202	898	392	228	952	653	337	873	449	441	988	510
V/C Ratio(X)	0.93	0.88	0.67	1.04	0.57	0.41	1.07	0.99	0.99	1.10	0.93	0.93
Avail Cap(c_a), veh/h	202	917	400	228	972	662	337	873	449	441	988	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	42.2	39.4	51.3	36.9	23.7	52.9	43.6	43.6	50.8	40.5	40.5
Incr Delay (d2), s/veh	43.3	9.6	4.1	70.4	0.7	0.4	70.2	28.2	40.2	72.7	15.1	24.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	13.7	8.2	11.9	7.7	6.2	8.8	17.6	19.6	11.7	16.8	18.7
LnGrp Delay(d),s/veh	95.0	51.7	43.5	121.6	37.6	24.1	123.1	71.8	83.8	123.5	55.6	64.8
LnGrp LOS	F	D	D	F	D	C	F	E	F	F	E	E
Approach Vol, veh/h		1238			1043			1673			1883	
Approach Delay, s/veh		56.6			53.2			86.1			75.4	
Approach LOS		E			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.4	38.0	21.4	37.5	18.2	42.2	19.5	39.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	17.8	31.8	16.8	32.0	13.6	36.0	14.9	33.9				
Max Q Clear Time (g_c+I1), s	19.8	33.4	18.8	28.3	15.6	34.6	15.7	18.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	1.3	0.0	8.9				
Intersection Summary												
HCM 2010 Ctrl Delay			70.5									
HCM 2010 LOS			E									

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

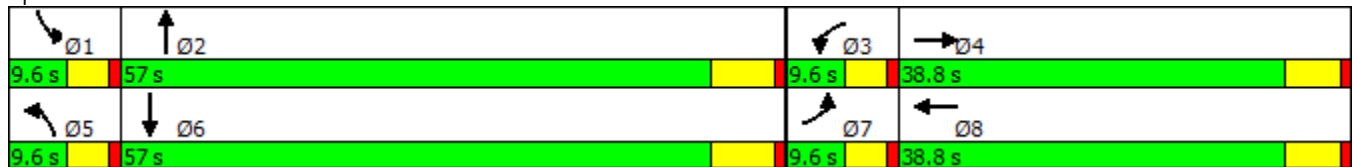


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↘	↙	↕	↙	↕
Traffic Volume (vph)	9	30	12	18	20	1528	14	1512
Future Volume (vph)	9	30	12	18	20	1528	14	1512
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	23.5	9.6	23.5
Total Split (s)	9.6	38.8	9.6	38.8	9.6	57.0	9.6	57.0
Total Split (%)	8.3%	33.7%	8.3%	33.7%	8.3%	49.6%	8.3%	49.6%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 115
 Actuated Cycle Length: 86.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	30	20	12	18	8	20	1528	12	14	1512	11
Future Volume (veh/h)	9	30	20	12	18	8	20	1528	12	14	1512	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	10	33	22	13	20	9	22	1661	13	15	1643	12
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	20	108	72	25	130	59	39	2080	16	29	2059	15
Arrive On Green	0.01	0.11	0.11	0.02	0.11	0.11	0.02	0.60	0.60	0.02	0.59	0.59
Sat Flow, veh/h	1619	1009	673	1619	1177	530	1619	3478	27	1619	3480	25
Grp Volume(v), veh/h	10	0	55	13	0	29	22	816	858	15	807	848
Grp Sat Flow(s),veh/h/ln	1619	0	1681	1619	0	1707	1619	1710	1795	1619	1710	1796
Q Serve(g_s), s	0.5	0.0	2.5	0.7	0.0	1.3	1.1	30.2	30.3	0.8	30.0	30.1
Cycle Q Clear(g_c), s	0.5	0.0	2.5	0.7	0.0	1.3	1.1	30.2	30.3	0.8	30.0	30.1
Prop In Lane	1.00		0.40	1.00		0.31	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	20	0	181	25	0	189	39	1022	1073	29	1012	1062
V/C Ratio(X)	0.50	0.00	0.30	0.51	0.00	0.15	0.57	0.80	0.80	0.53	0.80	0.80
Avail Cap(c_a), veh/h	98	0	675	98	0	685	98	1050	1102	98	1050	1103
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	0.0	33.9	40.2	0.0	33.1	39.7	12.7	12.7	40.1	13.0	13.0
Incr Delay (d2), s/veh	6.9	0.0	0.9	5.9	0.0	0.4	4.7	4.3	4.2	5.5	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.2	0.3	0.0	0.6	0.5	15.3	16.0	0.4	15.1	15.8
LnGrp Delay(d),s/veh	47.3	0.0	34.8	46.0	0.0	33.5	44.4	17.0	16.9	45.5	17.3	17.1
LnGrp LOS	D		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		65			42			1696			1670	
Approach Delay, s/veh		36.7			37.4			17.3			17.4	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	55.7	5.9	14.6	6.6	55.1	5.6	14.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.0	50.5	5.0	33.0	5.0	50.5	5.0	33.0				
Max Q Clear Time (g_c+I1), s	2.8	32.3	2.7	4.5	3.1	32.1	2.5	3.3				
Green Ext Time (p_c), s	0.0	16.4	0.0	0.4	0.0	16.6	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

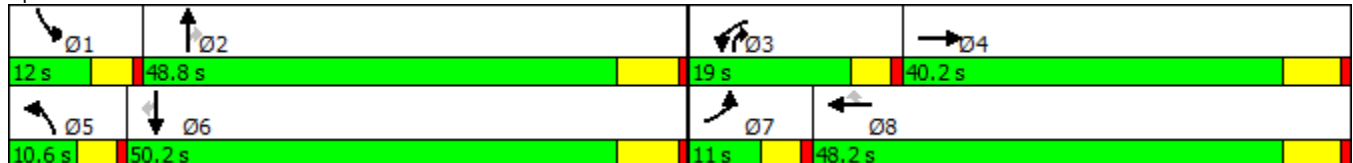


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗
Traffic Volume (vph)	118	223	128	470	317	115	88	1310	534	106	1372	49
Future Volume (vph)	118	223	128	470	317	115	88	1310	534	106	1372	49
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	11.0	40.2		19.0	48.2	48.2	10.6	48.8	19.0	12.0	50.2	50.2
Total Split (%)	9.2%	33.5%		15.8%	40.2%	40.2%	8.8%	40.7%	15.8%	10.0%	41.8%	41.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	223	128	470	317	115	88	1310	534	106	1372	49
Future Volume (veh/h)	118	223	128	470	317	115	88	1310	534	106	1372	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	225	0	475	320	96	89	1323	0	107	1386	40
Adj No. of Lanes	2	2	1	2	1	1	2	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	454	203	434	399	339	137	1443	870	122	1542	690
Arrive On Green	0.06	0.13	0.00	0.15	0.22	0.22	0.05	0.42	0.00	0.08	0.45	0.45
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	2956	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	119	225	0	475	320	96	89	1323	0	107	1386	40
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1478	1710	1530	1619	1710	1530
Q Serve(g_s), s	3.9	6.0	0.0	14.4	16.5	5.1	2.9	35.8	0.0	6.4	36.7	1.4
Cycle Q Clear(g_c), s	3.9	6.0	0.0	14.4	16.5	5.1	2.9	35.8	0.0	6.4	36.7	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	454	203	434	399	339	137	1443	870	122	1542	690
V/C Ratio(X)	0.70	0.50	0.00	1.09	0.80	0.28	0.65	0.92	0.00	0.88	0.90	0.06
Avail Cap(c_a), veh/h	193	1185	530	434	771	655	181	1474	884	122	1542	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	39.5	0.0	41.9	36.1	31.7	46.0	26.7	0.0	44.9	24.9	15.2
Incr Delay (d2), s/veh	6.9	0.8	0.0	71.3	3.8	0.5	1.9	9.3	0.0	44.7	7.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.9	0.0	10.1	8.6	2.2	1.2	18.8	0.0	4.4	18.7	0.6
LnGrp Delay(d),s/veh	52.3	40.3	0.0	113.2	39.9	32.1	47.9	36.0	0.0	89.6	32.4	15.2
LnGrp LOS	D	D		F	D	C	D	D		F	C	B
Approach Vol, veh/h		344			891			1412			1533	
Approach Delay, s/veh		44.5			78.1			36.7			35.9	
Approach LOS		D			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	47.9	19.0	19.2	9.2	50.7	10.3	28.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.4	42.3	14.4	34.0	6.0	43.7	6.4	42.0				
Max Q Clear Time (g_c+I1), s	8.4	37.8	16.4	8.0	4.9	38.7	5.9	18.5				
Green Ext Time (p_c), s	0.0	3.6	0.0	3.3	0.0	4.6	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			45.9									
HCM 2010 LOS			D									

Timings
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

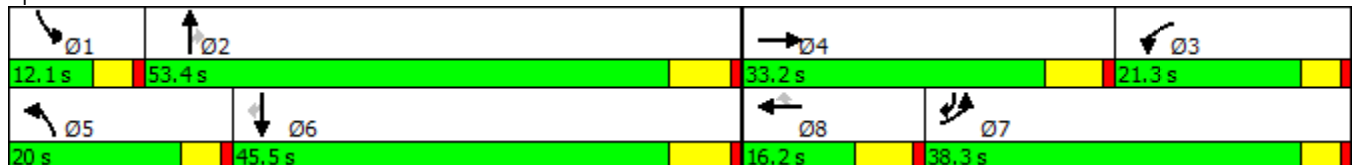


























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	755	161	735	114	106	66	333	1178	121	52	1468	367
Future Volume (vph)	755	161	735	114	106	66	333	1178	121	52	1468	367
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	38.3	33.2		21.3	16.2	16.2	20.0	53.4	53.4	12.1	45.5	38.3
Total Split (%)	31.9%	27.7%		17.8%	13.5%	13.5%	16.7%	44.5%	44.5%	10.1%	37.9%	31.9%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.5
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Archibald Av. & Merrill Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	161	735	114	106	66	333	1178	121	52	1468	367
Future Volume (veh/h)	755	161	735	114	106	66	333	1178	121	52	1468	367
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	786	168	0	119	110	27	347	1227	112	54	1529	371
Adj No. of Lanes	2	2	1	1	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	833	290	130	442	290	130	393	2067	644	104	1606	918
Arrive On Green	0.27	0.08	0.00	0.27	0.08	0.08	0.13	0.42	0.42	0.04	0.33	0.33
Sat Flow, veh/h	3048	3420	1530	1619	3420	1530	3048	4914	1530	2956	4914	1530
Grp Volume(v), veh/h	786	168	0	119	110	27	347	1227	112	54	1529	371
Grp Sat Flow(s),veh/h/ln	1524	1710	1530	1619	1710	1530	1524	1638	1530	1478	1638	1530
Q Serve(g_s), s	29.7	5.6	0.0	6.8	3.6	1.7	13.2	22.7	2.0	2.1	35.8	6.3
Cycle Q Clear(g_c), s	29.7	5.6	0.0	6.8	3.6	1.7	13.2	22.7	2.0	2.1	35.8	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	833	290	130	442	290	130	393	2067	644	104	1606	918
V/C Ratio(X)	0.94	0.58	0.00	0.27	0.38	0.21	0.88	0.59	0.17	0.52	0.95	0.40
Avail Cap(c_a), veh/h	872	784	351	442	290	130	398	2067	644	188	1627	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	51.9	0.0	33.6	51.0	37.2	50.4	26.3	2.9	55.8	38.7	3.7
Incr Delay (d2), s/veh	17.5	1.8	0.0	0.1	0.8	0.8	19.2	0.5	0.1	1.5	12.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	2.7	0.0	3.1	1.7	0.8	6.6	10.3	2.1	0.9	18.0	3.2
LnGrp Delay(d),s/veh	59.4	53.7	0.0	33.7	51.8	38.0	69.6	26.8	3.0	57.3	51.4	4.0
LnGrp LOS	E	D		C	D	D	E	C	A	E	D	A
Approach Vol, veh/h		954			256			1686			1954	
Approach Delay, s/veh		58.4			41.9			34.0			42.6	
Approach LOS		E			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	56.1	36.8	16.2	19.8	45.0	36.8	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.5	46.9	16.7	27.0	15.4	39.0	33.7	10.0				
Max Q Clear Time (g_c+I1), s	4.1	24.7	8.8	7.6	15.2	37.8	31.7	5.6				
Green Ext Time (p_c), s	0.0	19.0	1.3	0.8	0.0	0.7	0.4	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			42.7									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

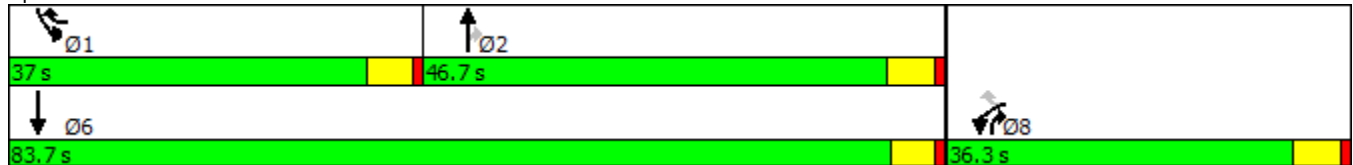














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔↔	↕↕	↔	↔↔	↕↕
Traffic Volume (vph)	556	545	1164	716	1052	1257
Future Volume (vph)	556	545	1164	716	1052	1257
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	556	545	1164	716	1052	1257		
Future Volume (veh/h)	556	545	1164	716	1052	1257		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1976	1900		
Adj Flow Rate, veh/h	625	570	1308	804	1182	1412		
Adj No. of Lanes	2	2	2	1	2	2		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	712	1391	1339	926	1046	2535		
Arrive On Green	0.20	0.20	0.37	0.37	0.29	0.70		
Sat Flow, veh/h	3510	2842	3705	1615	3651	3705		
Grp Volume(v), veh/h	625	570	1308	804	1182	1412		
Grp Sat Flow(s),veh/h/ln	1755	1421	1805	1615	1825	1805		
Q Serve(g_s), s	19.3	14.3	39.9	41.4	32.0	21.4		
Cycle Q Clear(g_c), s	19.3	14.3	39.9	41.4	32.0	21.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	712	1391	1339	926	1046	2535		
V/C Ratio(X)	0.88	0.41	0.98	0.87	1.13	0.56		
Avail Cap(c_a), veh/h	975	1604	1339	926	1046	2545		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.2	18.2	34.7	19.0	39.8	8.1		
Incr Delay (d2), s/veh	5.6	0.1	19.3	8.9	70.7	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.9	5.6	23.4	26.9	26.3	10.6		
LnGrp Delay(d),s/veh	48.7	18.3	54.0	27.9	110.5	8.3		
LnGrp LOS	D	B	D	C	F	A		
Approach Vol, veh/h	1195		2112		2594			
Approach Delay, s/veh	34.2		44.0		54.9			
Approach LOS	C		D		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.0	46.7				83.7		28.0
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	32.0	41.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	34.0	43.4				23.4		21.3
Green Ext Time (p_c), s	0.0	0.0				42.4		1.4
Intersection Summary								
HCM 2010 Ctrl Delay			46.8					
HCM 2010 LOS			D					
Notes								

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

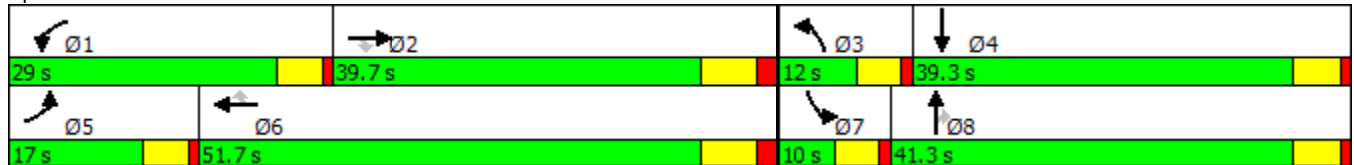


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↘	↙	↑	↘	↙	↘
Traffic Volume (vph)	142	1655	59	238	1096	155	54	58	181	97	32
Future Volume (vph)	142	1655	59	238	1096	155	54	58	181	97	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

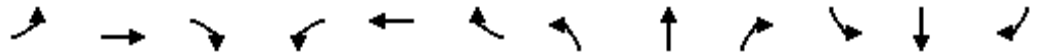
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1655	59	238	1096	155	54	58	181	97	32	70
Future Volume (veh/h)	142	1655	59	238	1096	155	54	58	181	97	32	70
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	1839	65	264	1218	172	60	64	172	108	36	71
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1987	606	301	2299	716	79	271	227	102	88	174
Arrive On Green	0.11	0.38	0.38	0.17	0.44	0.44	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1810	5187	1581	1810	5187	1615	1810	1900	1591	1810	567	1118
Grp Volume(v), veh/h	158	1839	65	264	1218	172	60	64	172	108	0	107
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1729	1615	1810	1900	1591	1810	0	1685
Q Serve(g_s), s	7.6	30.0	2.3	12.6	15.1	5.9	2.9	2.6	9.2	5.0	0.0	5.1
Cycle Q Clear(g_c), s	7.6	30.0	2.3	12.6	15.1	5.9	2.9	2.6	9.2	5.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	192	1987	606	301	2299	716	79	271	227	102	0	262
V/C Ratio(X)	0.82	0.93	0.11	0.88	0.53	0.24	0.76	0.24	0.76	1.06	0.00	0.41
Avail Cap(c_a), veh/h	245	1987	606	490	2616	814	143	772	646	102	0	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.8	26.1	17.6	36.1	18.0	15.4	41.9	33.7	36.5	41.8	0.0	33.8
Incr Delay (d2), s/veh	12.9	8.0	0.1	5.8	0.2	0.2	5.6	0.4	5.1	105.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	15.8	1.0	6.8	7.3	2.6	1.6	1.4	4.4	5.5	0.0	2.4
LnGrp Delay(d),s/veh	51.7	34.2	17.7	41.9	18.1	15.5	47.5	34.2	41.7	148.0	0.0	34.8
LnGrp LOS	D	C	B	D	B	B	D	C	D	F		C
Approach Vol, veh/h		2062			1654			296			215	
Approach Delay, s/veh		35.0			21.7			41.2			91.7	
Approach LOS		D			C			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	40.9	8.9	19.1	14.4	46.3	10.0	17.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	14.6	32.0	4.9	7.1	9.6	17.1	7.0	11.2				
Green Ext Time (p_c), s	0.2	0.6	0.0	1.4	0.0	22.1	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			33.1									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

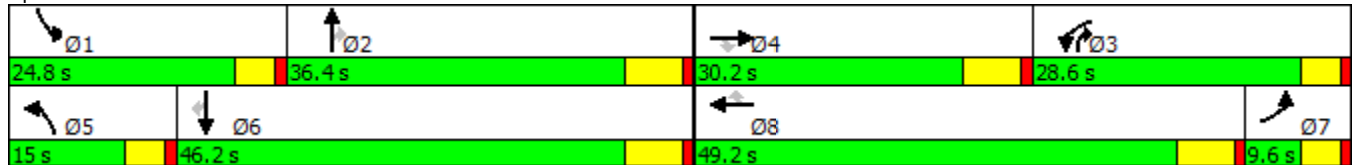


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	46	906	408	643	749	272	309	326	613	374	464	48
Future Volume (vph)	46	906	408	643	749	272	309	326	613	374	464	48
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	9.6	46.2	46.2
Total Split (s)	9.6	30.2	30.2	28.6	49.2	49.2	15.0	36.4	28.6	24.8	46.2	46.2
Total Split (%)	8.0%	25.2%	25.2%	23.8%	41.0%	41.0%	12.5%	30.3%	23.8%	20.7%	38.5%	38.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

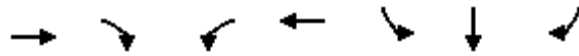
Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	906	408	643	749	272	309	326	613	374	464	48
Future Volume (veh/h)	46	906	408	643	749	272	309	326	613	374	464	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	954	293	677	788	217	325	343	636	394	488	46
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	556	1155	352	750	1004	449	368	1097	687	471	870	388
Arrive On Green	0.16	0.22	0.22	0.21	0.28	0.28	0.10	0.21	0.21	0.13	0.24	0.24
Sat Flow, veh/h	3510	5187	1580	3510	3610	1615	3510	5187	1615	3510	3610	1611
Grp Volume(v), veh/h	48	954	293	677	788	217	325	343	636	394	488	46
Grp Sat Flow(s),veh/h/ln	1755	1729	1580	1755	1805	1615	1755	1729	1615	1755	1805	1611
Q Serve(g_s), s	1.2	17.4	12.7	18.6	20.0	7.4	9.1	5.5	11.6	10.9	11.8	1.4
Cycle Q Clear(g_c), s	1.2	17.4	12.7	18.6	20.0	7.4	9.1	5.5	11.6	10.9	11.8	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	1155	352	750	1004	449	368	1097	687	471	870	388
V/C Ratio(X)	0.09	0.83	0.83	0.90	0.79	0.48	0.88	0.31	0.93	0.84	0.56	0.12
Avail Cap(c_a), veh/h	556	1255	382	849	1564	700	368	1579	837	715	1455	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	36.7	19.3	38.0	33.1	13.1	43.8	33.0	9.3	41.9	33.0	12.3
Incr Delay (d2), s/veh	0.0	4.4	13.7	11.1	1.4	0.8	20.8	0.2	14.3	3.3	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.8	7.4	10.2	10.2	4.3	5.4	2.7	10.9	5.5	6.0	1.0
LnGrp Delay(d),s/veh	35.6	41.1	33.0	49.1	34.5	13.9	64.6	33.2	23.6	45.1	33.6	12.5
LnGrp LOS	D	D	C	D	C	B	E	C	C	D	C	B
Approach Vol, veh/h		1295			1682			1304			928	
Approach Delay, s/veh		39.1			37.7			36.4			37.5	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	27.2	25.8	28.3	15.0	30.1	20.3	33.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	20.2	30.2	24.0	24.0	10.4	40.0	5.0	43.0				
Max Q Clear Time (g_c+I1), s	12.9	13.6	20.6	19.4	11.1	13.8	3.2	22.0				
Green Ext Time (p_c), s	0.5	7.1	0.6	2.7	0.0	8.6	0.4	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay			37.7									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.

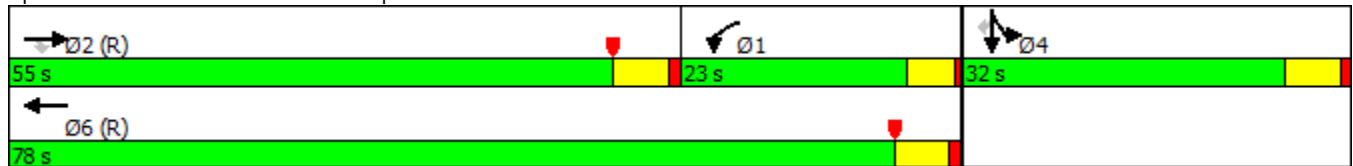


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑	↔	↑
Traffic Volume (vph)	1698	918	446	1605	208	0	784
Future Volume (vph)	1698	918	446	1605	208	0	784
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 64 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1698	918	446	1605	0	0	0	0	208	0	784
Future Volume (veh/h)	0	1698	918	446	1605	0	0	0	0	208	0	784
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1751	946	460	1655	0				143	0	798
Adj No. of Lanes	0	3	1	2	3	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2334	727	590	3466	0				436	0	778
Arrive On Green	0.00	0.45	0.45	0.34	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5358	1615	3510	5358	0				1810	0	3230
Grp Volume(v), veh/h	0	1751	946	460	1655	0				143	0	798
Grp Sat Flow(s),veh/h/ln	0	1729	1615	1755	1729	0				1810	0	1615
Q Serve(g_s), s	0.0	30.8	49.5	13.0	0.0	0.0				7.2	0.0	26.5
Cycle Q Clear(g_c), s	0.0	30.8	49.5	13.0	0.0	0.0				7.2	0.0	26.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2334	727	590	3466	0				436	0	778
V/C Ratio(X)	0.00	0.75	1.30	0.78	0.48	0.00				0.33	0.00	1.03
Avail Cap(c_a), veh/h	0	2334	727	590	3466	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.40	0.40	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.1	30.3	34.7	0.0	0.0				34.4	0.0	41.8
Incr Delay (d2), s/veh	0.0	0.9	139.9	0.6	0.0	0.0				0.2	0.0	38.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.8	50.2	6.3	0.0	0.0				3.6	0.0	16.0
LnGrp Delay(d),s/veh	0.0	26.0	170.1	35.3	0.0	0.0				34.6	0.0	80.7
LnGrp LOS		C	F	D	A					C		F
Approach Vol, veh/h		2697			2115						941	
Approach Delay, s/veh		76.6			7.7						73.7	
Approach LOS		E			A						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.0	55.0		32.0		79.0						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	* 50		26.5		72.5						
Max Q Clear Time (g_c+I1), s	15.0	51.5		28.5		2.0						
Green Ext Time (p_c), s	2.6	0.0		0.0		11.9						
Intersection Summary												
HCM 2010 Ctrl Delay			50.8									
HCM 2010 LOS			D									
Notes												

Queues
14: Archibald Av. & SR-60 WB Ramps

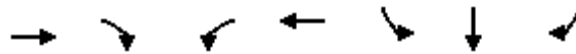


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	319	323	564	842	1598	816
v/c Ratio	0.53	0.51	0.89	0.98	0.64	0.71
Control Delay	32.5	31.6	48.1	68.4	22.6	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.5	31.6	48.1	68.4	23.4	45.0
Queue Length 50th (ft)	194	194	361	~341	324	159
Queue Length 95th (ft)	310	308	#621	#477	343	186
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	599	637	635	861	2710	1446
Starvation Cap Reductn	0	0	0	0	711	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.51	0.89	0.98	0.80	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1608	802	764	1316	162	352	345
v/c Ratio	0.74	0.82	0.95	0.37	0.45	0.94	0.90
Control Delay	29.8	17.4	39.8	5.5	42.0	67.0	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	17.4	39.8	5.5	42.0	67.0	58.3
Queue Length 50th (ft)	352	177	273	148	104	209	192
Queue Length 95th (ft)	412	389	m240	m124	173	#401	#362
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2175	979	815	3583	381	393	405
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.82	0.94	0.37	0.43	0.90	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps

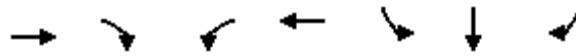


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	320	314	209	682	715	1816
v/c Ratio	0.83	0.77	0.39	0.92	0.22	0.82
Control Delay	61.2	54.8	6.8	61.9	9.0	37.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	54.8	6.8	61.9	9.0	37.6
Queue Length 50th (ft)	242	232	0	260	80	373
Queue Length 95th (ft)	#387	347	58	#358	100	425
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	409	434	561	786	3196	2219
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.72	0.37	0.87	0.22	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1751	946	460	1655	193	417	412
v/c Ratio	0.75	0.86	0.78	0.48	0.47	1.00	0.96
Control Delay	27.7	17.4	61.7	19.6	40.1	79.6	68.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	17.4	61.7	19.6	40.1	79.6	68.9
Queue Length 50th (ft)	366	187	160	341	123	~274	252
Queue Length 95th (ft)	426	#496	m162	m343	200	#503	#464
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2334	1094	588	3418	413	416	429
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.86	0.78	0.48	0.47	1.00	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.13:

**OPENING YEAR CUMULATIVE (2019) WITHOUT PROJECT CONDITIONS OFF-RAMP
QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues

Colony Commerce Center East SP (JN 10522)

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

07/26/2017



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	950	440	319	69	333	351	63
v/c Ratio	0.79	1.64	0.17	1.03	0.82	0.68	0.20
Control Delay	40.5	336.7	14.8	174.7	24.4	52.2	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	336.7	14.8	174.7	24.4	52.2	18.8
Queue Length 50th (ft)	334	~501	60	~57	12	135	15
Queue Length 95th (ft)	#478	#744	103	#155	#173	159	48
Internal Link Dist (ft)	1125		336				1515
Turn Bay Length (ft)		200				1000	
Base Capacity (vph)	1210	268	1882	67	406	835	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	1.64	0.17	1.03	0.82	0.42	0.13

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



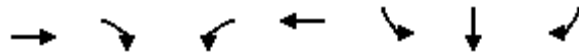
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	305	310	564	832	1594	805
v/c Ratio	0.51	0.49	0.88	0.98	0.64	0.69
Control Delay	31.8	31.0	47.6	68.7	22.7	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	31.8	31.0	47.6	68.7	23.4	44.4
Queue Length 50th (ft)	183	184	359	331	324	156
Queue Length 95th (ft)	294	293	#619	#469	343	184
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	602	639	638	851	2710	1445
Starvation Cap Reductn	0	0	0	0	706	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.49	0.88	0.98	0.80	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1604	791	764	1270	162	352	345
v/c Ratio	0.73	0.81	0.94	0.35	0.46	0.94	0.89
Control Delay	29.6	16.5	38.6	5.4	42.3	65.0	56.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	16.5	38.6	5.4	42.3	65.0	56.7
Queue Length 50th (ft)	351	166	274	145	104	203	186
Queue Length 95th (ft)	411	369	m244	m124	173	#390	#351
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2184	981	820	3599	381	399	411
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.81	0.93	0.35	0.43	0.88	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	465	113	323	33	18	842	337
v/c Ratio	0.43	0.68	0.21	0.37	0.09	0.87	0.58
Control Delay	36.3	71.5	22.5	66.3	1.0	47.8	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	71.5	22.5	66.3	1.0	47.8	31.7
Queue Length 50th (ft)	158	86	86	25	0	307	179
Queue Length 95th (ft)	228	144	125	60	0	377	267
Internal Link Dist (ft)	1125		336				1515
Turn Bay Length (ft)		200				1000	
Base Capacity (vph)	1075	222	1538	95	190	1069	634
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.51	0.21	0.35	0.09	0.79	0.53

Intersection Summary

Queues
14: Archibald Av. & SR-60 WB Ramps

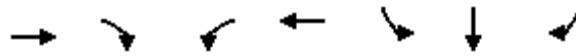


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	314	309	209	646	704	1812
v/c Ratio	0.82	0.76	0.39	0.90	0.22	0.80
Control Delay	60.4	54.5	6.9	59.9	8.9	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	54.5	6.9	59.9	8.9	36.3
Queue Length 50th (ft)	236	228	0	246	79	365
Queue Length 95th (ft)	#377	338	58	#316	98	423
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	409	434	561	786	3205	2274
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.71	0.37	0.82	0.22	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1741	908	460	1636	193	417	412
v/c Ratio	0.75	0.83	0.78	0.48	0.47	1.00	0.96
Control Delay	27.5	14.4	62.0	19.7	40.1	79.6	68.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	14.4	62.0	19.7	40.1	79.6	68.9
Queue Length 50th (ft)	363	145	160	338	123	~274	252
Queue Length 95th (ft)	423	375	m164	m342	200	#503	#464
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2334	1094	588	3418	413	416	429
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.83	0.78	0.48	0.47	1.00	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.14:

**OPENING YEAR CUMULATIVE (2019) WITH PROJECT CONDITIONS OFF-RAMP
QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues
14: Archibald Av. & SR-60 WB Ramps

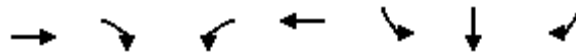


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	319	323	564	842	1598	816
v/c Ratio	0.53	0.51	0.89	0.98	0.64	0.71
Control Delay	32.5	31.6	48.1	68.4	22.6	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	32.5	31.6	48.1	68.4	23.4	45.0
Queue Length 50th (ft)	194	194	361	~341	324	159
Queue Length 95th (ft)	310	308	#621	#477	343	186
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	599	637	635	861	2710	1446
Starvation Cap Reductn	0	0	0	0	711	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.51	0.89	0.98	0.80	0.56

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1608	802	764	1316	162	352	345
v/c Ratio	0.74	0.82	0.95	0.37	0.45	0.94	0.90
Control Delay	29.8	17.4	39.8	5.5	42.0	67.0	58.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	17.4	39.8	5.5	42.0	67.0	58.3
Queue Length 50th (ft)	352	177	273	148	104	209	192
Queue Length 95th (ft)	412	389	m240	m124	173	#401	#362
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2175	979	815	3583	381	393	405
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.82	0.94	0.37	0.43	0.90	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

14: Archibald Av. & SR-60 WB Ramps

10/03/2017

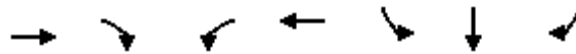


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	320	314	209	682	715	1816
v/c Ratio	0.83	0.77	0.39	0.92	0.22	0.82
Control Delay	61.2	54.8	6.8	61.9	9.0	37.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	54.8	6.8	61.9	9.0	37.6
Queue Length 50th (ft)	242	232	0	260	80	373
Queue Length 95th (ft)	#387	347	58	#358	100	425
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	409	434	561	786	3196	2219
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.72	0.37	0.87	0.22	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1751	946	460	1655	193	417	412
v/c Ratio	0.75	0.86	0.78	0.48	0.47	1.00	0.96
Control Delay	27.7	17.4	61.7	19.6	40.1	79.6	68.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	17.4	61.7	19.6	40.1	79.6	68.9
Queue Length 50th (ft)	366	187	160	341	123	~274	252
Queue Length 95th (ft)	426	#496	m162	m343	200	#503	#464
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)			200		400		
Base Capacity (vph)	2334	1094	588	3418	413	416	429
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.86	0.78	0.48	0.47	1.00	0.96

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.1:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	10	8	222	62	25	1150	130	459	2337
Future Volume (vph)	10	8	222	62	25	1150	130	459	2337
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

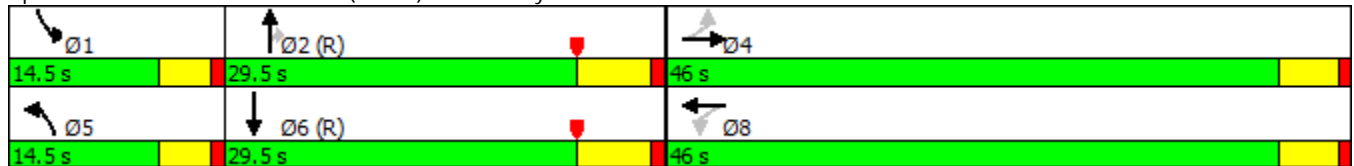
Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	5	222	62	461	25	1150	130	459	2337	56
Future Volume (veh/h)	10	8	5	222	62	461	25	1150	130	459	2337	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	10	8	4	231	65	434	26	1198	109	478	2434	55
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	247	192	85	271	70	423	91	943	422	190	1152	26
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.05	0.26	0.26	0.11	0.32	0.32
Sat Flow, veh/h	415	420	186	480	153	928	1714	3610	1615	1714	3609	81
Grp Volume(v), veh/h	22	0	0	730	0	0	26	1198	109	478	1213	1276
Grp Sat Flow(s),veh/h/ln	1021	0	0	1561	0	0	1714	1805	1615	1714	1805	1886
Q Serve(g_s), s	0.0	0.0	0.0	39.9	0.0	0.0	1.3	23.5	4.8	10.0	28.7	28.7
Cycle Q Clear(g_c), s	0.6	0.0	0.0	41.0	0.0	0.0	1.3	23.5	4.8	10.0	28.7	28.7
Prop In Lane	0.45		0.18	0.32		0.59	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	523	0	0	764	0	0	91	943	422	190	576	602
V/C Ratio(X)	0.04	0.00	0.00	0.96	0.00	0.00	0.29	1.27	0.26	2.51	2.11	2.12
Avail Cap(c_a), veh/h	523	0	0	764	0	0	190	943	422	190	576	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.65	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	25.0	0.0	0.0	41.0	33.2	26.3	40.0	30.6	30.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	22.1	0.0	0.0	0.4	127.5	1.0	694.6	503.2	510.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	22.7	0.0	0.0	0.6	28.3	2.3	41.5	94.8	100.1
LnGrp Delay(d),s/veh	13.5	0.0	0.0	47.1	0.0	0.0	41.4	160.7	27.3	734.6	533.9	540.8
LnGrp LOS	B			D			D	F	C	F	F	F
Approach Vol, veh/h		22			730			1333			2967	
Approach Delay, s/veh		13.5			47.1			147.5			569.2	
Approach LOS		B			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	29.5		46.0	9.3	34.7		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	25.5		2.6	3.3	30.7		43.0				
Green Ext Time (p_c), s	0.0	0.0		3.4	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			380.0									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖↗	↖	↖↗	↖	↖↗	↖	↖	↖↗
Traffic Volume (vph)	131	391	268	364	124	720	203	548	1470
Future Volume (vph)	131	391	268	364	124	720	203	548	1470
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

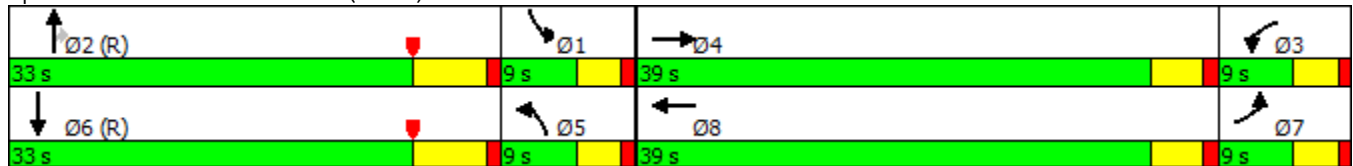
Actuated Cycle Length: 90

Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

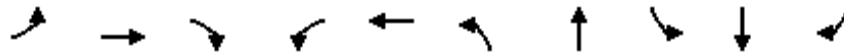
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	391	150	268	364	280	124	720	203	548	1470	212
Future Volume (veh/h)	131	391	150	268	364	280	124	720	203	548	1470	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	134	399	151	273	371	264	127	735	199	559	1500	178
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	522	195	128	450	316	372	916	410	452	975	114
Arrive On Green	0.06	0.20	0.20	0.07	0.22	0.22	0.07	0.08	0.08	0.26	0.30	0.30
Sat Flow, veh/h	1714	2573	962	1714	2030	1424	1714	3610	1615	1714	3251	381
Grp Volume(v), veh/h	134	278	272	273	329	306	127	735	199	559	825	853
Grp Sat Flow(s),veh/h/ln	1714	1805	1730	1714	1805	1649	1714	1805	1615	1714	1805	1827
Q Serve(g_s), s	5.0	13.1	13.4	6.7	15.6	15.9	6.3	18.0	10.6	23.7	27.0	27.0
Cycle Q Clear(g_c), s	5.0	13.1	13.4	6.7	15.6	15.9	6.3	18.0	10.6	23.7	27.0	27.0
Prop In Lane	1.00		0.56	1.00		0.86	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	95	366	351	128	400	365	372	916	410	452	542	548
V/C Ratio(X)	1.41	0.76	0.77	2.14	0.82	0.84	0.34	0.80	0.49	1.24	1.52	1.56
Avail Cap(c_a), veh/h	95	692	663	128	692	632	372	1083	484	452	542	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	33.8	33.9	41.6	33.3	33.5	35.6	39.0	35.6	33.1	31.5	31.5
Incr Delay (d2), s/veh	234.2	3.3	3.7	537.7	1.6	2.0	0.2	5.9	3.2	108.6	236.8	250.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	6.8	6.7	22.2	8.0	7.4	3.0	9.8	5.1	24.8	49.0	51.7
LnGrp Delay(d),s/veh	276.7	37.1	37.6	579.3	35.0	35.4	35.8	44.9	38.9	141.8	268.3	282.4
LnGrp LOS	F	D	D	F	C	D	D	D	D	F	F	F
Approach Vol, veh/h		684			908			1061			2237	
Approach Delay, s/veh		84.2			198.8			42.7			242.0	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.7	28.8	10.7	22.7	23.6	33.0	9.0	24.4				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	25.7	20.0	8.7	15.4	8.3	29.0	7.0	17.9				
Green Ext Time (p_c), s	0.0	2.8	0.0	2.9	0.0	0.0	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			168.7									
HCM 2010 LOS			F									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

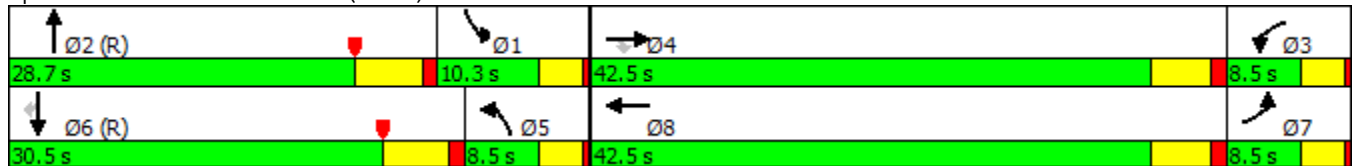


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↖	↑↑	↗
Traffic Volume (vph)	29	11	21	70	28	48	953	111	1617	115
Future Volume (vph)	29	11	21	70	28	48	953	111	1617	115
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.7	10.3	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.9%	11.4%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



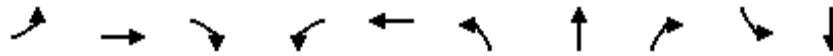
HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	11	21	70	28	63	48	953	182	111	1617	115
Future Volume (veh/h)	29	11	21	70	28	63	48	953	182	111	1617	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	31	12	20	74	30	54	51	1014	193	118	1720	113
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	112	94	94	47	84	710	781	148	745	1003	449
Arrive On Green	0.04	0.06	0.06	0.05	0.08	0.08	0.14	0.09	0.09	0.58	0.37	0.37
Sat Flow, veh/h	1714	1900	1607	1714	609	1097	1714	3028	575	1714	3610	1615
Grp Volume(v), veh/h	31	12	20	74	0	84	51	604	603	118	1720	113
Grp Sat Flow(s),veh/h/ln	1714	1900	1607	1714	0	1706	1714	1805	1798	1714	1805	1615
Q Serve(g_s), s	1.6	0.5	1.1	3.8	0.0	4.3	2.3	23.2	23.2	2.9	25.0	4.4
Cycle Q Clear(g_c), s	1.6	0.5	1.1	3.8	0.0	4.3	2.3	23.2	23.2	2.9	25.0	4.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	63	112	94	94	0	131	710	465	464	745	1003	449
V/C Ratio(X)	0.49	0.11	0.21	0.79	0.00	0.64	0.07	1.30	1.30	0.16	1.72	0.25
Avail Cap(c_a), veh/h	95	792	669	95	0	711	710	465	464	745	1003	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.52	0.52	0.52	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	40.1	40.4	42.0	0.0	40.4	23.8	41.2	41.2	11.4	28.4	21.9
Incr Delay (d2), s/veh	2.2	0.2	0.4	31.8	0.0	2.0	0.0	142.1	143.8	0.0	322.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.3	0.5	2.6	0.0	2.1	1.1	29.9	30.1	1.3	57.2	2.0
LnGrp Delay(d),s/veh	44.7	40.3	40.8	73.8	0.0	42.3	23.8	183.2	185.0	11.4	350.6	22.0
LnGrp LOS	D	D	D	E		D	C	F	F	B	F	C
Approach Vol, veh/h		63			158			1258			1951	
Approach Delay, s/veh		42.6			57.1			177.6			311.1	
Approach LOS		D			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.6	28.7	8.4	10.3	40.8	30.5	6.8	11.9				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	6.8	23.2	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	4.9	25.2	5.8	3.1	4.3	27.0	3.6	6.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			245.5									
HCM 2010 LOS			F									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

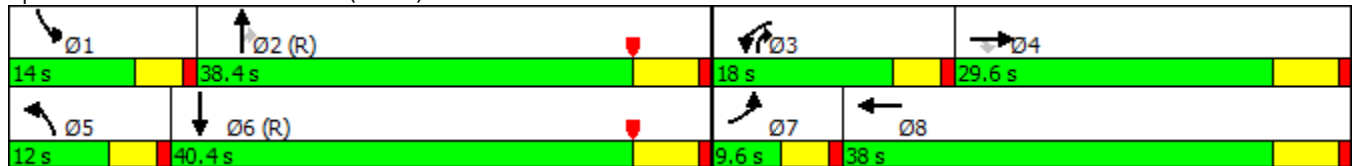


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑	↗	↖↗	↖	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	80	329	199	703	418	186	840	510	255	1360
Future Volume (vph)	80	329	199	703	418	186	840	510	255	1360
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	29.6	29.6	18.0	38.0	12.0	38.4	18.0	14.0	40.4
Total Split (%)	9.6%	29.6%	29.6%	18.0%	38.0%	12.0%	38.4%	18.0%	14.0%	40.4%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



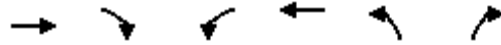
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	329	199	703	418	227	186	840	510	255	1360	94
Future Volume (veh/h)	80	329	199	703	418	227	186	840	510	255	1360	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	81	332	0	710	422	214	188	848	337	258	1374	90
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	86	450	383	421	380	193	127	1173	730	161	1185	77
Arrive On Green	0.05	0.24	0.00	0.13	0.32	0.32	0.07	0.33	0.33	0.09	0.35	0.35
Sat Flow, veh/h	1714	1900	1615	3141	1184	601	1714	3610	1579	1714	3435	224
Grp Volume(v), veh/h	81	332	0	710	0	636	188	848	337	258	720	744
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1570	0	1785	1714	1805	1579	1714	1805	1855
Q Serve(g_s), s	4.7	16.2	0.0	13.4	0.0	32.1	7.4	20.7	14.7	9.4	34.5	34.5
Cycle Q Clear(g_c), s	4.7	16.2	0.0	13.4	0.0	32.1	7.4	20.7	14.7	9.4	34.5	34.5
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	86	450	383	421	0	573	127	1173	730	161	623	640
V/C Ratio(X)	0.94	0.74	0.00	1.69	0.00	1.11	1.48	0.72	0.46	1.60	1.16	1.16
Avail Cap(c_a), veh/h	86	450	383	421	0	573	127	1173	730	161	623	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	0.00	1.00	0.21	0.21	0.21	0.60	0.60	0.60
Uniform Delay (d), s/veh	47.4	35.3	0.0	43.3	0.0	34.0	46.3	29.8	18.6	45.3	32.8	32.8
Incr Delay (d2), s/veh	78.1	6.8	0.0	319.3	0.0	71.5	225.7	0.8	0.4	287.3	81.3	83.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	9.3	0.0	24.5	0.0	27.1	11.4	10.4	6.5	17.3	31.2	32.5
LnGrp Delay(d),s/veh	125.4	42.0	0.0	362.6	0.0	105.4	272.0	30.6	19.0	332.6	114.0	116.6
LnGrp LOS	F	D		F		F	F	C	B	F	F	F
Approach Vol, veh/h		413			1346			1373			1722	
Approach Delay, s/veh		58.4			241.1			60.8			147.9	
Approach LOS		E			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	38.4	18.0	29.6	12.0	40.4	9.6	38.0				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	9.4	32.5	13.4	23.7	7.4	34.5	5.0	32.1				
Max Q Clear Time (g_c+1), s	11.4	22.7	15.4	18.2	9.4	36.5	6.7	34.1				
Green Ext Time (p_c), s	0.0	6.6	0.0	3.4	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			141.5									
HCM 2010 LOS			F									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

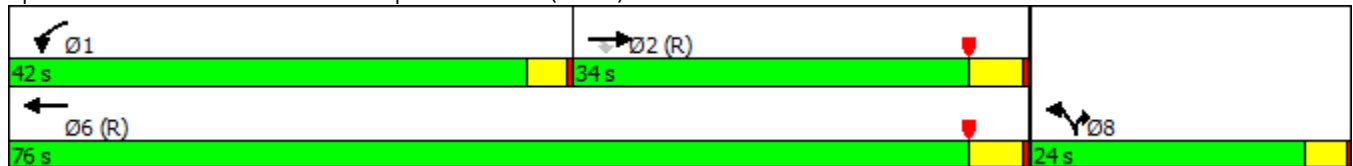


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	543	328	383	2172	234	1018
Future Volume (vph)	543	328	383	2172	234	1018
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	34.0	34.0	42.0	76.0	24.0	24.0
Total Split (%)	34.0%	34.0%	42.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 20 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated







Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	543	328	383	2172	234	1018		
Future Volume (veh/h)	543	328	383	2172	234	1018		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1700	1900		
Adj Flow Rate, veh/h	566	0	399	2262	244	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1920	859	432	2955	318	164		
Arrive On Green	0.53	0.00	0.25	0.82	0.10	0.00		
Sat Flow, veh/h	3705	1615	1714	3705	3141	1615		
Grp Volume(v), veh/h	566	0	399	2262	244	0		
Grp Sat Flow(s),veh/h/ln	1805	1615	1714	1805	1570	1615		
Q Serve(g_s), s	8.7	0.0	22.7	30.4	7.6	0.0		
Cycle Q Clear(g_c), s	8.7	0.0	22.7	30.4	7.6	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1920	859	432	2955	318	164		
V/C Ratio(X)	0.29	0.00	0.92	0.77	0.77	0.00		
Avail Cap(c_a), veh/h	1920	859	660	2955	644	331		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00		
Uniform Delay (d), s/veh	13.0	0.0	36.5	4.4	43.8	0.0		
Incr Delay (d2), s/veh	0.4	0.0	1.2	0.2	3.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.4	0.0	10.9	14.8	3.5	0.0		
LnGrp Delay(d),s/veh	13.4	0.0	37.7	4.6	47.6	0.0		
LnGrp LOS	B		D	A	D			
Approach Vol, veh/h	566			2661	244			
Approach Delay, s/veh	13.4			9.5	47.6			
Approach LOS	B			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.7	57.7				86.4		13.6
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	38.5	29.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	24.7	10.7				32.4		9.6
Green Ext Time (p_c), s	0.5	15.7				28.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			12.9					
HCM 2010 LOS			B					
Notes								

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

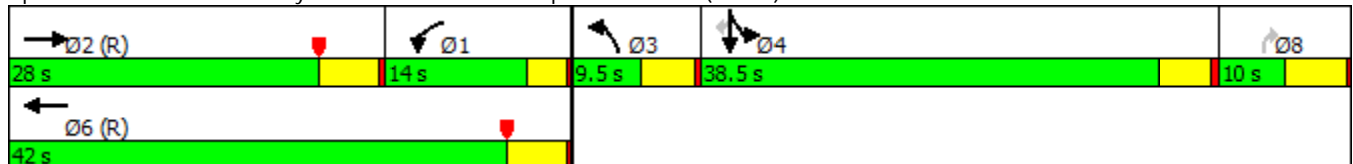


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	1049	454	678	71	241	276	24	64
Future Volume (vph)	1049	454	678	71	241	276	24	64
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	28.0	14.0	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	28.0%	14.0%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 96 (96%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1049	19	454	678	0	71	0	241	276	24	64
Future Volume (veh/h)	0	1049	19	454	678	0	71	0	241	276	24	64
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1800	1900	0	1800	0	1900	1800	1900	1900
Adj Flow Rate, veh/h	0	1153	21	499	745	0	78	0	265	322	0	70
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	834	15	865	2832	0	0	0	0	413	0	192
Arrive On Green	0.00	0.23	0.23	1.00	1.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	0	3720	66	1714	3705	0		0		3429	0	1590
Grp Volume(v), veh/h	0	574	600	499	745	0		0.0		322	0	70
Grp Sat Flow(s),veh/h/ln	0	1805	1887	1714	1805	0				1714	0	1590
Q Serve(g_s), s	0.0	23.0	23.0	0.0	0.0	0.0				9.1	0.0	4.1
Cycle Q Clear(g_c), s	0.0	23.0	23.0	0.0	0.0	0.0				9.1	0.0	4.1
Prop In Lane	0.00		0.03	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	415	434	865	2832	0				413	0	192
V/C Ratio(X)	0.00	1.38	1.38	0.58	0.26	0.00				0.78	0.00	0.37
Avail Cap(c_a), veh/h	0	415	434	865	2832	0				1166	0	540
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.5	0.0	0.0	0.0				42.7	0.0	40.5
Incr Delay (d2), s/veh	0.0	186.6	186.2	0.6	0.2	0.0				2.4	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	32.9	34.4	0.2	0.1	0.0				4.5	0.0	1.8
LnGrp Delay(d),s/veh	0.0	225.1	224.7	0.6	0.2	0.0				45.1	0.0	41.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		1174			1244						392	
Approach Delay, s/veh		224.9			0.4						44.4	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.4	28.0		16.6		83.4						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.5	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	2.0	25.0		11.1		2.0						
Green Ext Time (p_c), s	2.7	0.0		0.9		3.9						
Intersection Summary												
HCM 2010 Ctrl Delay			100.3									
HCM 2010 LOS			F									
Notes												

Intersection	
Intersection Delay, s/veh	274.8
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	68	537	0	602	342	0	225	124
Future Vol, veh/h	0	68	537	0	602	342	0	225	124
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	79	624	0	700	398	0	262	144
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	162.9	435	35.2
HCM LOS	F	F	E

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	64%
Vol Thru, %	89%	64%	0%
Vol Right, %	0%	36%	36%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	605	944	349
LT Vol	68	0	225
Through Vol	537	602	0
RT Vol	0	342	124
Lane Flow Rate	703	1098	406
Geometry Grp	1	1	1
Degree of Util (X)	1.274	1.915	0.779
Departure Headway (Hd)	7.691	6.697	8.372
Convergence, Y/N	Yes	Yes	Yes
Cap	478	549	434
Service Time	5.691	4.697	6.372
HCM Lane V/C Ratio	1.471	2	0.935
HCM Control Delay	162.9	435	35.2
HCM Lane LOS	F	F	E
HCM 95th-tile Q	25	67.2	6.7

Intersection

Int Delay, s/veh 482.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	5	521	235	163	548	9	363	10	195	37	22	31
Future Vol, veh/h	5	521	235	163	548	9	363	10	195	37	22	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	75	100	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	91	91	92	91	92	91	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	573	258	179	602	10	399	11	214	40	24	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	612	0	0	573	0	0	1577	1553	573	1661	1548	607
Stage 1	-	-	-	-	-	-	583	583	-	965	965	-
Stage 2	-	-	-	-	-	-	994	970	-	696	583	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	977	-	-	1010	-	-	~ 90	114	523	78	115	500
Stage 1	-	-	-	-	-	-	502	502	-	309	336	-
Stage 2	-	-	-	-	-	-	~ 298	334	-	435	502	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	977	-	-	1010	-	-	~ 58	93	523	~ 36	94	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 58	93	-	~ 36	94	-
Stage 1	-	-	-	-	-	-	499	499	-	307	276	-
Stage 2	-	-	-	-	-	-	~ 209	275	-	250	499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.1	\$ 1786.8	167.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	58	428	977	-	-	1010	-	-	36	179
HCM Lane V/C Ratio	6.878	0.526	0.006	-	-	0.177	-	-	1.117	0.322
HCM Control Delay (s)	\$ 2782.7	22.4	8.7	-	-	9.3	-	-	\$ 357.1	34.4
HCM Lane LOS	F	C	A	-	-	A	-	-	F	D
HCM 95th %tile Q(veh)	45.9	3	0	-	-	0.6	-	-	4.2	1.3

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	3957.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	
Traffic Vol, veh/h	127	436	191	307	162	176	487	78	167	33	44	72
Future Vol, veh/h	127	436	191	307	162	176	487	78	167	33	44	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	200	200	-	-	200	-	0	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	138	474	208	334	176	191	529	85	182	36	48	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	367	0	0	474	0	0	1752	1785	237	1494	1689	272
Stage 1	-	-	-	-	-	-	750	750	-	939	939	-
Stage 2	-	-	-	-	-	-	1002	1035	-	555	750	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1203	-	-	1099	-	-	~ 61	~ 82	771	94	94	772
Stage 1	-	-	-	-	-	-	~ 374	422	-	320	345	-
Stage 2	-	-	-	-	-	-	~ 295	312	-	489	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1203	-	-	1099	-	-	~ 13	~ 51	771	-	58	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 13	~ 51	-	-	58	-
Stage 1	-	-	-	-	-	-	~ 331	374	-	283	240	-
Stage 2	-	-	-	-	-	-	~ 148	217	-	256	374	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	4.6	\$ 12320.5	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	13	51	771	1203	-	-	1099	-	-	-	136
HCM Lane V/C Ratio	40.719	1.662	0.235	0.115	-	-	0.304	-	-	-	0.927
HCM Control Delay (s)	\$ 18435	\$ 498.5	11.1	8.4	-	-	9.7	-	-	-	121.4
HCM Lane LOS	F	F	B	A	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	67.5	8.1	0.9	0.4	-	-	1.3	-	-	-	6.3

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	386.8
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↵	↕↗			↵	↕↗			↵	↗	
Traffic Vol, veh/h	0	256	473	133	0	328	766	50	0	169	521	288
Future Vol, veh/h	0	256	473	133	0	328	766	50	0	169	521	288
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	275	509	143	0	353	824	54	0	182	560	310
Number of Lanes	0	1	2	0	0	1	2	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	3
HCM Control Delay	139.6	307.5	816.7
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	64%	0%	100%	54%	0%	100%	84%	0%	100%	0%
Vol Right, %	0%	36%	0%	0%	46%	0%	0%	16%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	809	256	315	291	328	511	305	21	135	186
LT Vol	169	0	256	0	0	328	0	0	21	0	0
Through Vol	0	521	0	315	158	0	511	255	0	135	0
RT Vol	0	288	0	0	133	0	0	50	0	0	186
Lane Flow Rate	182	870	275	339	313	353	549	328	23	145	200
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.688	3.111	1.012	1.199	1.078	1.292	1.935	1.147	0.086	0.534	0.697
Departure Headway (Hd)	11.757	11.008	17.723	17.191	16.851	16.478	15.948	15.826	18.743	18.216	17.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	309	339	206	214	219	222	236	233	192	200	208
Service Time	9.457	8.708	15.423	14.891	14.551	14.178	13.648	13.526	16.443	15.916	15.178
HCM Lane V/C Ratio	0.589	2.566	1.335	1.584	1.429	1.59	2.326	1.408	0.12	0.725	0.962
HCM Control Delay	36.8	979.6	113	170.9	129.2	202.8	470.2	147.8	23.2	40	52.6
HCM Lane LOS	E	F	F	F	F	F	F	F	C	E	F
HCM 95th-tile Q	4.7	90.5	8.9	12.7	10.4	15	31.6	12.2	0.3	2.8	4.4

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↙	↑	↘
Traffic Vol, veh/h	0	21	135	186
Future Vol, veh/h	0	21	135	186
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	23	145	200
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	45.8
HCM LOS	E

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗↗	↘	↖↖	↗↗	↘	↖↖	↗↗	↘
Traffic Volume (vph)	302	381	359	85	765	164	511	436	61	95	185	360
Future Volume (vph)	302	381	359	85	765	164	511	436	61	95	185	360
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

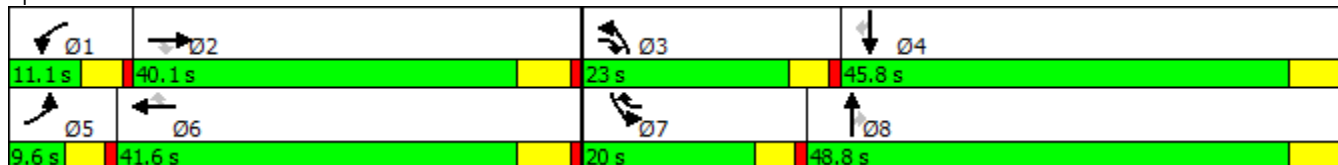
Cycle Length: 120

Actuated Cycle Length: 98.3

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	302	381	359	85	765	164	511	436	61	95	185	360
Future Volume (veh/h)	302	381	359	85	765	164	511	436	61	95	185	360
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	328	414	378	92	832	145	555	474	56	103	201	390
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	1087	758	140	1079	562	542	1480	654	155	1036	464
Arrive On Green	0.05	0.30	0.30	0.04	0.30	0.30	0.17	0.41	0.41	0.05	0.29	0.29
Sat Flow, veh/h	3141	3610	1592	3141	3610	1615	3141	3610	1595	3141	3610	1615
Grp Volume(v), veh/h	328	414	378	92	832	145	555	474	56	103	201	390
Grp Sat Flow(s),veh/h/ln	1570	1805	1592	1570	1805	1615	1570	1805	1595	1570	1805	1615
Q Serve(g_s), s	5.0	9.7	17.5	3.1	22.4	6.9	18.4	9.5	2.3	3.4	4.5	24.2
Cycle Q Clear(g_c), s	5.0	9.7	17.5	3.1	22.4	6.9	18.4	9.5	2.3	3.4	4.5	24.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	1087	758	140	1079	562	542	1480	654	155	1036	464
V/C Ratio(X)	2.23	0.38	0.50	0.66	0.77	0.26	1.02	0.32	0.09	0.66	0.19	0.84
Avail Cap(c_a), veh/h	147	1160	790	191	1211	622	542	1480	654	453	1353	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	29.4	19.4	50.2	34.1	24.9	44.2	21.4	19.2	49.9	28.7	35.8
Incr Delay (d2), s/veh	574.4	0.2	0.5	1.9	2.8	0.2	45.1	0.1	0.1	1.8	0.1	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.9	4.9	7.8	1.4	11.6	3.1	11.3	4.8	1.0	1.5	2.2	11.8
LnGrp Delay(d),s/veh	625.2	29.7	19.9	52.1	36.9	25.1	89.3	21.5	19.3	51.7	28.8	43.9
LnGrp LOS	F	C	B	D	D	C	F	C	B	D	C	D
Approach Vol, veh/h		1120			1069			1085			694	
Approach Delay, s/veh		200.8			36.6			56.1			40.7	
Approach LOS		F			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	37.9	23.0	36.4	9.6	37.7	9.9	49.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	5.1	19.5	20.4	26.2	7.0	24.4	5.4	11.5				
Green Ext Time (p_c), s	0.0	9.0	0.0	4.4	0.0	7.5	0.1	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay			89.0									
HCM 2010 LOS			F									

Timings
14: Archibald Av. & SR-60 WB Ramps

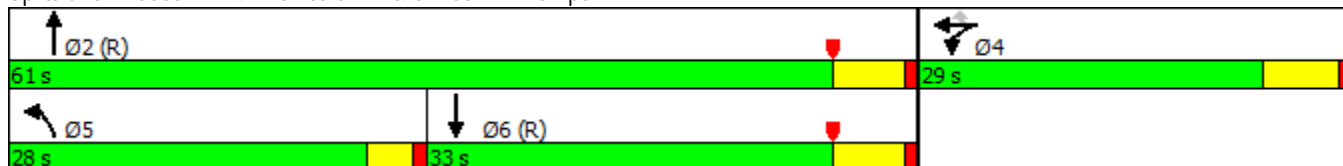


Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	2	630	638	1710	729
Future Volume (vph)	2	630	638	1710	729
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	427	2	630	638	1710	0	0	729	283
Future Volume (veh/h)	0	0	0	427	2	630	638	1710	0	0	729	283
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1800	1900	1900	1800	1900	0	0	1900	1900
Adj Flow Rate, veh/h				474	2	524	709	1900	0	0	810	234
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				461	2	413	457	3181	0	0	1544	434
Arrive On Green				0.26	0.26	0.26	0.09	0.20	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1802	8	1615	1714	5358	0	0	5375	1434
Grp Volume(v), veh/h				476	0	524	709	1900	0	0	776	268
Grp Sat Flow(s),veh/h/ln				1810	0	1615	1714	1729	0	0	1634	1641
Q Serve(g_s), s				23.0	0.0	23.0	24.0	29.9	0.0	0.0	11.8	12.2
Cycle Q Clear(g_c), s				23.0	0.0	23.0	24.0	29.9	0.0	0.0	11.8	12.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.87
Lane Grp Cap(c), veh/h				463	0	413	457	3181	0	0	1481	496
V/C Ratio(X)				1.03	0.00	1.27	1.55	0.60	0.00	0.00	0.52	0.54
Avail Cap(c_a), veh/h				463	0	413	457	3181	0	0	1481	496
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	33.5	41.0	25.8	0.0	0.0	26.0	26.2
Incr Delay (d2), s/veh				49.5	0.0	139.2	248.9	0.1	0.0	0.0	1.3	4.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				17.8	0.0	33.8	43.0	14.3	0.0	0.0	5.5	6.1
LnGrp Delay(d),s/veh				83.0	0.0	172.7	290.0	25.9	0.0	0.0	27.4	30.4
LnGrp LOS				F		F	F	C			C	C
Approach Vol, veh/h					1000			2609			1044	
Approach Delay, s/veh					130.0			97.6			28.1	
Approach LOS					F			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	28.0	33.0						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	27.2						
Max Q Clear Time (g_c+I1), s		31.9		25.0	26.0	14.2						
Green Ext Time (p_c), s		19.5		0.0	0.0	11.6						
Intersection Summary												
HCM 2010 Ctrl Delay				89.0								
HCM 2010 LOS				F								

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	2	369	1827	271	885
Future Volume (vph)	2	369	1827	271	885
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 110

Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



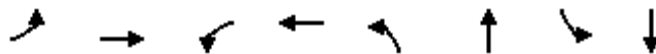
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	2	369	0	0	0	0	1827	537	271	885	0
Future Volume (veh/h)	521	2	369	0	0	0	0	1827	537	271	885	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h	560	2	187				0	1965	459	291	952	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	600	2	530				0	1748	406	286	2792	0
Arrive On Green	0.33	0.33	0.33				0.00	0.33	0.33	0.33	1.00	0.00
Sat Flow, veh/h	1803	6	1592				0	5609	1240	1714	5358	0
Grp Volume(v), veh/h	562	0	187				0	1802	622	291	952	0
Grp Sat Flow(s),veh/h/ln	1810	0	1592				0	1634	1681	1714	1729	0
Q Serve(g_s), s	27.0	0.0	8.0				0.0	29.4	29.4	15.0	0.0	0.0
Cycle Q Clear(g_c), s	27.0	0.0	8.0				0.0	29.4	29.4	15.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.74	1.00		0.00
Lane Grp Cap(c), veh/h	602	0	530				0	1604	550	286	2792	0
V/C Ratio(X)	0.93	0.00	0.35				0.00	1.12	1.13	1.02	0.34	0.00
Avail Cap(c_a), veh/h	627	0	552				0	1604	550	286	2792	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.69	0.69	0.00
Uniform Delay (d), s/veh	29.1	0.0	22.7				0.0	30.3	30.3	30.0	0.0	0.0
Incr Delay (d2), s/veh	20.7	0.0	0.4				0.0	56.4	61.5	48.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	0.0	3.5				0.0	21.6	23.0	10.9	0.1	0.0
LnGrp Delay(d),s/veh	49.7	0.0	23.1				0.0	86.7	91.8	79.0	0.2	0.0
LnGrp LOS	D		C					F	F	F	A	
Approach Vol, veh/h		749						2424			1243	
Approach Delay, s/veh		43.1						88.0			18.7	
Approach LOS		D						F			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	35.2				54.2		35.8				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	31.4				2.0		29.0				
Green Ext Time (p_c), s	0.0	0.0				37.0		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			60.9									
HCM 2010 LOS			E									

Timings
16: Archibald Av. & Walnut Av.

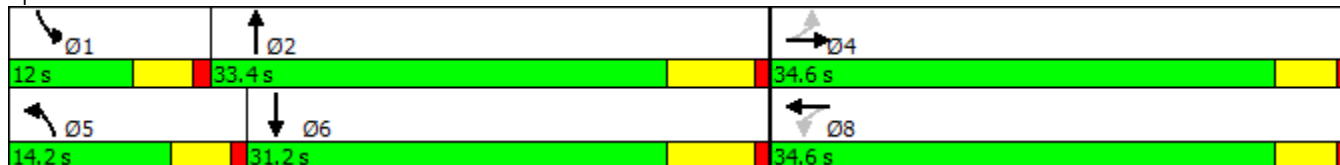


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↙	←	↖	↑↑↑	↙	↓↓↓
Traffic Volume (vph)	53	11	169	32	74	2003	134	878
Future Volume (vph)	53	11	169	32	74	2003	134	878
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



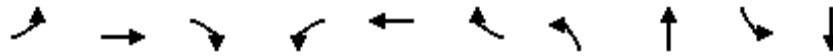
HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	11	28	169	32	261	74	2003	76	134	878	22
Future Volume (veh/h)	53	11	28	169	32	261	74	2003	76	134	878	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	60	12	22	190	36	156	83	2251	84	151	987	24
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	141	259	400	73	317	105	2143	80	187	2423	59
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.42	0.42	0.11	0.47	0.47
Sat Flow, veh/h	1146	596	1093	1306	308	1336	1714	5134	191	1714	5207	127
Grp Volume(v), veh/h	60	0	34	190	0	192	83	1513	822	151	655	356
Grp Sat Flow(s),veh/h/ln	1146	0	1689	1306	0	1644	1714	1729	1866	1714	1729	1876
Q Serve(g_s), s	3.1	0.0	1.0	8.6	0.0	6.6	3.1	27.2	27.2	5.6	8.1	8.2
Cycle Q Clear(g_c), s	9.7	0.0	1.0	9.7	0.0	6.6	3.1	27.2	27.2	5.6	8.1	8.2
Prop In Lane	1.00		0.65	1.00		0.81	1.00		0.10	1.00		0.07
Lane Grp Cap(c), veh/h	267	0	401	400	0	390	105	1443	779	187	1609	873
V/C Ratio(X)	0.23	0.00	0.08	0.48	0.00	0.49	0.79	1.05	1.06	0.81	0.41	0.41
Avail Cap(c_a), veh/h	523	0	778	691	0	757	253	1443	779	195	1609	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	19.4	23.1	0.0	21.5	30.2	19.0	19.0	28.4	11.5	11.5
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.9	0.0	1.0	4.9	37.5	47.8	19.3	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.5	3.2	0.0	3.1	1.6	20.3	24.2	3.6	3.9	4.2
LnGrp Delay(d),s/veh	26.1	0.0	19.4	24.0	0.0	22.4	35.1	56.4	66.7	47.7	11.7	11.8
LnGrp LOS	C		B	C		C	D	F	F	D	B	B
Approach Vol, veh/h		94			382			2418			1162	
Approach Delay, s/veh		23.7			23.2			59.2			16.4	
Approach LOS		C			C			E			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	33.4		20.1	8.6	36.5		20.1				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	7.6	29.2		11.7	5.1	10.2		11.7				
Green Ext Time (p_c), s	0.0	0.0		2.2	0.0	13.7		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			42.7									
HCM 2010 LOS			D									

Timings
17: Archibald Av. & Riverside Dr.

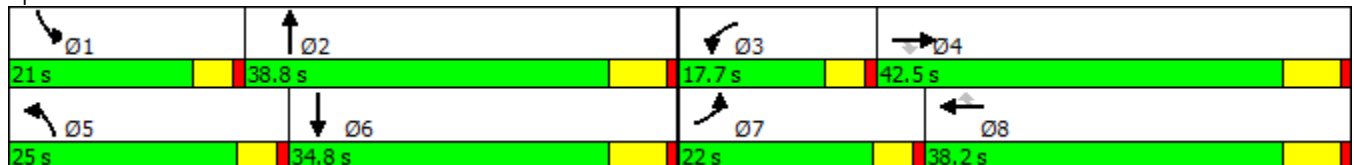


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	211	411	198	240	284	270	185	1421	242	655
Future Volume (vph)	211	411	198	240	284	270	185	1421	242	655
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	411	198	240	284	270	185	1421	244	242	655	120
Future Volume (veh/h)	211	411	198	240	284	270	185	1421	244	242	655	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	234	457	187	267	316	207	206	1579	261	269	728	60
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	843	372	206	726	317	235	1339	220	257	1522	125
Arrive On Green	0.15	0.23	0.23	0.12	0.20	0.20	0.14	0.30	0.30	0.15	0.31	0.31
Sat Flow, veh/h	1714	3610	1592	1714	3610	1577	1714	4485	739	1714	4886	400
Grp Volume(v), veh/h	234	457	187	267	316	207	206	1216	624	269	514	274
Grp Sat Flow(s),veh/h/ln	1714	1805	1592	1714	1805	1577	1714	1729	1766	1714	1729	1828
Q Serve(g_s), s	14.6	12.1	11.1	13.1	8.4	13.2	12.9	32.6	32.6	16.4	13.1	13.3
Cycle Q Clear(g_c), s	14.6	12.1	11.1	13.1	8.4	13.2	12.9	32.6	32.6	16.4	13.1	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.22
Lane Grp Cap(c), veh/h	261	843	372	206	726	317	235	1032	527	257	1077	570
V/C Ratio(X)	0.90	0.54	0.50	1.30	0.44	0.65	0.88	1.18	1.18	1.04	0.48	0.48
Avail Cap(c_a), veh/h	273	1200	529	206	1058	462	320	1032	527	257	1077	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	36.7	36.3	48.1	38.2	40.1	46.2	38.3	38.3	46.4	30.4	30.4
Incr Delay (d2), s/veh	27.5	0.5	1.1	165.3	0.4	2.3	14.8	90.4	100.7	68.4	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	6.1	5.0	15.6	4.2	6.0	7.1	28.4	30.6	12.6	6.3	6.8
LnGrp Delay(d),s/veh	72.9	37.3	37.4	213.3	38.6	42.4	61.0	128.7	139.0	114.8	30.7	31.1
LnGrp LOS	E	D	D	F	D	D	E	F	F	F	C	C
Approach Vol, veh/h		878			790			2046			1057	
Approach Delay, s/veh		46.8			98.6			125.0			52.2	
Approach LOS		D			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	38.8	17.7	31.7	19.6	40.2	21.2	28.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	18.4	34.6	15.1	14.1	14.9	15.3	16.6	15.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.1	11.1	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			90.1									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

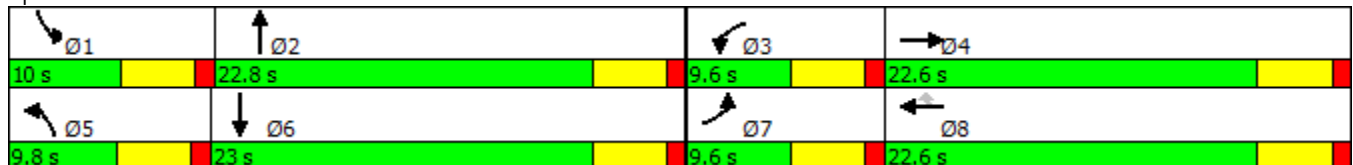


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	204	212	97	140	110	112	835	96	690
Future Volume (vph)	204	212	97	140	110	112	835	96	690
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 63
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	212	184	97	140	110	112	835	91	96	690	117
Future Volume (veh/h)	204	212	184	97	140	110	112	835	91	96	690	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	224	233	193	107	154	-3	123	918	96	105	758	124
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	134	260	216	134	514	437	139	1366	142	133	876	143
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.00	0.08	0.29	0.29	0.08	0.28	0.28
Sat Flow, veh/h	1714	962	797	1714	1900	1615	1714	4773	498	1714	3106	508
Grp Volume(v), veh/h	224	0	426	107	154	-3	123	664	350	105	440	442
Grp Sat Flow(s),veh/h/ln	1714	0	1759	1714	1900	1615	1714	1729	1812	1714	1805	1809
Q Serve(g_s), s	5.0	0.0	14.9	3.9	4.1	0.0	4.5	10.9	10.9	3.8	14.8	14.8
Cycle Q Clear(g_c), s	5.0	0.0	14.9	3.9	4.1	0.0	4.5	10.9	10.9	3.8	14.8	14.8
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.27	1.00		0.28
Lane Grp Cap(c), veh/h	134	0	476	134	514	437	139	990	519	133	509	511
V/C Ratio(X)	1.67	0.00	0.90	0.80	0.30	-0.01	0.88	0.67	0.67	0.79	0.86	0.87
Avail Cap(c_a), veh/h	134	0	495	134	535	455	139	990	519	145	520	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	22.4	29.0	18.5	0.0	29.1	20.2	20.2	29.0	21.8	21.8
Incr Delay (d2), s/veh	332.1	0.0	18.2	27.7	0.3	0.0	43.3	1.8	3.4	23.5	14.0	14.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	0.0	9.6	2.9	2.2	0.0	3.8	5.4	5.9	2.7	9.3	9.3
LnGrp Delay(d),s/veh	361.6	0.0	40.7	56.7	18.8	0.0	72.4	21.9	23.6	52.5	35.8	35.8
LnGrp LOS	F		D	E	B		E	C	C	D	D	D
Approach Vol, veh/h		650			258			1137			987	
Approach Delay, s/veh		151.3			34.8			27.9			37.6	
Approach LOS		F			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	22.9	9.6	21.9	9.8	22.6	9.6	21.9				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.8	12.9	5.9	16.9	6.5	16.8	7.0	6.1				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.4	0.0	1.2	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			58.1									
HCM 2010 LOS			E									

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	174	107	137	114	103	97	287	925	32	31	936	199
Future Vol, veh/h	174	107	137	114	103	97	287	925	32	31	936	199
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	189	116	149	124	112	105	312	1005	35	34	1017	216

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2376	2857	617	2281	2948	520	1234	0	0	1040	0	0
Stage 1	1193	1193	-	1647	1647	-	-	-	-	-	-	-
Stage 2	1183	1664	-	634	1301	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 19	~ 17	438	~ 22	~ 15	506	572	-	-	676	-	-
Stage 1	202	263	-	~ 105	158	-	-	-	-	-	-	-
Stage 2	204	155	-	439	233	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 7	438	-	~ 6	506	572	-	-	676	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 6	-	-	-	-	-	-	-
Stage 1	~ 92	250	-	~ 48	~ 72	-	-	-	-	-	-	-
Stage 2	-	~ 70	-	147	221	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.3	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	572	-	-	-	16	-	12	676	-	-
HCM Lane V/C Ratio	0.545	-	-	-	16.576	-	18.116	0.05	-	-
HCM Control Delay (s)	18.6	-	-	-	\$ 7471	-	\$ 8312.6	10.6	-	-
HCM Lane LOS	C	-	-	-	F	-	F	B	-	-
HCM 95th %tile Q(veh)	3.3	-	-	-	34.1	-	28.5	0.2	-	-

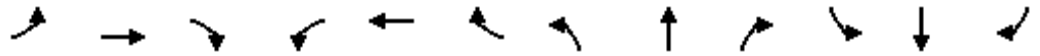
Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

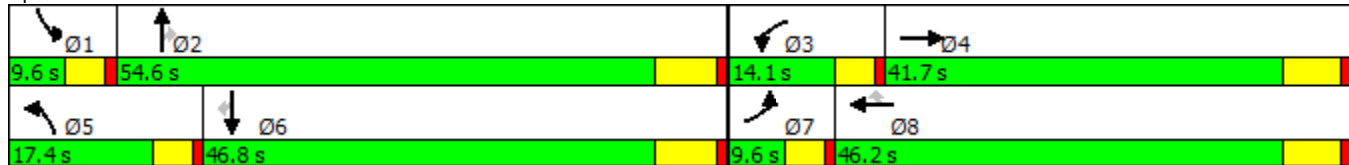


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	239	720	401	300	676	199	371	625	127	108	688	283
Future Volume (vph)	239	720	401	300	676	199	371	625	127	108	688	283
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

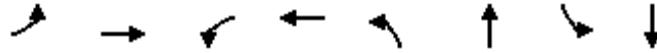
Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	720	401	300	676	199	371	625	127	108	688	283
Future Volume (veh/h)	239	720	401	300	676	199	371	625	127	108	688	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	254	766	0	319	719	164	395	665	0	115	732	282
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	142	1155	517	269	685	582	198	1270	568	77	1016	455
Arrive On Green	0.05	0.32	0.00	0.09	0.36	0.36	0.12	0.35	0.00	0.05	0.28	0.28
Sat Flow, veh/h	3141	3610	1615	3141	1900	1615	1714	3610	1615	1714	3610	1615
Grp Volume(v), veh/h	254	766	0	319	719	164	395	665	0	115	732	282
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1900	1615	1714	1805	1615	1714	1805	1615
Q Serve(g_s), s	5.0	20.3	0.0	9.5	40.0	8.0	12.8	16.2	0.0	5.0	20.3	16.9
Cycle Q Clear(g_c), s	5.0	20.3	0.0	9.5	40.0	8.0	12.8	16.2	0.0	5.0	20.3	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1155	517	269	685	582	198	1270	568	77	1016	455
V/C Ratio(X)	1.79	0.66	0.00	1.19	1.05	0.28	2.00	0.52	0.00	1.49	0.72	0.62
Avail Cap(c_a), veh/h	142	1155	517	269	685	582	198	1565	700	77	1312	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	32.5	0.0	50.7	35.5	25.2	49.1	28.6	0.0	53.0	35.9	34.7
Incr Delay (d2), s/veh	384.0	1.4	0.0	114.7	48.0	0.3	466.0	0.3	0.0	276.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	10.3	0.0	8.4	30.1	3.6	31.7	8.2	0.0	8.3	10.3	7.7
LnGrp Delay(d),s/veh	437.0	34.0	0.0	165.4	83.5	25.5	515.1	28.9	0.0	329.1	37.3	36.1
LnGrp LOS	F	C		F	F	C	F	C		F	D	D
Approach Vol, veh/h		1020			1202			1060			1129	
Approach Delay, s/veh		134.3			97.3			210.1			66.7	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	45.5	14.1	41.7	17.4	37.7	9.6	46.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	7.0	18.2	11.5	22.3	14.8	22.3	7.0	42.0				
Green Ext Time (p_c), s	0.0	11.2	0.0	7.7	0.0	8.9	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			125.1									
HCM 2010 LOS			F									

Timings
21: Archibald Av. & Eucalyptus Av.

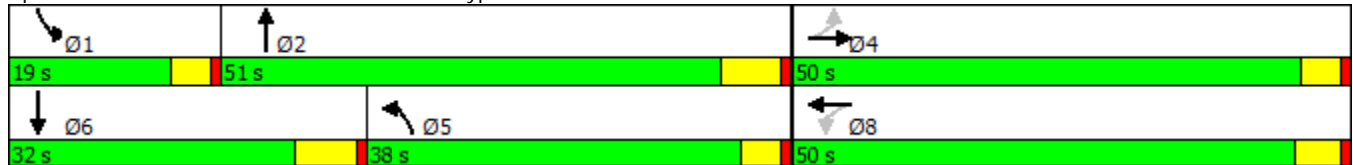


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	112	54	128	33	306	1056	88	1102
Future Volume (vph)	112	54	128	33	306	1056	88	1102
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	50.0	50.0	50.0	50.0	38.0	51.0	19.0	32.0
Total Split (%)	41.7%	41.7%	41.7%	41.7%	31.7%	42.5%	15.8%	26.7%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated




















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

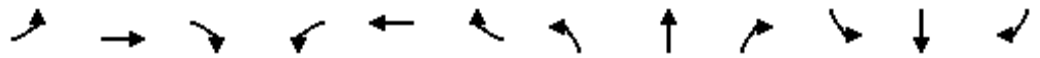
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	54	301	128	33	139	306	1056	53	88	1102	354
Future Volume (veh/h)	112	54	301	128	33	139	306	1056	53	88	1102	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	115	56	310	132	34	113	315	1089	54	91	1136	365
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	157	78	350	194	59	138	399	1488	74	114	651	206
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.23	0.43	0.43	0.07	0.24	0.24
Sat Flow, veh/h	324	221	988	406	167	390	1714	3501	174	1714	2700	854
Grp Volume(v), veh/h	481	0	0	279	0	0	315	561	582	91	753	748
Grp Sat Flow(s),veh/h/ln	1532	0	0	963	0	0	1714	1805	1869	1714	1805	1749
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	18.3	27.4	27.5	5.5	25.5	25.5
Cycle Q Clear(g_c), s	31.3	0.0	0.0	30.7	0.0	0.0	18.3	27.4	27.5	5.5	25.5	25.5
Prop In Lane	0.24		0.64	0.47		0.41	1.00		0.09	1.00		0.49
Lane Grp Cap(c), veh/h	585	0	0	391	0	0	399	767	795	114	435	422
V/C Ratio(X)	0.82	0.00	0.00	0.71	0.00	0.00	0.79	0.73	0.73	0.80	1.73	1.77
Avail Cap(c_a), veh/h	700	0	0	481	0	0	541	767	795	233	435	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	0.0	31.0	0.0	0.0	38.1	25.4	25.4	48.6	40.1	40.1
Incr Delay (d2), s/veh	6.7	0.0	0.0	3.8	0.0	0.0	5.5	3.6	3.5	4.7	338.5	357.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.3	0.0	0.0	8.0	0.0	0.0	9.3	14.3	14.8	2.8	53.5	54.0
LnGrp Delay(d),s/veh	38.7	0.0	0.0	34.8	0.0	0.0	43.7	29.0	28.9	53.3	378.6	397.2
LnGrp LOS	D			C			D	C	C	D	F	F
Approach Vol, veh/h		481			279			1458			1592	
Approach Delay, s/veh		38.7			34.8			32.1			368.8	
Approach LOS		D			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	51.5		42.6	31.1	32.0		42.6				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	6.5	* 6.5		5.2				
Max Green Setting (Gmax), s	14.4	44.5		* 45	33.4	* 26		44.8				
Max Q Clear Time (g_c+I1), s	7.5	29.5		33.3	20.3	27.5		32.7				
Green Ext Time (p_c), s	0.0	6.6		4.2	4.3	0.0		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				173.8								
HCM 2010 LOS				F								
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

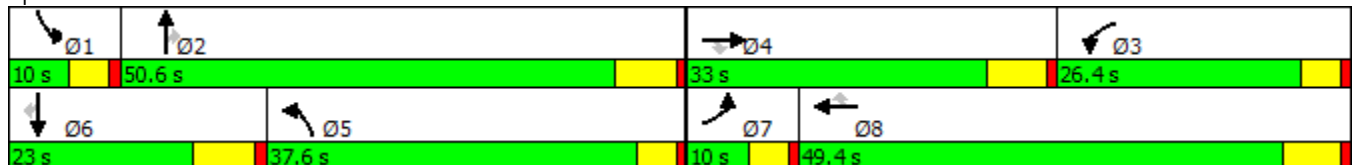


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	296	67	237	207	125	86	346	1155	386	85	1153	479
Future Volume (vph)	296	67	237	207	125	86	346	1155	386	85	1153	479
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	10.0	33.0	33.0	26.4	49.4	49.4	37.6	50.6	50.6	10.0	23.0	23.0
Total Split (%)	8.3%	27.5%	27.5%	22.0%	41.2%	41.2%	31.3%	42.2%	42.2%	8.3%	19.2%	19.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	67	237	207	125	86	346	1155	386	85	1153	479
Future Volume (veh/h)	296	67	237	207	125	86	346	1155	386	85	1153	479
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	305	69	192	213	129	26	357	1191	382	88	1189	437
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	272	231	252	478	406	487	1533	686	145	605	271
Arrive On Green	0.05	0.14	0.14	0.15	0.25	0.25	0.28	0.42	0.42	0.05	0.17	0.17
Sat Flow, veh/h	1714	1900	1615	1714	1900	1615	1714	3610	1615	3141	3610	1615
Grp Volume(v), veh/h	305	69	192	213	129	26	357	1191	382	88	1189	437
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	1900	1615	1714	1805	1615	1570	1805	1615
Q Serve(g_s), s	5.4	3.2	11.4	11.9	5.4	1.2	18.5	27.9	9.1	2.7	16.5	13.2
Cycle Q Clear(g_c), s	5.4	3.2	11.4	11.9	5.4	1.2	18.5	27.9	9.1	2.7	16.5	13.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	272	231	252	478	406	487	1533	686	145	605	271
V/C Ratio(X)	3.24	0.25	0.83	0.85	0.27	0.06	0.73	0.78	0.56	0.61	1.96	1.61
Avail Cap(c_a), veh/h	94	518	440	380	834	709	575	1618	724	172	605	271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	37.5	41.0	40.9	29.6	28.0	31.9	24.3	5.8	46.0	40.9	26.1
Incr Delay (d2), s/veh	1035.6	0.5	7.5	6.8	0.3	0.1	3.0	2.3	0.9	1.9	439.7	292.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.6	1.7	5.6	6.1	2.8	0.5	9.1	14.4	6.0	1.2	45.1	27.8
LnGrp Delay(d),s/veh	1082.0	37.9	48.4	47.7	29.9	28.1	34.9	26.6	6.6	47.9	480.6	318.6
LnGrp LOS	F	D	D	D	C	C	C	C	A	D	F	F
Approach Vol, veh/h		566			368			1930			1714	
Approach Delay, s/veh		604.1			40.1			24.2			417.1	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	48.3	20.7	20.3	34.4	23.0	10.0	31.0				
Change Period (Y+Rc), s	4.6	6.5	6.2	* 6.2	6.5	* 6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.4	44.1	21.8	* 27	33.0	* 17	5.4	43.2				
Max Q Clear Time (g_c+I1), s	4.7	29.9	13.9	13.4	20.5	18.5	7.4	7.4				
Green Ext Time (p_c), s	0.0	8.1	0.6	0.7	7.4	0.0	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			244.3									
HCM 2010 LOS			F									
Notes												

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

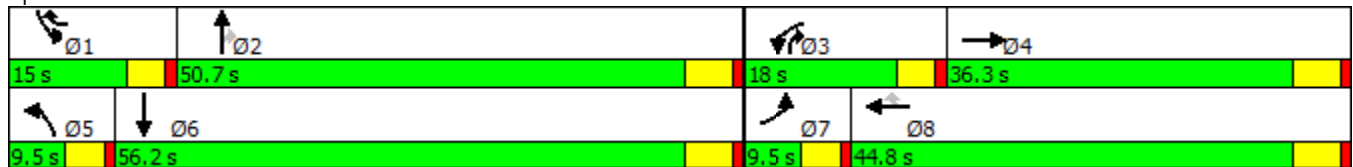


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	204	620	229	711	458	120	1310	204	228	1077
Future Volume (vph)	204	620	229	711	458	120	1310	204	228	1077
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3
Total Split (s)	9.5	36.3	18.0	44.8	15.0	9.5	50.7	18.0	15.0	56.2
Total Split (%)	7.9%	30.3%	15.0%	37.3%	12.5%	7.9%	42.3%	15.0%	12.5%	46.8%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	620	92	229	711	458	120	1310	204	228	1077	215
Future Volume (veh/h)	204	620	92	229	711	458	120	1310	204	228	1077	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	674	100	239	773	412	130	1365	212	238	1122	234
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	418	62	204	625	673	75	719	785	158	647	135
Arrive On Green	0.04	0.26	0.26	0.11	0.33	0.33	0.04	0.38	0.38	0.09	0.42	0.42
Sat Flow, veh/h	1810	1618	240	1810	1900	1615	1810	1900	1595	1810	1526	318
Grp Volume(v), veh/h	222	0	774	239	773	412	130	1365	212	238	0	1356
Grp Sat Flow(s),veh/h/ln	1810	0	1858	1810	1900	1615	1810	1900	1595	1810	0	1844
Q Serve(g_s), s	5.0	0.0	31.0	13.5	39.5	24.0	5.0	45.4	9.4	10.5	0.0	50.9
Cycle Q Clear(g_c), s	5.0	0.0	31.0	13.5	39.5	24.0	5.0	45.4	9.4	10.5	0.0	50.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	75	0	480	204	625	673	75	719	785	158	0	782
V/C Ratio(X)	2.94	0.00	1.61	1.17	1.24	0.61	1.72	1.90	0.27	1.50	0.00	1.73
Avail Cap(c_a), veh/h	75	0	480	204	625	673	75	719	785	158	0	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.5	0.0	44.5	53.2	40.3	27.4	57.5	37.3	17.9	54.8	0.0	34.6
Incr Delay (d2), s/veh	909.8	0.0	285.3	117.9	119.6	1.6	375.3	409.7	0.2	256.4	0.0	335.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.5	0.0	53.9	13.4	41.4	10.9	10.4	105.6	4.2	16.5	0.0	98.8
LnGrp Delay(d),s/veh	967.3	0.0	329.8	171.2	159.8	29.0	432.8	447.0	18.2	311.2	0.0	370.1
LnGrp LOS	F		F	F	F	C	F	F	B	F		F
Approach Vol, veh/h		996			1424			1707			1594	
Approach Delay, s/veh		471.9			123.9			392.7			361.3	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	50.7	18.0	36.3	9.5	56.2	9.5	44.8				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	10.5	45.4	13.5	31.0	5.0	50.9	5.0	39.5				
Max Q Clear Time (g_c+I1), s	12.5	47.4	15.5	33.0	7.0	52.9	7.0	41.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			330.8									
HCM 2010 LOS			F									

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

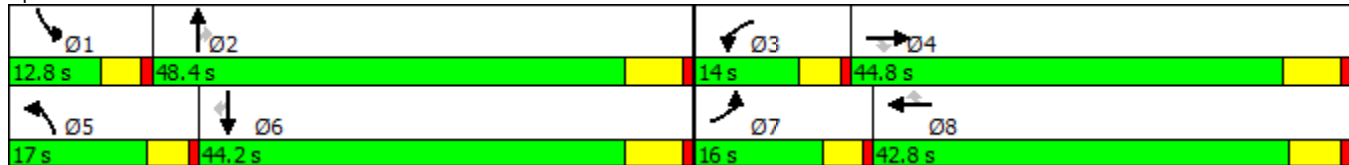


























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	668	1164	241	519	1108	289	299	736	778	652	1142	145
Future Volume (vph)	668	1164	241	519	1108	289	299	736	778	652	1142	145
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Archibald Av. & Schleisman Rd.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	668	1164	241	519	1108	289	299	736	778	652	1142	145
Future Volume (veh/h)	668	1164	241	519	1108	289	299	736	778	652	1142	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	751	1308	220	583	1245	294	336	827	817	733	1283	-7
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	334	1660	507	276	1573	481	364	1829	560	240	1647	513
Arrive On Green	0.10	0.32	0.32	0.08	0.30	0.30	0.10	0.35	0.35	0.07	0.32	0.00
Sat Flow, veh/h	3510	5187	1583	3510	5187	1587	3510	5187	1589	3510	5187	1615
Grp Volume(v), veh/h	751	1308	220	583	1245	294	336	827	817	733	1283	-7
Grp Sat Flow(s),veh/h/ln	1755	1729	1583	1755	1729	1587	1755	1729	1589	1755	1729	1615
Q Serve(g_s), s	11.4	27.4	13.1	9.4	26.3	19.0	11.4	14.7	42.2	8.2	26.9	0.0
Cycle Q Clear(g_c), s	11.4	27.4	13.1	9.4	26.3	19.0	11.4	14.7	42.2	8.2	26.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	1660	507	276	1573	481	364	1829	560	240	1647	513
V/C Ratio(X)	2.25	0.79	0.43	2.11	0.79	0.61	0.92	0.45	1.46	3.05	0.78	-0.01
Avail Cap(c_a), veh/h	334	1673	511	276	1603	490	364	1829	560	240	1647	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	37.0	32.1	55.2	38.2	35.7	53.2	29.8	38.8	55.8	37.0	0.0
Incr Delay (d2), s/veh	570.4	2.6	0.6	513.8	2.7	2.2	28.3	0.2	216.0	932.6	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.0	13.5	5.8	24.2	13.0	8.6	6.9	7.1	52.1	35.1	13.2	0.0
LnGrp Delay(d),s/veh	624.5	39.6	32.7	568.9	41.0	37.8	81.5	30.0	254.7	988.4	39.5	0.0
LnGrp LOS	F	D	C	F	D	D	F	C	F	F	D	
Approach Vol, veh/h		2279			2122			1980			2009	
Approach Delay, s/veh		231.7			185.6			131.5			385.9	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	48.4	14.0	44.5	17.0	44.2	16.0	42.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	10.2	44.2	11.4	29.4	13.4	28.9	13.4	28.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	8.1	0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay			233.3									
HCM 2010 LOS			F									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

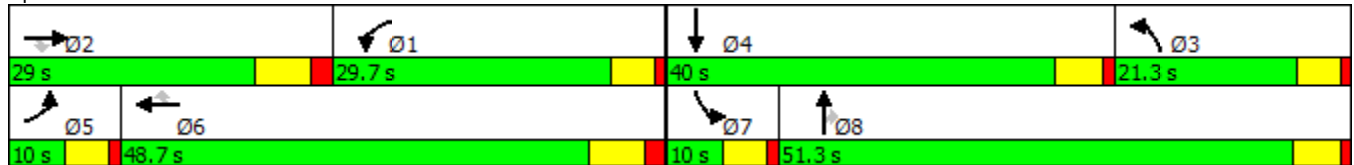


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗
Traffic Volume (vph)	71	1275	56	38	1345	82	117	57	144	164	30
Future Volume (vph)	71	1275	56	38	1345	82	117	57	144	164	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	29.0	29.0	29.7	48.7	48.7	21.3	51.3	51.3	10.0	40.0
Total Split (%)	8.3%	24.2%	24.2%	24.8%	40.6%	40.6%	17.8%	42.8%	42.8%	8.3%	33.3%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1275	56	38	1345	82	117	57	144	164	30	136
Future Volume (veh/h)	71	1275	56	38	1345	82	117	57	144	164	30	136
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1386	59	41	1462	89	127	62	123	178	33	127
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1327	413	421	1649	722	168	325	275	105	45	173
Arrive On Green	0.05	0.26	0.26	0.23	0.46	0.46	0.09	0.17	0.17	0.06	0.13	0.13
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1612	1810	339	1304
Grp Volume(v), veh/h	77	1386	59	41	1462	89	127	62	123	178	0	160
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1612	1810	0	1643
Q Serve(g_s), s	3.6	22.0	2.4	1.5	31.8	2.8	5.9	2.4	3.2	5.0	0.0	8.0
Cycle Q Clear(g_c), s	3.6	22.0	2.4	1.5	31.8	2.8	5.9	2.4	3.2	5.0	0.0	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	99	1327	413	421	1649	722	168	325	275	105	0	218
V/C Ratio(X)	0.78	1.04	0.14	0.10	0.89	0.12	0.76	0.19	0.45	1.69	0.00	0.73
Avail Cap(c_a), veh/h	105	1327	413	520	1750	767	343	1016	862	105	0	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	32.0	24.7	25.9	21.3	13.4	38.1	30.6	9.6	40.5	0.0	35.8
Incr Delay (d2), s/veh	25.3	37.2	0.2	0.0	5.7	0.1	2.6	0.3	1.1	348.8	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	15.0	1.1	0.8	16.9	1.2	3.1	1.3	1.5	12.7	0.0	3.9
LnGrp Delay(d),s/veh	65.4	69.2	24.9	25.9	27.0	13.5	40.7	30.8	10.7	389.3	0.0	40.5
LnGrp LOS	E	F	C	C	C	B	D	C	B	F		D
Approach Vol, veh/h		1522			1592			312			338	
Approach Delay, s/veh		67.3			26.2			26.9			224.2	
Approach LOS		E			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	29.0	13.3	16.7	9.7	46.3	10.0	20.0				
Change Period (Y+Rc), s	7.0	* 7	5.3	* 5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.7	* 22	16.3	* 35	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	3.5	24.0	7.9	10.0	5.6	33.8	7.0	5.2				
Green Ext Time (p_c), s	11.0	0.0	0.5	0.8	0.0	5.5	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			60.7									
HCM 2010 LOS			E									
Notes												

Timings
29: Sumner Av. & Limonite Av.

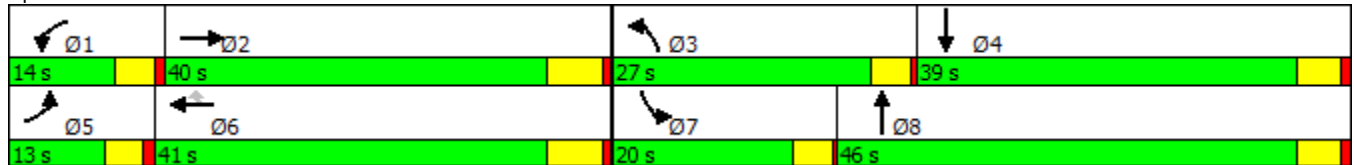


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	100	1627	165	1284	22	386	212	126	140
Future Volume (vph)	100	1627	165	1284	22	386	212	126	140
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1627	294	165	1284	22	386	212	276	126	140	96
Future Volume (veh/h)	100	1627	294	165	1284	22	386	212	276	126	140	96
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	108	1749	308	177	1381	18	415	228	223	135	151	76
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	1598	279	247	1977	616	440	491	433	167	285	136
Arrive On Green	0.05	0.36	0.36	0.07	0.38	0.38	0.24	0.27	0.27	0.09	0.12	0.12
Sat Flow, veh/h	3510	4446	776	3510	5187	1615	1810	1805	1591	1810	2359	1126
Grp Volume(v), veh/h	108	1357	700	177	1381	18	415	228	223	135	114	113
Grp Sat Flow(s),veh/h/ln	1755	1729	1763	1755	1729	1615	1810	1805	1591	1810	1805	1680
Q Serve(g_s), s	2.9	34.0	34.0	4.7	21.2	0.7	21.3	10.0	11.2	6.9	5.6	6.0
Cycle Q Clear(g_c), s	2.9	34.0	34.0	4.7	21.2	0.7	21.3	10.0	11.2	6.9	5.6	6.0
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	171	1243	634	247	1977	616	440	491	433	167	218	203
V/C Ratio(X)	0.63	1.09	1.10	0.72	0.70	0.03	0.94	0.46	0.52	0.81	0.52	0.56
Avail Cap(c_a), veh/h	315	1243	634	353	1977	616	440	782	690	306	649	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	30.3	30.3	43.0	24.7	18.3	35.2	28.7	29.2	42.1	39.0	39.2
Incr Delay (d2), s/veh	1.4	54.3	68.0	1.5	1.1	0.0	28.7	0.5	0.7	3.5	1.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	25.4	28.3	2.3	10.3	0.3	14.1	5.0	5.0	3.6	2.9	2.9
LnGrp Delay(d),s/veh	45.6	84.6	98.3	44.6	25.8	18.3	63.8	29.2	29.9	45.6	40.4	41.0
LnGrp LOS	D	F	F	D	C	B	E	C	C	D	D	D
Approach Vol, veh/h		2165			1576			866			362	
Approach Delay, s/veh		87.1			27.8			46.0			42.6	
Approach LOS		F			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	40.0	27.0	16.4	9.1	42.1	12.7	30.7				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	6.7	36.0	23.3	8.0	4.9	23.2	8.9	13.2				
Green Ext Time (p_c), s	0.1	0.0	0.0	3.1	0.0	11.2	0.1	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			57.9									
HCM 2010 LOS			E									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

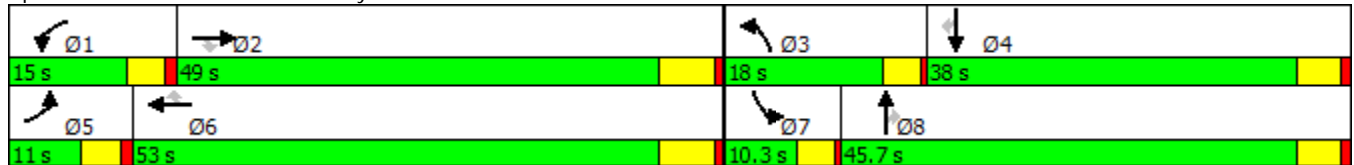


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	45	1721	87	90	1299	21	123	147	218	39	194	58
Future Volume (vph)	45	1721	87	90	1299	21	123	147	218	39	194	58
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



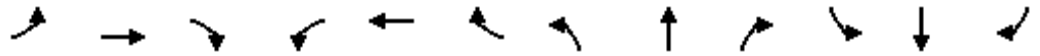
HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1721	87	90	1299	21	123	147	218	39	194	58
Future Volume (veh/h)	45	1721	87	90	1299	21	123	147	218	39	194	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	49	1871	86	98	1412	23	134	160	197	42	211	61
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	1777	795	125	1902	851	167	353	300	53	444	187
Arrive On Green	0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.19	0.19	0.03	0.12	0.12
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1525
Grp Volume(v), veh/h	49	1871	86	98	1412	23	134	160	197	42	211	61
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1525
Q Serve(g_s), s	2.3	43.0	2.5	4.7	26.5	0.6	6.3	6.5	9.9	2.0	4.8	3.2
Cycle Q Clear(g_c), s	2.3	43.0	2.5	4.7	26.5	0.6	6.3	6.5	9.9	2.0	4.8	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	1777	795	125	1902	851	167	353	300	53	444	187
V/C Ratio(X)	0.78	1.05	0.11	0.78	0.74	0.03	0.80	0.45	0.66	0.79	0.48	0.33
Avail Cap(c_a), veh/h	135	1777	795	218	1942	869	290	885	751	131	1364	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	22.2	11.9	40.0	16.1	9.9	38.9	31.6	33.0	42.1	35.7	35.0
Incr Delay (d2), s/veh	7.6	36.8	0.1	3.9	1.5	0.0	3.4	0.7	1.8	9.3	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	30.3	1.1	2.5	13.5	0.3	3.3	3.5	4.5	1.1	2.4	1.4
LnGrp Delay(d),s/veh	49.5	59.0	12.0	43.9	17.6	9.9	42.2	32.3	34.8	51.4	36.3	35.7
LnGrp LOS	D	F	B	D	B	A	D	C	C	D	D	D
Approach Vol, veh/h		2006			1533			491			314	
Approach Delay, s/veh		56.8			19.2			36.0			38.2	
Approach LOS		E			B			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	49.0	12.1	15.7	7.5	52.0	6.6	21.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	6.7	45.0	8.3	6.8	4.3	28.5	4.0	11.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	17.2	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			39.8									
HCM 2010 LOS			D									

Timings

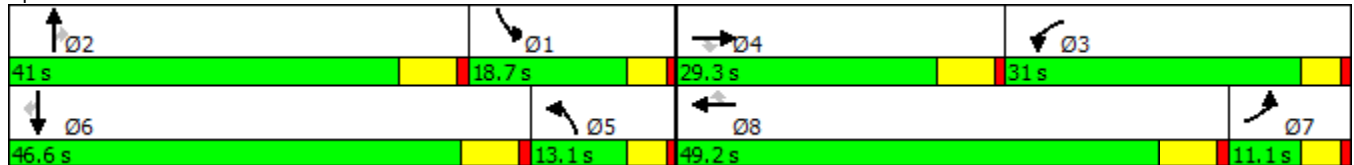


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	160	673	225	585	878	293	219	517	683	341	283	104
Future Volume (vph)	160	673	225	585	878	293	219	517	683	341	283	104
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	11.1	29.3	29.3	31.0	49.2	49.2	13.1	41.0	41.0	18.7	46.6	46.6
Total Split (%)	9.3%	24.4%	24.4%	25.8%	41.0%	41.0%	10.9%	34.2%	34.2%	15.6%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	673	225	585	878	293	219	517	683	341	283	104
Future Volume (veh/h)	160	673	225	585	878	293	219	517	683	341	283	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	170	716	213	622	934	259	233	550	681	363	301	102
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	897	279	683	1114	498	1037	1592	496	413	431	193
Arrive On Green	0.07	0.17	0.17	0.21	0.31	0.31	0.31	0.31	0.31	0.12	0.12	0.12
Sat Flow, veh/h	3326	5187	1615	3326	3610	1615	3326	5187	1615	3326	3610	1611
Grp Volume(v), veh/h	170	716	213	622	934	259	233	550	681	363	301	102
Grp Sat Flow(s),veh/h/ln	1663	1729	1615	1663	1805	1615	1663	1729	1615	1663	1805	1611
Q Serve(g_s), s	5.7	15.0	14.2	20.7	27.4	15.0	5.9	9.3	34.8	12.2	9.1	6.7
Cycle Q Clear(g_c), s	5.7	15.0	14.2	20.7	27.4	15.0	5.9	9.3	34.8	12.2	9.1	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	897	279	683	1114	498	1037	1592	496	413	431	193
V/C Ratio(X)	0.73	0.80	0.76	0.91	0.84	0.52	0.22	0.35	1.37	0.88	0.70	0.53
Avail Cap(c_a), veh/h	232	1057	329	774	1369	612	1037	1592	496	413	1286	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	45.0	44.7	44.0	36.6	32.3	28.9	30.5	39.3	48.8	48.0	46.9
Incr Delay (d2), s/veh	10.0	3.8	8.6	13.0	4.0	0.8	0.0	0.1	180.8	18.2	2.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.5	7.0	10.7	14.2	6.8	2.7	4.4	40.4	6.6	4.6	3.1
LnGrp Delay(d),s/veh	61.7	48.8	53.2	57.0	40.6	33.1	28.9	30.6	220.1	67.0	50.0	49.2
LnGrp LOS	E	D	D	E	D	C	C	C	F	E	D	D
Approach Vol, veh/h		1099			1815			1464			766	
Approach Delay, s/veh		51.6			45.1			118.5			58.0	
Approach LOS		D			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	41.0	27.9	25.8	39.9	19.8	12.5	41.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	14.1	34.8	26.4	23.1	8.5	40.4	6.5	43.0				
Max Q Clear Time (g_c+I1), s	14.2	36.8	22.7	17.0	7.9	11.1	7.7	29.4				
Green Ext Time (p_c), s	0.0	0.0	0.6	2.6	0.1	2.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay			69.3									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

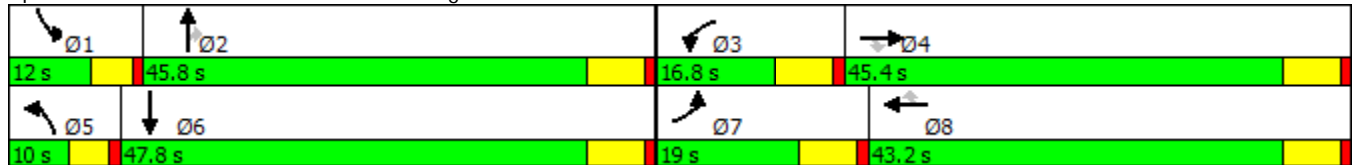


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↗	↖↗	↑↑	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	449	214	68	260	194	135	87	866	299	149	521
Future Volume (vph)	449	214	68	260	194	135	87	866	299	149	521
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	19.0	45.4	45.4	16.8	43.2	43.2	10.0	45.8	45.8	12.0	47.8
Total Split (%)	15.8%	37.8%	37.8%	14.0%	36.0%	36.0%	8.3%	38.2%	38.2%	10.0%	39.8%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	449	214	68	260	194	135	87	866	299	149	521	124
Future Volume (veh/h)	449	214	68	260	194	135	87	866	299	149	521	124
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	473	225	67	274	204	70	92	912	275	157	548	119
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	551	324	272	437	499	223	118	1681	523	167	1503	320
Arrive On Green	0.16	0.17	0.17	0.12	0.14	0.14	0.07	0.32	0.32	0.09	0.35	0.35
Sat Flow, veh/h	3510	1900	1591	3510	3610	1615	1810	5187	1615	1810	4285	912
Grp Volume(v), veh/h	473	225	67	274	204	70	92	912	275	157	440	227
Grp Sat Flow(s),veh/h/ln	1755	1900	1591	1755	1805	1615	1810	1729	1615	1810	1729	1738
Q Serve(g_s), s	10.6	9.0	2.9	6.0	4.1	3.1	4.0	11.6	11.1	6.9	7.6	7.8
Cycle Q Clear(g_c), s	10.6	9.0	2.9	6.0	4.1	3.1	4.0	11.6	11.1	6.9	7.6	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	551	324	272	437	499	223	118	1681	523	167	1213	610
V/C Ratio(X)	0.86	0.69	0.25	0.63	0.41	0.31	0.78	0.54	0.53	0.94	0.36	0.37
Avail Cap(c_a), veh/h	559	927	776	463	1662	744	122	2556	796	167	1790	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	31.3	28.8	33.4	31.6	31.2	37.0	22.3	22.1	36.3	19.4	19.5
Incr Delay (d2), s/veh	12.6	2.7	0.5	2.5	0.5	0.8	23.8	0.3	0.8	52.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	4.9	1.3	3.0	2.1	1.5	2.8	5.5	5.0	5.9	3.6	3.8
LnGrp Delay(d),s/veh	45.6	34.0	29.3	35.9	32.2	32.0	60.8	22.5	22.9	88.6	19.6	19.9
LnGrp LOS	D	C	C	D	C	C	E	C	C	F	B	B
Approach Vol, veh/h		765			548			1279			824	
Approach Delay, s/veh		40.8			34.0			25.4			32.8	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	32.2	16.2	19.9	9.9	34.4	18.8	17.3				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	7.4	39.6	10.6	39.2	5.4	41.6	12.8	37.0				
Max Q Clear Time (g_c+I1), s	8.9	13.6	8.0	11.0	6.0	9.8	12.6	6.1				
Green Ext Time (p_c), s	0.0	12.3	0.2	2.8	0.0	13.5	0.1	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

10/03/2017

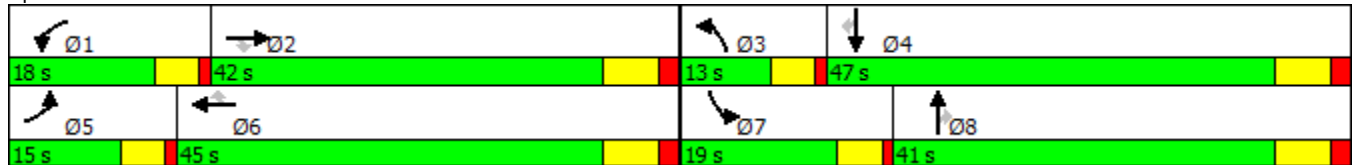


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	319	1366	100	162	868	506	123	657	317	660	437	273
Future Volume (vph)	319	1366	100	162	868	506	123	657	317	660	437	273
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

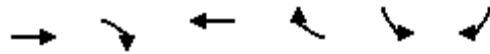
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	1366	100	162	868	506	123	657	317	660	437	273
Future Volume (veh/h)	319	1366	100	162	868	506	123	657	317	660	437	273
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	329	1408	97	167	895	484	127	677	209	680	451	228
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	310	1791	557	227	1162	518	184	1318	403	434	1175	524
Arrive On Green	0.09	0.35	0.35	0.06	0.32	0.32	0.05	0.25	0.25	0.12	0.33	0.33
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1585	3510	3610	1611
Grp Volume(v), veh/h	329	1408	97	167	895	484	127	677	209	680	451	228
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1585	1755	1805	1611
Q Serve(g_s), s	10.0	27.6	4.7	5.3	25.3	33.0	4.0	12.7	12.8	14.0	10.9	12.6
Cycle Q Clear(g_c), s	10.0	27.6	4.7	5.3	25.3	33.0	4.0	12.7	12.8	14.0	10.9	12.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	1791	557	227	1162	518	184	1318	403	434	1175	524
V/C Ratio(X)	1.06	0.79	0.17	0.73	0.77	0.93	0.69	0.51	0.52	1.57	0.38	0.44
Avail Cap(c_a), veh/h	310	1791	557	403	1212	541	248	1558	476	434	1276	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	33.3	25.8	52.0	34.6	37.2	52.7	36.2	36.3	49.6	29.4	30.0
Incr Delay (d2), s/veh	68.1	2.8	0.3	1.7	3.6	24.1	2.2	0.7	2.2	265.8	0.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	13.6	2.2	2.6	13.1	18.1	2.0	6.2	5.8	22.8	5.5	5.8
LnGrp Delay(d),s/veh	119.7	36.1	26.1	53.7	38.2	61.3	54.9	36.9	38.5	315.4	29.9	31.2
LnGrp LOS	F	D	C	D	D	E	D	D	D	F	C	C
Approach Vol, veh/h		1834			1546			1013			1359	
Approach Delay, s/veh		50.5			47.1			39.5			172.9	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	46.1	10.9	43.8	15.0	43.4	19.0	35.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	7.3	29.6	6.0	14.6	12.0	35.0	16.0	14.8				
Green Ext Time (p_c), s	0.1	5.3	0.0	16.9	0.0	1.4	0.0	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay			76.6									
HCM 2010 LOS			E									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

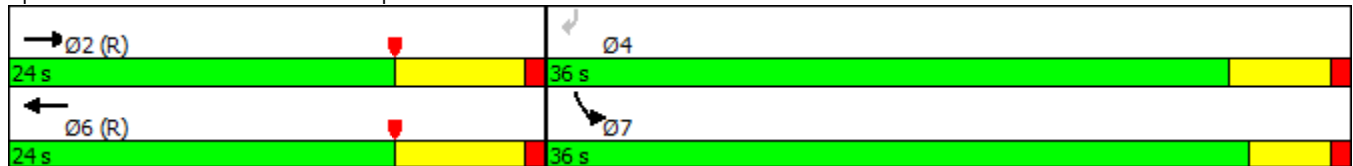


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	971	376	822	90	389	1022
Future Volume (vph)	971	376	822	90	389	1022
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

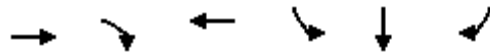
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	971	376	0	822	90	0	0	0	389	0	1022
Future Volume (veh/h)	0	971	376	0	822	90	0	0	0	389	0	1022
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1700	0	1900
Adj Flow Rate, veh/h	0	1022	0	0	865	0				409	0	932
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1487	463	0	1035	463				1644	0	845
Arrive On Green	0.00	0.29	0.00	0.00	0.29	0.00				0.52	0.00	0.52
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3141	0	1615
Grp Volume(v), veh/h	0	1022	0	0	865	0				409	0	932
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1570	0	1615
Q Serve(g_s), s	0.0	10.5	0.0	0.0	13.5	0.0				4.3	0.0	31.4
Cycle Q Clear(g_c), s	0.0	10.5	0.0	0.0	13.5	0.0				4.3	0.0	31.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1487	463	0	1035	463				1644	0	845
V/C Ratio(X)	0.00	0.69	0.00	0.00	0.84	0.00				0.25	0.00	1.10
Avail Cap(c_a), veh/h	0	1487	463	0	1035	463				1644	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.41	0.00	0.00	0.28	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.0	0.0	0.0	20.1	0.0				7.8	0.0	14.3
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	2.4	0.0				0.1	0.0	63.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	0.0	0.0	7.0	0.0				1.8	0.0	28.4
LnGrp Delay(d),s/veh	0.0	20.1	0.0	0.0	22.5	0.0				7.9	0.0	77.3
LnGrp LOS		C			C					A		F
Approach Vol, veh/h		1022			865						1341	
Approach Delay, s/veh		20.1			22.5						56.1	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.0		36.0		24.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		12.5		33.4		15.5						
Green Ext Time (p_c), s		3.8		0.0		1.5						
Intersection Summary												
HCM 2010 Ctrl Delay			35.7									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.

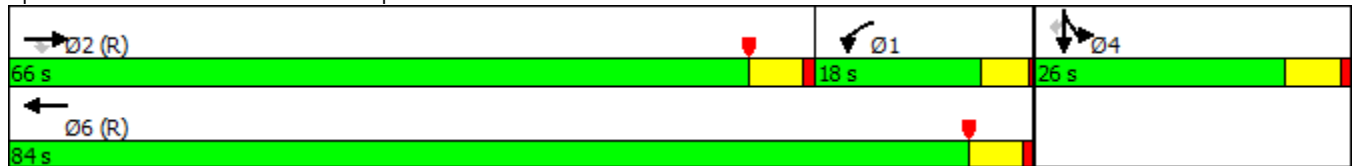


Lane Group	EBT	EBR	WBT	SBL	SBT	SBR	Ø1
Lane Configurations	↑↑	↑	↑↑	↑	↔	↑	
Traffic Volume (vph)	1962	779	1455	424	0	261	
Future Volume (vph)	1962	779	1455	424	0	261	
Turn Type	NA	Perm	NA	Split	NA	Perm	
Protected Phases	2		6	4	4		1
Permitted Phases		2				4	
Detector Phase	2	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	36.5	23.5	23.5	23.5	10.0
Total Split (s)	66.0	66.0	84.0	26.0	26.0	26.0	18.0
Total Split (%)	60.0%	60.0%	76.4%	23.6%	23.6%	23.6%	16%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lead					Lag
Lead-Lag Optimize?	Yes	Yes					Yes
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

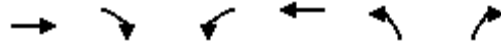
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1962	779	0	1455	1057	0	0	0	424	0	261
Future Volume (veh/h)	0	1962	779	0	1455	1057	0	0	0	424	0	261
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2156	855	0	1599	1162				525	0	125
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1986	877	476	1543	983				595	0	265
Arrive On Green	0.00	0.55	0.55	0.00	0.74	0.74				0.16	0.00	0.16
Sat Flow, veh/h	0	3705	1595	3510	2097	1336				3619	0	1615
Grp Volume(v), veh/h	0	2156	855	0	1345	1416				525	0	125
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	1628				1810	0	1615
Q Serve(g_s), s	0.0	60.5	57.2	0.0	80.9	80.9				15.6	0.0	7.7
Cycle Q Clear(g_c), s	0.0	60.5	57.2	0.0	80.9	80.9				15.6	0.0	7.7
Prop In Lane	0.00		1.00	1.00		0.82				1.00		1.00
Lane Grp Cap(c), veh/h	0	1986	877	476	1328	1198				595	0	265
V/C Ratio(X)	0.00	1.09	0.97	0.00	1.01	1.18				0.88	0.00	0.47
Avail Cap(c_a), veh/h	0	1986	877	476	1328	1198				674	0	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.10	0.10	0.00	0.17	0.17				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.8	24.0	0.0	14.5	14.5				44.9	0.0	41.6
Incr Delay (d2), s/veh	0.0	39.8	5.4	0.0	13.6	83.5				11.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	40.7	26.2	0.0	44.5	63.4				8.7	0.0	3.5
LnGrp Delay(d),s/veh	0.0	64.5	29.4	0.0	28.1	98.0				56.1	0.0	42.1
LnGrp LOS		F	C		F	F				E		D
Approach Vol, veh/h		3011			2761						650	
Approach Delay, s/veh		54.5			64.0						53.4	
Approach LOS		D			E						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.4	66.0		23.6		86.4						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	13.5	* 61		20.5		78.5						
Max Q Clear Time (g_c+I1), s	0.0	62.5		17.6		82.9						
Green Ext Time (p_c), s	0.0	0.0		0.5		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			58.5									
HCM 2010 LOS			E									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	518	841	399	452	466	183
Future Volume (vph)	518	841	399	452	466	183
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	12.0	16.0	48.0	12.0	12.0
Total Split (%)	53.3%	20.0%	26.7%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	518	841	399	452	466	183		
Future Volume (veh/h)	518	841	399	452	466	183		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	557	799	429	486	501	108		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	826	523	3519	324	161		
Arrive On Green	0.69	0.69	0.17	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	557	799	429	486	501	108		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	2.5	24.7	7.9	2.0	6.0	3.9		
Cycle Q Clear(g_c), s	2.5	24.7	7.9	2.0	6.0	3.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	826	523	3519	324	161		
V/C Ratio(X)	0.26	0.97	0.82	0.14	1.55	0.67		
Avail Cap(c_a), veh/h	2135	826	523	3519	324	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.81	0.81	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.9	7.0	24.1	3.4	27.0	26.0		
Incr Delay (d2), s/veh	0.2	21.2	13.4	0.0	261.1	19.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	17.8	4.4	1.0	14.4	2.6		
LnGrp Delay(d),s/veh	6.1	28.2	37.5	3.4	288.1	45.9		
LnGrp LOS	A	C	D	A	F	D		
Approach Vol, veh/h	1356			915	609			
Approach Delay, s/veh	19.1			19.4	245.1			
Approach LOS	B			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.0	32.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	10.0	24.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	9.9	26.7				4.0		8.0
Green Ext Time (p_c), s	0.0	0.0				12.9		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			67.0					
HCM 2010 LOS			E					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	Ø5
Lane Configurations	↑↑	↑↑	↗	↖	↕	↗	
Traffic Volume (vph)	1994	1934	413	579	0	654	
Future Volume (vph)	1994	1934	413	579	0	654	
Turn Type	NA	NA	Perm	Split	NA	Perm	
Protected Phases	2	6		8	8		5
Permitted Phases			6			8	
Detector Phase	2	6	6	8	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	34.5	34.5	10.5	10.5	10.5	10.0
Total Split (s)	83.0	47.0	47.0	27.0	27.0	27.0	36.0
Total Split (%)	75.5%	42.7%	42.7%	24.5%	24.5%	24.5%	33%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag		Lag	Lag				Lead
Lead-Lag Optimize?		Yes	Yes				Yes
Recall Mode	C-Max	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1994	392	0	1934	413	579	0	654	0	0	0
Future Volume (veh/h)	0	1994	392	0	1934	413	579	0	654	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	2216	436	0	2149	399	794	0	324			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	3	2126	403	0	2543	1123	707	0	316			
Arrive On Green	0.00	0.23	0.23	0.00	0.70	0.70	0.20	0.00	0.20			
Sat Flow, veh/h	3510	3018	572	0	3705	1594	3619	0	1615			
Grp Volume(v), veh/h	0	1292	1360	0	2149	399	794	0	324			
Grp Sat Flow(s),veh/h/ln	1755	1805	1785	0	1805	1594	1810	0	1615			
Q Serve(g_s), s	0.0	77.5	77.5	0.0	47.8	10.9	21.5	0.0	21.5			
Cycle Q Clear(g_c), s	0.0	77.5	77.5	0.0	47.8	10.9	21.5	0.0	21.5			
Prop In Lane	1.00		0.32	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	3	1272	1258	0	2543	1123	707	0	316			
V/C Ratio(X)	0.00	1.02	1.08	0.00	0.84	0.36	1.12	0.00	1.03			
Avail Cap(c_a), veh/h	1005	1272	1258	0	2543	1123	707	0	316			
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.45	0.45	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	42.2	42.2	0.0	11.9	6.4	44.3	0.0	44.3			
Incr Delay (d2), s/veh	0.0	21.1	43.8	0.0	3.7	0.9	72.8	0.0	57.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	46.2	53.6	0.0	24.6	5.0	17.9	0.0	14.6			
LnGrp Delay(d),s/veh	0.0	63.3	86.0	0.0	15.5	7.3	117.0	0.0	101.9			
LnGrp LOS		F	F		B	A	F		F			
Approach Vol, veh/h		2652			2548			1118				
Approach Delay, s/veh		75.0			14.2			112.6				
Approach LOS		E			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		83.0			0.0	83.0		27.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		77.5			31.5	41.5		21.5				
Max Q Clear Time (g_c+I1), s		79.5			0.0	49.8		23.5				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				57.1								
HCM 2010 LOS				E								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	6	27	145	0	2	2280	239	606	1898
Future Volume (vph)	6	27	145	0	2	2280	239	606	1898
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

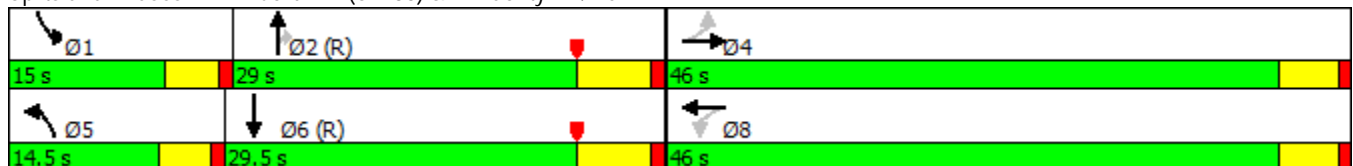
Actuated Cycle Length: 90

Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	27	14	145	0	407	2	2280	239	606	1898	1
Future Volume (veh/h)	6	27	14	145	0	407	2	2280	239	606	1898	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	6	29	7	156	0	410	2	2452	228	652	2041	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	102	464	104	204	14	438	9	1165	510	200	1607	1
Arrive On Green	0.39	0.39	0.39	0.39	0.00	0.39	0.01	0.32	0.32	0.12	0.43	0.43
Sat Flow, veh/h	145	1195	268	395	35	1128	1714	3610	1579	1714	3703	2
Grp Volume(v), veh/h	42	0	0	566	0	0	2	2452	228	652	995	1047
Grp Sat Flow(s),veh/h/ln	1609	0	0	1558	0	0	1714	1805	1579	1714	1805	1900
Q Serve(g_s), s	0.0	0.0	0.0	28.8	0.0	0.0	0.1	29.0	10.3	10.5	39.1	39.1
Cycle Q Clear(g_c), s	1.3	0.0	0.0	31.4	0.0	0.0	0.1	29.0	10.3	10.5	39.1	39.1
Prop In Lane	0.14		0.17	0.28		0.72	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	671	0	0	656	0	0	9	1165	510	200	783	824
V/C Ratio(X)	0.06	0.00	0.00	0.86	0.00	0.00	0.22	2.10	0.45	3.26	1.27	1.27
Avail Cap(c_a), veh/h	780	0	0	760	0	0	190	1165	510	200	783	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	26.3	0.0	0.0	44.6	30.5	24.1	39.7	25.5	25.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	8.1	0.0	0.0	0.4	497.5	0.3	1029.8	131.5	131.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	14.8	0.0	0.0	0.1	94.9	4.5	62.2	48.0	50.4
LnGrp Delay(d),s/veh	17.2	0.0	0.0	34.4	0.0	0.0	44.9	528.0	24.4	1069.6	157.0	156.7
LnGrp LOS	B			C			D	F	C	F	F	F
Approach Vol, veh/h		42			566			2682			2694	
Approach Delay, s/veh		17.2			34.4			484.8			377.7	
Approach LOS		B			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	35.0		40.0	5.0	45.1		40.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	31.0		3.3	2.1	41.1		33.4				
Green Ext Time (p_c), s	0.0	0.0		2.5	0.0	0.0		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			390.7									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

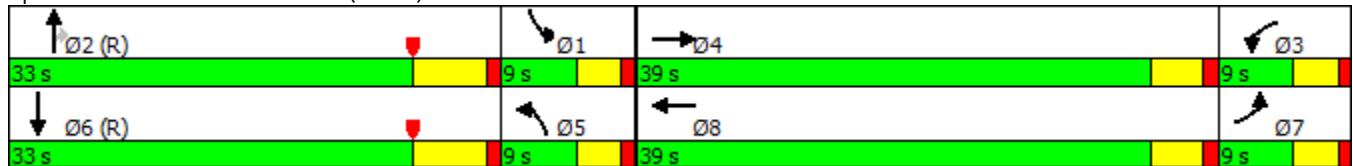


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶↷	↶	↶↷	↶	↶↷	↶	↶	↶↷
Traffic Volume (vph)	277	572	304	552	195	1318	295	402	1244
Future Volume (vph)	277	572	304	552	195	1318	295	402	1244
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

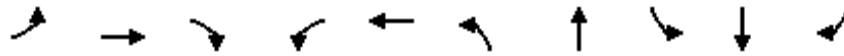
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	572	232	304	552	576	195	1318	295	402	1244	226
Future Volume (veh/h)	277	572	232	304	552	576	195	1318	295	402	1244	226
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	289	596	238	317	575	566	203	1373	292	419	1296	217
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	724	289	241	672	601	114	1083	484	114	928	154
Arrive On Green	0.06	0.29	0.29	0.14	0.37	0.37	0.13	0.60	0.60	0.07	0.30	0.30
Sat Flow, veh/h	1714	2522	1006	1714	1805	1615	1714	3610	1615	1714	3094	513
Grp Volume(v), veh/h	289	426	408	317	575	566	203	1373	292	419	751	762
Grp Sat Flow(s),veh/h/ln	1714	1805	1723	1714	1805	1615	1714	1805	1615	1714	1805	1802
Q Serve(g_s), s	5.0	19.8	19.9	12.7	26.4	30.5	6.0	27.0	10.2	6.0	27.0	27.0
Cycle Q Clear(g_c), s	5.0	19.8	19.9	12.7	26.4	30.5	6.0	27.0	10.2	6.0	27.0	27.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	95	518	495	241	672	601	114	1083	484	114	542	540
V/C Ratio(X)	3.03	0.82	0.82	1.31	0.86	0.94	1.78	1.27	0.60	3.67	1.39	1.41
Avail Cap(c_a), veh/h	95	692	660	241	692	619	114	1083	484	114	542	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	29.9	30.0	38.7	26.0	27.3	39.0	18.0	14.6	42.0	31.5	31.5
Incr Delay (d2), s/veh	942.9	6.0	6.3	167.5	9.5	22.0	353.7	121.2	0.5	1204.2	175.3	185.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.3	10.7	10.3	17.2	14.9	17.2	14.0	31.2	4.4	41.0	39.8	41.2
LnGrp Delay(d),s/veh	985.4	35.9	36.3	206.2	35.6	49.3	392.7	139.2	15.1	1246.2	206.8	216.8
LnGrp LOS	F	D	D	F	D	D	F	F	B	F	F	F
Approach Vol, veh/h		1123			1458			1868			1932	
Approach Delay, s/veh		280.4			78.0			147.4			436.2	
Approach LOS		F			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	33.0	16.7	30.3	10.0	33.0	9.0	38.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	8.0	29.0	14.7	21.9	8.0	29.0	7.0	32.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			242.4									
HCM 2010 LOS			F									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

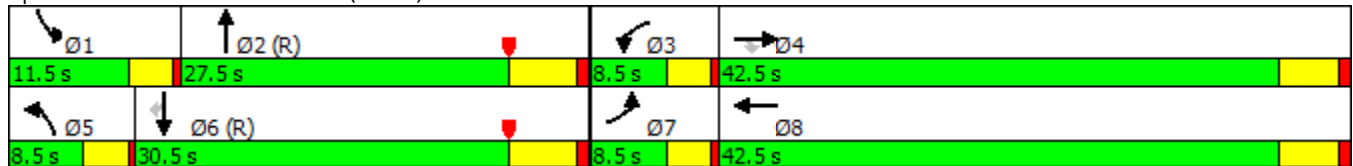


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	175	58	60	196	18	15	1434	164	1529	47
Future Volume (vph)	175	58	60	196	18	15	1434	164	1529	47
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	27.5	11.5	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	30.6%	12.8%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



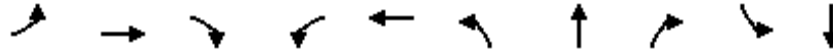
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	58	60	196	18	203	15	1434	90	164	1529	47
Future Volume (veh/h)	175	58	60	196	18	203	15	1434	90	164	1529	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	194	64	48	218	20	214	17	1593	90	182	1699	52
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	329	279	95	24	259	33	1694	95	152	2014	882
Arrive On Green	0.06	0.17	0.17	0.06	0.17	0.17	0.04	0.98	0.98	0.06	0.37	0.37
Sat Flow, veh/h	1714	1900	1615	1714	140	1496	1714	3471	195	1714	3610	1582
Grp Volume(v), veh/h	194	64	48	218	0	234	17	824	859	182	1699	52
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	0	1636	1714	1805	1861	1714	1805	1582
Q Serve(g_s), s	5.0	2.6	2.3	5.0	0.0	12.4	0.9	11.2	12.9	8.0	38.7	1.9
Cycle Q Clear(g_c), s	5.0	2.6	2.3	5.0	0.0	12.4	0.9	11.2	12.9	8.0	38.7	1.9
Prop In Lane	1.00		1.00	1.00		0.91	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	95	329	279	95	0	283	33	881	908	152	2014	882
V/C Ratio(X)	2.04	0.19	0.17	2.29	0.00	0.83	0.52	0.94	0.95	1.19	0.84	0.06
Avail Cap(c_a), veh/h	95	792	673	95	0	682	95	881	908	152	2014	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	31.9	31.7	42.5	0.0	35.9	42.9	0.7	0.7	42.3	24.6	13.1
Incr Delay (d2), s/veh	501.2	0.1	0.1	611.9	0.0	2.4	0.4	2.5	2.8	93.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	1.4	1.0	18.5	0.0	5.8	0.4	1.5	1.6	7.7	19.5	0.8
LnGrp Delay(d),s/veh	543.7	32.0	31.8	654.4	0.0	38.3	43.3	3.1	3.5	135.9	25.0	13.1
LnGrp LOS	F	C	C	F		D	D	A	A	F	C	B
Approach Vol, veh/h		306			452			1700			1933	
Approach Delay, s/veh		356.4			335.4			3.7			35.1	
Approach LOS		F			F			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	49.4	8.5	20.6	5.2	55.7	8.5	20.6				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	8.0	22.0	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	10.0	14.9	7.0	4.6	2.9	40.7	7.0	14.4				
Green Ext Time (p_c), s	0.0	6.3	0.0	1.2	0.0	0.0	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			76.3									
HCM 2010 LOS			E									

Timings
4: Euclid Av. (SR-83) & Pine Av.

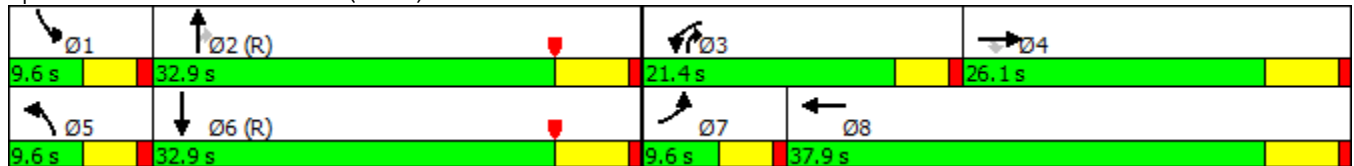


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	135	865	367	543	552	212	1048	767	356	1301
Future Volume (vph)	135	865	367	543	552	212	1048	767	356	1301
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.1	26.1	21.4	37.9	9.6	32.9	21.4	9.6	32.9
Total Split (%)	10.7%	29.0%	29.0%	23.8%	42.1%	10.7%	36.6%	23.8%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	865	367	543	552	308	212	1048	767	356	1301	113
Future Volume (veh/h)	135	865	367	543	552	308	212	1048	767	356	1301	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	139	892	0	560	569	312	219	1080	358	367	1341	112
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	426	362	586	411	225	95	1083	786	95	1010	84
Arrive On Green	0.06	0.22	0.00	0.19	0.36	0.36	0.06	0.30	0.30	0.07	0.40	0.40
Sat Flow, veh/h	1714	1900	1615	3141	1155	633	1714	3610	1615	1714	3368	280
Grp Volume(v), veh/h	139	892	0	560	0	881	219	1080	358	367	716	737
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1570	0	1788	1714	1805	1615	1714	1805	1843
Q Serve(g_s), s	5.0	20.2	0.0	15.9	0.0	32.0	5.0	26.9	13.2	5.0	27.0	27.0
Cycle Q Clear(g_c), s	5.0	20.2	0.0	15.9	0.0	32.0	5.0	26.9	13.2	5.0	27.0	27.0
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	95	426	362	586	0	636	95	1083	786	95	542	553
V/C Ratio(X)	1.46	2.09	0.00	0.96	0.00	1.39	2.30	1.00	0.46	3.85	1.32	1.33
Avail Cap(c_a), veh/h	95	426	362	586	0	636	95	1083	786	95	542	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.38	0.38	0.38
Uniform Delay (d), s/veh	42.5	34.9	0.0	36.2	0.0	29.0	42.5	31.5	15.2	41.7	27.0	27.0
Incr Delay (d2), s/veh	255.4	499.2	0.0	26.1	0.0	183.2	587.8	7.6	0.2	1293.7	150.3	154.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	69.7	0.0	9.0	0.0	48.1	17.9	14.5	5.8	36.6	35.9	37.3
LnGrp Delay(d),s/veh	297.9	534.1	0.0	62.4	0.0	212.2	630.3	39.1	15.4	1335.4	177.3	181.5
LnGrp LOS	F	F		E		F	F	D	B	F	F	F
Approach Vol, veh/h		1031			1441			1657			1820	
Approach Delay, s/veh		502.3			153.9			112.1			412.5	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.9	21.4	26.1	9.6	32.9	9.6	37.9				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.8	20.2	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	7.0	28.9	17.9	22.2	7.0	29.0	7.0	34.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			281.8									
HCM 2010 LOS			F									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

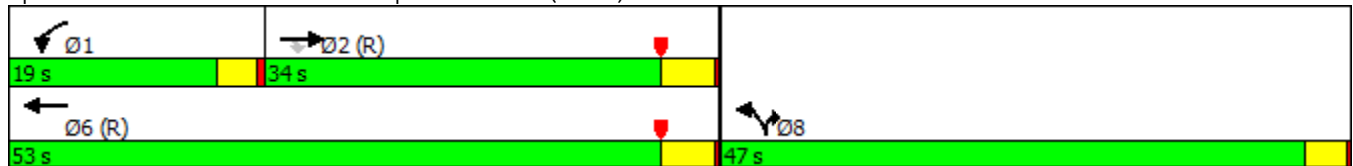


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↓
Traffic Volume (vph)	842	228	395	2131	262	1232
Future Volume (vph)	842	228	395	2131	262	1232
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	34.0	34.0	19.0	53.0	47.0	47.0
Total Split (%)	34.0%	34.0%	19.0%	53.0%	47.0%	47.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

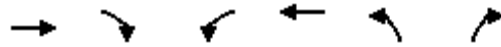
Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

10/03/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	842	228	395	2131	262	1232		
Future Volume (veh/h)	842	228	395	2131	262	1232		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1700	1900		
Adj Flow Rate, veh/h	868	0	407	2197	270	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2229	997	266	2915	353	182		
Arrive On Green	0.20	0.00	0.16	0.81	0.11	0.00		
Sat Flow, veh/h	3705	1615	1714	3705	3141	1615		
Grp Volume(v), veh/h	868	0	407	2197	270	0		
Grp Sat Flow(s),veh/h/ln	1805	1615	1714	1805	1570	1615		
Q Serve(g_s), s	20.8	0.0	15.5	29.9	8.3	0.0		
Cycle Q Clear(g_c), s	20.8	0.0	15.5	29.9	8.3	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2229	997	266	2915	353	182		
V/C Ratio(X)	0.39	0.00	1.53	0.75	0.76	0.00		
Avail Cap(c_a), veh/h	2229	997	266	2915	1366	703		
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00		
Uniform Delay (d), s/veh	23.5	0.0	42.3	4.7	43.1	0.0		
Incr Delay (d2), s/veh	0.5	0.0	241.0	0.2	3.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.6	0.0	25.1	14.4	3.8	0.0		
LnGrp Delay(d),s/veh	24.0	0.0	283.3	4.9	46.5	0.0		
LnGrp LOS	C		F	A	D			
Approach Vol, veh/h	868			2604	270			
Approach Delay, s/veh	24.0			48.4	46.5			
Approach LOS	C			D	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	66.2				85.2		14.8
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	15.5	29.5				48.5		43.5
Max Q Clear Time (g_c+I1), s	17.5	22.8				31.9		10.3
Green Ext Time (p_c), s	0.0	6.3				14.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			42.6					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

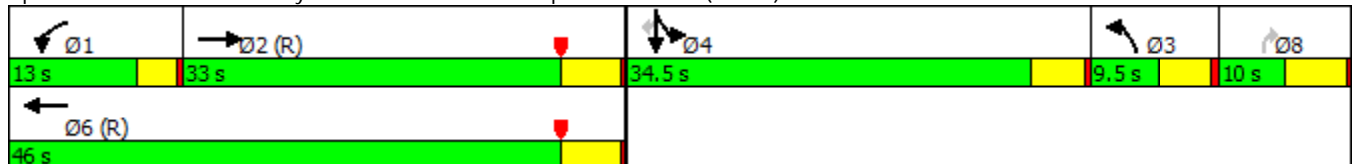


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	415	115	825	35	18	714	164	102
Future Volume (vph)	415	115	825	35	18	714	164	102
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	33.0	13.0	46.0	9.5	10.0	34.5	34.5	34.5
Total Split (%)	33.0%	13.0%	46.0%	9.5%	10.0%	34.5%	34.5%	34.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 41 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	415	50	115	825	0	35	0	18	714	164	102
Future Volume (veh/h)	0	415	50	115	825	0	35	0	18	714	164	102
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1800	1900	0	1800	0	1900	1800	1900	1900
Adj Flow Rate, veh/h	0	461	56	128	917	0	39	0	20	923	0	113
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1587	192	157	2224	0	0	0	0	991	0	467
Arrive On Green	0.00	0.49	0.49	0.03	0.20	0.00	0.00	0.00	0.00	0.29	0.00	0.29
Sat Flow, veh/h	0	3339	392	1714	3705	0		0		3429	0	1615
Grp Volume(v), veh/h	0	256	261	128	917	0		0.0		923	0	113
Grp Sat Flow(s),veh/h/ln	0	1805	1831	1714	1805	0				1714	0	1615
Q Serve(g_s), s	0.0	8.4	8.5	7.4	22.1	0.0				26.2	0.0	5.3
Cycle Q Clear(g_c), s	0.0	8.4	8.5	7.4	22.1	0.0				26.2	0.0	5.3
Prop In Lane	0.00		0.21	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	883	896	157	2224	0				991	0	467
V/C Ratio(X)	0.00	0.29	0.29	0.82	0.41	0.00				0.93	0.00	0.24
Avail Cap(c_a), veh/h	0	883	896	163	2224	0				1029	0	484
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.2	15.2	47.6	24.1	0.0				34.6	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.8	0.8	23.9	0.6	0.0				14.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	4.5	4.6	11.3	0.0				14.2	0.0	2.4
LnGrp Delay(d),s/veh	0.0	16.0	16.0	71.5	24.7	0.0				48.6	0.0	27.4
LnGrp LOS		B	B	E	C					D		C
Approach Vol, veh/h		517			1045							1036
Approach Delay, s/veh		16.0			30.4							46.3
Approach LOS		B			C							D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.7	53.9		33.4		66.6						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	9.5	28.0		30.0		41.0						
Max Q Clear Time (g_c+I1), s	9.4	10.5		28.2		24.1						
Green Ext Time (p_c), s	0.0	5.6		0.7		5.5						
Intersection Summary												
HCM 2010 Ctrl Delay				33.9								
HCM 2010 LOS				C								
Notes												

Intersection	
Intersection Delay, s/veh	225.3
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	139	731	0	496	265	0	270	53
Future Vol, veh/h	0	139	731	0	496	265	0	270	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	151	795	0	539	288	0	293	58
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	311.9	210.1	27.8
HCM LOS	F	F	D

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	0%	84%
Vol Thru, %	84%	65%	0%
Vol Right, %	0%	35%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	870	761	323
LT Vol	139	0	270
Through Vol	731	496	0
RT Vol	0	265	53
Lane Flow Rate	946	827	351
Geometry Grp	1	1	1
Degree of Util (X)	1.634	1.397	0.689
Departure Headway (Hd)	6.866	6.884	8.331
Convergence, Y/N	Yes	Yes	Yes
Cap	539	538	439
Service Time	4.866	4.884	6.331
HCM Lane V/C Ratio	1.755	1.537	0.8
HCM Control Delay	311.9	210.1	27.8
HCM Lane LOS	F	F	D
HCM 95th-tile Q	48.2	34	5.1

Intersection

Int Delay, s/veh 412.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	42	612	346	254	495	41	250	15	205	16	15	16
Future Vol, veh/h	42	612	346	254	495	41	250	15	205	16	15	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	75	100	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	93	93	93	93	92	93	92	93	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	46	658	372	273	532	45	269	16	220	17	16	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	577	0	0	658	0	0	1867	1872	658	1969	1850	555
Stage 1	-	-	-	-	-	-	749	749	-	1101	1101	-
Stage 2	-	-	-	-	-	-	1118	1123	-	868	749	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1006	-	-	939	-	-	~ 56	73	468	48	75	535
Stage 1	-	-	-	-	-	-	407	422	-	259	290	-
Stage 2	-	-	-	-	-	-	~ 254	283	-	350	422	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1006	-	-	939	-	-	~ 31	49	468	~ 14	51	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 31	49	-	~ 14	51	-
Stage 1	-	-	-	-	-	-	388	403	-	247	206	-
Stage 2	-	-	-	-	-	-	~ 161	201	-	170	403	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	3.3	\$ 1992	278.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	31	295	1006	-	-	939	-	-	14	96
HCM Lane V/C Ratio	8.672	0.802	0.045	-	-	0.291	-	-	1.242	0.351
HCM Control Delay (s)	\$ 3699.9	52.7	8.7	-	-	10.4	-	-	\$ 699.7	61.5
HCM Lane LOS	F	F	A	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	32.8	6.5	0.1	-	-	1.2	-	-	2.8	1.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	
Traffic Vol, veh/h	122	646	365	109	579	98	219	66	424	229	75	192
Future Vol, veh/h	122	646	365	109	579	98	219	66	424	229	75	192
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	200	200	-	-	200	-	0	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	133	702	397	118	629	107	238	72	461	249	82	209

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	736	0	0	702	0	0	2032	1940	351	1572	1887	683
Stage 1	-	-	-	-	-	-	967	967	-	920	920	-
Stage 2	-	-	-	-	-	-	1065	973	-	652	967	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	879	-	-	905	-	-	~ 38	~ 66	651	~ 83	~ 71	453
Stage 1	-	-	-	-	-	-	277	335	-	327	352	-
Stage 2	-	-	-	-	-	-	272	333	-	428	335	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	879	-	-	905	-	-	-	~ 49	651	-	~ 52	453
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 49	-	-	~ 52	-
Stage 1	-	-	-	-	-	-	~ 235	284	-	278	306	-
Stage 2	-	-	-	-	-	-	~ 94	290	-	~ 79	284	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.3		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	49	651	879	-	-	905	-	-	-	143
HCM Lane V/C Ratio	-	1.464	0.708	0.151	-	-	0.131	-	-	-	2.029
HCM Control Delay (s)	-	\$ 426.4	22.8	9.8	-	-	9.6	-	-	-	\$ 538.7
HCM Lane LOS	-	F	C	A	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	-	6.8	5.8	0.5	-	-	0.5	-	-	-	23.1

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	499.5
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↵	↕↗			↵	↕↗			↵	↗	
Traffic Vol, veh/h	0	186	1054	274	0	492	753	37	0	203	175	444
Future Vol, veh/h	0	186	1054	274	0	492	753	37	0	203	175	444
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	200	1133	295	0	529	810	40	0	218	188	477
Number of Lanes	0	1	2	0	0	1	2	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	3	3
HCM Control Delay	654.2	375.1	512
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	28%	0%	100%	56%	0%	100%	87%	0%	100%	0%
Vol Right, %	0%	72%	0%	0%	44%	0%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	619	186	703	625	492	502	288	43	367	124
LT Vol	203	0	186	0	0	492	0	0	43	0	0
Through Vol	0	175	0	703	351	0	502	251	0	367	0
RT Vol	0	444	0	0	274	0	0	37	0	0	124
Lane Flow Rate	218	666	200	756	672	529	540	310	46	395	133
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.835	2.361	0.757	2.754	2.394	1.961	1.927	1.098	0.177	1.456	0.466
Departure Headway (Hd)	16.729	15.727	10.188	9.657	9.331	9.241	8.721	8.628	80.783	80.269	79.55
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	218	240	356	385	397	397	421	421	45	51	47
Service Time	14.429	13.427	7.888	7.357	7.031	6.941	6.421	6.328	78.483	77.969	77.25
HCM Lane V/C Ratio	1	2.775	0.562	1.964	1.693	1.332	1.283	0.736	1.022	7.745	2.83
HCM Control Delay	69.8	657	38.6	816.5	655	462.5	446	102.3	100.1	436.8	138.5
HCM Lane LOS	F	F	E	F	F	F	F	F	F	F	F
HCM 95th-tile Q	6.3	43.6	6	86.2	72	52.3	53.4	15.9	0.6	6.4	1.7

Intersection

Intersection Delay, s/veh

Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↙	↑	↗
Traffic Vol, veh/h	0	43	367	124
Future Vol, veh/h	0	43	367	124
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	46	395	133
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	340.4
HCM LOS	F

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

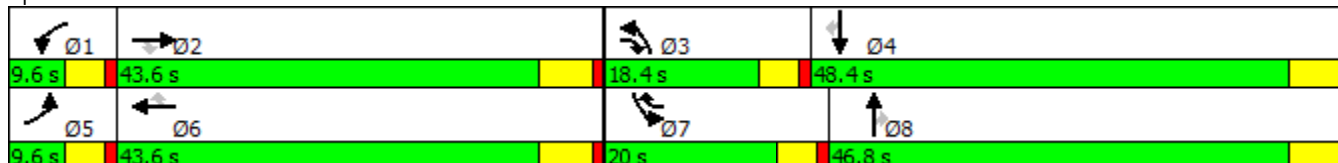


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	484	1173	468	38	749	162	178	188	50	283	326	534
Future Volume (vph)	484	1173	468	38	749	162	178	188	50	283	326	534
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	484	1173	468	38	749	162	178	188	50	283	326	534
Future Volume (veh/h)	484	1173	468	38	749	162	178	188	50	283	326	534
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	499	1209	453	39	772	162	184	194	44	292	336	550
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	141	1227	673	99	1179	706	240	1194	534	348	1318	589
Arrive On Green	0.04	0.34	0.34	0.03	0.33	0.33	0.08	0.33	0.33	0.11	0.36	0.36
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	3610	1615	3141	3610	1614
Grp Volume(v), veh/h	499	1209	453	39	772	162	184	194	44	292	336	550
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1805	1615	1570	1805	1614
Q Serve(g_s), s	5.0	36.9	25.3	1.4	20.4	7.0	6.4	4.2	2.1	10.1	7.2	36.5
Cycle Q Clear(g_c), s	5.0	36.9	25.3	1.4	20.4	7.0	6.4	4.2	2.1	10.1	7.2	36.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1227	673	99	1179	706	240	1194	534	348	1318	589
V/C Ratio(X)	3.53	0.99	0.67	0.39	0.65	0.23	0.77	0.16	0.08	0.84	0.26	0.93
Avail Cap(c_a), veh/h	141	1227	673	141	1227	728	390	1331	596	435	1383	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	36.4	26.3	52.8	32.1	19.6	50.4	26.3	25.6	48.5	24.7	34.0
Incr Delay (d2), s/veh	1157.2	22.1	2.6	0.9	1.2	0.2	1.9	0.1	0.1	9.4	0.1	20.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.9	22.1	11.7	0.6	10.4	3.1	2.9	2.1	0.9	4.8	3.6	19.6
LnGrp Delay(d),s/veh	1210.3	58.5	29.0	53.7	33.3	19.7	52.3	26.4	25.7	57.9	24.8	54.9
LnGrp LOS	F	E	C	D	C	B	D	C	C	E	C	D
Approach Vol, veh/h		2161			973			422			1178	
Approach Delay, s/veh		318.2			31.8			37.6			47.1	
Approach LOS		F			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	43.6	13.1	46.4	9.6	42.1	16.9	42.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	3.4	38.9	8.4	38.5	7.0	22.4	12.1	6.2				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.1	0.0	12.1	0.2	6.0				
Intersection Summary												
HCM 2010 Ctrl Delay			166.9									
HCM 2010 LOS			F									

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	7	349	312	999	1848
Future Volume (vph)	7	349	312	999	1848
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	559	7	349	312	999	0	0	1848	622
Future Volume (veh/h)	0	0	0	559	7	349	312	999	0	0	1848	622
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1800	1900	1900	1800	1900	0	0	1900	1900
Adj Flow Rate, veh/h				608	8	263	339	1086	0	0	2009	536
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				457	6	413	423	3181	0	0	1568	414
Arrive On Green				0.26	0.26	0.26	0.49	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1787	24	1615	1714	5358	0	0	5455	1369
Grp Volume(v), veh/h				616	0	263	339	1086	0	0	1896	649
Grp Sat Flow(s),veh/h/ln				1811	0	1615	1714	1729	0	0	1634	1656
Q Serve(g_s), s				23.0	0.0	13.0	14.9	0.0	0.0	0.0	27.2	27.2
Cycle Q Clear(g_c), s				23.0	0.0	13.0	14.9	0.0	0.0	0.0	27.2	27.2
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.83
Lane Grp Cap(c), veh/h				463	0	413	423	3181	0	0	1481	500
V/C Ratio(X)				1.33	0.00	0.64	0.80	0.34	0.00	0.00	1.28	1.30
Avail Cap(c_a), veh/h				463	0	413	457	3181	0	0	1481	500
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	29.8	21.0	0.0	0.0	0.0	31.4	31.4
Incr Delay (d2), s/veh				163.3	0.0	4.5	4.2	0.1	0.0	0.0	131.4	147.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				32.4	0.0	11.9	7.5	0.0	0.0	0.0	30.2	32.9
LnGrp Delay(d),s/veh				196.8	0.0	34.3	25.2	0.1	0.0	0.0	162.8	178.8
LnGrp LOS				F		C	C	A			F	F
Approach Vol, veh/h					879			1425			2545	
Approach Delay, s/veh					148.2			6.1			166.9	
Approach LOS					F			A			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	28.0	33.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	16.9	29.2						
Green Ext Time (p_c), s		8.8		0.0	3.9	0.0						
Intersection Summary												
HCM 2010 Ctrl Delay				116.2								
HCM 2010 LOS				F								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

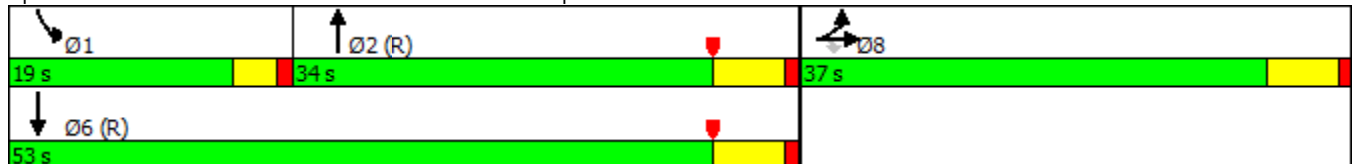


Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	1	462	1074	582	1825
Future Volume (vph)	1	462	1074	582	1825
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



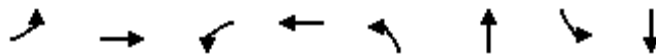
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	1	462	0	0	0	0	1074	441	582	1825	0
Future Volume (veh/h)	237	1	462	0	0	0	0	1074	441	582	1825	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h	255	1	296				0	1155	303	626	1962	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	396	2	355				0	2281	593	286	3379	0
Arrive On Green	0.22	0.22	0.22				0.00	0.44	0.44	0.17	0.65	0.00
Sat Flow, veh/h	1803	7	1615				0	5446	1347	1714	5358	0
Grp Volume(v), veh/h	256	0	296				0	1092	366	626	1962	0
Grp Sat Flow(s),veh/h/ln	1810	0	1615				0	1634	1626	1714	1729	0
Q Serve(g_s), s	11.6	0.0	15.8				0.0	14.4	14.6	15.0	19.1	0.0
Cycle Q Clear(g_c), s	11.6	0.0	15.8				0.0	14.4	14.6	15.0	19.1	0.0
Prop In Lane	1.00		1.00				0.00		0.83	1.00		0.00
Lane Grp Cap(c), veh/h	398	0	355				0	2159	716	286	3379	0
V/C Ratio(X)	0.64	0.00	0.83				0.00	0.51	0.51	2.19	0.58	0.00
Avail Cap(c_a), veh/h	627	0	560				0	2159	716	286	3379	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.69	0.69	0.09	0.09	0.00
Uniform Delay (d), s/veh	31.9	0.0	33.6				0.0	18.1	18.2	37.5	8.8	0.0
Incr Delay (d2), s/veh	1.8	0.0	6.2				0.0	0.6	1.8	537.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	7.6				0.0	6.6	6.9	49.7	8.9	0.0
LnGrp Delay(d),s/veh	33.7	0.0	39.7				0.0	18.7	20.0	574.5	8.9	0.0
LnGrp LOS	C		D					B	B	F	A	
Approach Vol, veh/h		552						1458			2588	
Approach Delay, s/veh		36.9						19.0			145.7	
Approach LOS		D						B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	45.4				64.4		25.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	16.6				21.1		17.8				
Green Ext Time (p_c), s	0.0	10.9				23.3		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			92.5									
HCM 2010 LOS			F									

Timings
16: Archibald Av. & Walnut Av.

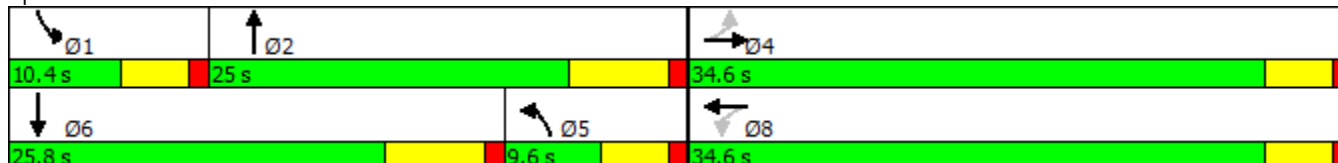


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↙	←	↖	↑↑↑	↙	↓↓↓
Traffic Volume (vph)	19	8	65	15	72	1297	139	1832
Future Volume (vph)	19	8	65	15	72	1297	139	1832
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	25.0	10.4	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.7%	14.9%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 54.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

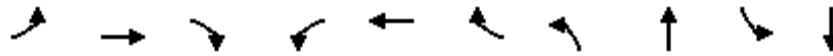
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	8	34	65	15	73	72	1297	74	139	1832	24
Future Volume (veh/h)	19	8	34	65	15	73	72	1297	74	139	1832	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	20	8	9	68	16	23	76	1365	78	146	1928	24
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	370	154	173	391	133	191	103	1942	111	183	2121	26
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.39	0.39	0.11	0.40	0.40
Sat Flow, veh/h	1309	818	920	1343	703	1011	1714	5012	286	1714	5281	66
Grp Volume(v), veh/h	20	0	17	68	0	39	76	942	501	146	1262	690
Grp Sat Flow(s),veh/h/ln	1309	0	1738	1343	0	1715	1714	1729	1840	1714	1729	1888
Q Serve(g_s), s	0.6	0.0	0.4	2.1	0.0	0.9	2.1	11.1	11.1	4.0	16.7	16.7
Cycle Q Clear(g_c), s	1.5	0.0	0.4	2.5	0.0	0.9	2.1	11.1	11.1	4.0	16.7	16.7
Prop In Lane	1.00		0.53	1.00		0.59	1.00		0.16	1.00		0.03
Lane Grp Cap(c), veh/h	370	0	327	391	0	323	103	1340	713	183	1389	758
V/C Ratio(X)	0.05	0.00	0.05	0.17	0.00	0.12	0.74	0.70	0.70	0.80	0.91	0.91
Avail Cap(c_a), veh/h	933	0	1074	968	0	1059	177	1340	713	205	1396	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	16.2	17.2	0.0	16.4	22.5	12.5	12.5	21.2	13.7	13.7
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	0.2	3.9	1.7	3.1	15.5	9.0	14.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	0.8	0.0	0.4	1.1	5.5	6.2	2.7	9.6	11.8
LnGrp Delay(d),s/veh	17.1	0.0	16.2	17.4	0.0	16.5	26.3	14.2	15.6	36.6	22.7	28.6
LnGrp LOS	B		B	B		B	C	B	B	D	C	C
Approach Vol, veh/h		37			107			1519			2098	
Approach Delay, s/veh		16.7			17.1			15.3			25.6	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	25.0		13.7	9.1	25.7		13.7				
Change Period (Y+Rc), s	4.6	6.2		4.6	6.2	* 6.2		4.6				
Max Green Setting (Gmax), s	5.8	18.8		30.0	5.0	* 20		30.0				
Max Q Clear Time (g_c+I1), s	6.0	13.1		3.5	4.1	18.7		4.5				
Green Ext Time (p_c), s	0.0	3.8		0.6	0.4	0.8		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				21.1								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

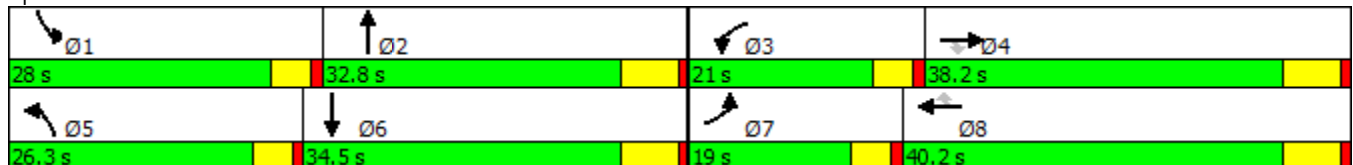


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	145	544	302	316	364	133	324	906	313	1280
Future Volume (vph)	145	544	302	316	364	133	324	906	313	1280
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	544	302	316	364	133	324	906	231	313	1280	189
Future Volume (veh/h)	145	544	302	316	364	133	324	906	231	313	1280	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	154	579	249	336	387	85	345	964	229	333	1362	129
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	821	358	247	960	428	327	976	231	352	1195	113
Arrive On Green	0.11	0.23	0.23	0.14	0.27	0.27	0.19	0.23	0.23	0.21	0.25	0.25
Sat Flow, veh/h	1714	3610	1573	1714	3610	1610	1714	4182	991	1714	4810	456
Grp Volume(v), veh/h	154	579	249	336	387	85	345	797	396	333	979	512
Grp Sat Flow(s),veh/h/ln	1714	1805	1573	1714	1805	1610	1714	1729	1715	1714	1729	1808
Q Serve(g_s), s	10.1	16.8	16.5	16.4	10.0	4.7	21.7	26.1	26.2	21.8	28.3	28.3
Cycle Q Clear(g_c), s	10.1	16.8	16.5	16.4	10.0	4.7	21.7	26.1	26.2	21.8	28.3	28.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.25
Lane Grp Cap(c), veh/h	181	821	358	247	960	428	327	807	400	352	859	449
V/C Ratio(X)	0.85	0.71	0.70	1.36	0.40	0.20	1.06	0.99	0.99	0.95	1.14	1.14
Avail Cap(c_a), veh/h	217	1014	442	247	1077	480	327	807	400	352	859	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	40.5	40.4	48.8	34.4	32.4	46.1	43.5	43.5	44.6	42.8	42.8
Incr Delay (d2), s/veh	20.5	1.7	3.5	186.6	0.3	0.2	65.4	28.3	42.2	33.7	76.8	86.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	8.6	7.5	20.5	5.0	2.1	16.2	15.7	17.1	13.7	22.7	24.9
LnGrp Delay(d),s/veh	70.6	42.2	43.9	235.3	34.6	32.6	111.6	71.7	85.7	78.3	119.7	129.4
LnGrp LOS	E	D	D	F	C	C	F	E	F	E	F	F
Approach Vol, veh/h		982			808			1538			1824	
Approach Delay, s/veh		47.1			117.9			84.3			114.8	
Approach LOS		D			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	32.8	21.0	32.1	26.3	34.5	16.6	36.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	23.8	28.2	18.4	18.8	23.7	30.3	12.1	12.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7	0.0	0.0	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			93.3									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

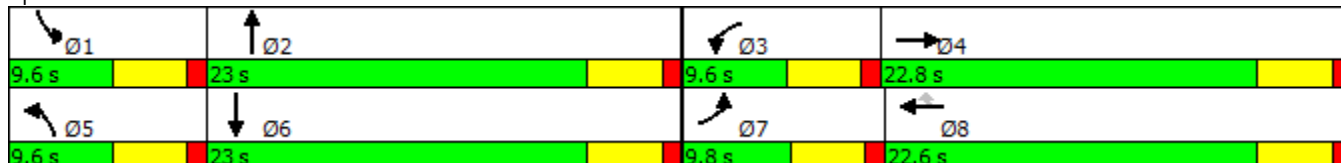


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↘	↘	↑	↗	↘	↑↑	↘	↑↑
Traffic Volume (vph)	232	312	117	288	133	232	916	174	1083
Future Volume (vph)	232	312	117	288	133	232	916	174	1083
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 65
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	312	206	117	288	133	232	916	142	174	1083	280
Future Volume (veh/h)	232	312	206	117	288	133	232	916	142	174	1083	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	237	318	207	119	294	75	237	935	140	178	1105	286
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	301	196	132	526	447	132	1286	192	132	804	206
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1714	1076	700	1714	1900	1615	1714	4542	678	1714	2841	729
Grp Volume(v), veh/h	237	0	525	119	294	75	237	711	364	178	699	692
Grp Sat Flow(s),veh/h/ln	1714	0	1776	1714	1900	1615	1714	1729	1762	1714	1805	1765
Q Serve(g_s), s	5.2	0.0	18.2	4.5	8.6	2.3	5.0	12.1	12.1	5.0	18.4	18.4
Cycle Q Clear(g_c), s	5.2	0.0	18.2	4.5	8.6	2.3	5.0	12.1	12.1	5.0	18.4	18.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.38	1.00		0.41
Lane Grp Cap(c), veh/h	137	0	497	132	526	447	132	979	499	132	511	500
V/C Ratio(X)	1.73	0.00	1.06	0.90	0.56	0.17	1.80	0.73	0.73	1.35	1.37	1.39
Avail Cap(c_a), veh/h	137	0	497	132	526	447	132	979	499	132	511	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	23.4	29.8	20.1	17.8	30.0	21.0	21.1	30.0	23.3	23.3
Incr Delay (d2), s/veh	356.3	0.0	55.8	50.0	1.3	0.2	387.3	2.7	5.4	199.1	177.5	185.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	0.0	16.6	3.9	4.7	1.0	16.5	6.1	6.6	9.6	34.3	34.6
LnGrp Delay(d),s/veh	386.2	0.0	79.2	79.8	21.4	18.0	417.3	23.8	26.4	229.1	200.8	208.9
LnGrp LOS	F		F	E	C	B	F	C	C	F	F	F
Approach Vol, veh/h		762			488			1312			1569	
Approach Delay, s/veh		174.7			35.1			95.6			207.6	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	23.0	9.6	22.8	9.6	23.0	9.8	22.6				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	7.0	14.1	6.5	20.2	7.0	20.4	7.2	10.6				
Green Ext Time (p_c), s	0.0	3.8	0.0	0.0	0.0	0.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			145.6									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	284	111	188	76	447	108	314	1226	125	111	1288	269
Future Vol, veh/h	284	111	188	76	447	108	314	1226	125	111	1288	269
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	309	121	204	83	486	117	341	1333	136	121	1400	292

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3380	3939	846	3085	4017	734	1692	0	0	1468	0	0
Stage 1	1788	1788	-	2083	2083	-	-	-	-	-	-	-
Stage 2	1592	2151	-	1002	1934	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 3	~ 3	310	~ 5	~ 3	367	382	-	-	466	-	-
Stage 1	~ 86	135	-	~ 56	~ 96	-	-	-	-	-	-	-
Stage 2	~ 114	~ 89	-	264	~ 114	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	0	0	310	0	0	367	382	-	-	466	-	-
Mov Cap-2 Maneuver	0	0	-	0	0	-	-	-	-	-	-	-
Stage 1	~ 9	~ 100	-	~ 6	~ 10	-	-	-	-	-	-	-
Stage 2	-	~ 10	-	-	~ 84	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			10.7	1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	382	-	-	-	310	-	367	466	-	-
HCM Lane V/C Ratio	0.893	-	-	-	1.048	-	1.644	0.259	-	-
HCM Control Delay (s)	56.5	-	-	-	102.3	-	327.7	15.4	-	-
HCM Lane LOS	F	-	-	-	F	-	F	C	-	-
HCM 95th %tile Q(veh)	9.1	-	-	-	12	-	35.8	1	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	416	1209	514	391	1019	196	486	808	168	169	823	354
Future Volume (vph)	416	1209	514	391	1019	196	486	808	168	169	823	354
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

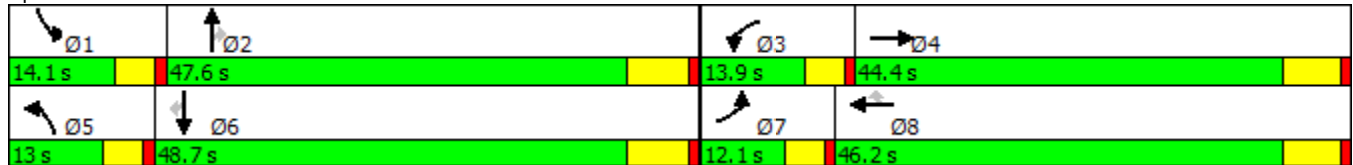
Cycle Length: 120

Actuated Cycle Length: 111.2

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	1209	514	391	1019	196	486	808	168	169	823	354
Future Volume (veh/h)	416	1209	514	391	1019	196	486	808	168	169	823	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	420	1221	0	395	1029	178	491	816	0	171	831	349
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	1211	542	257	667	567	126	1109	496	143	1143	512
Arrive On Green	0.07	0.34	0.00	0.08	0.35	0.35	0.07	0.31	0.00	0.08	0.32	0.32
Sat Flow, veh/h	3141	3610	1615	3141	1900	1615	1714	3610	1615	1714	3610	1615
Grp Volume(v), veh/h	420	1221	0	395	1029	178	491	816	0	171	831	349
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1900	1615	1714	1805	1615	1714	1805	1615
Q Serve(g_s), s	7.5	38.2	0.0	9.3	40.0	9.1	8.4	23.0	0.0	9.5	23.3	21.4
Cycle Q Clear(g_c), s	7.5	38.2	0.0	9.3	40.0	9.1	8.4	23.0	0.0	9.5	23.3	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	1211	542	257	667	567	126	1109	496	143	1143	512
V/C Ratio(X)	2.03	1.01	0.00	1.54	1.54	0.31	3.88	0.74	0.00	1.20	0.73	0.68
Avail Cap(c_a), veh/h	207	1211	542	257	667	567	126	1303	583	143	1338	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	37.8	0.0	52.3	36.9	26.9	52.7	35.3	0.0	52.2	34.5	33.9
Incr Delay (d2), s/veh	480.1	27.9	0.0	261.5	251.2	0.3	1316.0	1.8	0.0	137.3	1.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	23.5	0.0	13.3	67.3	4.1	50.2	11.7	0.0	9.9	11.8	9.9
LnGrp Delay(d),s/veh	533.3	65.7	0.0	313.7	288.1	27.2	1368.7	37.2	0.0	189.5	36.2	36.5
LnGrp LOS	F	F		F	F	C	F	D		F	D	D
Approach Vol, veh/h		1641			1602			1307			1351	
Approach Delay, s/veh		185.4			265.5			537.4			55.7	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	41.5	13.9	44.4	13.0	42.6	12.1	46.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	11.5	25.0	11.3	40.2	10.4	25.3	9.5	42.0				
Green Ext Time (p_c), s	0.0	9.9	0.0	0.0	0.0	10.3	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			255.4									
HCM 2010 LOS			F									

Timings
21: Archibald Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↕
Traffic Volume (vph)	64	28	69	15	95	1361	145	1427
Future Volume (vph)	64	28	69	15	95	1361	145	1427
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.6	22.6	38.2	38.2	9.6	23.5	9.6	16.5
Total Split (s)	38.2	38.2	38.2	38.2	11.6	69.8	12.0	70.2
Total Split (%)	31.8%	31.8%	31.8%	31.8%	9.7%	58.2%	10.0%	58.5%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.

12 s	69.8 s	38.2 s
11.6 s	70.2 s	38.2 s

HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	28	104	69	15	82	95	1361	97	145	1427	36
Future Volume (veh/h)	64	28	104	69	15	82	95	1361	97	145	1427	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	70	30	113	75	16	75	103	1479	103	158	1551	39
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	122	53	143	142	42	107	122	2015	140	129	2131	53
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.07	0.59	0.59	0.08	0.59	0.59
Sat Flow, veh/h	429	311	836	518	246	629	1714	3426	237	1714	3599	90
Grp Volume(v), veh/h	213	0	0	166	0	0	103	776	806	158	777	813
Grp Sat Flow(s),veh/h/ln	1577	0	0	1392	0	0	1714	1805	1858	1714	1805	1884
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	5.8	30.5	31.0	7.4	30.3	30.5
Cycle Q Clear(g_c), s	12.6	0.0	0.0	11.1	0.0	0.0	5.8	30.5	31.0	7.4	30.3	30.5
Prop In Lane	0.33		0.53	0.45		0.45	1.00		0.13	1.00		0.05
Lane Grp Cap(c), veh/h	318	0	0	291	0	0	122	1062	1093	129	1069	1116
V/C Ratio(X)	0.67	0.00	0.00	0.57	0.00	0.00	0.84	0.73	0.74	1.22	0.73	0.73
Avail Cap(c_a), veh/h	581	0	0	531	0	0	122	1162	1196	129	1169	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	0.0	38.1	0.0	0.0	45.1	14.6	14.7	45.5	14.3	14.4
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.8	0.0	0.0	38.8	2.2	2.2	151.7	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	0.0	4.4	0.0	0.0	4.1	15.7	16.3	8.9	15.5	16.2
LnGrp Delay(d),s/veh	41.3	0.0	0.0	39.9	0.0	0.0	83.9	16.8	16.9	197.2	16.4	16.4
LnGrp LOS	D			D			F	B	B	F	B	B
Approach Vol, veh/h		213			166			1685			1748	
Approach Delay, s/veh		41.3			39.9			21.0			32.8	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	64.3		22.0	11.6	64.7		22.0				
Change Period (Y+Rc), s	4.6	6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	7.4	63.3		* 34	7.0	63.7		33.0				
Max Q Clear Time (g_c+I1), s	9.4	33.0		14.6	7.8	32.5		13.1				
Green Ext Time (p_c), s	0.0	24.8		2.2	0.0	25.5		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			28.3									
HCM 2010 LOS			C									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

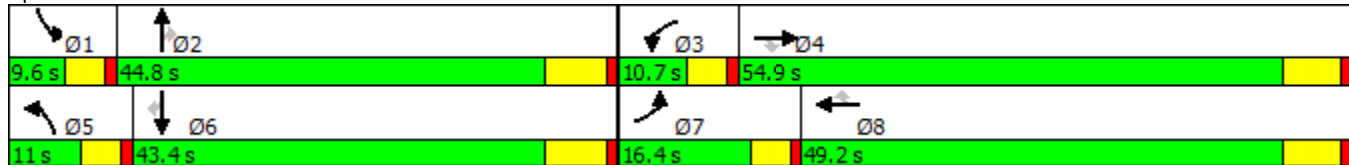


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	156	507	184	109	43	256	1482	187	83	1669	319
Future Volume (vph)	563	156	507	184	109	43	256	1482	187	83	1669	319
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	156	507	184	109	43	256	1482	187	83	1669	319
Future Volume (veh/h)	563	156	507	184	109	43	256	1482	187	83	1669	319
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	586	162	363	192	114	3	267	1544	181	86	1739	321
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	209	497	423	108	385	328	114	1450	649	146	1379	617
Arrive On Green	0.12	0.26	0.26	0.06	0.20	0.20	0.07	0.40	0.40	0.05	0.38	0.38
Sat Flow, veh/h	1714	1900	1615	1714	1900	1615	1714	3610	1615	3141	3610	1615
Grp Volume(v), veh/h	586	162	363	192	114	3	267	1544	181	86	1739	321
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	1900	1615	1714	1805	1615	1570	1805	1615
Q Serve(g_s), s	11.8	6.6	20.7	6.1	4.9	0.1	6.4	38.8	7.3	2.6	36.9	14.8
Cycle Q Clear(g_c), s	11.8	6.6	20.7	6.1	4.9	0.1	6.4	38.8	7.3	2.6	36.9	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	497	423	108	385	328	114	1450	649	146	1379	617
V/C Ratio(X)	2.80	0.33	0.86	1.77	0.30	0.01	2.35	1.06	0.28	0.59	1.26	0.52
Avail Cap(c_a), veh/h	209	958	814	108	846	719	114	1450	649	163	1379	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	28.8	33.9	45.2	32.7	30.7	45.1	28.9	19.5	45.1	29.8	23.0
Incr Delay (d2), s/veh	822.3	0.4	5.2	382.7	0.4	0.0	634.2	43.0	0.2	2.3	123.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	53.4	3.5	9.8	14.4	2.6	0.1	23.0	27.8	3.3	1.2	41.8	6.7
LnGrp Delay(d),s/veh	864.7	29.1	39.1	428.0	33.1	30.8	679.3	71.9	19.7	47.4	153.3	23.8
LnGrp LOS	F	C	D	F	C	C	F	F	B	D	F	C
Approach Vol, veh/h		1111			309			1992			2146	
Approach Delay, s/veh		473.1			278.4			148.6			129.7	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	45.3	10.7	31.5	11.0	43.4	16.4	25.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	4.6	40.8	8.1	22.7	8.4	38.9	13.8	6.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	0.0	0.0	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			213.4									
HCM 2010 LOS			F									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

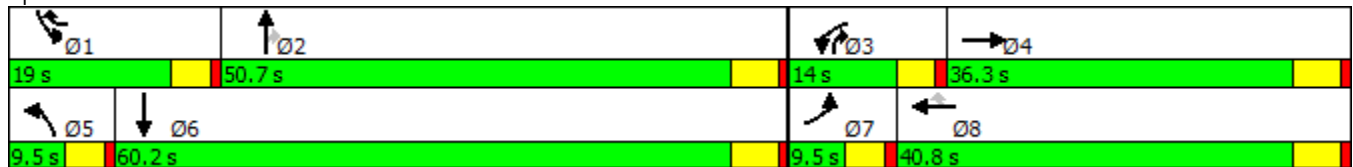


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	274	760	244	618	648	82	1076	280	334	1839
Future Volume (vph)	274	760	244	618	648	82	1076	280	334	1839
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3
Total Split (s)	9.5	36.3	14.0	40.8	19.0	9.5	50.7	14.0	19.0	60.2
Total Split (%)	7.9%	30.3%	11.7%	34.0%	15.8%	7.9%	42.3%	11.7%	15.8%	50.2%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	760	108	244	618	648	82	1076	280	334	1839	209
Future Volume (veh/h)	274	760	108	244	618	648	82	1076	280	334	1839	209
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	298	826	117	274	672	686	89	1209	315	375	2066	227
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	421	60	143	562	673	75	719	739	219	770	85
Arrive On Green	0.04	0.26	0.26	0.08	0.30	0.30	0.04	0.38	0.38	0.12	0.46	0.46
Sat Flow, veh/h	1810	1629	231	1810	1900	1615	1810	1900	1615	1810	1683	185
Grp Volume(v), veh/h	298	0	943	274	672	686	89	1209	315	375	0	2293
Grp Sat Flow(s),veh/h/ln	1810	0	1859	1810	1900	1615	1810	1900	1615	1810	0	1867
Q Serve(g_s), s	5.0	0.0	31.0	9.5	35.5	35.5	5.0	45.4	15.8	14.5	0.0	54.9
Cycle Q Clear(g_c), s	5.0	0.0	31.0	9.5	35.5	35.5	5.0	45.4	15.8	14.5	0.0	54.9
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	75	0	480	143	562	673	75	719	739	219	0	854
V/C Ratio(X)	3.95	0.00	1.96	1.91	1.20	1.02	1.18	1.68	0.43	1.72	0.00	2.68
Avail Cap(c_a), veh/h	75	0	480	143	562	673	75	719	739	219	0	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.5	0.0	44.5	55.3	42.3	35.0	57.5	37.3	21.9	52.8	0.0	32.6
Incr Delay (d2), s/veh	1359.8	0.0	441.0	435.5	104.5	39.7	160.3	312.9	0.5	340.4	0.0	761.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.0	0.0	74.7	22.1	34.9	29.7	5.8	86.2	7.1	27.9	0.0	208.9
LnGrp Delay(d),s/veh	1417.3	0.0	485.5	490.8	146.7	74.7	217.8	350.2	22.4	393.2	0.0	793.7
LnGrp LOS	F		F	F	F	F	F	F	C	F		F
Approach Vol, veh/h		1241			1632			1613			2668	
Approach Delay, s/veh		709.2			174.2			278.9			737.4	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	50.7	14.0	36.3	9.5	60.2	9.5	40.8				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	14.5	45.4	9.5	31.0	5.0	54.9	5.0	35.5				
Max Q Clear Time (g_c+I1), s	16.5	47.4	11.5	33.0	7.0	56.9	7.0	37.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			500.7									
HCM 2010 LOS			F									

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

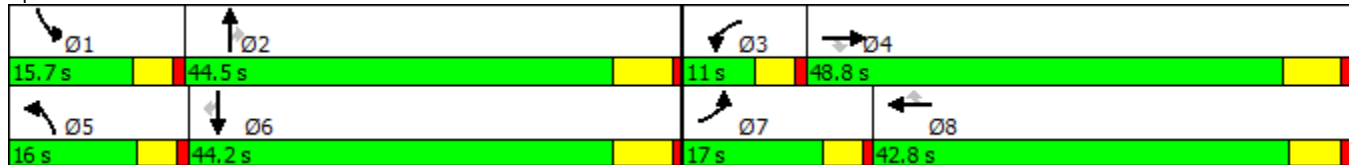


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	415	1613	523	474	1357	258	357	1312	482	681	1048	221
Future Volume (vph)	415	1613	523	474	1357	258	357	1312	482	681	1048	221
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1613	523	474	1357	258	357	1312	482	681	1048	221
Future Volume (veh/h)	415	1613	523	474	1357	258	357	1312	482	681	1048	221
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	441	1716	469	504	1444	269	380	1396	478	724	1115	98
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	362	1846	562	187	1587	488	333	1653	504	324	1640	500
Arrive On Green	0.10	0.36	0.36	0.05	0.31	0.31	0.09	0.32	0.32	0.09	0.32	0.32
Sat Flow, veh/h	3510	5187	1579	3510	5187	1594	3510	5187	1582	3510	5187	1581
Grp Volume(v), veh/h	441	1716	469	504	1444	269	380	1396	478	724	1115	98
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1594	1755	1729	1582	1755	1729	1581
Q Serve(g_s), s	12.4	38.3	32.7	6.4	32.2	16.9	11.4	30.1	35.4	11.1	22.5	5.4
Cycle Q Clear(g_c), s	12.4	38.3	32.7	6.4	32.2	16.9	11.4	30.1	35.4	11.1	22.5	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	1846	562	187	1587	488	333	1653	504	324	1640	500
V/C Ratio(X)	1.22	0.93	0.83	2.69	0.91	0.55	1.14	0.84	0.95	2.23	0.68	0.20
Avail Cap(c_a), veh/h	362	1846	562	187	1598	491	333	1654	504	324	1641	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	37.2	35.4	56.9	40.1	34.8	54.4	38.2	40.0	54.5	35.8	30.0
Incr Delay (d2), s/veh	120.3	8.9	10.5	777.7	8.1	1.3	93.1	4.2	27.6	564.3	1.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	19.8	15.9	23.3	16.6	7.6	9.8	15.0	19.4	30.8	10.9	2.4
LnGrp Delay(d),s/veh	174.1	46.2	46.0	834.5	48.2	36.1	147.5	42.4	67.5	618.8	36.9	30.1
LnGrp LOS	F	D	D	F	D	D	F	D	E	F	D	C
Approach Vol, veh/h		2626			2217			2254			1937	
Approach Delay, s/veh		67.6			225.5			65.4			254.1	
Approach LOS		E			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	44.5	11.0	49.0	16.0	44.2	17.0	43.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	13.1	37.4	8.4	40.3	13.4	24.5	14.4	34.2				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.3	0.0	11.9	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			145.8									
HCM 2010 LOS			F									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

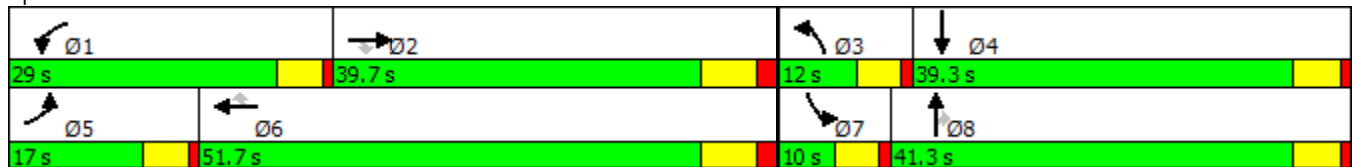


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	78	1488	208	251	1682	93	134	58	157	109	109
Future Volume (vph)	78	1488	208	251	1682	93	134	58	157	109	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1488	208	251	1682	93	134	58	157	109	109	144
Future Volume (veh/h)	78	1488	208	251	1682	93	134	58	157	109	109	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	1653	230	279	1869	103	149	64	145	121	121	153
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1756	535	312	1622	726	127	408	342	91	147	186
Arrive On Green	0.06	0.34	0.34	0.17	0.45	0.45	0.07	0.21	0.21	0.05	0.19	0.19
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1592	1810	758	958
Grp Volume(v), veh/h	87	1653	230	279	1869	103	149	64	145	121	0	274
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1592	1810	0	1716
Q Serve(g_s), s	4.7	30.8	11.2	15.0	44.7	3.7	7.0	2.7	7.8	5.0	0.0	15.2
Cycle Q Clear(g_c), s	4.7	30.8	11.2	15.0	44.7	3.7	7.0	2.7	7.8	5.0	0.0	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	111	1756	535	312	1622	726	127	408	342	91	0	334
V/C Ratio(X)	0.78	0.94	0.43	0.89	1.15	0.14	1.17	0.16	0.42	1.33	0.00	0.82
Avail Cap(c_a), veh/h	218	1756	535	437	1622	726	127	688	576	91	0	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	31.9	25.5	40.3	27.4	16.1	46.2	31.7	33.8	47.2	0.0	38.4
Incr Delay (d2), s/veh	4.4	10.6	0.5	12.9	76.0	0.1	132.7	0.2	0.8	206.1	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	16.4	5.0	8.6	39.2	1.7	8.2	1.4	3.5	7.7	0.0	7.7
LnGrp Delay(d),s/veh	50.4	42.5	26.0	53.2	103.4	16.2	178.9	31.9	34.6	253.4	0.0	43.4
LnGrp LOS	D	D	C	D	F	B	F	C	C	F		D
Approach Vol, veh/h		1970			2251			358			395	
Approach Delay, s/veh		41.0			93.2			94.2			107.7	
Approach LOS		D			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	40.7	12.0	24.6	11.1	51.7	10.0	26.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	17.0	32.8	9.0	17.2	6.7	46.7	7.0	9.8				
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	0.0	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			73.7									
HCM 2010 LOS			E									

Timings
29: Sumner Av. & Limonite Av.

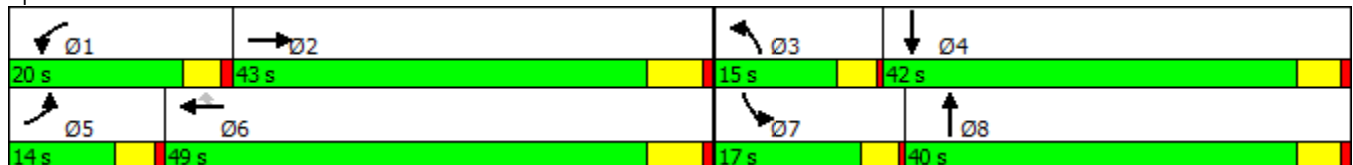


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	114	1575	489	1859	66	421	79	93	166
Future Volume (vph)	114	1575	489	1859	66	421	79	93	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	1575	539	489	1859	66	421	79	321	93	166	88
Future Volume (veh/h)	114	1575	539	489	1859	66	421	79	321	93	166	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	118	1624	550	504	1916	47	434	81	257	96	171	64
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	1442	476	550	2483	773	201	371	330	122	419	151
Arrive On Green	0.05	0.37	0.37	0.16	0.48	0.48	0.11	0.21	0.21	0.07	0.16	0.16
Sat Flow, veh/h	3510	3858	1273	3510	5187	1614	1810	1805	1608	1810	2589	931
Grp Volume(v), veh/h	118	1451	723	504	1916	47	434	81	257	96	117	118
Grp Sat Flow(s),veh/h/ln	1755	1729	1673	1755	1729	1614	1810	1805	1608	1810	1805	1715
Q Serve(g_s), s	3.3	37.0	37.0	14.0	30.2	1.5	11.0	3.7	15.0	5.2	5.8	6.1
Cycle Q Clear(g_c), s	3.3	37.0	37.0	14.0	30.2	1.5	11.0	3.7	15.0	5.2	5.8	6.1
Prop In Lane	1.00		0.76	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	181	1292	625	550	2483	773	201	371	330	122	292	277
V/C Ratio(X)	0.65	1.12	1.16	0.92	0.77	0.06	2.16	0.22	0.78	0.79	0.40	0.43
Avail Cap(c_a), veh/h	337	1292	625	550	2483	773	201	638	568	238	675	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	31.0	31.0	41.1	21.3	13.9	44.0	32.7	37.2	45.5	37.2	37.4
Incr Delay (d2), s/veh	1.5	66.0	87.4	20.0	1.5	0.0	537.6	0.2	3.0	4.1	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	29.4	32.2	8.3	14.7	0.7	35.5	1.9	6.9	2.7	2.9	3.0
LnGrp Delay(d),s/veh	47.6	97.0	118.4	61.1	22.9	13.9	581.6	33.0	40.2	49.6	37.9	38.1
LnGrp LOS	D	F	F	E	C	B	F	C	D	D	D	D
Approach Vol, veh/h		2292			2467			772			331	
Approach Delay, s/veh		101.2			30.5			343.8			41.4	
Approach LOS		F			C			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	43.0	15.0	21.0	9.6	53.4	10.7	25.3				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	16.0	39.0	13.0	8.1	5.3	32.2	7.2	17.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	10.6	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			100.0									
HCM 2010 LOS			F									

Timings

Colony Commerce Center East SP (JN 10522)

30: Scholar Wy. & Limonite Av.

10/03/2017

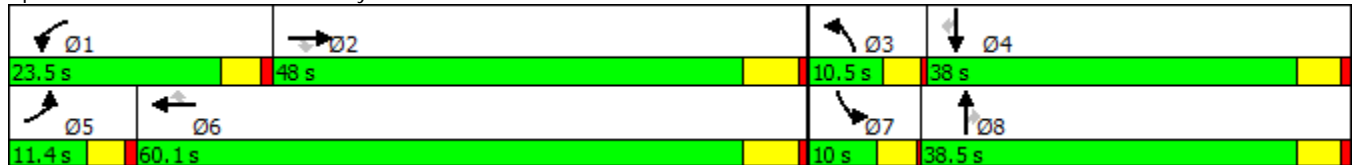


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	65	1526	195	214	2045	47	270	34	186	34	95	66
Future Volume (vph)	65	1526	195	214	2045	47	270	34	186	34	95	66
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1526	195	214	2045	47	270	34	186	34	95	66
Future Volume (veh/h)	65	1526	195	214	2045	47	270	34	186	34	95	66
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	66	1557	197	218	2087	48	276	35	142	35	97	64
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	1791	790	254	2126	929	129	237	201	47	286	126
Arrive On Green	0.05	0.50	0.50	0.14	0.59	0.59	0.07	0.12	0.12	0.03	0.08	0.08
Sat Flow, veh/h	1810	3610	1592	1810	3610	1578	1810	1900	1611	1810	3610	1585
Grp Volume(v), veh/h	66	1557	197	218	2087	48	276	35	142	35	97	64
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1578	1810	1900	1611	1810	1805	1585
Q Serve(g_s), s	3.3	34.9	6.5	10.8	51.5	1.2	6.5	1.5	7.7	1.8	2.3	3.5
Cycle Q Clear(g_c), s	3.3	34.9	6.5	10.8	51.5	1.2	6.5	1.5	7.7	1.8	2.3	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	1791	790	254	2126	929	129	237	201	47	286	126
V/C Ratio(X)	0.77	0.87	0.25	0.86	0.98	0.05	2.14	0.15	0.71	0.75	0.34	0.51
Avail Cap(c_a), veh/h	137	1791	790	376	2137	934	129	697	591	119	1304	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	20.4	13.2	38.4	18.3	8.0	42.4	35.7	38.4	44.2	39.8	40.4
Incr Delay (d2), s/veh	5.5	4.9	0.2	8.6	15.3	0.0	539.8	0.2	3.4	8.6	0.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	18.5	2.9	6.0	29.7	0.5	22.5	0.8	3.6	1.0	1.2	1.6
LnGrp Delay(d),s/veh	48.5	25.3	13.4	47.0	33.6	8.0	582.3	35.9	41.8	52.8	40.3	42.7
LnGrp LOS	D	C	B	D	C	A	F	D	D	D	D	D
Approach Vol, veh/h		1820			2353			453			196	
Approach Delay, s/veh		24.9			34.3			370.6			43.3	
Approach LOS		C			C			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	51.3	10.5	12.2	8.8	59.8	6.4	16.4				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	12.8	36.9	8.5	5.5	5.3	53.5	3.8	9.7				
Green Ext Time (p_c), s	0.1	5.0	0.0	1.0	0.0	0.4	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			62.7									
HCM 2010 LOS			E									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

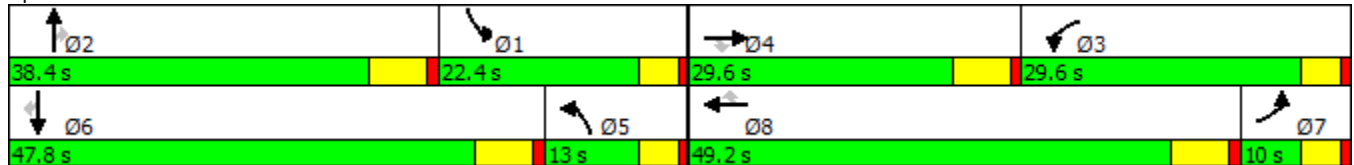


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	925	446	707	933	299	339	359	674	462	785	453
Future Volume (vph)	193	925	446	707	933	299	339	359	674	462	785	453
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	10.0	29.6	29.6	29.6	49.2	49.2	13.0	38.4	38.4	22.4	47.8	47.8
Total Split (%)	8.3%	24.7%	24.7%	24.7%	41.0%	41.0%	10.8%	32.0%	32.0%	18.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	925	446	707	933	299	339	359	674	462	785	453
Future Volume (veh/h)	193	925	446	707	933	299	339	359	674	462	785	453
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	203	974	333	744	982	246	357	378	700	486	826	472
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	297	1011	311	693	1134	507	306	1392	433	493	1172	523
Arrive On Green	0.09	0.19	0.19	0.21	0.31	0.31	0.09	0.27	0.27	0.15	0.32	0.32
Sat Flow, veh/h	3326	5187	1594	3326	3610	1615	3326	5187	1615	3326	3610	1612
Grp Volume(v), veh/h	203	974	333	744	982	246	357	378	700	486	826	472
Grp Sat Flow(s),veh/h/ln	1663	1729	1594	1663	1805	1615	1663	1729	1615	1663	1805	1612
Q Serve(g_s), s	7.1	22.3	23.4	25.0	30.8	14.8	11.1	6.9	32.2	17.5	24.0	33.6
Cycle Q Clear(g_c), s	7.1	22.3	23.4	25.0	30.8	14.8	11.1	6.9	32.2	17.5	24.0	33.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	1011	311	693	1134	507	306	1392	433	493	1172	523
V/C Ratio(X)	0.68	0.96	1.07	1.07	0.87	0.48	1.17	0.27	1.62	0.99	0.71	0.90
Avail Cap(c_a), veh/h	297	1011	311	693	1294	579	306	1392	433	493	1251	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	47.9	48.3	47.5	38.8	33.3	54.5	34.6	43.9	51.0	35.5	38.7
Incr Delay (d2), s/veh	5.3	19.9	71.3	55.7	5.8	0.7	104.0	0.1	287.4	36.5	1.7	17.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	12.5	16.5	16.8	16.2	6.7	9.5	3.3	48.9	10.5	12.2	17.5
LnGrp Delay(d),s/veh	58.3	67.7	119.6	103.2	44.6	34.0	158.4	34.7	331.3	87.4	37.2	56.0
LnGrp LOS	E	E	F	F	D	C	F	C	F	F	D	E
Approach Vol, veh/h		1510			1972			1435			1784	
Approach Delay, s/veh		77.9			65.4			210.2			55.8	
Approach LOS		E			E			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.4	38.4	29.6	29.6	15.7	45.1	15.3	43.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	17.8	32.2	25.0	23.4	8.4	41.6	5.4	43.0				
Max Q Clear Time (g_c+I1), s	19.5	34.2	27.0	25.4	13.1	35.6	9.1	32.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			96.7									
HCM 2010 LOS			F									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

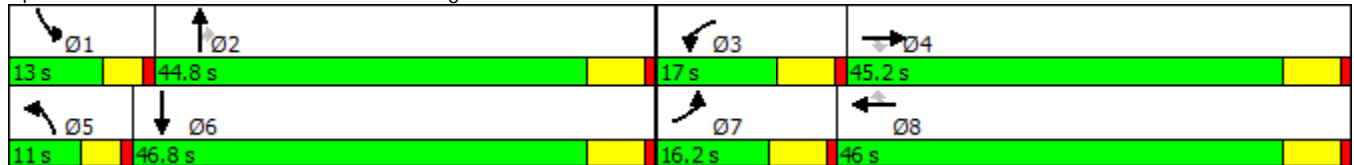


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑	↔	↔↔	↑↑	↔	↔	↑↑↑	↔	↔	↑↑↑
Traffic Volume (vph)	144	252	140	351	201	153	117	812	339	199	1203
Future Volume (vph)	144	252	140	351	201	153	117	812	339	199	1203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	16.2	45.2	45.2	17.0	46.0	46.0	11.0	44.8	44.8	13.0	46.8
Total Split (%)	13.5%	37.7%	37.7%	14.2%	38.3%	38.3%	9.2%	37.3%	37.3%	10.8%	39.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	252	140	351	201	153	117	812	339	199	1203	311
Future Volume (veh/h)	144	252	140	351	201	153	117	812	339	199	1203	311
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	262	135	366	209	119	122	846	307	207	1253	310
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	363	353	300	392	700	313	120	1950	607	157	1646	407
Arrive On Green	0.10	0.19	0.19	0.11	0.19	0.19	0.07	0.38	0.38	0.09	0.40	0.40
Sat Flow, veh/h	3510	1900	1615	3510	3610	1615	1810	5187	1615	1810	4150	1026
Grp Volume(v), veh/h	150	262	135	366	209	119	122	846	307	207	1044	519
Grp Sat Flow(s),veh/h/ln	1755	1900	1615	1755	1805	1615	1810	1729	1615	1810	1729	1718
Q Serve(g_s), s	3.9	12.6	7.2	10.0	4.8	6.2	6.4	11.8	14.2	8.4	25.2	25.3
Cycle Q Clear(g_c), s	3.9	12.6	7.2	10.0	4.8	6.2	6.4	11.8	14.2	8.4	25.2	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	363	353	300	392	700	313	120	1950	607	157	1371	681
V/C Ratio(X)	0.41	0.74	0.45	0.93	0.30	0.38	1.02	0.43	0.51	1.32	0.76	0.76
Avail Cap(c_a), veh/h	363	766	651	392	1486	665	120	2070	645	157	1452	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	37.2	35.0	42.6	33.3	33.9	45.2	22.5	23.3	44.2	25.2	25.2
Incr Delay (d2), s/veh	0.8	3.1	1.1	29.2	0.2	0.8	87.3	0.2	0.7	180.3	2.3	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.9	3.3	6.4	2.4	2.8	6.1	5.6	6.4	12.0	12.5	12.8
LnGrp Delay(d),s/veh	41.4	40.3	36.0	71.8	33.6	34.7	132.7	22.7	23.9	224.4	27.5	29.8
LnGrp LOS	D	D	D	E	C	C	F	C	C	F	C	C
Approach Vol, veh/h		547			694			1275			1770	
Approach Delay, s/veh		39.5			53.9			33.5			51.2	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	42.6	17.0	24.2	11.0	44.6	16.2	25.0				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	8.4	38.6	10.8	39.0	6.4	40.6	10.0	39.8				
Max Q Clear Time (g_c+I1), s	10.4	16.2	12.0	14.6	8.4	27.3	5.9	8.2				
Green Ext Time (p_c), s	0.0	17.0	0.0	3.4	0.0	11.1	0.1	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			44.9									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

10/03/2017

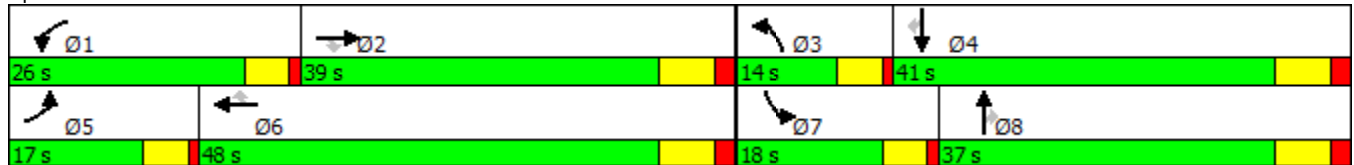


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	332	1057	177	362	1358	648	234	1010	363	633	983	413
Future Volume (vph)	332	1057	177	362	1358	648	234	1010	363	633	983	413
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

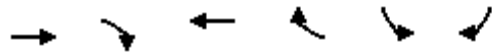
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	332	1057	177	362	1358	648	234	1010	363	633	983	413
Future Volume (veh/h)	332	1057	177	362	1358	648	234	1010	363	633	983	413
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	339	1079	162	369	1386	592	239	1031	293	646	1003	380
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	351	1658	504	429	1233	550	263	1297	393	380	1023	457
Arrive On Green	0.10	0.32	0.32	0.12	0.34	0.34	0.08	0.25	0.25	0.11	0.28	0.28
Sat Flow, veh/h	3510	5187	1579	3510	3610	1611	3510	5187	1572	3510	3610	1612
Grp Volume(v), veh/h	339	1079	162	369	1386	592	239	1031	293	646	1003	380
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1805	1611	1755	1729	1572	1755	1805	1612
Q Serve(g_s), s	11.5	21.4	9.3	12.4	41.0	41.0	8.1	22.3	20.6	13.0	33.1	26.5
Cycle Q Clear(g_c), s	11.5	21.4	9.3	12.4	41.0	41.0	8.1	22.3	20.6	13.0	33.1	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	1658	504	429	1233	550	263	1297	393	380	1023	457
V/C Ratio(X)	0.97	0.65	0.32	0.86	1.12	1.08	0.91	0.80	0.75	1.70	0.98	0.83
Avail Cap(c_a), veh/h	351	1658	504	614	1233	550	263	1297	393	380	1023	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	35.1	31.0	51.7	39.5	39.5	55.1	42.1	41.5	53.5	42.7	40.3
Incr Delay (d2), s/veh	38.6	1.3	0.8	6.3	66.7	60.3	31.7	4.0	9.0	325.5	23.6	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	10.4	4.2	6.4	31.8	27.4	5.1	11.2	9.9	23.5	19.8	13.5
LnGrp Delay(d),s/veh	92.4	36.3	31.7	57.9	106.2	99.8	86.8	46.1	50.5	379.0	66.2	53.9
LnGrp LOS	F	D	C	E	F	F	F	D	D	F	E	D
Approach Vol, veh/h		1580			2347			1563			2029	
Approach Delay, s/veh		47.9			97.0			53.2			163.5	
Approach LOS		D			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	45.3	14.0	41.0	17.0	48.0	18.0	37.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	14.4	23.4	10.1	35.1	13.5	43.0	15.0	24.3				
Green Ext Time (p_c), s	0.3	8.5	0.0	0.0	0.0	0.0	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			95.5									
HCM 2010 LOS			F									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1260	512	741	250	776	951
Future Volume (vph)	1260	512	741	250	776	951
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min

Intersection Summary

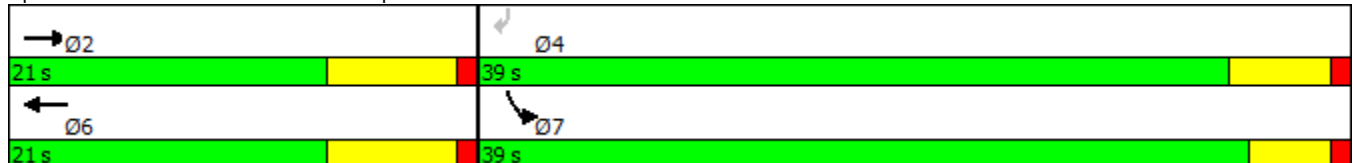
Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

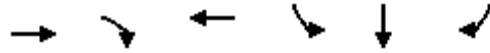
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	1260	512	0	741	250	0	0	0	776	0	951
Future Volume (veh/h)	0	1260	512	0	741	250	0	0	0	776	0	951
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1700	0	1900
Adj Flow Rate, veh/h	0	1370	0	0	805	0				843	0	888
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1234	384	0	859	384				1794	0	922
Arrive On Green	0.00	0.24	0.00	0.00	0.24	0.00				0.57	0.00	0.57
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3141	0	1615
Grp Volume(v), veh/h	0	1370	0	0	805	0				843	0	888
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1570	0	1615
Q Serve(g_s), s	0.0	14.2	0.0	0.0	13.1	0.0				9.4	0.0	31.3
Cycle Q Clear(g_c), s	0.0	14.2	0.0	0.0	13.1	0.0				9.4	0.0	31.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1234	384	0	859	384				1794	0	922
V/C Ratio(X)	0.00	1.11	0.00	0.00	0.94	0.00				0.47	0.00	0.96
Avail Cap(c_a), veh/h	0	1234	384	0	859	384				1810	0	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.8	0.0	0.0	22.3	0.0				7.5	0.0	12.2
Incr Delay (d2), s/veh	0.0	61.6	0.0	0.0	17.5	0.0				0.2	0.0	20.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.7	0.0	0.0	8.6	0.0				4.0	0.0	18.9
LnGrp Delay(d),s/veh	0.0	84.3	0.0	0.0	39.8	0.0				7.7	0.0	33.0
LnGrp LOS		F			D					A		C
Approach Vol, veh/h		1370			805						1731	
Approach Delay, s/veh		84.3			39.8						20.7	
Approach LOS		F			D						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.0		38.7		21.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		16.2		33.3		15.1						
Green Ext Time (p_c), s		0.0		0.8		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			46.9									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR	Ø1
Lane Configurations	↑↑	↑	↑↑	↑	↔	↑	
Traffic Volume (vph)	1655	666	2191	517	0	509	
Future Volume (vph)	1655	666	2191	517	0	509	
Turn Type	NA	Perm	NA	Split	NA	Perm	
Protected Phases	2		6	4	4		1
Permitted Phases		2				4	
Detector Phase	2	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	36.5	23.5	23.5	23.5	10.0
Total Split (s)	55.0	55.0	78.0	32.0	32.0	32.0	23.0
Total Split (%)	50.0%	50.0%	70.9%	29.1%	29.1%	29.1%	21%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?	Yes	Yes					Yes
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

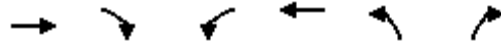
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1655	666	0	2191	913	0	0	0	517	0	509
Future Volume (veh/h)	0	1655	666	0	2191	913	0	0	0	517	0	509
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1706	687	0	2259	941				669	0	292
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2500	1119	3	1753	676				751	0	335
Arrive On Green	0.00	0.69	0.69	0.00	0.92	0.92				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1615	3510	2531	976				3619	0	1615
Grp Volume(v), veh/h	0	1706	687	0	1559	1641				669	0	292
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	1702				1810	0	1615
Q Serve(g_s), s	0.0	30.3	25.0	0.0	76.2	76.2				19.8	0.0	19.2
Cycle Q Clear(g_c), s	0.0	30.3	25.0	0.0	76.2	76.2				19.8	0.0	19.2
Prop In Lane	0.00		1.00	1.00		0.57				1.00		1.00
Lane Grp Cap(c), veh/h	0	2500	1119	3	1250	1179				751	0	335
V/C Ratio(X)	0.00	0.68	0.61	0.00	1.25	1.39				0.89	0.00	0.87
Avail Cap(c_a), veh/h	0	2500	1119	590	1250	1179				872	0	389
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.13	0.13	0.00	0.09	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.9	9.0	0.0	4.3	4.3				42.4	0.0	42.2
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	111.8	177.1				9.4	0.0	15.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.0	11.2	0.0	71.5	88.7				10.8	0.0	10.0
LnGrp Delay(d),s/veh	0.0	10.1	9.4	0.0	116.2	181.4				51.8	0.0	57.7
LnGrp LOS		B	A		F	F				D		E
Approach Vol, veh/h		2393			3200						961	
Approach Delay, s/veh		9.9			149.6						53.6	
Approach LOS		A			F						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	0.0	81.7		28.3		81.7						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	0.0	32.3		21.8		78.2						
Green Ext Time (p_c), s	0.0	17.1		1.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			84.5									
HCM 2010 LOS			F									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	762	1132	383	478	485	138
Future Volume (vph)	762	1132	383	478	485	138
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	762	1132	383	478	485	138		
Future Volume (veh/h)	762	1132	383	478	485	138		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	794	1053	399	498	505	94		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2222	853	471	3519	324	161		
Arrive On Green	0.43	0.43	0.15	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	794	1053	399	498	505	94		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	6.2	25.7	7.4	2.0	6.0	3.3		
Cycle Q Clear(g_c), s	6.2	25.7	7.4	2.0	6.0	3.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2222	853	471	3519	324	161		
V/C Ratio(X)	0.36	1.23	0.85	0.14	1.56	0.58		
Avail Cap(c_a), veh/h	2222	853	471	3519	324	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.37	0.37	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.6	12.7	24.8	3.4	27.0	25.8		
Incr Delay (d2), s/veh	0.2	109.3	13.4	0.1	266.4	14.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	39.9	4.1	1.0	14.6	2.1		
LnGrp Delay(d),s/veh	11.7	122.1	38.3	3.5	293.4	40.2		
LnGrp LOS	B	F	D	A	F	D		
Approach Vol, veh/h	1847			897	599			
Approach Delay, s/veh	74.6			19.0	253.7			
Approach LOS	E			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	33.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	9.4	27.7				4.0		8.0
Green Ext Time (p_c), s	0.0	0.0				19.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			91.8					
HCM 2010 LOS			F					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	Ø5
Lane Configurations	↑↑	↑↑	↗	↖	↕	↗	
Traffic Volume (vph)	1909	2519	480	586	0	910	
Future Volume (vph)	1909	2519	480	586	0	910	
Turn Type	NA	NA	Perm	Split	NA	Perm	
Protected Phases	2	6		8	8		5
Permitted Phases			6			8	
Detector Phase	2	6	6	8	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	34.5	34.5	10.5	10.5	10.5	10.0
Total Split (s)	72.0	46.0	46.0	38.0	38.0	38.0	26.0
Total Split (%)	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%	24%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag		Lag	Lag				Lead
Lead-Lag Optimize?		Yes	Yes				Yes
Recall Mode	C-Max	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1909	263	0	2519	480	586	0	910	0	0	0
Future Volume (veh/h)	0	1909	263	0	2519	480	586	0	910	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	1928	266	0	2544	456	820	0	442			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	3	1946	262	0	2198	971	1054	0	470			
Arrive On Green	0.00	0.61	0.61	0.00	0.61	0.61	0.29	0.00	0.29			
Sat Flow, veh/h	3510	3197	431	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	0	1069	1125	0	2544	456	820	0	442			
Grp Sat Flow(s),veh/h/ln	1755	1805	1823	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	0.0	62.5	67.0	0.0	67.0	17.2	22.8	0.0	29.4			
Cycle Q Clear(g_c), s	0.0	62.5	67.0	0.0	67.0	17.2	22.8	0.0	29.4			
Prop In Lane	1.00		0.24	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	3	1099	1110	0	2198	971	1054	0	470			
V/C Ratio(X)	0.00	0.97	1.01	0.00	1.16	0.47	0.78	0.00	0.94			
Avail Cap(c_a), veh/h	686	1099	1110	0	2198	971	1069	0	477			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.58	0.58	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	20.6	21.5	0.0	21.5	11.8	35.7	0.0	38.1			
Incr Delay (d2), s/veh	0.0	15.2	24.1	0.0	76.5	1.6	3.7	0.0	26.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	35.5	40.7	0.0	56.3	7.9	11.9	0.0	16.6			
LnGrp Delay(d),s/veh	0.0	35.9	45.7	0.0	98.0	13.4	39.4	0.0	64.9			
LnGrp LOS		D	F		F	B	D		E			
Approach Vol, veh/h		2194			3000			1262				
Approach Delay, s/veh		40.9			85.2			48.3				
Approach LOS		D			F			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.5			0.0	72.5		37.5				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		69.0			0.0	69.0		31.4				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			62.9									
HCM 2010 LOS			E									
Notes												

APPENDIX 7.2:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

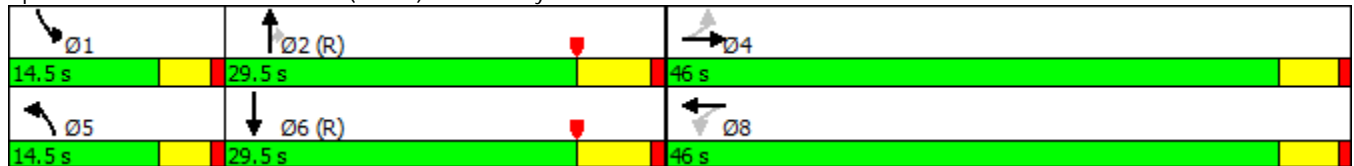


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	10	8	231	62	25	1150	159	473	2337
Future Volume (vph)	10	8	231	62	25	1150	159	473	2337
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min





















Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	5	231	62	465	25	1150	159	473	2337	56
Future Volume (veh/h)	10	8	5	231	62	465	25	1150	159	473	2337	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	10	8	4	241	65	438	26	1198	140	493	2434	55
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	250	194	86	278	67	418	91	943	422	190	1152	26
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.05	0.26	0.26	0.11	0.32	0.32
Sat Flow, veh/h	422	426	188	493	148	918	1714	3610	1615	1714	3609	81
Grp Volume(v), veh/h	22	0	0	744	0	0	26	1198	140	493	1213	1276
Grp Sat Flow(s),veh/h/ln	1036	0	0	1559	0	0	1714	1805	1615	1714	1805	1886
Q Serve(g_s), s	0.0	0.0	0.0	40.1	0.0	0.0	1.3	23.5	6.3	10.0	28.7	28.7
Cycle Q Clear(g_c), s	0.6	0.0	0.0	41.0	0.0	0.0	1.3	23.5	6.3	10.0	28.7	28.7
Prop In Lane	0.45		0.18	0.32		0.59	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	530	0	0	763	0	0	91	943	422	190	576	602
V/C Ratio(X)	0.04	0.00	0.00	0.97	0.00	0.00	0.29	1.27	0.33	2.59	2.11	2.12
Avail Cap(c_a), veh/h	530	0	0	763	0	0	190	943	422	190	576	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.67	0.67	0.67	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	25.4	0.0	0.0	41.0	33.2	26.9	40.0	30.6	30.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	26.3	0.0	0.0	0.4	127.7	1.4	729.8	503.2	510.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	24.0	0.0	0.0	0.6	28.4	3.0	43.3	94.8	100.1
LnGrp Delay(d),s/veh	13.5	0.0	0.0	51.7	0.0	0.0	41.4	160.9	28.3	769.8	533.9	540.8
LnGrp LOS	B			D			D	F	C	F	F	F
Approach Vol, veh/h		22			744			1364			2982	
Approach Delay, s/veh		13.5			51.7			145.0			575.8	
Approach LOS		B			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	29.5		46.0	9.3	34.7		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	25.5		2.6	3.3	30.7		43.0				
Green Ext Time (p_c), s	0.0	0.0		3.5	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			382.2									
HCM 2010 LOS			F									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

1/24/2017

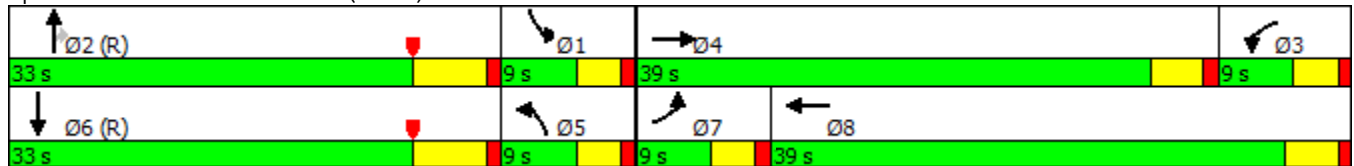


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶↷	↶	↶↷	↶	↶↷	↶	↶	↶↷
Traffic Volume (vph)	131	397	269	366	124	749	205	548	1479
Future Volume (vph)	131	397	269	366	124	749	205	548	1479
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

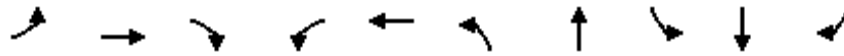
1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	397	150	269	366	280	124	749	205	548	1479	212
Future Volume (veh/h)	131	397	150	269	366	280	124	749	205	548	1479	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	134	405	151	274	373	264	127	764	201	559	1509	178
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	528	195	115	450	314	373	940	421	441	976	114
Arrive On Green	0.06	0.20	0.20	0.07	0.22	0.22	0.07	0.09	0.09	0.26	0.30	0.30
Sat Flow, veh/h	1714	2584	953	1714	2035	1420	1714	3610	1615	1714	3253	379
Grp Volume(v), veh/h	134	281	275	274	330	307	127	764	201	559	830	857
Grp Sat Flow(s),veh/h/ln	1714	1805	1732	1714	1805	1649	1714	1805	1615	1714	1805	1827
Q Serve(g_s), s	5.0	13.2	13.5	6.0	15.7	16.0	6.3	18.7	10.7	23.1	27.0	27.0
Cycle Q Clear(g_c), s	5.0	13.2	13.5	6.0	15.7	16.0	6.3	18.7	10.7	23.1	27.0	27.0
Prop In Lane	1.00		0.55	1.00		0.86	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	95	369	354	115	399	365	373	940	421	441	542	548
V/C Ratio(X)	1.41	0.76	0.78	2.39	0.83	0.84	0.34	0.81	0.48	1.27	1.53	1.56
Avail Cap(c_a), veh/h	95	692	664	115	692	632	373	1083	484	441	542	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	33.7	33.8	42.0	33.4	33.5	35.6	39.0	35.3	33.4	31.5	31.5
Incr Delay (d2), s/veh	234.2	3.3	3.7	652.3	1.7	2.0	0.2	6.0	3.0	122.3	240.2	254.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	6.9	6.8	23.6	8.0	7.4	3.0	10.2	5.1	25.9	49.5	52.3
LnGrp Delay(d),s/veh	276.7	37.0	37.5	694.3	35.1	35.5	35.8	44.9	38.3	155.7	271.7	286.2
LnGrp LOS	F	D	D	F	D	D	D	D	D	F	F	F
Approach Vol, veh/h		690			911			1092			2246	
Approach Delay, s/veh		83.8			233.5			42.6			248.4	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.1	29.4	10.5	22.9	23.6	33.0	9.0	24.4				
Change Period (Y+Rc), s	4.0	6.0	4.5	* 4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	* 35	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	25.1	20.7	8.0	15.5	8.3	29.0	7.0	18.0				
Green Ext Time (p_c), s	0.0	2.7	0.0	2.9	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			177.1									
HCM 2010 LOS			F									
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

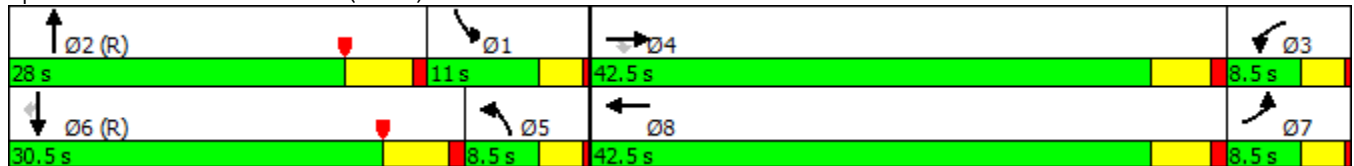


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↖	↑↑	↗
Traffic Volume (vph)	29	11	21	70	28	48	984	111	1626	115
Future Volume (vph)	29	11	21	70	28	48	984	111	1626	115
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



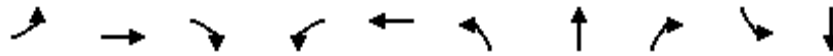
HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	11	21	70	28	63	48	984	182	111	1626	115
Future Volume (veh/h)	29	11	21	70	28	63	48	984	182	111	1626	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	31	12	20	74	30	54	51	1047	193	118	1730	113
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	112	94	94	47	84	710	761	140	758	1003	449
Arrive On Green	0.04	0.06	0.06	0.05	0.08	0.08	0.14	0.08	0.08	0.44	0.28	0.28
Sat Flow, veh/h	1714	1900	1607	1714	609	1097	1714	3046	560	1714	3610	1615
Grp Volume(v), veh/h	31	12	20	74	0	84	51	619	621	118	1730	113
Grp Sat Flow(s),veh/h/ln	1714	1900	1607	1714	0	1706	1714	1805	1801	1714	1805	1615
Q Serve(g_s), s	1.6	0.5	1.1	3.8	0.0	4.3	2.3	22.5	22.5	3.7	25.0	4.9
Cycle Q Clear(g_c), s	1.6	0.5	1.1	3.8	0.0	4.3	2.3	22.5	22.5	3.7	25.0	4.9
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	63	112	94	94	0	131	710	451	450	758	1003	449
V/C Ratio(X)	0.49	0.11	0.21	0.79	0.00	0.64	0.07	1.37	1.38	0.16	1.73	0.25
Avail Cap(c_a), veh/h	95	792	669	95	0	711	710	451	450	758	1003	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.47	0.47	0.47	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	40.1	40.4	42.0	0.0	40.4	23.8	41.3	41.3	15.0	32.5	25.2
Incr Delay (d2), s/veh	2.2	0.2	0.4	31.8	0.0	2.0	0.0	174.4	176.8	0.0	326.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.3	0.5	2.6	0.0	2.1	1.1	33.1	33.3	1.7	57.9	2.2
LnGrp Delay(d),s/veh	44.7	40.3	40.8	73.8	0.0	42.3	23.8	215.7	218.1	15.0	359.2	25.4
LnGrp LOS	D	D	D	E		D	C	F	F	B	F	C
Approach Vol, veh/h		63			158			1291			1961	
Approach Delay, s/veh		42.6			57.1			209.3			319.3	
Approach LOS		D			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	43.3	28.0	8.4	10.3	40.8	30.5	6.8	11.9				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	5.7	24.5	5.8	3.1	4.3	27.0	3.6	6.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			261.4									
HCM 2010 LOS			F									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

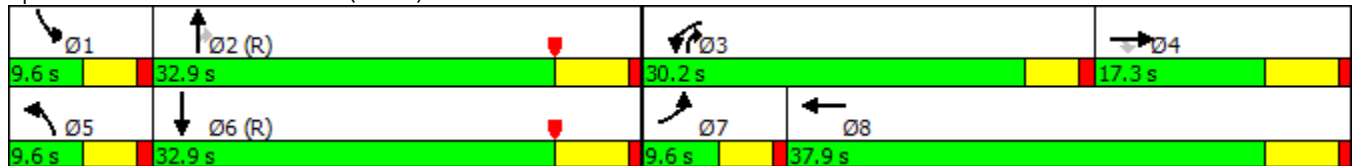


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	80	329	199	705	418	186	871	518	255	1369
Future Volume (vph)	80	329	199	705	418	186	871	518	255	1369
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	329	199	705	418	227	186	871	518	255	1369	94
Future Volume (veh/h)	80	329	199	705	418	227	186	871	518	255	1369	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	81	332	0	712	422	214	188	880	345	258	1383	90
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	307	261	784	421	214	95	1083	877	95	1031	67
Arrive On Green	0.06	0.16	0.00	0.25	0.36	0.36	0.06	0.30	0.30	0.11	0.60	0.60
Sat Flow, veh/h	1714	1900	1615	3141	1184	601	1714	3610	1579	1714	3437	223
Grp Volume(v), veh/h	81	332	0	712	0	636	188	880	345	258	724	749
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1570	0	1785	1714	1805	1579	1714	1805	1855
Q Serve(g_s), s	4.2	14.5	0.0	19.8	0.0	32.0	5.0	20.3	11.3	5.0	27.0	27.0
Cycle Q Clear(g_c), s	4.2	14.5	0.0	19.8	0.0	32.0	5.0	20.3	11.3	5.0	27.0	27.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	95	307	261	784	0	635	95	1083	877	95	542	556
V/C Ratio(X)	0.85	1.08	0.00	0.91	0.00	1.00	1.97	0.81	0.39	2.71	1.34	1.35
Avail Cap(c_a), veh/h	95	307	261	893	0	635	95	1083	877	95	542	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.59	0.59	0.59
Uniform Delay (d), s/veh	42.1	37.7	0.0	32.8	0.0	29.0	42.5	29.2	11.7	40.0	18.0	18.0
Incr Delay (d2), s/veh	46.2	74.9	0.0	11.2	0.0	36.2	441.7	0.6	0.1	786.5	159.2	162.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	14.0	0.0	9.8	0.0	22.1	14.0	10.1	5.0	23.1	36.9	38.4
LnGrp Delay(d),s/veh	88.3	112.7	0.0	44.0	0.0	65.2	484.2	29.8	11.8	826.5	177.2	180.7
LnGrp LOS	F	F		D		F	F	C	B	F	F	F
Approach Vol, veh/h		413			1348			1413			1731	
Approach Delay, s/veh		107.9			54.0			85.9			275.5	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	32.9	27.1	20.4	9.6	32.9	9.6	37.9				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	7.0	22.3	21.8	16.5	7.0	29.0	6.2	34.0				
Green Ext Time (p_c), s	0.0	3.7	0.7	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			145.9									
HCM 2010 LOS			F									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

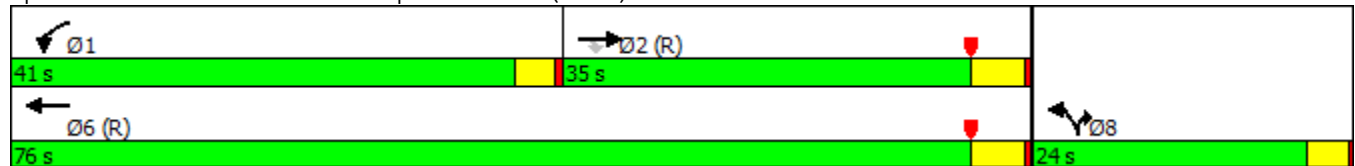


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	543	328	383	2184	234	1057
Future Volume (vph)	543	328	383	2184	234	1057
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	35.0	35.0	41.0	76.0	24.0	24.0
Total Split (%)	35.0%	35.0%	41.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 51 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

1/24/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↘	↑↑	↘↗	↗		
Traffic Volume (veh/h)	543	328	383	2184	234	1057		
Future Volume (veh/h)	543	328	383	2184	234	1057		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1700	1900		
Adj Flow Rate, veh/h	566	0	399	2275	244	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1920	859	432	2955	318	164		
Arrive On Green	0.18	0.00	0.25	0.82	0.10	0.00		
Sat Flow, veh/h	3705	1615	1714	3705	3141	1615		
Grp Volume(v), veh/h	566	0	399	2275	244	0		
Grp Sat Flow(s),veh/h/ln	1805	1615	1714	1805	1570	1615		
Q Serve(g_s), s	13.6	0.0	22.7	30.9	7.6	0.0		
Cycle Q Clear(g_c), s	13.6	0.0	22.7	30.9	7.6	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1920	859	432	2955	318	164		
V/C Ratio(X)	0.29	0.00	0.92	0.77	0.77	0.00		
Avail Cap(c_a), veh/h	1920	859	643	2955	644	331		
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00		
Uniform Delay (d), s/veh	24.9	0.0	36.5	4.4	43.8	0.0		
Incr Delay (d2), s/veh	0.4	0.0	1.3	0.2	3.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.9	0.0	10.9	14.9	3.5	0.0		
LnGrp Delay(d),s/veh	25.3	0.0	37.8	4.6	47.6	0.0		
LnGrp LOS	C		D	A	D			
Approach Vol, veh/h	566			2674	244			
Approach Delay, s/veh	25.3			9.6	47.6			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.7	57.7				86.4		13.6
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	37.5	30.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	24.7	15.6				32.9		9.6
Green Ext Time (p_c), s	0.5	12.8				27.9		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			14.8					
HCM 2010 LOS			B					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

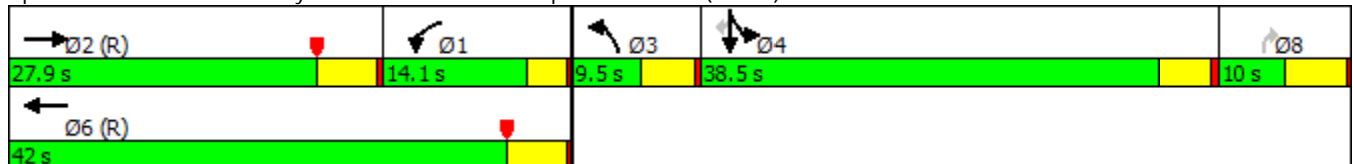


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	1049	454	678	71	241	276	24	64
Future Volume (vph)	1049	454	678	71	241	276	24	64
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	27.9	14.1	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	27.9%	14.1%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 10 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1049	19	454	678	0	71	0	241	276	24	64
Future Volume (veh/h)	0	1049	19	454	678	0	71	0	241	276	24	64
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1800	1900	0	1800	0	1900	1800	1900	1900
Adj Flow Rate, veh/h	0	1153	21	499	745	0	78	0	265	322	0	70
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	830	15	866	2832	0	0	0	0	413	0	192
Arrive On Green	0.00	0.23	0.23	1.00	1.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	0	3720	66	1714	3705	0		0		3429	0	1590
Grp Volume(v), veh/h	0	574	600	499	745	0		0.0		322	0	70
Grp Sat Flow(s),veh/h/ln	0	1805	1887	1714	1805	0				1714	0	1590
Q Serve(g_s), s	0.0	22.9	22.9	0.0	0.0	0.0				9.1	0.0	4.1
Cycle Q Clear(g_c), s	0.0	22.9	22.9	0.0	0.0	0.0				9.1	0.0	4.1
Prop In Lane	0.00		0.03	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	413	432	866	2832	0				413	0	192
V/C Ratio(X)	0.00	1.39	1.39	0.58	0.26	0.00				0.78	0.00	0.37
Avail Cap(c_a), veh/h	0	413	432	866	2832	0				1166	0	540
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.6	0.0	0.0	0.0				42.7	0.0	40.5
Incr Delay (d2), s/veh	0.0	189.2	188.8	0.6	0.2	0.0				2.4	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	33.1	34.5	0.1	0.1	0.0				4.5	0.0	1.8
LnGrp Delay(d),s/veh	0.0	227.8	227.4	0.6	0.2	0.0				45.1	0.0	41.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		1174			1244						392	
Approach Delay, s/veh		227.6			0.4						44.4	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.5	27.9		16.6		83.4						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.6	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	2.0	24.9		11.1		2.0						
Green Ext Time (p_c), s	2.7	0.0		0.9		3.9						
Intersection Summary												
HCM 2010 Ctrl Delay			101.4									
HCM 2010 LOS			F									
Notes												

Intersection	
Intersection Delay, s/veh	288.4
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	68	580	0	615	344	0	233	124
Future Vol, veh/h	0	68	580	0	615	344	0	233	124
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	79	674	0	715	400	0	271	144
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	196.5	443.9	37.4
HCM LOS	F	F	E

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	0%	65%
Vol Thru, %	90%	64%	0%
Vol Right, %	0%	36%	35%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	648	959	357
LT Vol	68	0	233
Through Vol	580	615	0
RT Vol	0	344	124
Lane Flow Rate	753	1115	415
Geometry Grp	1	1	1
Degree of Util (X)	1.356	1.934	0.798
Departure Headway (Hd)	7.765	6.842	8.451
Convergence, Y/N	Yes	Yes	Yes
Cap	475	546	432
Service Time	5.765	4.842	6.451
HCM Lane V/C Ratio	1.585	2.042	0.961
HCM Control Delay	196.5	443.9	37.4
HCM Lane LOS	F	F	E
HCM 95th-tile Q	28.8	67.1	7.1

Intersection

Int Delay, s/veh 567.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	5	573	235	163	564	10	363	10	195	41	22	31
Future Vol, veh/h	5	573	235	163	564	10	363	10	195	41	22	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	75	100	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	91	91	92	91	92	91	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	630	258	179	620	11	399	11	214	45	24	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	630	0	0	1653	1630	630	1736	1624	625
Stage 1	-	-	-	-	-	-	641	641	-	983	983	-
Stage 2	-	-	-	-	-	-	1012	989	-	753	641	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	961	-	-	962	-	-	~ 79	103	485	69	104	488
Stage 1	-	-	-	-	-	-	466	473	-	302	329	-
Stage 2	-	-	-	-	-	-	~ 291	327	-	405	473	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	961	-	-	962	-	-	~ 49	83	485	~ 30	84	488
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 49	83	-	~ 30	84	-
Stage 1	-	-	-	-	-	-	464	471	-	300	268	-
Stage 2	-	-	-	-	-	-	~ 201	266	-	220	471	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.1	\$ 2165.7	256.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	49	393	961	-	-	962	-	-	30	163
HCM Lane V/C Ratio	8.141	0.573	0.006	-	-	0.186	-	-	1.486	0.353
HCM Control Delay (s)	\$ 3373.5	25.8	8.8	-	-	9.6	-	-	\$ 537.8	38.7
HCM Lane LOS	F	D	A	-	-	A	-	-	F	E
HCM 95th %tile Q(veh)	46.9	3.5	0	-	-	0.7	-	-	5.1	1.5

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 10012.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	
Traffic Vol, veh/h	127	492	191	307	179	180	487	78	167	47	44	72
Future Vol, veh/h	127	492	191	307	179	180	487	78	167	47	44	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	200	200	-	-	200	-	0	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	138	535	208	334	195	196	529	85	182	51	48	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	535	0	0	1834	1869	267	1546	1771	292
Stage 1	-	-	-	-	-	-	811	811	-	960	960	-
Stage 2	-	-	-	-	-	-	1023	1058	-	586	811	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1180	-	-	1043	-	-	~ 53	~ 73	737	86	84	752
Stage 1	-	-	-	-	-	-	~ 344	396	-	311	338	-
Stage 2	-	-	-	-	-	-	~ 287	304	-	468	396	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1180	-	-	1043	-	-	~ 5	~ 44	737	-	50	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 5	~ 44	-	-	50	-
Stage 1	-	-	-	-	-	-	~ 304	350	-	275	230	-
Stage 2	-	-	-	-	-	-	~ 138	207	-	236	350	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	4.6	\$ 32425.2	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	5	44	737	1180	-	-	1043	-	-	-	119
HCM Lane V/C Ratio	105.87	1.927	0.246	0.117	-	-	0.32	-	-	-	1.06
HCM Control Delay (s)	\$ 48632.3	\$ 633.7	11.5	8.5	-	-	10.1	-	-	-	169.5
HCM Lane LOS	F	F	B	A	-	-	B	-	-	-	F
HCM 95th %tile Q(veh)	68.4	8.7	1	0.4	-	-	1.4	-	-	-	7.3

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	418.7
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↵	↕↗			↵	↕↗			↵	↗	
Traffic Vol, veh/h	0	256	487	133	0	331	770	50	0	169	521	298
Future Vol, veh/h	0	256	487	133	0	331	770	50	0	169	521	298
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	275	524	143	0	356	828	54	0	182	560	320
Number of Lanes	0	1	2	0	0	1	2	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	160.5	320	845.6
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	64%	0%	100%	55%	0%	100%	84%	0%	42%
Vol Right, %	0%	36%	0%	0%	45%	0%	0%	16%	0%	58%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	819	256	325	295	331	513	307	21	321
LT Vol	169	0	256	0	0	331	0	0	21	0
Through Vol	0	521	0	325	162	0	513	257	0	135
RT Vol	0	298	0	0	133	0	0	50	0	186
Lane Flow Rate	182	881	275	349	318	356	552	330	23	345
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.695	3.184	1.006	1.227	1.089	1.31	1.956	1.158	0.086	1.233
Departure Headway (Hd)	11.799	11.013	22.485	21.939	21.594	18.229	17.684	17.56	19.721	18.766
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	307	343	165	171	171	203	210	211	183	197
Service Time	9.499	8.713	20.185	19.639	19.294	15.929	15.384	15.26	17.421	16.466
HCM Lane V/C Ratio	0.593	2.569	1.667	2.041	1.86	1.754	2.629	1.564	0.126	1.751
HCM Control Delay	37.5	1012.3	127.4	197	149.1	215.6	484.1	157.9	24.3	188.6
HCM Lane LOS	E	F	F	F	F	F	F	F	C	F
HCM 95th-tile Q	4.8	93.4	7.8	11.3	9.2	14.4	29.4	11.7	0.3	12.6

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↶	↷	
Traffic Vol, veh/h	0	21	135	186
Future Vol, veh/h	0	21	135	186
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	23	145	200
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	178.5
HCM LOS	F

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

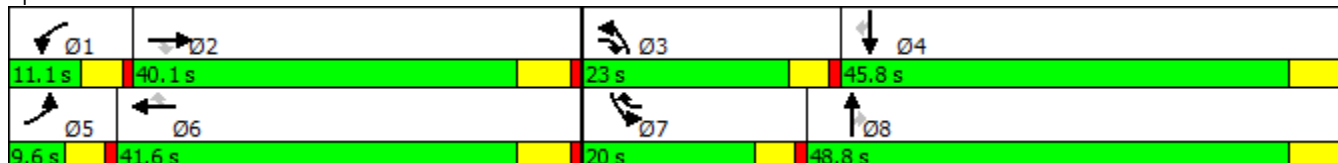


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	312	381	359	85	765	164	511	436	61	95	185	363
Future Volume (vph)	312	381	359	85	765	164	511	436	61	95	185	363
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	381	359	85	765	164	511	436	61	95	185	363
Future Volume (veh/h)	312	381	359	85	765	164	511	436	61	95	185	363
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	339	414	378	92	832	145	555	474	56	103	201	394
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	1085	757	140	1078	562	541	1483	655	155	1040	465
Arrive On Green	0.05	0.30	0.30	0.04	0.30	0.30	0.17	0.41	0.41	0.05	0.29	0.29
Sat Flow, veh/h	3141	3610	1592	3141	3610	1615	3141	3610	1595	3141	3610	1615
Grp Volume(v), veh/h	339	414	378	92	832	145	555	474	56	103	201	394
Grp Sat Flow(s),veh/h/ln	1570	1805	1592	1570	1805	1615	1570	1805	1595	1570	1805	1615
Q Serve(g_s), s	5.0	9.7	17.5	3.1	22.5	6.9	18.4	9.5	2.3	3.4	4.5	24.6
Cycle Q Clear(g_c), s	5.0	9.7	17.5	3.1	22.5	6.9	18.4	9.5	2.3	3.4	4.5	24.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	1085	757	140	1078	562	541	1483	655	155	1040	465
V/C Ratio(X)	2.31	0.38	0.50	0.66	0.77	0.26	1.03	0.32	0.09	0.66	0.19	0.85
Avail Cap(c_a), veh/h	147	1158	789	191	1209	621	541	1483	655	452	1351	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	29.5	19.5	50.3	34.2	25.0	44.3	21.4	19.2	49.9	28.7	35.8
Incr Delay (d2), s/veh	609.3	0.2	0.5	2.0	2.8	0.2	45.7	0.1	0.1	1.8	0.1	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	4.9	7.8	1.4	11.6	3.1	11.3	4.8	1.0	1.5	2.2	12.1
LnGrp Delay(d),s/veh	660.3	29.7	20.0	52.2	37.0	25.2	89.9	21.5	19.3	51.8	28.8	44.5
LnGrp LOS	F	C	B	D	D	C	F	C	B	D	C	D
Approach Vol, veh/h		1131			1069			1085			698	
Approach Delay, s/veh		215.5			36.7			56.4			41.0	
Approach LOS		F			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	37.9	23.0	36.6	9.6	37.7	9.9	49.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	5.1	19.5	20.4	26.6	7.0	24.5	5.4	11.5				
Green Ext Time (p_c), s	0.0	9.0	0.0	4.2	0.0	7.4	0.1	6.7				
Intersection Summary												
HCM 2010 Ctrl Delay			93.6									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 0.1

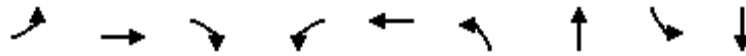
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	568	35	0	1009	0	15
Future Vol, veh/h	568	35	0	1009	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	617	38	0	1097	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	328
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.9
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	674
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	674
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	674	-	-	-
HCM Lane V/C Ratio	0.024	-	-	-
HCM Control Delay (s)	10.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Timings
13: Driveway 2 & Merrill Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙	↑↑		↕		↕
Traffic Volume (vph)	23	542	17	98	924	16	0	90	0
Future Volume (vph)	23	542	17	98	924	16	0	90	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases			2			8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	31.6	31.6	31.6	31.6
Total Split (s)	9.8	49.3	49.3	19.0	58.5	31.7	31.7	31.7	31.7
Total Split (%)	9.8%	49.3%	49.3%	19.0%	58.5%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2		4.6		4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 52.2
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated




















Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	542	17	98	924	31	16	0	21	90	0	69
Future Volume (veh/h)	23	542	17	98	924	31	16	0	21	90	0	69
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	25	589	18	107	1004	34	17	0	23	98	0	75
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	1569	702	136	1728	59	197	36	181	247	27	127
Arrive On Green	0.03	0.43	0.43	0.08	0.49	0.49	0.19	0.00	0.19	0.19	0.00	0.19
Sat Flow, veh/h	1714	3610	1615	1714	3563	121	515	186	948	726	142	664
Grp Volume(v), veh/h	25	589	18	107	509	529	40	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1879	1649	0	0	1531	0	0
Q Serve(g_s), s	0.8	5.8	0.3	3.2	10.6	10.6	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.8	5.8	0.3	3.2	10.6	10.6	1.0	0.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	0.42		0.57	0.57		0.43
Lane Grp Cap(c), veh/h	50	1569	702	136	876	911	414	0	0	401	0	0
V/C Ratio(X)	0.50	0.38	0.03	0.78	0.58	0.58	0.10	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	171	2976	1331	472	1806	1879	900	0	0	889	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.0	10.0	8.4	23.6	9.7	9.7	17.5	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.1	0.0	3.7	0.6	0.6	0.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.9	0.1	1.7	5.4	5.6	0.5	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	32.6	10.1	8.5	27.3	10.3	10.2	17.6	0.0	0.0	19.9	0.0	0.0
LnGrp LOS	C	B	A	C	B	B	B			B		
Approach Vol, veh/h		632			1145			40				173
Approach Delay, s/veh		11.0			11.8			17.6				19.9
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	28.9		14.6	6.1	31.6		14.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	14.4	43.1		27.1	5.2	52.3		27.1				
Max Q Clear Time (g_c+I1), s	5.2	7.8		7.3	2.8	12.6		3.0				
Green Ext Time (p_c), s	0.1	12.4		1.2	0.0	12.8		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.4								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	2	630	649	1714	741
Future Volume (vph)	2	630	649	1714	741
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	456	2	630	649	1714	0	0	741	283
Future Volume (veh/h)	0	0	0	456	2	630	649	1714	0	0	741	283
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1800	1900	1900	1800	1900	0	0	1900	1900
Adj Flow Rate, veh/h				507	2	524	721	1904	0	0	823	234
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				461	2	413	457	3181	0	0	1550	429
Arrive On Green				0.26	0.26	0.26	0.09	0.20	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1803	7	1615	1714	5358	0	0	5393	1419
Grp Volume(v), veh/h				509	0	524	721	1904	0	0	786	271
Grp Sat Flow(s),veh/h/ln				1810	0	1615	1714	1729	0	0	1634	1644
Q Serve(g_s), s				23.0	0.0	23.0	24.0	30.0	0.0	0.0	12.0	12.4
Cycle Q Clear(g_c), s				23.0	0.0	23.0	24.0	30.0	0.0	0.0	12.0	12.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.86
Lane Grp Cap(c), veh/h				463	0	413	457	3181	0	0	1481	497
V/C Ratio(X)				1.10	0.00	1.27	1.58	0.60	0.00	0.00	0.53	0.55
Avail Cap(c_a), veh/h				463	0	413	457	3181	0	0	1481	497
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	33.5	41.0	25.8	0.0	0.0	26.1	26.2
Incr Delay (d2), s/veh				72.0	0.0	139.2	260.7	0.1	0.0	0.0	1.4	4.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				20.7	0.0	33.8	44.5	14.4	0.0	0.0	5.6	6.2
LnGrp Delay(d),s/veh				105.5	0.0	172.7	301.7	25.9	0.0	0.0	27.5	30.5
LnGrp LOS				F		F	F	C			C	C
Approach Vol, veh/h					1033			2625			1057	
Approach Delay, s/veh					139.6			101.7			28.2	
Approach LOS					F			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	28.0	33.0						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	27.2						
Max Q Clear Time (g_c+I1), s		32.0		25.0	26.0	14.4						
Green Ext Time (p_c), s		19.5		0.0	0.0	11.5						
Intersection Summary												
HCM 2010 Ctrl Delay				93.5								
HCM 2010 LOS				F								

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/23/2017

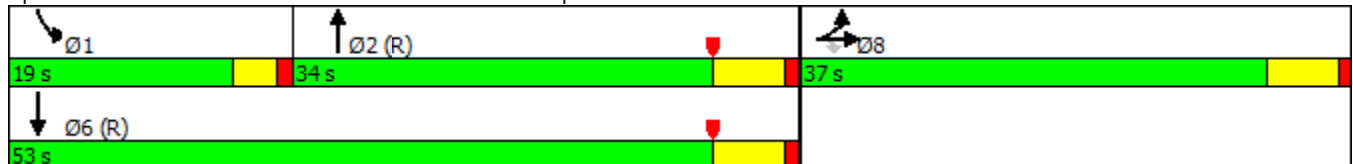


Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	2	406	1842	271	926
Future Volume (vph)	2	406	1842	271	926
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	2	406	0	0	0	0	1842	546	271	926	0
Future Volume (veh/h)	521	2	406	0	0	0	0	1842	546	271	926	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h	560	2	227				0	1981	469	291	996	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	601	2	530				0	1742	409	286	2791	0
Arrive On Green	0.33	0.33	0.33				0.00	0.33	0.33	0.06	0.18	0.00
Sat Flow, veh/h	1803	6	1592				0	5595	1252	1714	5358	0
Grp Volume(v), veh/h	562	0	227				0	1821	629	291	996	0
Grp Sat Flow(s),veh/h/ln	1810	0	1592				0	1634	1679	1714	1729	0
Q Serve(g_s), s	27.0	0.0	10.0				0.0	29.4	29.4	15.0	15.2	0.0
Cycle Q Clear(g_c), s	27.0	0.0	10.0				0.0	29.4	29.4	15.0	15.2	0.0
Prop In Lane	1.00		1.00				0.00		0.75	1.00		0.00
Lane Grp Cap(c), veh/h	603	0	530				0	1602	549	286	2791	0
V/C Ratio(X)	0.93	0.00	0.43				0.00	1.14	1.15	1.02	0.36	0.00
Avail Cap(c_a), veh/h	627	0	552				0	1602	549	286	2791	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.68	0.68	0.00
Uniform Delay (d), s/veh	29.0	0.0	23.3				0.0	30.3	30.3	42.5	23.3	0.0
Incr Delay (d2), s/veh	20.5	0.0	0.5				0.0	62.3	67.7	48.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	0.0	4.4				0.0	22.4	23.9	11.0	7.3	0.0
LnGrp Delay(d),s/veh	49.6	0.0	23.9				0.0	92.6	98.0	91.4	23.6	0.0
LnGrp LOS	D		C					F	F	F	C	
Approach Vol, veh/h		789						2450			1287	
Approach Delay, s/veh		42.2						94.0			38.9	
Approach LOS		D						F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	35.2				54.2		35.8				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	31.4				17.2		29.0				
Green Ext Time (p_c), s	0.0	0.0				26.4		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			69.3									
HCM 2010 LOS			E									

Timings
16: Archibald Av. & Walnut Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	53	11	169	32	74	2027	134	957
Future Volume (vph)	53	11	169	32	74	2027	134	957
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 67.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

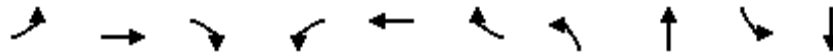
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	11	28	169	32	261	74	2027	76	134	957	22
Future Volume (veh/h)	53	11	28	169	32	261	74	2027	76	134	957	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	60	12	22	190	36	156	83	2278	84	151	1075	24
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	141	259	400	73	317	105	2144	79	187	2428	54
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.06	0.42	0.42	0.11	0.47	0.47
Sat Flow, veh/h	1146	596	1093	1306	308	1336	1714	5136	189	1714	5219	116
Grp Volume(v), veh/h	60	0	34	190	0	192	83	1530	832	151	712	387
Grp Sat Flow(s),veh/h/ln	1146	0	1689	1306	0	1644	1714	1729	1867	1714	1729	1878
Q Serve(g_s), s	3.1	0.0	1.0	8.6	0.0	6.6	3.1	27.2	27.2	5.6	9.0	9.0
Cycle Q Clear(g_c), s	9.7	0.0	1.0	9.7	0.0	6.6	3.1	27.2	27.2	5.6	9.0	9.0
Prop In Lane	1.00		0.65	1.00		0.81	1.00		0.10	1.00		0.06
Lane Grp Cap(c), veh/h	267	0	401	400	0	390	105	1443	779	187	1609	874
V/C Ratio(X)	0.23	0.00	0.08	0.48	0.00	0.49	0.79	1.06	1.07	0.81	0.44	0.44
Avail Cap(c_a), veh/h	523	0	778	691	0	757	253	1443	779	195	1609	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	19.4	23.1	0.0	21.5	30.2	19.0	19.0	28.4	11.7	11.7
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.9	0.0	1.0	4.9	41.5	51.8	19.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.5	3.2	0.0	3.1	1.6	21.1	25.1	3.6	4.3	4.7
LnGrp Delay(d),s/veh	26.1	0.0	19.4	24.0	0.0	22.4	35.1	60.4	70.8	47.7	11.9	12.1
LnGrp LOS	C		B	C		C	D	F	F	D	B	B
Approach Vol, veh/h		94			382			2445			1250	
Approach Delay, s/veh		23.7			23.2			63.1			16.3	
Approach LOS		C			C			E			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	33.4		20.1	8.6	36.5		20.1				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	7.6	29.2		11.7	5.1	11.0		11.7				
Green Ext Time (p_c), s	0.0	0.0		2.2	0.0	13.0		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			44.5									
HCM 2010 LOS			D									

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/23/2017

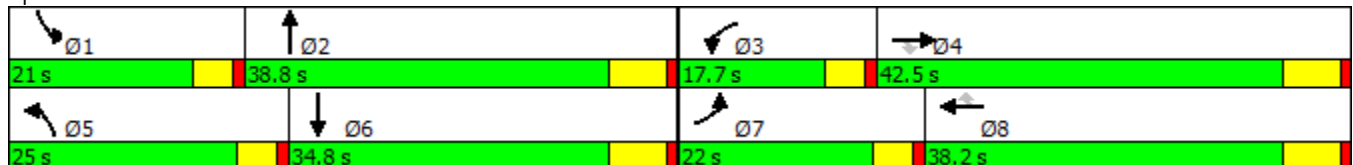


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↔	↘	↑↑↔
Traffic Volume (vph)	211	411	200	242	284	270	186	1445	242	734
Future Volume (vph)	211	411	200	242	284	270	186	1445	242	734
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	411	200	242	284	270	186	1445	245	242	734	120
Future Volume (veh/h)	211	411	200	242	284	270	186	1445	245	242	734	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	234	457	189	269	316	207	207	1606	262	269	816	60
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	844	372	206	726	317	236	1342	218	257	1534	112
Arrive On Green	0.15	0.23	0.23	0.12	0.20	0.20	0.14	0.30	0.30	0.15	0.31	0.31
Sat Flow, veh/h	1714	3610	1592	1714	3610	1577	1714	4495	730	1714	4932	361
Grp Volume(v), veh/h	234	457	189	269	316	207	207	1234	634	269	571	305
Grp Sat Flow(s),veh/h/ln	1714	1805	1592	1714	1805	1577	1714	1729	1768	1714	1729	1835
Q Serve(g_s), s	14.6	12.1	11.3	13.1	8.4	13.2	12.9	32.6	32.6	16.4	14.9	15.0
Cycle Q Clear(g_c), s	14.6	12.1	11.3	13.1	8.4	13.2	12.9	32.6	32.6	16.4	14.9	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		0.20
Lane Grp Cap(c), veh/h	261	844	372	206	726	317	236	1032	528	257	1075	571
V/C Ratio(X)	0.90	0.54	0.51	1.31	0.44	0.65	0.88	1.20	1.20	1.05	0.53	0.53
Avail Cap(c_a), veh/h	273	1200	529	206	1058	462	320	1032	528	257	1075	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	36.7	36.4	48.1	38.2	40.1	46.2	38.3	38.3	46.4	31.1	31.1
Incr Delay (d2), s/veh	27.5	0.5	1.1	169.2	0.4	2.3	15.0	97.6	108.0	68.4	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	6.1	5.1	15.8	4.2	6.0	7.1	29.5	31.7	12.6	7.2	7.8
LnGrp Delay(d),s/veh	72.9	37.3	37.5	217.3	38.6	42.4	61.2	135.9	146.3	114.8	31.6	32.1
LnGrp LOS	E	D	D	F	D	D	E	F	F	F	C	C
Approach Vol, veh/h		880			792			2075			1145	
Approach Delay, s/veh		46.8			100.3			131.6			51.2	
Approach LOS		D			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	38.8	17.7	31.7	19.6	40.2	21.2	28.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	18.4	34.6	15.1	14.1	14.9	17.0	16.6	15.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.1	10.1	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			92.5									
HCM 2010 LOS			F									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

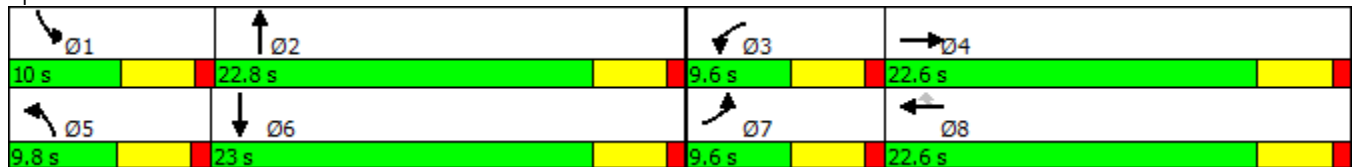


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	204	212	99	140	110	112	860	96	773
Future Volume (vph)	204	212	99	140	110	112	860	96	773
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 63.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	212	184	99	140	110	112	860	92	96	773	117
Future Volume (veh/h)	204	212	184	99	140	110	112	860	92	96	773	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	224	233	193	109	154	-3	123	945	97	105	849	124
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	133	260	215	133	513	436	139	1384	142	133	904	132
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.00	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1714	962	797	1714	1900	1615	1714	4782	490	1714	3161	462
Grp Volume(v), veh/h	224	0	426	109	154	-3	123	683	359	105	485	488
Grp Sat Flow(s),veh/h/ln	1714	0	1759	1714	1900	1615	1714	1729	1814	1714	1805	1818
Q Serve(g_s), s	5.0	0.0	15.0	4.0	4.1	0.0	4.6	11.3	11.3	3.9	16.9	16.9
Cycle Q Clear(g_c), s	5.0	0.0	15.0	4.0	4.1	0.0	4.6	11.3	11.3	3.9	16.9	16.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.27	1.00		0.25
Lane Grp Cap(c), veh/h	133	0	475	133	513	436	139	1001	525	133	516	520
V/C Ratio(X)	1.68	0.00	0.90	0.82	0.30	-0.01	0.89	0.68	0.68	0.79	0.94	0.94
Avail Cap(c_a), veh/h	133	0	492	133	531	452	139	1001	525	144	516	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	22.6	29.2	18.7	0.0	29.3	20.2	20.3	29.2	22.4	22.4
Incr Delay (d2), s/veh	337.2	0.0	18.7	31.5	0.3	0.0	44.9	1.9	3.7	23.8	25.4	25.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	9.7	3.1	2.2	0.0	3.9	5.6	6.1	2.7	12.0	12.1
LnGrp Delay(d),s/veh	366.9	0.0	41.3	60.7	19.0	0.0	74.2	22.2	23.9	53.0	47.8	47.7
LnGrp LOS	F		D	E	B		E	C	C	D	D	D
Approach Vol, veh/h		650			260			1165			1078	
Approach Delay, s/veh		153.5			36.7			28.2			48.3	
Approach LOS		F			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	23.2	9.6	22.0	9.8	23.0	9.6	22.0				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	5.9	13.3	6.0	17.0	6.6	18.9	7.0	6.1				
Green Ext Time (p_c), s	0.0	3.9	0.0	0.3	0.0	0.0	0.0	2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			61.6									
HCM 2010 LOS			E									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	174	107	137	116	103	97	287	951	33	31	1021	199
Future Vol, veh/h	174	107	137	116	103	97	287	951	33	31	1021	199
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	189	116	149	126	112	105	312	1034	36	34	1110	216

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2482	2978	663	2356	3069	535	1326	0	0	1070	0	0
Stage 1	1285	1285	-	1676	1676	-	-	-	-	-	-	-
Stage 2	1197	1693	-	680	1393	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 15	~ 14	409	~ 19	~ 12	495	527	-	-	659	-	-
Stage 1	~ 177	237	-	~ 101	153	-	-	-	-	-	-	-
Stage 2	200	150	-	412	211	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	~ 5	409	-	~ 5	495	527	-	-	659	-	-
Mov Cap-2 Maneuver	-	~ 5	-	-	~ 5	-	-	-	-	-	-	-
Stage 1	~ 72	225	-	~ 41	~ 62	-	-	-	-	-	-	-
Stage 2	-	~ 61	-	~ 120	200	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.8	0.3
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	527	-	-	-	11	-	10	659	-	-
HCM Lane V/C Ratio	0.592	-	-	-24.111	-	-21.739	0.051	-	-	-
HCM Control Delay (s)	21.3	-	-	\$ 11063	-	\$ 10060.8	10.8	-	-	-
HCM Lane LOS	C	-	-	F	-	F	B	-	-	-
HCM 95th %tile Q(veh)	3.8	-	-	34.6	-	28.8	0.2	-	-	-

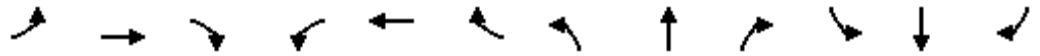
Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/27/2017

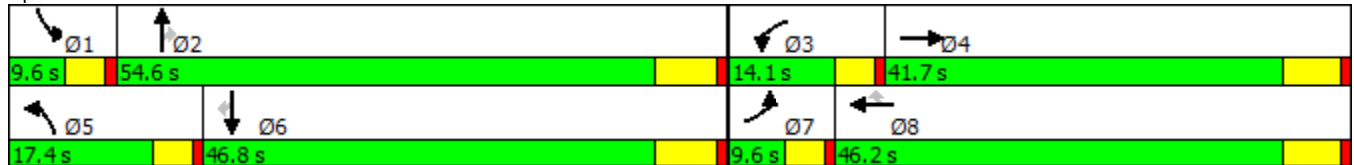


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	239	720	401	366	676	199	371	651	147	108	775	283
Future Volume (vph)	239	720	401	366	676	199	371	651	147	108	775	283
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



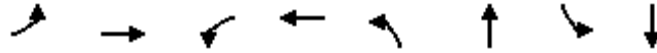
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	720	401	366	676	199	371	651	147	108	775	283
Future Volume (veh/h)	239	720	401	366	676	199	371	651	147	108	775	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	254	766	0	389	719	164	395	693	0	115	824	282
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1126	504	262	668	568	193	1330	595	75	1082	484
Arrive On Green	0.04	0.31	0.00	0.08	0.35	0.35	0.11	0.37	0.00	0.04	0.30	0.30
Sat Flow, veh/h	3141	3610	1615	3141	1900	1615	1714	3610	1615	1714	3610	1615
Grp Volume(v), veh/h	254	766	0	389	719	164	395	693	0	115	824	282
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1900	1615	1714	1805	1615	1714	1805	1615
Q Serve(g_s), s	5.0	21.1	0.0	9.5	40.0	8.3	12.8	17.1	0.0	5.0	23.6	16.9
Cycle Q Clear(g_c), s	5.0	21.1	0.0	9.5	40.0	8.3	12.8	17.1	0.0	5.0	23.6	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1126	504	262	668	568	193	1330	595	75	1082	484
V/C Ratio(X)	1.84	0.68	0.00	1.48	1.08	0.29	2.05	0.52	0.00	1.53	0.76	0.58
Avail Cap(c_a), veh/h	138	1126	504	262	668	568	193	1526	682	75	1278	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	34.2	0.0	52.2	36.9	26.6	50.5	28.1	0.0	54.4	36.2	33.8
Incr Delay (d2), s/veh	405.1	1.7	0.0	237.1	57.3	0.3	489.6	0.3	0.0	293.2	2.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	10.8	0.0	12.7	31.4	3.8	32.3	8.5	0.0	8.5	12.1	7.6
LnGrp Delay(d),s/veh	459.5	35.9	0.0	289.2	94.3	26.9	540.1	28.4	0.0	347.6	38.5	34.9
LnGrp LOS	F	D		F	F	C	F	C		F	D	C
Approach Vol, veh/h		1020			1272			1088			1221	
Approach Delay, s/veh		141.4			145.2			214.2			66.8	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	48.4	14.1	41.7	17.4	40.6	9.6	46.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	7.0	19.1	11.5	23.1	14.8	25.6	7.0	42.0				
Green Ext Time (p_c), s	0.0	12.3	0.0	7.4	0.0	8.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			139.9									
HCM 2010 LOS			F									

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/27/2017

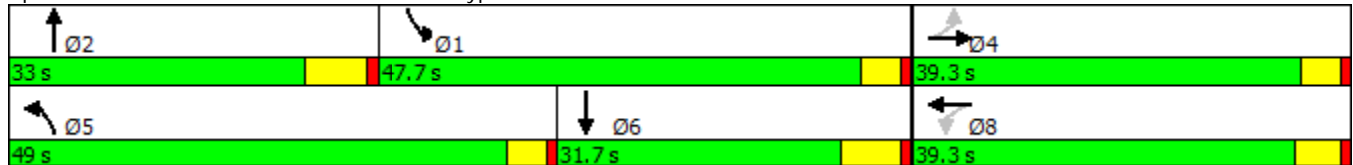


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	112	54	130	33	306	1102	88	1255
Future Volume (vph)	112	54	130	33	306	1102	88	1255
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	39.3	39.3	39.3	39.3	49.0	33.0	47.7	31.7
Total Split (%)	32.8%	32.8%	32.8%	32.8%	40.8%	27.5%	39.8%	26.4%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	54	301	130	33	139	306	1102	54	88	1255	354
Future Volume (veh/h)	112	54	301	130	33	139	306	1102	54	88	1255	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	115	56	310	134	34	113	315	1136	55	91	1294	365
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	78	341	197	60	135	358	1000	48	301	762	210
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.21	0.29	0.29	0.18	0.27	0.27
Sat Flow, veh/h	320	228	994	406	176	392	1714	3505	170	1714	2798	771
Grp Volume(v), veh/h	481	0	0	281	0	0	315	585	606	91	824	835
Grp Sat Flow(s),veh/h/ln	1542	0	0	974	0	0	1714	1805	1870	1714	1805	1764
Q Serve(g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	16.6	26.5	26.5	4.3	25.3	25.3
Cycle Q Clear(g_c), s	27.6	0.0	0.0	26.5	0.0	0.0	16.6	26.5	26.5	4.3	25.3	25.3
Prop In Lane	0.24		0.64	0.48		0.40	1.00		0.09	1.00		0.44
Lane Grp Cap(c), veh/h	577	0	0	392	0	0	358	515	533	301	492	481
V/C Ratio(X)	0.83	0.00	0.00	0.72	0.00	0.00	0.88	1.14	1.14	0.30	1.68	1.74
Avail Cap(c_a), veh/h	624	0	0	422	0	0	819	515	533	795	492	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	0.0	27.8	0.0	0.0	35.6	33.2	33.2	33.3	33.8	33.8
Incr Delay (d2), s/veh	8.9	0.0	0.0	5.3	0.0	0.0	7.1	82.8	82.5	0.2	312.7	340.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	0.0	0.0	7.4	0.0	0.0	8.5	25.0	25.9	2.0	55.3	57.7
LnGrp Delay(d),s/veh	37.8	0.0	0.0	33.1	0.0	0.0	42.7	116.0	115.7	33.6	346.5	374.1
LnGrp LOS	D			C			D	F	F	C	F	F
Approach Vol, veh/h		481			281			1506			1750	
Approach Delay, s/veh		37.8			33.1			100.6			343.4	
Approach LOS		D			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.8	33.0		37.1	24.0	31.8		37.1				
Change Period (Y+Rc), s	6.5	* 6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	43.1	* 27		* 35	44.4	25.2		34.1				
Max Q Clear Time (g_c+I1), s	6.3	28.5		29.6	18.6	27.3		28.5				
Green Ext Time (p_c), s	12.0	0.0		2.3	0.9	0.0		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay	194.1											
HCM 2010 LOS	F											
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

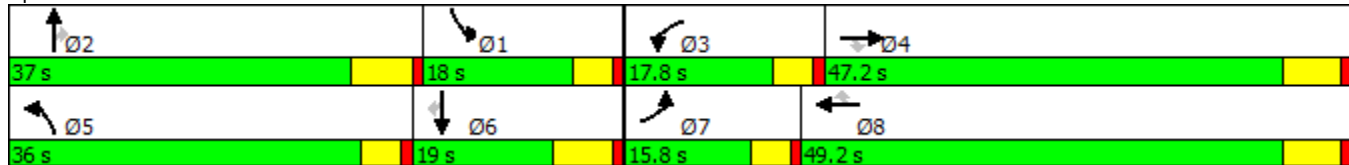


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	69	260	213	131	86	371	1173	388	85	1236	551
Future Volume (vph)	325	69	260	213	131	86	371	1173	388	85	1236	551
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	15.8	47.2	47.2	17.8	49.2	49.2	36.0	37.0	37.0	18.0	19.0	19.0
Total Split (%)	13.2%	39.3%	39.3%	14.8%	41.0%	41.0%	30.0%	30.8%	30.8%	15.0%	15.8%	15.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	325	69	260	213	131	86	371	1173	388	85	1236	551
Future Volume (veh/h)	325	69	260	213	131	86	371	1173	388	85	1236	551
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	335	71	216	220	135	26	382	1209	384	88	1274	511
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	328	279	255	358	304	420	1294	579	121	630	282
Arrive On Green	0.13	0.17	0.17	0.15	0.19	0.19	0.25	0.36	0.36	0.04	0.17	0.17
Sat Flow, veh/h	1714	1900	1615	1714	1900	1615	1714	3610	1615	3141	3610	1615
Grp Volume(v), veh/h	335	71	216	220	135	26	382	1209	384	88	1274	511
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	1900	1615	1714	1805	1615	1570	1805	1615
Q Serve(g_s), s	11.2	2.7	10.8	10.6	5.2	0.9	18.3	27.3	9.5	2.3	14.7	14.7
Cycle Q Clear(g_c), s	11.2	2.7	10.8	10.6	5.2	0.9	18.3	27.3	9.5	2.3	14.7	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	328	279	255	358	304	420	1294	579	121	630	282
V/C Ratio(X)	1.47	0.22	0.78	0.86	0.38	0.09	0.91	0.93	0.66	0.72	2.02	1.81
Avail Cap(c_a), veh/h	228	923	785	268	968	823	638	1305	584	499	630	282
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	30.0	33.3	35.1	29.9	16.6	30.9	26.1	7.2	40.1	34.8	34.8
Incr Delay (d2), s/veh	234.7	0.3	4.6	22.1	0.7	0.1	9.2	12.4	2.8	3.1	466.2	380.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	1.4	5.1	6.6	2.8	0.5	9.7	15.7	6.0	1.1	48.0	36.3
LnGrp Delay(d),s/veh	271.3	30.3	38.0	57.2	30.6	16.7	40.1	38.5	10.0	43.2	501.0	415.0
LnGrp LOS	F	C	D	E	C	B	D	D	B	D	F	F
Approach Vol, veh/h		622			381			1975			1873	
Approach Delay, s/veh		162.8			45.0			33.3			456.0	
Approach LOS		F			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	36.7	17.1	20.7	25.3	21.2	15.8	22.1				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	13.4	* 31	13.2	41.0	31.4	12.5	11.2	43.0				
Max Q Clear Time (g_c+I1), s	4.3	29.3	12.6	12.8	20.3	16.7	13.2	7.2				
Green Ext Time (p_c), s	0.3	1.0	0.0	1.8	0.4	0.0	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			214.0									
HCM 2010 LOS			F									
Notes												

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	8	0	1932	1666	42
Future Vol, veh/h	0	8	0	1932	1666	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	9	0	2100	1811	46

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	928	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.1	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	235	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	235	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	20.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	235	-	-
HCM Lane V/C Ratio	-	0.037	-	-
HCM Control Delay (s)	-	20.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Timings
24: Archibald Av. & Driveway 4



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↘	↘	↑↑↑	↘	↑↑↑	↘
Traffic Volume (vph)	42	0	59	0	125	1735	36	1599	40
Future Volume (vph)	42	0	59	0	125	1735	36	1599	40
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	35.6	35.6	35.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	35.6	35.6	35.6	35.6	27.0	73.0	11.4	57.4	57.4
Total Split (%)	29.7%	29.7%	29.7%	29.7%	22.5%	60.8%	9.5%	47.8%	47.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4



HCM 2010 Signalized Intersection Summary
 24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	12	59	0	155	125	1735	191	36	1599	40
Future Volume (veh/h)	42	0	12	59	0	155	125	1735	191	36	1599	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	0	13	64	0	168	136	1886	208	39	1738	43
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	0	274	307	0	274	169	3011	330	61	2956	920
Arrive On Green	0.17	0.00	0.17	0.17	0.00	0.17	0.10	0.63	0.63	0.03	0.57	0.57
Sat Flow, veh/h	1172	0	1615	1423	0	1615	1714	4746	520	1810	5187	1615
Grp Volume(v), veh/h	46	0	13	64	0	168	136	1371	723	39	1738	43
Grp Sat Flow(s),veh/h/ln	1172	0	1615	1423	0	1615	1714	1729	1808	1810	1729	1615
Q Serve(g_s), s	3.6	0.0	0.6	3.7	0.0	9.2	7.4	22.8	23.1	2.0	20.6	1.1
Cycle Q Clear(g_c), s	12.7	0.0	0.6	4.4	0.0	9.2	7.4	22.8	23.1	2.0	20.6	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	161	0	274	307	0	274	169	2194	1147	61	2956	920
V/C Ratio(X)	0.29	0.00	0.05	0.21	0.00	0.61	0.81	0.62	0.63	0.64	0.59	0.05
Avail Cap(c_a), veh/h	346	0	528	531	0	528	405	2434	1273	130	2956	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	33.0	34.8	0.0	36.5	41.9	10.5	10.6	45.3	13.2	9.0
Incr Delay (d2), s/veh	1.0	0.0	0.1	0.3	0.0	2.2	8.7	0.4	0.9	10.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.3	1.5	0.0	4.2	3.9	10.8	11.7	1.2	9.9	0.5
LnGrp Delay(d),s/veh	43.4	0.0	33.1	35.2	0.0	38.8	50.5	10.9	11.4	55.7	13.5	9.0
LnGrp LOS	D		C	D		D	D	B	B	E	B	A
Approach Vol, veh/h		59			232			2230			1820	
Approach Delay, s/veh		41.1			37.8			13.5			14.3	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	66.4		20.7	13.9	60.3		20.7				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.8	66.8		31.0	22.4	51.2		31.0				
Max Q Clear Time (g_c+I1), s	4.0	25.1		14.7	9.4	22.6		11.2				
Green Ext Time (p_c), s	0.0	35.1		1.3	0.2	26.5		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑↑	↑↑↑	↑
Traffic Vol, veh/h	0	17	0	2051	1583	87
Future Vol, veh/h	0	17	0	2051	1583	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	18	0	2229	1721	95

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	860	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.1	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	260	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	260	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	19.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	260	-	-
HCM Lane V/C Ratio	-	0.071	-	-
HCM Control Delay (s)	-	19.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

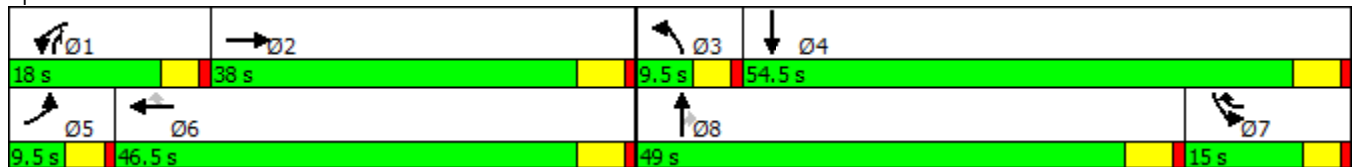


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	230	620	229	711	524	120	1330	204	248	1083
Future Volume (vph)	230	620	229	711	524	120	1330	204	248	1083
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2	1	6	7	3	8	1	7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3
Total Split (s)	9.5	38.0	18.0	46.5	15.0	9.5	49.0	18.0	15.0	54.5
Total Split (%)	7.9%	31.7%	15.0%	38.8%	12.5%	7.9%	40.8%	15.0%	12.5%	45.4%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	620	92	229	711	524	120	1330	204	248	1083	223
Future Volume (veh/h)	230	620	92	229	711	524	120	1330	204	248	1083	223
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	250	674	100	239	773	481	130	1385	212	258	1128	242
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	438	65	202	648	691	75	687	757	157	628	135
Arrive On Green	0.04	0.27	0.27	0.11	0.34	0.34	0.04	0.36	0.36	0.09	0.41	0.41
Sat Flow, veh/h	1810	1618	240	1810	1900	1615	1810	1900	1595	1810	1517	325
Grp Volume(v), veh/h	250	0	774	239	773	481	130	1385	212	258	0	1370
Grp Sat Flow(s),veh/h/ln	1810	0	1858	1810	1900	1615	1810	1900	1595	1810	0	1843
Q Serve(g_s), s	5.0	0.0	32.7	13.5	41.2	14.3	5.0	43.7	5.8	10.5	0.0	50.0
Cycle Q Clear(g_c), s	5.0	0.0	32.7	13.5	41.2	14.3	5.0	43.7	5.8	10.5	0.0	50.0
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	75	0	503	202	648	691	75	687	757	157	0	763
V/C Ratio(X)	3.34	0.00	1.54	1.18	1.19	0.70	1.74	2.02	0.28	1.64	0.00	1.80
Avail Cap(c_a), veh/h	75	0	503	202	648	691	75	687	757	157	0	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.9	0.0	44.1	53.7	39.8	17.4	57.9	38.6	8.1	55.2	0.0	35.4
Incr Delay (d2), s/veh	1085.3	0.0	252.5	121.0	101.5	3.1	380.4	461.9	0.2	315.0	0.0	363.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	0.0	51.9	13.5	39.7	6.8	10.4	110.9	2.6	19.0	0.0	102.2
LnGrp Delay(d),s/veh	1143.2	0.0	296.5	174.6	141.3	20.5	438.3	500.5	8.3	370.1	0.0	399.0
LnGrp LOS	F		F	F	F	C	F	F	A	F		F
Approach Vol, veh/h		1024			1493			1727			1628	
Approach Delay, s/veh		503.2			107.7			435.4			394.4	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	38.0	9.5	55.3	9.5	46.5	15.8	49.0				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	5.3	* 5.3				
Max Green Setting (Gmax), s	13.5	32.7	5.0	49.2	5.0	41.2	10.5	* 44				
Max Q Clear Time (g_c+I1), s	15.5	34.7	7.0	52.0	7.0	43.2	12.5	45.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			352.5									
HCM 2010 LOS			F									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

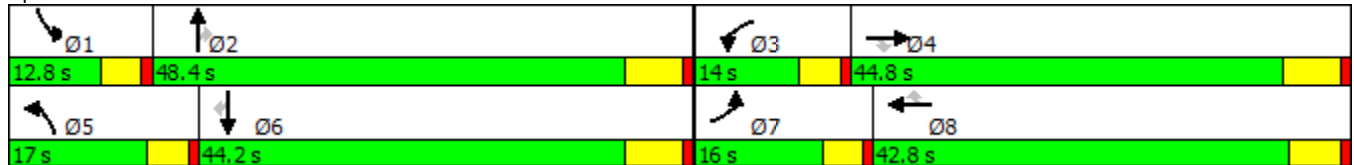


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	670	1164	241	519	1108	295	299	748	778	654	1146	146
Future Volume (vph)	670	1164	241	519	1108	295	299	748	778	654	1146	146
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	670	1164	241	519	1108	295	299	748	778	654	1146	146
Future Volume (veh/h)	670	1164	241	519	1108	295	299	748	778	654	1146	146
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	753	1308	220	583	1245	300	336	840	817	735	1288	-6
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	334	1660	507	276	1573	481	364	1829	560	240	1647	513
Arrive On Green	0.10	0.32	0.32	0.08	0.30	0.30	0.10	0.35	0.35	0.07	0.32	0.00
Sat Flow, veh/h	3510	5187	1583	3510	5187	1587	3510	5187	1589	3510	5187	1615
Grp Volume(v), veh/h	753	1308	220	583	1245	300	336	840	817	735	1288	-6
Grp Sat Flow(s),veh/h/ln	1755	1729	1583	1755	1729	1587	1755	1729	1589	1755	1729	1615
Q Serve(g_s), s	11.4	27.4	13.1	9.4	26.3	19.4	11.4	15.0	42.2	8.2	27.0	0.0
Cycle Q Clear(g_c), s	11.4	27.4	13.1	9.4	26.3	19.4	11.4	15.0	42.2	8.2	27.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	1660	507	276	1573	481	364	1829	560	240	1647	513
V/C Ratio(X)	2.25	0.79	0.43	2.11	0.79	0.62	0.92	0.46	1.46	3.06	0.78	-0.01
Avail Cap(c_a), veh/h	334	1673	511	276	1603	490	364	1829	560	240	1647	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	37.0	32.1	55.2	38.2	35.8	53.2	29.9	38.8	55.8	37.1	0.0
Incr Delay (d2), s/veh	573.1	2.6	0.6	513.8	2.7	2.4	28.3	0.2	216.0	936.4	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.1	13.5	5.8	24.2	13.0	8.9	6.9	7.2	52.1	35.2	13.3	0.0
LnGrp Delay(d),s/veh	627.2	39.6	32.7	568.9	41.0	38.2	81.5	30.1	254.7	992.2	39.6	0.0
LnGrp LOS	F	D	C	F	D	D	F	C	F	F	D	
Approach Vol, veh/h		2281			2128			1993			2017	
Approach Delay, s/veh		232.9			185.2			130.9			386.8	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	48.4	14.0	44.5	17.0	44.2	16.0	42.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	10.2	44.2	11.4	29.4	13.4	29.0	13.4	28.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	8.3	0.0	8.0	0.0	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay			233.6									
HCM 2010 LOS			F									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/24/2017

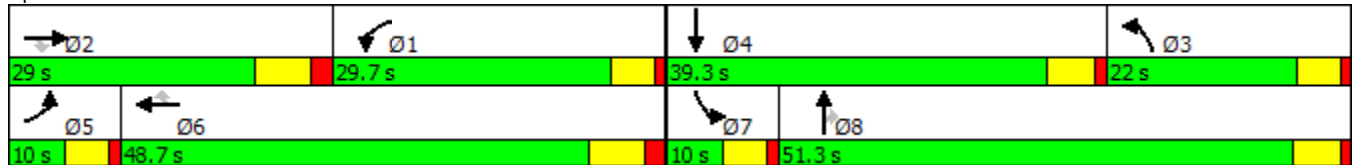


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗
Traffic Volume (vph)	71	1294	57	38	1409	82	119	57	144	164	30
Future Volume (vph)	71	1294	57	38	1409	82	119	57	144	164	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	29.0	29.0	29.7	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	24.2%	24.2%	24.8%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1294	57	38	1409	82	119	57	144	164	30	136
Future Volume (veh/h)	71	1294	57	38	1409	82	119	57	144	164	30	136
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1407	60	41	1532	89	129	62	123	178	33	127
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1299	404	441	1668	731	170	327	278	103	45	172
Arrive On Green	0.05	0.25	0.25	0.24	0.46	0.46	0.09	0.17	0.17	0.06	0.13	0.13
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1612	1810	339	1304
Grp Volume(v), veh/h	77	1407	60	41	1532	89	129	62	123	178	0	160
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1612	1810	0	1642
Q Serve(g_s), s	3.7	22.0	2.5	1.5	34.8	2.8	6.1	2.5	3.2	5.0	0.0	8.2
Cycle Q Clear(g_c), s	3.7	22.0	2.5	1.5	34.8	2.8	6.1	2.5	3.2	5.0	0.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	99	1299	404	441	1668	731	170	327	278	103	0	217
V/C Ratio(X)	0.78	1.08	0.15	0.09	0.92	0.12	0.76	0.19	0.44	1.73	0.00	0.74
Avail Cap(c_a), veh/h	103	1299	404	509	1714	751	350	995	844	103	0	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.0	32.9	25.6	25.7	22.1	13.5	38.8	31.1	9.4	41.4	0.0	36.6
Incr Delay (d2), s/veh	26.5	50.7	0.2	0.0	8.3	0.1	2.6	0.3	1.1	364.9	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	16.4	1.1	0.8	19.2	1.2	3.2	1.3	2.5	12.9	0.0	4.0
LnGrp Delay(d),s/veh	67.5	83.6	25.8	25.7	30.4	13.5	41.5	31.4	10.5	406.3	0.0	41.5
LnGrp LOS	E	F	C	C	C	B	D	C	B	F		D
Approach Vol, veh/h		1544			1662			314			338	
Approach Delay, s/veh		80.6			29.4			27.3			233.6	
Approach LOS		F			C			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.4	29.0	13.5	16.9	9.8	47.6	10.0	20.4				
Change Period (Y+Rc), s	7.0	* 7	5.3	* 5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.7	* 22	17.0	* 34	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	3.5	24.0	8.1	10.2	5.7	36.8	7.0	5.2				
Green Ext Time (p_c), s	11.6	0.0	0.5	0.8	0.0	3.7	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			67.6									
HCM 2010 LOS			E									
Notes												

Timings
29: Sumner Av. & Limonite Av.

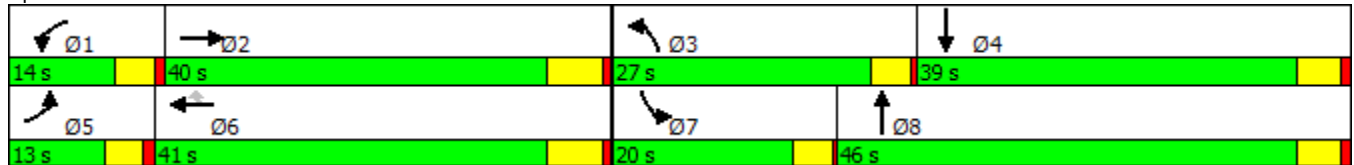


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↔	↔↔	↕↕↕	↔	↔	↕↔	↔	↕↔
Traffic Volume (vph)	100	1646	165	1346	22	388	212	126	140
Future Volume (vph)	100	1646	165	1346	22	388	212	126	140
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1646	295	165	1346	22	388	212	276	126	140	96
Future Volume (veh/h)	100	1646	295	165	1346	22	388	212	276	126	140	96
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	108	1770	309	177	1447	18	417	228	223	135	151	76
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	1601	277	247	1977	616	440	491	433	167	285	136
Arrive On Green	0.05	0.36	0.36	0.07	0.38	0.38	0.24	0.27	0.27	0.09	0.12	0.12
Sat Flow, veh/h	3510	4453	770	3510	5187	1615	1810	1805	1591	1810	2359	1126
Grp Volume(v), veh/h	108	1371	708	177	1447	18	417	228	223	135	114	113
Grp Sat Flow(s),veh/h/ln	1755	1729	1764	1755	1729	1615	1810	1805	1591	1810	1805	1680
Q Serve(g_s), s	2.9	34.0	34.0	4.7	22.6	0.7	21.4	10.0	11.2	6.9	5.6	6.0
Cycle Q Clear(g_c), s	2.9	34.0	34.0	4.7	22.6	0.7	21.4	10.0	11.2	6.9	5.6	6.0
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	171	1243	634	247	1977	616	440	491	433	167	218	203
V/C Ratio(X)	0.63	1.10	1.12	0.72	0.73	0.03	0.95	0.46	0.52	0.81	0.52	0.56
Avail Cap(c_a), veh/h	315	1243	634	353	1977	616	440	782	690	306	649	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	30.3	30.3	43.0	25.1	18.3	35.2	28.7	29.2	42.1	39.0	39.2
Incr Delay (d2), s/veh	1.4	58.5	72.4	1.5	1.4	0.0	29.6	0.5	0.7	3.5	1.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	26.2	29.1	2.3	11.0	0.3	14.3	5.0	5.0	3.6	2.9	2.9
LnGrp Delay(d),s/veh	45.6	88.8	102.7	44.6	26.5	18.3	64.9	29.2	29.9	45.6	40.4	41.0
LnGrp LOS	D	F	F	D	C	B	E	C	C	D	D	D
Approach Vol, veh/h		2187			1642			868			362	
Approach Delay, s/veh		91.1			28.4			46.5			42.6	
Approach LOS		F			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	40.0	27.0	16.4	9.1	42.1	12.7	30.7				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	6.7	36.0	23.4	8.0	4.9	24.6	8.9	13.2				
Green Ext Time (p_c), s	0.1	0.0	0.0	3.1	0.0	9.9	0.1	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			59.6									
HCM 2010 LOS			E									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

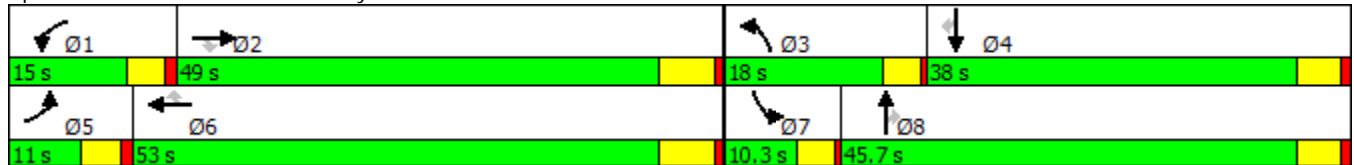


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗	↘	↙	↗	↘	↙	↗	↘	↙	↗	↘
Traffic Volume (vph)	45	1739	88	90	1359	21	125	147	218	39	194	58
Future Volume (vph)	45	1739	88	90	1359	21	125	147	218	39	194	58
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

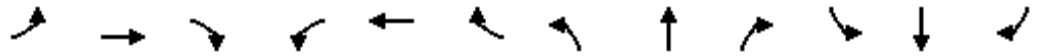
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1739	88	90	1359	21	125	147	218	39	194	58
Future Volume (veh/h)	45	1739	88	90	1359	21	125	147	218	39	194	58
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	49	1890	87	98	1477	23	136	160	197	42	211	61
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	1775	794	125	1900	850	169	355	301	53	443	187
Arrive On Green	0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.19	0.19	0.03	0.12	0.12
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1525
Grp Volume(v), veh/h	49	1890	87	98	1477	23	136	160	197	42	211	61
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1525
Q Serve(g_s), s	2.4	43.0	2.5	4.7	28.7	0.6	6.4	6.5	9.9	2.0	4.8	3.2
Cycle Q Clear(g_c), s	2.4	43.0	2.5	4.7	28.7	0.6	6.4	6.5	9.9	2.0	4.8	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	1775	794	125	1900	850	169	355	301	53	443	187
V/C Ratio(X)	0.78	1.06	0.11	0.78	0.78	0.03	0.80	0.45	0.65	0.79	0.48	0.33
Avail Cap(c_a), veh/h	134	1775	794	217	1938	867	289	883	750	130	1361	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	22.3	12.0	40.1	16.6	10.0	38.9	31.6	33.0	42.2	35.8	35.1
Incr Delay (d2), s/veh	7.6	41.1	0.1	3.9	2.0	0.0	3.4	0.7	1.8	9.2	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	31.3	1.1	2.5	14.7	0.3	3.4	3.5	4.5	1.1	2.4	1.4
LnGrp Delay(d),s/veh	49.6	63.3	12.0	44.0	18.7	10.0	42.3	32.3	34.8	51.5	36.4	35.8
LnGrp LOS	D	F	B	D	B	A	D	C	C	D	D	D
Approach Vol, veh/h		2026			1598			493			314	
Approach Delay, s/veh		60.8			20.1			36.0			38.3	
Approach LOS		E			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	49.0	12.2	15.8	7.5	52.1	6.6	21.4				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	6.7	45.0	8.4	6.8	4.4	30.7	4.0	11.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	15.4	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			41.7									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

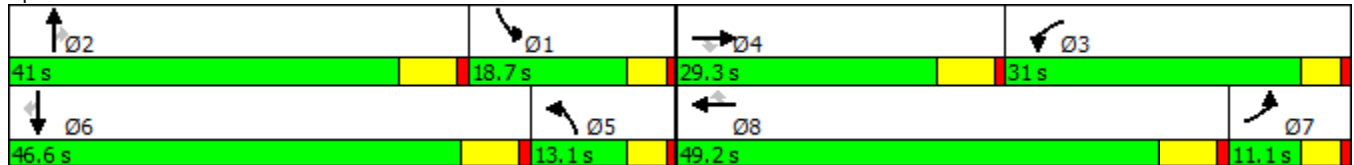


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	160	693	225	585	944	293	219	518	683	341	287	104
Future Volume (vph)	160	693	225	585	944	293	219	518	683	341	287	104
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	11.1	29.3	29.3	31.0	49.2	49.2	13.1	41.0	41.0	18.7	46.6	46.6
Total Split (%)	9.3%	24.4%	24.4%	25.8%	41.0%	41.0%	10.9%	34.2%	34.2%	15.6%	38.8%	38.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	693	225	585	944	293	219	518	683	341	287	104
Future Volume (veh/h)	160	693	225	585	944	293	219	518	683	341	287	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	170	737	213	622	1004	259	233	551	681	363	305	102
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	190	911	284	686	1173	525	1025	1582	493	411	435	194
Arrive On Green	0.06	0.18	0.18	0.21	0.32	0.32	0.31	0.31	0.31	0.12	0.12	0.12
Sat Flow, veh/h	3326	5187	1615	3326	3610	1615	3326	5187	1615	3326	3610	1611
Grp Volume(v), veh/h	170	737	213	622	1004	259	233	551	681	363	305	102
Grp Sat Flow(s),veh/h/ln	1663	1729	1615	1663	1805	1615	1663	1729	1615	1663	1805	1611
Q Serve(g_s), s	5.8	15.6	14.3	20.8	29.7	14.7	5.9	9.4	34.8	12.2	9.3	6.8
Cycle Q Clear(g_c), s	5.8	15.6	14.3	20.8	29.7	14.7	5.9	9.4	34.8	12.2	9.3	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	911	284	686	1173	525	1025	1582	493	411	435	194
V/C Ratio(X)	0.90	0.81	0.75	0.91	0.86	0.49	0.23	0.35	1.38	0.88	0.70	0.53
Avail Cap(c_a), veh/h	190	1050	327	770	1361	609	1025	1582	493	411	1279	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	45.2	44.6	44.2	36.0	31.0	29.4	30.8	39.6	49.2	48.2	47.1
Incr Delay (d2), s/veh	37.1	4.2	8.1	12.7	5.0	0.7	0.0	0.1	184.3	19.0	2.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.8	7.0	10.8	15.6	6.7	2.7	4.5	40.7	6.7	4.7	3.1
LnGrp Delay(d),s/veh	90.6	49.4	52.7	56.9	41.0	31.7	29.4	30.9	223.9	68.2	50.2	49.3
LnGrp LOS	F	D	D	E	D	C	C	C	F	E	D	D
Approach Vol, veh/h		1120			1885			1465			770	
Approach Delay, s/veh		56.3			45.0			120.4			58.6	
Approach LOS		E			D			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	41.0	28.1	26.2	39.8	19.9	11.1	43.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	14.1	34.8	26.4	23.1	8.5	40.4	6.5	43.0				
Max Q Clear Time (g_c+I1), s	14.2	36.8	22.8	17.6	7.9	11.3	7.8	31.7				
Green Ext Time (p_c), s	0.0	0.0	0.7	2.5	0.1	2.1	0.0	5.4				
Intersection Summary												
HCM 2010 Ctrl Delay			70.5									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

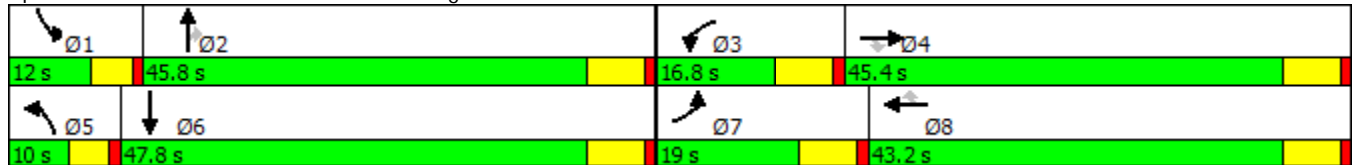


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↗	↖↗	↑↑	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	450	216	68	260	202	135	87	866	299	149	521
Future Volume (vph)	450	216	68	260	202	135	87	866	299	149	521
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	19.0	45.4	45.4	16.8	43.2	43.2	10.0	45.8	45.8	12.0	47.8
Total Split (%)	15.8%	37.8%	37.8%	14.0%	36.0%	36.0%	8.3%	38.2%	38.2%	10.0%	39.8%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	216	68	260	202	135	87	866	299	149	521	128
Future Volume (veh/h)	450	216	68	260	202	135	87	866	299	149	521	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	474	227	67	274	213	70	92	912	275	157	548	123
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	551	327	274	436	503	225	118	1680	523	166	1492	328
Arrive On Green	0.16	0.17	0.17	0.12	0.14	0.14	0.07	0.32	0.32	0.09	0.35	0.35
Sat Flow, veh/h	3510	1900	1591	3510	3610	1615	1810	5187	1615	1810	4256	936
Grp Volume(v), veh/h	474	227	67	274	213	70	92	912	275	157	443	228
Grp Sat Flow(s),veh/h/ln	1755	1900	1591	1755	1805	1615	1810	1729	1615	1810	1729	1734
Q Serve(g_s), s	10.6	9.1	2.9	6.0	4.3	3.1	4.0	11.6	11.2	7.0	7.7	7.9
Cycle Q Clear(g_c), s	10.6	9.1	2.9	6.0	4.3	3.1	4.0	11.6	11.2	7.0	7.7	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	551	327	274	436	503	225	118	1680	523	166	1212	608
V/C Ratio(X)	0.86	0.69	0.24	0.63	0.42	0.31	0.78	0.54	0.53	0.94	0.37	0.38
Avail Cap(c_a), veh/h	558	924	774	462	1657	741	121	2549	794	166	1785	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	31.4	28.8	33.5	31.7	31.2	37.1	22.3	22.2	36.4	19.5	19.6
Incr Delay (d2), s/veh	12.8	2.6	0.5	2.5	0.6	0.8	24.0	0.3	0.8	53.1	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	5.0	1.3	3.0	2.2	1.5	2.8	5.5	5.0	5.9	3.7	3.9
LnGrp Delay(d),s/veh	45.9	34.0	29.3	36.0	32.3	32.0	61.1	22.6	23.0	89.5	19.7	20.0
LnGrp LOS	D	C	C	D	C	C	E	C	C	F	B	B
Approach Vol, veh/h		768			557			1279			828	
Approach Delay, s/veh		40.9			34.1			25.5			33.0	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	32.3	16.2	20.1	9.9	34.4	18.8	17.4				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	7.4	39.6	10.6	39.2	5.4	41.6	12.8	37.0				
Max Q Clear Time (g_c+I1), s	9.0	13.6	8.0	11.1	6.0	9.9	12.6	6.3				
Green Ext Time (p_c), s	0.0	12.4	0.2	2.8	0.0	13.5	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			32.1									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

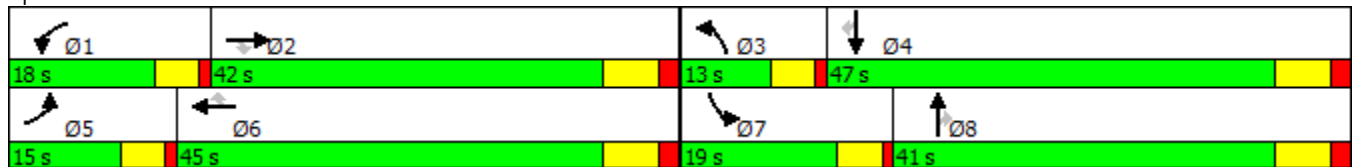


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↕	↔	↔↔	↕↕	↔	↔↔	↕↕↕	↔	↔↔	↕↕	↔
Traffic Volume (vph)	319	1382	102	162	920	506	131	657	317	660	437	273
Future Volume (vph)	319	1382	102	162	920	506	131	657	317	660	437	273
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
33: Hamner Av. & Limonite Av.

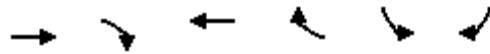
Colony Commerce Center East SP (JN 10522)

1/23/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	1382	102	162	920	506	131	657	317	660	437	273
Future Volume (veh/h)	319	1382	102	162	920	506	131	657	317	660	437	273
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	329	1425	99	167	948	484	135	677	209	680	451	228
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	310	1792	557	227	1162	518	193	1318	403	434	1166	520
Arrive On Green	0.09	0.35	0.35	0.06	0.32	0.32	0.05	0.25	0.25	0.12	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1585	3510	3610	1610
Grp Volume(v), veh/h	329	1425	99	167	948	484	135	677	209	680	451	228
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1585	1755	1805	1610
Q Serve(g_s), s	10.0	28.1	4.8	5.3	27.3	33.0	4.3	12.7	12.8	14.0	10.9	12.6
Cycle Q Clear(g_c), s	10.0	28.1	4.8	5.3	27.3	33.0	4.3	12.7	12.8	14.0	10.9	12.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	1792	557	227	1162	518	193	1318	403	434	1166	520
V/C Ratio(X)	1.06	0.80	0.18	0.73	0.82	0.93	0.70	0.51	0.52	1.57	0.39	0.44
Avail Cap(c_a), veh/h	310	1792	557	403	1212	541	248	1558	476	434	1275	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	33.4	25.8	52.0	35.3	37.2	52.6	36.2	36.3	49.6	29.7	30.2
Incr Delay (d2), s/veh	68.1	2.9	0.3	1.7	5.0	24.0	3.4	0.7	2.2	265.9	0.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	13.8	2.2	2.6	14.4	18.1	2.2	6.2	5.8	22.8	5.5	5.8
LnGrp Delay(d),s/veh	119.8	36.4	26.2	53.7	40.2	61.2	56.0	36.9	38.5	315.5	30.1	31.5
LnGrp LOS	F	D	C	D	D	E	E	D	D	F	C	C
Approach Vol, veh/h		1853			1599			1021			1359	
Approach Delay, s/veh		50.6			48.0			39.7			173.1	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	46.1	11.2	43.6	15.0	43.4	19.0	35.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	7.3	30.1	6.3	14.6	12.0	35.0	16.0	14.8				
Green Ext Time (p_c), s	0.1	4.9	0.0	16.9	0.0	1.5	0.0	13.8				
Intersection Summary												
HCM 2010 Ctrl Delay			76.6									
HCM 2010 LOS			E									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

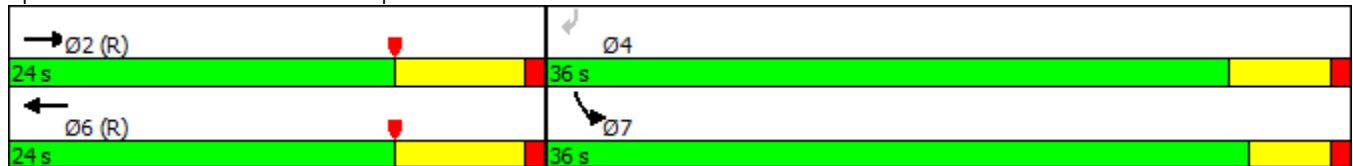


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	991	376	828	90	389	1082
Future Volume (vph)	991	376	828	90	389	1082
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



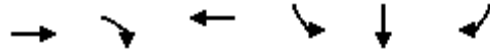
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↖↖		↗
Traffic Volume (veh/h)	0	991	376	0	828	90	0	0	0	389	0	1082
Future Volume (veh/h)	0	991	376	0	828	90	0	0	0	389	0	1082
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1700	0	1900
Adj Flow Rate, veh/h	0	1043	0	0	872	0				409	0	995
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1487	463	0	1035	463				1644	0	845
Arrive On Green	0.00	0.29	0.00	0.00	0.29	0.00				0.52	0.00	0.52
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3141	0	1615
Grp Volume(v), veh/h	0	1043	0	0	872	0				409	0	995
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1570	0	1615
Q Serve(g_s), s	0.0	10.8	0.0	0.0	13.6	0.0				4.3	0.0	31.4
Cycle Q Clear(g_c), s	0.0	10.8	0.0	0.0	13.6	0.0				4.3	0.0	31.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1487	463	0	1035	463				1644	0	845
V/C Ratio(X)	0.00	0.70	0.00	0.00	0.84	0.00				0.25	0.00	1.18
Avail Cap(c_a), veh/h	0	1487	463	0	1035	463				1644	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.39	0.00	0.00	0.29	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.1	0.0	0.0	20.1	0.0				7.8	0.0	14.3
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	2.6	0.0				0.1	0.0	92.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	0.0	0.0	7.2	0.0				1.8	0.0	35.2
LnGrp Delay(d),s/veh	0.0	20.2	0.0	0.0	22.7	0.0				7.9	0.0	106.3
LnGrp LOS		C			C					A		F
Approach Vol, veh/h		1043			872						1404	
Approach Delay, s/veh		20.2			22.7						77.7	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.0		36.0		24.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		12.8		33.4		15.6						
Green Ext Time (p_c), s		3.6		0.0		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay			45.2									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/24/2017



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR	Ø1
Lane Configurations	↑↑	↑	↑↑	↑	↔	↑	
Traffic Volume (vph)	1965	791	1507	424	0	261	
Future Volume (vph)	1965	791	1507	424	0	261	
Turn Type	NA	Perm	NA	Split	NA	Perm	
Protected Phases	2		6	4	4		1
Permitted Phases		2				4	
Detector Phase	2	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	36.5	23.5	23.5	23.5	10.0
Total Split (s)	65.0	65.0	86.5	23.5	23.5	23.5	21.5
Total Split (%)	59.1%	59.1%	78.6%	21.4%	21.4%	21.4%	20%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lead					Lag
Lead-Lag Optimize?	Yes	Yes					Yes
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 90 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

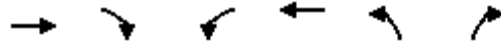
Colony Commerce Center East SP (JN 10522)

1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1965	791	0	1507	1057	0	0	0	424	0	261
Future Volume (veh/h)	0	1965	791	0	1507	1057	0	0	0	424	0	261
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2159	868	0	1656	1162				525	0	125
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1953	863	519	1570	970				583	0	260
Arrive On Green	0.00	0.54	0.54	0.00	1.00	1.00				0.16	0.00	0.16
Sat Flow, veh/h	0	3705	1595	3510	2125	1313				3619	0	1615
Grp Volume(v), veh/h	0	2159	868	0	1373	1445				525	0	125
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	1633				1810	0	1615
Q Serve(g_s), s	0.0	59.5	59.5	0.0	81.3	81.3				15.7	0.0	7.7
Cycle Q Clear(g_c), s	0.0	59.5	59.5	0.0	81.3	81.3				15.7	0.0	7.7
Prop In Lane	0.00		1.00	1.00		0.80				1.00		1.00
Lane Grp Cap(c), veh/h	0	1953	863	519	1334	1207				583	0	260
V/C Ratio(X)	0.00	1.11	1.01	0.00	1.03	1.20				0.90	0.00	0.48
Avail Cap(c_a), veh/h	0	1953	863	543	1334	1207				592	0	264
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	0.14	0.14				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.2	25.3	0.0	0.0	0.0				45.3	0.0	41.9
Incr Delay (d2), s/veh	0.0	48.4	10.9	0.0	18.0	90.2				16.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	42.4	28.5	0.0	6.7	30.2				9.1	0.0	3.5
LnGrp Delay(d),s/veh	0.0	73.7	36.1	0.0	18.0	90.2				61.5	0.0	42.5
LnGrp LOS		F	F		F	F				E		D
Approach Vol, veh/h		3027			2818						650	
Approach Delay, s/veh		62.9			55.0						57.8	
Approach LOS		E			E						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	21.8	65.0		23.2		86.8						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	* 60		18.0		81.0						
Max Q Clear Time (g_c+I1), s	0.0	61.5		17.7		83.3						
Green Ext Time (p_c), s	0.0	0.0		0.1		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			59.0									
HCM 2010 LOS			E									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	520	859	399	458	466	183
Future Volume (vph)	520	859	399	458	466	183
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	12.0	16.0	48.0	12.0	12.0
Total Split (%)	53.3%	20.0%	26.7%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	520	859	399	458	466	183		
Future Volume (veh/h)	520	859	399	458	466	183		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	559	819	429	492	501	108		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2135	826	523	3519	324	161		
Arrive On Green	0.69	0.69	0.17	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	559	819	429	492	501	108		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	2.5	24.7	7.9	2.0	6.0	3.9		
Cycle Q Clear(g_c), s	2.5	24.7	7.9	2.0	6.0	3.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2135	826	523	3519	324	161		
V/C Ratio(X)	0.26	0.99	0.82	0.14	1.55	0.67		
Avail Cap(c_a), veh/h	2135	826	523	3519	324	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.79	0.79	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.9	7.0	24.1	3.4	27.0	26.0		
Incr Delay (d2), s/veh	0.2	25.8	13.4	0.0	261.1	19.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	19.2	4.4	1.0	14.4	2.6		
LnGrp Delay(d),s/veh	6.1	32.9	37.5	3.4	288.1	45.9		
LnGrp LOS	A	C	D	A	F	D		
Approach Vol, veh/h	1378			921	609			
Approach Delay, s/veh	22.0			19.3	245.1			
Approach LOS	C			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.0	32.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	10.0	24.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	9.9	26.7				4.0		8.0
Green Ext Time (p_c), s	0.0	0.0				13.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			67.9					
HCM 2010 LOS			E					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	Ø5
Lane Configurations	↑↑	↑↑	↗	↖	↕	↗	
Traffic Volume (vph)	1997	1944	413	620	0	654	
Future Volume (vph)	1997	1944	413	620	0	654	
Turn Type	NA	NA	Perm	Split	NA	Perm	
Protected Phases	2	6		8	8		5
Permitted Phases			6			8	
Detector Phase	2	6	6	8	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	34.5	34.5	10.5	10.5	10.5	10.0
Total Split (s)	86.0	50.0	50.0	24.0	24.0	24.0	36.0
Total Split (%)	78.2%	45.5%	45.5%	21.8%	21.8%	21.8%	33%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag		Lag	Lag				Lead
Lead-Lag Optimize?		Yes	Yes				Yes
Recall Mode	C-Max	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	0	1997	392	0	1944	413	620	0	654	0	0	0
Future Volume (veh/h)	0	1997	392	0	1944	413	620	0	654	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	2219	436	0	2160	399	840	0	324			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	3	2209	418	0	2642	1167	609	0	272			
Arrive On Green	0.00	0.73	0.73	0.00	0.73	0.73	0.17	0.00	0.17			
Sat Flow, veh/h	3510	3018	572	0	3705	1594	3619	0	1615			
Grp Volume(v), veh/h	0	1293	1362	0	2160	399	840	0	324			
Grp Sat Flow(s),veh/h/ln	1755	1805	1785	0	1805	1594	1810	0	1615			
Q Serve(g_s), s	0.0	74.6	80.5	0.0	43.9	9.8	18.5	0.0	18.5			
Cycle Q Clear(g_c), s	0.0	74.6	80.5	0.0	43.9	9.8	18.5	0.0	18.5			
Prop In Lane	1.00		0.32	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	3	1321	1306	0	2642	1167	609	0	272			
V/C Ratio(X)	0.00	0.98	1.04	0.00	0.82	0.34	1.38	0.00	1.19			
Avail Cap(c_a), veh/h	1005	1321	1306	0	2642	1167	609	0	272			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.46	0.46	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	14.0	14.8	0.0	9.8	5.3	45.8	0.0	45.8			
Incr Delay (d2), s/veh	0.0	12.5	29.2	0.0	2.9	0.8	181.2	0.0	117.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	40.9	49.4	0.0	22.4	4.6	24.5	0.0	17.1			
LnGrp Delay(d),s/veh	0.0	26.5	43.9	0.0	12.8	6.1	226.9	0.0	162.9			
LnGrp LOS		C	F		B	A	F		F			
Approach Vol, veh/h		2655			2559			1164				
Approach Delay, s/veh		35.4			11.7			209.1				
Approach LOS		D			B			F				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		86.0			0.0	86.0		24.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		80.5			31.5	44.5		18.5				
Max Q Clear Time (g_c+I1), s		82.5			0.0	45.9		20.5				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				57.6								
HCM 2010 LOS				E								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

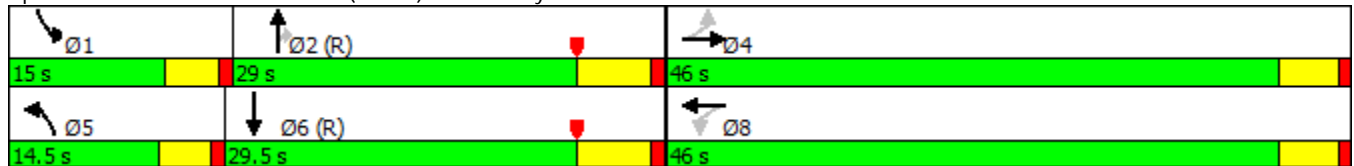


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	6	27	176	0	2	2280	251	612	1898
Future Volume (vph)	6	27	176	0	2	2280	251	612	1898
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min





















Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	27	14	176	0	422	2	2280	251	612	1898	1
Future Volume (veh/h)	6	27	14	176	0	422	2	2280	251	612	1898	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	6	29	7	189	0	426	2	2452	241	658	2041	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	109	498	112	241	11	449	9	1055	461	200	1494	1
Arrive On Green	0.42	0.42	0.42	0.42	0.00	0.42	0.01	0.29	0.29	0.12	0.40	0.40
Sat Flow, veh/h	150	1189	268	450	25	1072	1714	3610	1579	1714	3703	2
Grp Volume(v), veh/h	42	0	0	615	0	0	2	2452	241	658	995	1047
Grp Sat Flow(s),veh/h/ln	1607	0	0	1547	0	0	1714	1805	1579	1714	1805	1900
Q Serve(g_s), s	0.0	0.0	0.0	32.6	0.0	0.0	0.1	26.3	11.5	10.5	36.3	36.3
Cycle Q Clear(g_c), s	1.2	0.0	0.0	34.5	0.0	0.0	0.1	26.3	11.5	10.5	36.3	36.3
Prop In Lane	0.14		0.17	0.31		0.69	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	719	0	0	700	0	0	9	1055	461	200	728	767
V/C Ratio(X)	0.06	0.00	0.00	0.88	0.00	0.00	0.22	2.32	0.52	3.29	1.37	1.37
Avail Cap(c_a), veh/h	779	0	0	757	0	0	190	1055	461	200	728	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	0.0	25.1	0.0	0.0	44.6	31.8	26.6	39.7	26.8	26.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	10.2	0.0	0.0	0.4	596.0	0.4	1043.3	173.4	173.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	16.7	0.0	0.0	0.1	100.4	5.0	62.9	53.1	55.8
LnGrp Delay(d),s/veh	15.6	0.0	0.0	35.4	0.0	0.0	44.9	627.9	27.0	1083.0	200.2	199.9
LnGrp LOS	B			D			D	F	C	F	F	F
Approach Vol, veh/h		42			615			2695			2700	
Approach Delay, s/veh		15.6			35.4			573.7			415.3	
Approach LOS		B			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	32.3		42.7	5.0	42.3		42.7				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	28.3		3.2	2.1	38.3		36.5				
Green Ext Time (p_c), s	0.0	0.0		2.8	0.0	0.0		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	444.4											
HCM 2010 LOS	F											

Timings
2: Euclid Av. (SR-83) & Kimball Av.

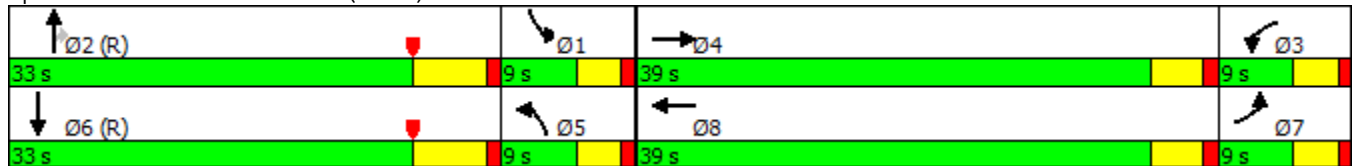


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	277	575	306	558	195	1330	296	402	1275
Future Volume (vph)	277	575	306	558	195	1330	296	402	1275
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

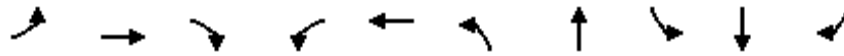
1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	575	232	306	558	576	195	1330	296	402	1275	226
Future Volume (veh/h)	277	575	232	306	558	576	195	1330	296	402	1275	226
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	289	599	238	319	581	566	203	1385	293	419	1328	217
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	727	289	240	672	601	114	1083	484	114	932	151
Arrive On Green	0.06	0.29	0.29	0.14	0.37	0.37	0.13	0.60	0.60	0.07	0.30	0.30
Sat Flow, veh/h	1714	2526	1002	1714	1805	1615	1714	3610	1615	1714	3106	502
Grp Volume(v), veh/h	289	428	409	319	581	566	203	1385	293	419	766	779
Grp Sat Flow(s),veh/h/ln	1714	1805	1723	1714	1805	1615	1714	1805	1615	1714	1805	1804
Q Serve(g_s), s	5.0	19.9	20.0	12.6	26.8	30.5	6.0	27.0	10.3	6.0	27.0	27.0
Cycle Q Clear(g_c), s	5.0	19.9	20.0	12.6	26.8	30.5	6.0	27.0	10.3	6.0	27.0	27.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	95	520	496	240	672	601	114	1083	484	114	542	541
V/C Ratio(X)	3.03	0.82	0.82	1.33	0.86	0.94	1.78	1.28	0.60	3.67	1.41	1.44
Avail Cap(c_a), veh/h	95	692	661	240	692	619	114	1083	484	114	542	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	29.9	29.9	38.7	26.1	27.3	39.0	18.0	14.7	42.0	31.5	31.5
Incr Delay (d2), s/veh	942.9	6.0	6.4	173.9	10.3	22.0	354.2	126.2	0.5	1205.3	187.5	198.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.3	10.7	10.3	17.5	15.2	17.2	14.0	31.9	4.5	41.0	41.6	43.3
LnGrp Delay(d),s/veh	985.4	35.9	36.3	212.6	36.4	49.3	393.2	144.2	15.2	1247.3	219.0	230.3
LnGrp LOS	F	D	D	F	D	D	F	F	B	F	F	F
Approach Vol, veh/h		1126			1466			1881			1964	
Approach Delay, s/veh		279.8			79.7			151.0			442.9	
Approach LOS		F			E			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	33.0	16.6	30.4	10.0	33.0	9.0	38.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	8.0	29.0	14.6	22.0	8.0	29.0	7.0	32.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			246.3									
HCM 2010 LOS			F									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

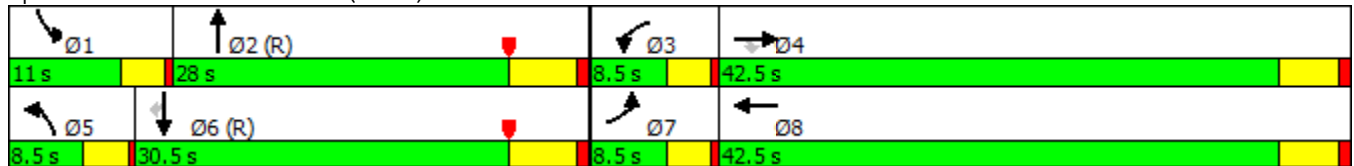


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	175	58	60	196	18	15	1447	164	1562	47
Future Volume (vph)	175	58	60	196	18	15	1447	164	1562	47
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



HCM 2010 Signalized Intersection Summary
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

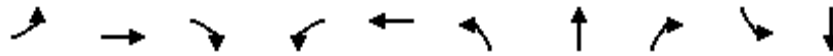
1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	58	60	196	18	203	15	1447	90	164	1562	47
Future Volume (veh/h)	175	58	60	196	18	203	15	1447	90	164	1562	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	194	64	48	218	20	214	17	1608	90	182	1736	52
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	329	279	95	24	259	33	1714	95	143	2014	882
Arrive On Green	0.06	0.17	0.17	0.06	0.17	0.17	0.04	0.99	0.99	0.06	0.37	0.37
Sat Flow, veh/h	1714	1900	1615	1714	140	1496	1714	3473	193	1714	3610	1582
Grp Volume(v), veh/h	194	64	48	218	0	234	17	831	867	182	1736	52
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	0	1636	1714	1805	1861	1714	1805	1582
Q Serve(g_s), s	5.0	2.6	2.3	5.0	0.0	12.4	0.9	6.6	7.8	7.5	40.0	1.9
Cycle Q Clear(g_c), s	5.0	2.6	2.3	5.0	0.0	12.4	0.9	6.6	7.8	7.5	40.0	1.9
Prop In Lane	1.00		1.00	1.00		0.91	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	95	329	279	95	0	283	33	891	919	143	2014	882
V/C Ratio(X)	2.04	0.19	0.17	2.29	0.00	0.83	0.52	0.93	0.94	1.27	0.86	0.06
Avail Cap(c_a), veh/h	95	792	673	95	0	682	95	891	919	143	2014	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	42.5	31.9	31.7	42.5	0.0	35.9	42.9	0.3	0.3	42.5	25.0	13.1
Incr Delay (d2), s/veh	501.2	0.1	0.1	611.9	0.0	2.4	0.4	2.3	2.7	128.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	1.4	1.0	18.5	0.0	5.8	0.4	1.0	1.1	8.6	20.1	0.8
LnGrp Delay(d),s/veh	543.7	32.0	31.8	654.4	0.0	38.3	43.3	2.7	3.0	170.9	25.5	13.1
LnGrp LOS	F	C	C	F		D	D	A	A	F	C	B
Approach Vol, veh/h		306			452			1715			1970	
Approach Delay, s/veh		356.4			335.4			3.2			38.6	
Approach LOS		F			F			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	49.9	8.5	20.6	5.2	55.7	8.5	20.6				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	9.5	9.8	7.0	4.6	2.9	42.0	7.0	14.4				
Green Ext Time (p_c), s	0.0	10.6	0.0	1.2	0.0	0.0	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			77.0									
HCM 2010 LOS			E									

Timings
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/30/2017

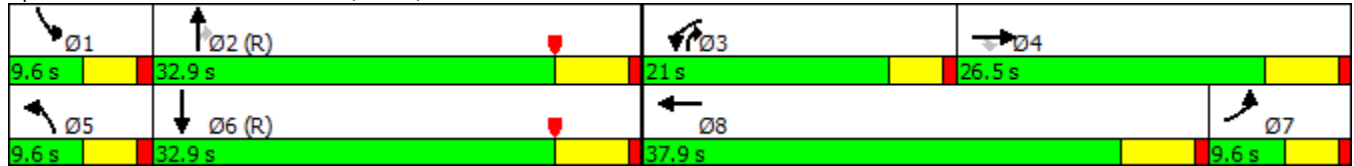


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	135	865	367	551	552	212	1061	770	356	1334
Future Volume (vph)	135	865	367	551	552	212	1061	770	356	1334
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.5	26.5	21.0	37.9	9.6	32.9	21.0	9.6	32.9
Total Split (%)	10.7%	29.4%	29.4%	23.3%	42.1%	10.7%	36.6%	23.3%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



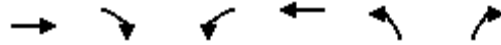
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/30/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	865	367	551	552	308	212	1061	770	356	1334	113
Future Volume (veh/h)	135	865	367	551	552	308	212	1061	770	356	1334	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	139	892	0	568	569	312	219	1094	361	367	1375	112
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	462	393	572	411	225	95	2085	1227	95	1950	158
Arrive On Green	0.06	0.24	0.00	0.18	0.36	0.36	0.06	0.58	0.58	0.07	0.77	0.77
Sat Flow, veh/h	1714	1900	1615	3141	1155	633	1714	3610	1615	1714	3376	274
Grp Volume(v), veh/h	139	892	0	568	0	881	219	1094	361	367	732	755
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1570	0	1788	1714	1805	1615	1714	1805	1845
Q Serve(g_s), s	5.0	21.9	0.0	16.2	0.0	32.0	5.0	16.5	6.2	5.0	18.4	18.7
Cycle Q Clear(g_c), s	5.0	21.9	0.0	16.2	0.0	32.0	5.0	16.5	6.2	5.0	18.4	18.7
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	95	462	393	572	0	636	95	2085	1227	95	1042	1065
V/C Ratio(X)	1.46	1.93	0.00	0.99	0.00	1.39	2.30	0.52	0.29	3.85	0.70	0.71
Avail Cap(c_a), veh/h	95	462	393	572	0	636	95	2085	1227	95	1042	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.35	0.35	0.35
Uniform Delay (d), s/veh	42.5	34.0	0.0	36.7	0.0	29.0	42.5	11.5	3.3	41.7	6.5	6.6
Incr Delay (d2), s/veh	255.4	426.1	0.0	35.5	0.0	183.2	587.8	0.1	0.1	1293.0	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	66.2	0.0	9.8	0.0	48.1	17.9	8.2	2.7	36.6	9.2	9.5
LnGrp Delay(d),s/veh	297.9	460.2	0.0	72.3	0.0	212.2	630.3	11.6	3.4	1334.7	8.0	8.0
LnGrp LOS	F	F		E		F	F	B	A	F	A	A
Approach Vol, veh/h		1031			1449			1674			1854	
Approach Delay, s/veh		438.3			157.3			90.8			270.6	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	57.9	21.0	27.8	9.6	57.9	10.9	37.9				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	5.9	* 5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.4	20.6	5.0	27.0	5.0	* 32				
Max Q Clear Time (g_c+I1), s	7.0	18.5	18.2	23.9	7.0	20.7	7.0	34.0				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.0	0.0	5.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			222.0									
HCM 2010 LOS			F									
Notes												

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

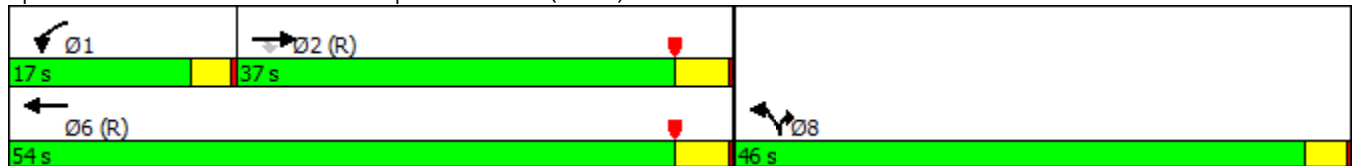


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↓
Traffic Volume (vph)	842	228	395	2173	262	1249
Future Volume (vph)	842	228	395	2173	262	1249
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	37.0	37.0	17.0	54.0	46.0	46.0
Total Split (%)	37.0%	37.0%	17.0%	54.0%	46.0%	46.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

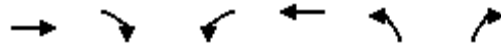
Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

1/23/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	842	228	395	2173	262	1249		
Future Volume (veh/h)	842	228	395	2173	262	1249		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1700	1900		
Adj Flow Rate, veh/h	868	0	407	2240	270	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2301	1030	231	2915	353	182		
Arrive On Green	0.43	0.00	0.14	0.81	0.11	0.00		
Sat Flow, veh/h	3705	1615	1714	3705	3141	1615		
Grp Volume(v), veh/h	868	0	407	2240	270	0		
Grp Sat Flow(s),veh/h/ln	1805	1615	1714	1805	1570	1615		
Q Serve(g_s), s	16.4	0.0	13.5	31.5	8.3	0.0		
Cycle Q Clear(g_c), s	16.4	0.0	13.5	31.5	8.3	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2301	1030	231	2915	353	182		
V/C Ratio(X)	0.38	0.00	1.76	0.77	0.76	0.00		
Avail Cap(c_a), veh/h	2301	1030	231	2915	1335	686		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00		
Uniform Delay (d), s/veh	15.1	0.0	43.3	4.9	43.1	0.0		
Incr Delay (d2), s/veh	0.5	0.0	343.0	0.2	3.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.3	0.0	28.4	15.3	3.8	0.0		
LnGrp Delay(d),s/veh	15.6	0.0	386.3	5.1	46.5	0.0		
LnGrp LOS	B		F	A	D			
Approach Vol, veh/h	868			2647	270			
Approach Delay, s/veh	15.6			63.7	46.5			
Approach LOS	B			E	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.0	68.3				85.3		14.7
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	13.5	32.5				49.5		42.5
Max Q Clear Time (g_c+I1), s	15.5	18.4				33.5		10.3
Green Ext Time (p_c), s	0.0	12.6				14.2		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			51.4					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

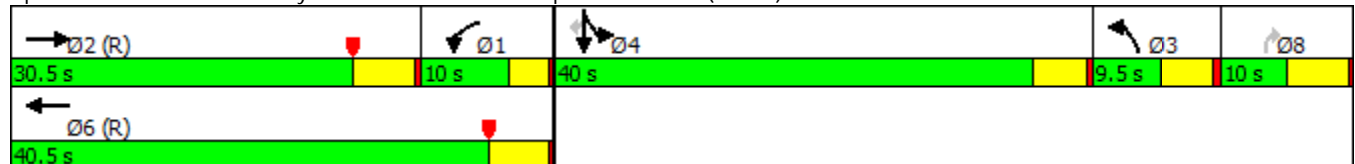


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	415	115	825	35	18	714	164	102
Future Volume (vph)	415	115	825	35	18	714	164	102
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	30.5	10.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	30.5%	10.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 74 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	415	50	115	825	0	35	0	18	714	164	102
Future Volume (veh/h)	0	415	50	115	825	0	35	0	18	714	164	102
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1800	1900	0	1800	0	1900	1800	1900	1900
Adj Flow Rate, veh/h	0	461	56	128	917	0	39	0	20	923	0	113
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	554	67	661	2188	0	0	0	0	1024	0	483
Arrive On Green	0.00	0.17	0.17	0.13	0.20	0.00	0.00	0.00	0.00	0.30	0.00	0.30
Sat Flow, veh/h	0	3339	392	1714	3705	0		0		3429	0	1615
Grp Volume(v), veh/h	0	256	261	128	917	0		0.0		923	0	113
Grp Sat Flow(s),veh/h/ln	0	1805	1831	1714	1805	0				1714	0	1615
Q Serve(g_s), s	0.0	13.7	13.8	6.7	22.2	0.0				25.8	0.0	5.3
Cycle Q Clear(g_c), s	0.0	13.7	13.8	6.7	22.2	0.0				25.8	0.0	5.3
Prop In Lane	0.00		0.21	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	308	313	661	2188	0				1024	0	483
V/C Ratio(X)	0.00	0.83	0.84	0.19	0.42	0.00				0.90	0.00	0.23
Avail Cap(c_a), veh/h	0	460	467	661	2188	0				1217	0	573
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.0	40.1	29.7	24.6	0.0				33.6	0.0	26.4
Incr Delay (d2), s/veh	0.0	22.0	22.4	0.1	0.6	0.0				8.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	8.9	3.2	11.3	0.0				13.3	0.0	2.4
LnGrp Delay(d),s/veh	0.0	62.0	62.5	29.8	25.2	0.0				41.7	0.0	26.6
LnGrp LOS		E	E	C	C					D		C
Approach Vol, veh/h		517			1045						1036	
Approach Delay, s/veh		62.3			25.8						40.0	
Approach LOS		E			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	43.5	22.1		34.4		65.6						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	6.5	* 26		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.7	15.8		27.8		24.2						
Green Ext Time (p_c), s	0.0	1.3		2.0		3.2						
Intersection Summary												
HCM 2010 Ctrl Delay			38.7									
HCM 2010 LOS			D									
Notes												

Intersection	
Intersection Delay, s/veh	248.9
Intersection LOS	F

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	139	749	0	542	273	0	273	53
Future Vol, veh/h	0	139	749	0	542	273	0	273	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	151	814	0	589	297	0	297	58
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	331.5	246.9	28.6
HCM LOS	F	F	D

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	0%	84%
Vol Thru, %	84%	67%	0%
Vol Right, %	0%	33%	16%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	888	815	326
LT Vol	139	0	273
Through Vol	749	542	0
RT Vol	0	273	53
Lane Flow Rate	965	886	354
Geometry Grp	1	1	1
Degree of Util (X)	1.678	1.483	0.696
Departure Headway (Hd)	6.98	6.96	8.445
Convergence, Y/N	Yes	Yes	Yes
Cap	531	532	432
Service Time	4.98	4.96	6.445
HCM Lane V/C Ratio	1.817	1.665	0.819
HCM Control Delay	331.5	246.9	28.6
HCM Lane LOS	F	F	D
HCM 95th-tile Q	50.2	38.7	5.2

Intersection												
Int Delay, s/veh	506.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Vol, veh/h	42	634	346	254	549	45	250	15	205	18	15	16
Future Vol, veh/h	42	634	346	254	549	45	250	15	205	18	15	16
Conflicting Peds, #/hr	0	0	2	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	75	100	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	93	93	93	93	92	93	92	93	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	46	682	372	273	590	49	269	16	220	20	16	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	684	0	0	1953	1960	684	2052	1936	615
Stage 1	-	-	-	-	-	-	775	775	-	1161	1161	-
Stage 2	-	-	-	-	-	-	1178	1185	-	891	775	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	955	-	-	919	-	-	~ 49	64	452	42	66	495
Stage 1	-	-	-	-	-	-	394	411	-	240	272	-
Stage 2	-	-	-	-	-	-	~ 235	265	-	340	411	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	955	-	-	919	-	-	~ 25	43	451	~ 11	44	495
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 25	43	-	~ 11	44	-
Stage 1	-	-	-	-	-	-	374	390	-	228	191	-
Stage 2	-	-	-	-	-	-	~ 146	186	-	159	390	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	3.2	\$ 2525.3	\$ 432.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	25	273	955	-	-	919	-	-	11	83
HCM Lane V/C Ratio	10.753	0.867	0.048	-	-	0.297	-	-	1.779	0.406
HCM Control Delay (s)	\$ 4691.1	66	9	-	-	10.6	-	-	\$ 1048.4	75.3
HCM Lane LOS	F	F	A	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	33.5	7.4	0.1	-	-	1.2	-	-	3.3	1.6

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖		↖	↖	↖	↖	↖	
Traffic Vol, veh/h	122	669	365	109	638	113	219	66	424	235	75	192
Future Vol, veh/h	122	669	365	109	638	113	219	66	424	235	75	192
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	200	200	-	-	200	-	0	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	133	727	397	118	693	123	238	72	461	255	82	209

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	816	0	0	727	0	0	2129	2045	364	1657	1984	755
Stage 1	-	-	-	-	-	-	992	992	-	992	992	-
Stage 2	-	-	-	-	-	-	1137	1053	-	665	992	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	820	-	-	886	-	-	~ 32	~ 57	639	~ 72	~ 62	412
Stage 1	-	-	-	-	-	-	267	326	-	299	326	-
Stage 2	-	-	-	-	-	-	248	306	-	420	326	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	820	-	-	886	-	-	-	~ 41	639	-	~ 45	412
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 41	-	-	~ 45	-
Stage 1	-	-	-	-	-	-	~ 224	273	-	~ 251	283	-
Stage 2	-	-	-	-	-	-	~ 76	265	-	~ 72	273	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.2		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	41	639	820	-	-	886	-	-	-	125
HCM Lane V/C Ratio	-	1.75	0.721	0.162	-	-	0.134	-	-	-	2.322
HCM Control Delay (s)	-	\$ 573.9	23.8	10.2	-	-	9.7	-	-	-	\$ 675.5
HCM Lane LOS	-	F	C	B	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	-	7.5	6.1	0.6	-	-	0.5	-	-	-	25

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	537.3
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		↵	↕↗			↵	↕↗			↵	↗	
Traffic Vol, veh/h	0	186	1060	274	0	503	768	37	0	203	175	448
Future Vol, veh/h	0	186	1060	274	0	503	768	37	0	203	175	448
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	200	1140	295	0	541	826	40	0	218	188	482
Number of Lanes	0	1	2	0	0	1	2	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	3	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	3
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	3
HCM Control Delay	671.8	396.9	485.6
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	28%	0%	100%	56%	0%	100%	87%	0%	75%
Vol Right, %	0%	72%	0%	0%	44%	0%	0%	13%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	623	186	707	627	503	512	293	43	491
LT Vol	203	0	186	0	0	503	0	0	43	0
Through Vol	0	175	0	707	353	0	512	256	0	367
RT Vol	0	448	0	0	274	0	0	37	0	124
Lane Flow Rate	218	670	200	760	675	541	551	315	46	528
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.836	2.378	0.75	2.746	2.38	1.967	1.926	1.095	0.177	1.922
Departure Headway (Hd)	5.322	4.281	18.482	17.934	17.599	15.949	15.416	15.322	78.741	78.046
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	679	851	198	213	216	233	242	239	46	53
Service Time	3.022	1.981	16.182	15.634	15.299	13.649	13.116	13.022	76.441	75.746
HCM Lane V/C Ratio	0.321	0.787	1.01	3.568	3.125	2.322	2.277	1.318	1	9.962
HCM Control Delay	29.1	634.4	61.9	833.6	670.3	484.1	464.7	128.9	97.7	620.7
HCM Lane LOS	D	F	F	F	F	F	F	F	F	F
HCM 95th-tile Q	9.2	149.9	5	48.1	39.9	32.4	32.3	11.3	0.6	9

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Lane Configurations		↶	↷	
Traffic Vol, veh/h	0	43	367	124
Future Vol, veh/h	0	43	367	124
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	46	395	133
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	3
HCM Control Delay	578.6
HCM LOS	F

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

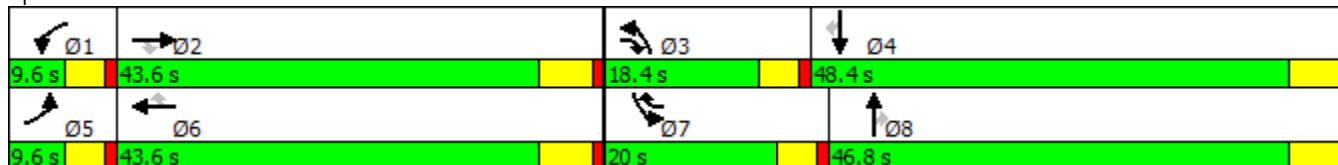


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	488	1173	468	38	749	162	178	188	50	283	326	545
Future Volume (vph)	488	1173	468	38	749	162	178	188	50	283	326	545
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	488	1173	468	38	749	162	178	188	50	283	326	545
Future Volume (veh/h)	488	1173	468	38	749	162	178	188	50	283	326	545
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	503	1209	453	39	772	162	184	194	44	292	336	561
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	140	1220	669	99	1172	703	240	1207	540	347	1331	595
Arrive On Green	0.04	0.34	0.34	0.03	0.32	0.32	0.08	0.33	0.33	0.11	0.37	0.37
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	3610	1615	3141	3610	1614
Grp Volume(v), veh/h	503	1209	453	39	772	162	184	194	44	292	336	561
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1805	1615	1570	1805	1614
Q Serve(g_s), s	5.0	37.3	25.6	1.4	20.6	7.0	6.4	4.2	2.1	10.2	7.3	37.7
Cycle Q Clear(g_c), s	5.0	37.3	25.6	1.4	20.6	7.0	6.4	4.2	2.1	10.2	7.3	37.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1220	669	99	1172	703	240	1207	540	347	1331	595
V/C Ratio(X)	3.58	0.99	0.68	0.40	0.66	0.23	0.77	0.16	0.08	0.84	0.25	0.94
Avail Cap(c_a), veh/h	140	1220	669	140	1220	724	387	1323	592	432	1374	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	36.9	26.7	53.1	32.5	19.8	50.7	26.2	25.5	48.8	24.6	34.2
Incr Delay (d2), s/veh	1180.2	23.6	2.7	1.0	1.3	0.2	2.0	0.1	0.1	9.7	0.1	22.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.2	22.5	11.9	0.6	10.4	3.1	2.9	2.1	0.9	4.9	3.6	20.6
LnGrp Delay(d),s/veh	1233.7	60.5	29.4	54.1	33.7	20.0	52.7	26.3	25.6	58.5	24.7	57.1
LnGrp LOS	F	E	C	D	C	C	D	C	C	E	C	E
Approach Vol, veh/h		2165			973			422			1189	
Approach Delay, s/veh		326.6			32.3			37.7			48.3	
Approach LOS		F			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	43.6	13.1	47.0	9.6	42.1	17.0	43.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	3.4	39.3	8.4	39.7	7.0	22.6	12.2	6.2				
Green Ext Time (p_c), s	0.0	0.0	0.1	1.6	0.0	12.0	0.2	6.1				
Intersection Summary												
HCM 2010 Ctrl Delay			170.9									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 0.4

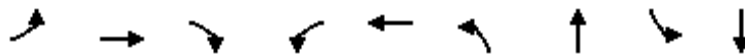
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1260	15	0	703	0	52
Future Vol, veh/h	1260	15	0	703	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1370	16	0	764	0	57

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	693
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.9
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	390
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	390
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	390	-	-	-
HCM Lane V/C Ratio	0.145	-	-	-
HCM Control Delay (s)	15.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Timings
13: Driveway 2 & Merrill Av.

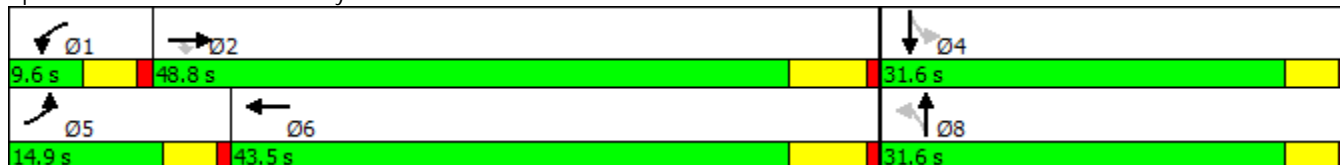


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙	↑↑		↕		↕
Traffic Volume (vph)	78	1226	7	41	602	55	0	59	0
Future Volume (vph)	78	1226	7	41	602	55	0	59	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases			2			8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	31.6	31.6	31.6	31.6
Total Split (s)	14.9	48.8	48.8	9.6	43.5	31.6	31.6	31.6	31.6
Total Split (%)	16.6%	54.2%	54.2%	10.7%	48.3%	35.1%	35.1%	35.1%	35.1%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2		4.6		4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 60.4
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated




















Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1226	7	41	602	101	55	0	73	59	0	46
Future Volume (veh/h)	78	1226	7	41	602	101	55	0	73	59	0	46
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	85	1333	8	45	654	110	60	0	79	64	0	50
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	108	1959	877	75	1619	272	170	26	148	215	25	116
Arrive On Green	0.06	0.54	0.54	0.04	0.52	0.52	0.16	0.00	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1714	3610	1615	1714	3094	520	527	162	908	756	152	709
Grp Volume(v), veh/h	85	1333	8	45	381	383	139	0	0	114	0	0
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1808	1597	0	0	1617	0	0
Q Serve(g_s), s	3.0	16.4	0.1	1.6	7.8	7.9	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	16.4	0.1	1.6	7.8	7.9	4.5	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	0.43		0.57	0.56		0.44
Lane Grp Cap(c), veh/h	108	1959	877	75	944	946	344	0	0	355	0	0
V/C Ratio(X)	0.79	0.68	0.01	0.60	0.40	0.40	0.40	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	288	2504	1120	140	1096	1098	760	0	0	756	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.4	10.2	6.5	28.8	8.8	8.9	23.4	0.0	0.0	23.0	0.0	0.0
Incr Delay (d2), s/veh	11.7	0.5	0.0	2.9	0.3	0.3	0.8	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	8.1	0.1	0.8	3.9	3.9	2.2	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	40.1	10.7	6.5	31.7	9.1	9.1	24.1	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	D	B	A	C	A	A	C			C		
Approach Vol, veh/h		1426			809			139			114	
Approach Delay, s/veh		12.4			10.4			24.1			23.5	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	39.5		14.6	8.5	38.3		14.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	42.6		27.0	10.3	37.3		27.0				
Max Q Clear Time (g_c+I1), s	3.6	18.4		5.5	5.0	9.9		6.5				
Green Ext Time (p_c), s	0.0	14.9		1.6	0.1	16.1		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	7	349	351	1012	1853
Future Volume (vph)	7	349	351	1012	1853
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	571	7	349	351	1012	0	0	1853	622
Future Volume (veh/h)	0	0	0	571	7	349	351	1012	0	0	1853	622
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1800	1900	1900	1800	1900	0	0	1900	1900
Adj Flow Rate, veh/h				621	8	263	382	1100	0	0	2014	536
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				457	6	413	447	3255	0	0	1569	413
Arrive On Green				0.26	0.26	0.26	0.52	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				1788	23	1615	1714	5358	0	0	5459	1366
Grp Volume(v), veh/h				629	0	263	382	1100	0	0	1900	650
Grp Sat Flow(s),veh/h/ln				1811	0	1615	1714	1729	0	0	1634	1656
Q Serve(g_s), s				23.0	0.0	13.0	17.3	0.0	0.0	0.0	27.2	27.2
Cycle Q Clear(g_c), s				23.0	0.0	13.0	17.3	0.0	0.0	0.0	27.2	27.2
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.82
Lane Grp Cap(c), veh/h				463	0	413	447	3255	0	0	1481	501
V/C Ratio(X)				1.36	0.00	0.64	0.85	0.34	0.00	0.00	1.28	1.30
Avail Cap(c_a), veh/h				463	0	413	457	3255	0	0	1481	501
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.42	0.42	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	29.8	20.1	0.0	0.0	0.0	31.4	31.4
Incr Delay (d2), s/veh				175.3	0.0	4.5	6.3	0.1	0.0	0.0	132.4	148.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				34.0	0.0	11.9	8.8	0.0	0.0	0.0	30.4	33.0
LnGrp Delay(d),s/veh				208.8	0.0	34.3	26.3	0.1	0.0	0.0	163.8	179.9
LnGrp LOS				F		C	C	A			F	F
Approach Vol, veh/h					892			1482			2550	
Approach Delay, s/veh					157.4			6.9			167.9	
Approach LOS					F			A			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		62.3		29.0	29.3	33.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		25.0	19.3	29.2						
Green Ext Time (p_c), s		9.1		0.0	2.9	0.0						
Intersection Summary												
HCM 2010 Ctrl Delay				117.5								
HCM 2010 LOS				F								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/23/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	1	478	1126	582	1842
Future Volume (vph)	1	478	1126	582	1842
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



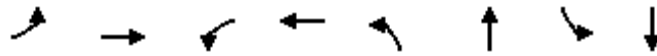
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	1	478	0	0	0	0	1126	472	582	1842	0
Future Volume (veh/h)	237	1	478	0	0	0	0	1126	472	582	1842	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1800	1900	0
Adj Flow Rate, veh/h	255	1	313				0	1211	337	626	1981	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	414	2	371				0	2196	607	286	3327	0
Arrive On Green	0.23	0.23	0.23				0.00	0.43	0.43	0.11	0.43	0.00
Sat Flow, veh/h	1803	7	1615				0	5369	1411	1714	5358	0
Grp Volume(v), veh/h	256	0	313				0	1163	385	626	1981	0
Grp Sat Flow(s),veh/h/ln	1810	0	1615				0	1634	1613	1714	1729	0
Q Serve(g_s), s	11.4	0.0	16.7				0.0	15.9	16.1	15.0	26.3	0.0
Cycle Q Clear(g_c), s	11.4	0.0	16.7				0.0	15.9	16.1	15.0	26.3	0.0
Prop In Lane	1.00		1.00				0.00		0.88	1.00		0.00
Lane Grp Cap(c), veh/h	416	0	371				0	2109	694	286	3327	0
V/C Ratio(X)	0.62	0.00	0.84				0.00	0.55	0.55	2.19	0.60	0.00
Avail Cap(c_a), veh/h	627	0	560				0	2109	694	286	3327	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.09	0.09	0.00
Uniform Delay (d), s/veh	31.1	0.0	33.1				0.0	19.1	19.2	40.0	16.7	0.0
Incr Delay (d2), s/veh	1.5	0.0	7.3				0.0	0.6	2.0	537.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	8.2				0.0	7.2	7.5	49.7	12.6	0.0
LnGrp Delay(d),s/veh	32.6	0.0	40.4				0.0	19.8	21.2	577.0	16.8	0.0
LnGrp LOS	C		D					B	C	F	B	
Approach Vol, veh/h		569						1548			2607	
Approach Delay, s/veh		36.9						20.1			151.3	
Approach LOS		D						C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	44.5				63.5		26.5				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	18.1				28.3		18.7				
Green Ext Time (p_c), s	0.0	9.7				17.5		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			94.5									
HCM 2010 LOS			F									

Timings
16: Archibald Av. & Walnut Av.

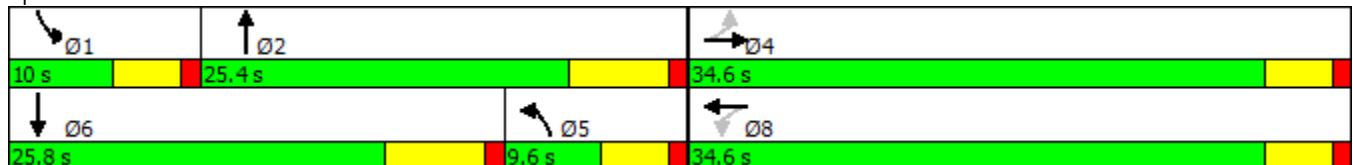


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↙	←	↖	↑↑↑	↙	↑↑↑
Traffic Volume (vph)	19	8	65	15	72	1380	139	1865
Future Volume (vph)	19	8	65	15	72	1380	139	1865
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	25.4	10.0	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	36.3%	14.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 54.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated























Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

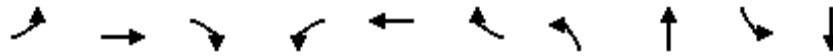
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	8	34	65	15	73	72	1380	74	139	1865	24
Future Volume (veh/h)	19	8	34	65	15	73	72	1380	74	139	1865	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	20	8	9	68	16	23	76	1453	78	146	1963	24
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	368	153	172	388	132	189	113	1969	106	183	2112	26
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.07	0.39	0.39	0.11	0.40	0.40
Sat Flow, veh/h	1309	818	920	1343	703	1011	1714	5032	270	1714	5282	65
Grp Volume(v), veh/h	20	0	17	68	0	39	76	999	532	146	1285	702
Grp Sat Flow(s),veh/h/ln	1309	0	1738	1343	0	1715	1714	1729	1844	1714	1729	1889
Q Serve(g_s), s	0.6	0.0	0.4	2.1	0.0	0.9	2.1	12.1	12.1	4.1	17.4	17.4
Cycle Q Clear(g_c), s	1.6	0.0	0.4	2.5	0.0	0.9	2.1	12.1	12.1	4.1	17.4	17.4
Prop In Lane	1.00		0.53	1.00		0.59	1.00		0.15	1.00		0.03
Lane Grp Cap(c), veh/h	368	0	326	388	0	321	113	1353	721	183	1382	755
V/C Ratio(X)	0.05	0.00	0.05	0.18	0.00	0.12	0.67	0.74	0.74	0.80	0.93	0.93
Avail Cap(c_a), veh/h	924	0	1064	959	0	1050	175	1356	723	189	1384	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	16.3	17.4	0.0	16.5	22.4	12.8	12.8	21.3	14.0	14.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	0.2	2.6	2.2	4.0	18.5	11.2	18.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2	0.8	0.0	0.4	1.1	6.1	6.9	2.9	10.4	12.7
LnGrp Delay(d),s/veh	17.3	0.0	16.4	17.6	0.0	16.7	25.0	14.9	16.8	39.9	25.3	32.0
LnGrp LOS	B		B	B		B	C	B	B	D	C	C
Approach Vol, veh/h		37			107			1607			2133	
Approach Delay, s/veh		16.9			17.3			16.0			28.5	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	25.4		13.8	9.4	25.8		13.8				
Change Period (Y+Rc), s	4.6	6.2		4.6	6.2	* 6.2		4.6				
Max Green Setting (Gmax), s	5.4	19.2		30.0	5.0	* 20		30.0				
Max Q Clear Time (g_c+I1), s	6.1	14.1		3.6	4.1	19.4		4.5				
Green Ext Time (p_c), s	0.0	3.6		0.6	0.7	0.2		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				22.9								
HCM 2010 LOS				C								
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/24/2017

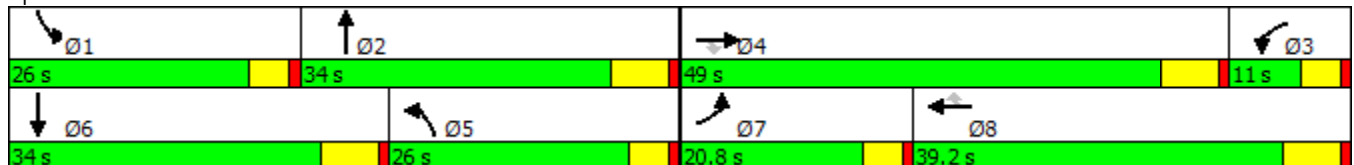


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘	↗↗↗	↘	↗↗↗
Traffic Volume (vph)	145	544	303	317	364	133	326	989	313	1313
Future Volume (vph)	145	544	303	317	364	133	326	989	313	1313
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	20.8	49.0	49.0	11.0	39.2	39.2	26.0	34.0	26.0	34.0
Total Split (%)	17.3%	40.8%	40.8%	9.2%	32.7%	32.7%	21.7%	28.3%	21.7%	28.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

1/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	544	303	317	364	133	326	989	233	313	1313	189
Future Volume (veh/h)	145	544	303	317	364	133	326	989	233	313	1313	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	154	579	250	337	387	85	347	1052	231	333	1397	129
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	183	819	357	106	711	316	353	1202	264	353	1290	119
Arrive On Green	0.11	0.23	0.23	0.06	0.20	0.20	0.21	0.28	0.28	0.21	0.27	0.27
Sat Flow, veh/h	1714	3610	1573	1714	3610	1608	1714	4252	933	1714	4823	445
Grp Volume(v), veh/h	154	579	250	337	387	85	347	855	428	333	1002	524
Grp Sat Flow(s),veh/h/ln	1714	1805	1573	1714	1805	1608	1714	1729	1727	1714	1729	1810
Q Serve(g_s), s	9.2	15.4	15.2	6.4	10.0	4.7	21.0	24.5	24.5	19.9	27.8	27.8
Cycle Q Clear(g_c), s	9.2	15.4	15.2	6.4	10.0	4.7	21.0	24.5	24.5	19.9	27.8	27.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		0.25
Lane Grp Cap(c), veh/h	183	819	357	106	711	316	353	978	488	353	925	484
V/C Ratio(X)	0.84	0.71	0.70	3.19	0.54	0.27	0.98	0.87	0.88	0.94	1.08	1.08
Avail Cap(c_a), veh/h	267	1486	648	106	1146	510	353	978	488	353	925	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	37.0	37.0	48.8	37.6	35.4	41.1	35.5	35.5	40.7	38.1	38.1
Incr Delay (d2), s/veh	10.1	1.1	2.5	1011.4	0.7	0.5	43.2	8.9	16.2	33.2	54.8	65.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	7.8	6.9	32.7	5.1	2.1	14.2	12.9	13.8	12.7	20.3	22.6
LnGrp Delay(d),s/veh	55.6	38.2	39.5	1060.2	38.2	35.9	84.3	44.5	51.8	73.9	92.9	103.4
LnGrp LOS	E	D	D	F	D	D	F	D	D	E	F	F
Approach Vol, veh/h		983			809			1630			1859	
Approach Delay, s/veh		41.2			463.7			54.9			92.5	
Approach LOS		D			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	35.6	12.6	29.8	27.6	34.0	15.7	26.7				
Change Period (Y+Rc), s	4.6	6.2	6.2	* 6.2	6.2	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	21.4	27.8	6.4	* 43	21.4	* 28	16.2	33.0				
Max Q Clear Time (g_c+I1), s	21.9	26.5	8.4	17.4	23.0	29.8	11.2	12.0				
Green Ext Time (p_c), s	0.0	0.9	0.0	4.4	0.0	0.0	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			128.2									
HCM 2010 LOS			F									
Notes												

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

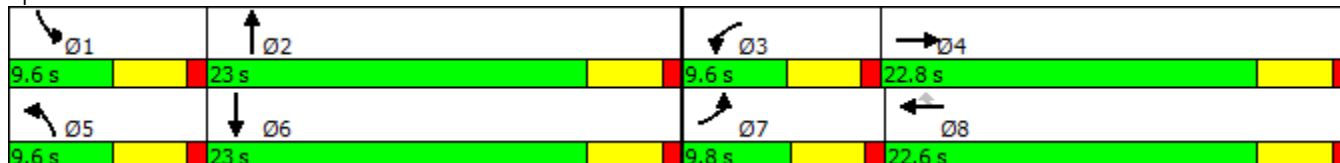


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↘	↙	↑	↗	↙	↑↑	↙	↑↑
Traffic Volume (vph)	232	312	118	288	133	232	1003	174	1118
Future Volume (vph)	232	312	118	288	133	232	1003	174	1118
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 65
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	312	206	118	288	133	232	1003	144	174	1118	280
Future Volume (veh/h)	232	312	206	118	288	133	232	1003	144	174	1118	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	237	318	207	120	294	75	237	1023	142	178	1141	286
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	301	196	132	526	447	132	1300	180	132	810	201
Arrive On Green	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28	0.08	0.28	0.28
Sat Flow, veh/h	1714	1076	700	1714	1900	1615	1714	4592	636	1714	2863	711
Grp Volume(v), veh/h	237	0	525	120	294	75	237	770	395	178	715	712
Grp Sat Flow(s),veh/h/ln	1714	0	1776	1714	1900	1615	1714	1729	1770	1714	1805	1769
Q Serve(g_s), s	5.2	0.0	18.2	4.5	8.6	2.3	5.0	13.3	13.4	5.0	18.4	18.4
Cycle Q Clear(g_c), s	5.2	0.0	18.2	4.5	8.6	2.3	5.0	13.3	13.4	5.0	18.4	18.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.36	1.00		0.40
Lane Grp Cap(c), veh/h	137	0	497	132	526	447	132	979	501	132	511	501
V/C Ratio(X)	1.73	0.00	1.06	0.91	0.56	0.17	1.80	0.79	0.79	1.35	1.40	1.42
Avail Cap(c_a), veh/h	137	0	497	132	526	447	132	979	501	132	511	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	23.4	29.8	20.1	17.8	30.0	21.5	21.5	30.0	23.3	23.3
Incr Delay (d2), s/veh	356.3	0.0	55.8	51.9	1.3	0.2	387.3	4.3	8.2	199.1	191.6	201.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	0.0	16.6	4.0	4.7	1.0	16.5	6.9	7.6	9.6	36.3	36.9
LnGrp Delay(d),s/veh	386.2	0.0	79.2	81.7	21.4	18.0	417.3	25.8	29.7	229.1	214.9	224.4
LnGrp LOS	F		F	F	C	B	F	C	C	F	F	F
Approach Vol, veh/h		762			489			1402			1605	
Approach Delay, s/veh		174.7			35.7			93.1			220.7	
Approach LOS		F			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	23.0	9.6	22.8	9.6	23.0	9.8	22.6				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	7.0	15.4	6.5	20.2	7.0	20.4	7.2	10.6				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	0.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			149.2									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	284	111	188	77	447	108	314	1316	127	111	1324	269
Future Vol, veh/h	284	111	188	77	447	108	314	1316	127	111	1324	269
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	300	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	309	121	204	84	486	117	341	1430	138	121	1439	292

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3468	4078	866	3203	4155	784	1732	0	0	1568	0	0
Stage 1	1827	1827	-	2182	2182	-	-	-	-	-	-	-
Stage 2	1641	2251	-	1021	1973	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 3	~ 3	301	~ 4	~ 2	340	369	-	-	426	-	-
Stage 1	~ 81	129	-	~ 48	~ 85	-	-	-	-	-	-	-
Stage 2	~ 106	~ 79	-	257	~ 109	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	0	0	301	0	0	340	369	-	-	426	-	-
Mov Cap-2 Maneuver	0	0	-	0	0	-	-	-	-	-	-	-
Stage 1	~ 6	~ 92	-	~ 4	~ 6	-	-	-	-	-	-	-
Stage 2	-	~ 6	-	-	~ 78	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			11.4	1.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	369	-	-	-	301	-	340	426	-	-
HCM Lane V/C Ratio	0.925	-	-	-	1.08	-	1.774	0.283	-	-
HCM Control Delay (s)	63.8	-	-	-	113.2	-	386.8	16.8	-	-
HCM Lane LOS	F	-	-	-	F	-	F	C	-	-
HCM 95th %tile Q(veh)	9.7	-	-	-	12.6	-	38.7	1.2	-	-

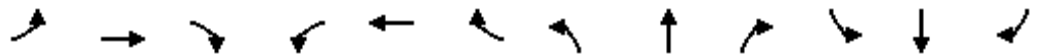
Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

07/27/2017

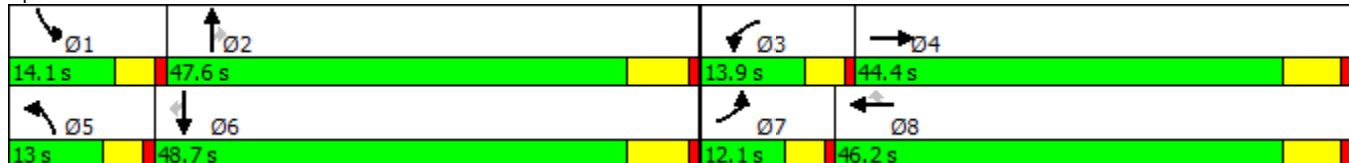


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	416	1209	514	419	1019	196	486	900	237	169	859	354
Future Volume (vph)	416	1209	514	419	1019	196	486	900	237	169	859	354
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 07/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	1209	514	419	1019	196	486	900	237	169	859	354
Future Volume (veh/h)	416	1209	514	419	1019	196	486	900	237	169	859	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	420	1221	0	423	1029	178	491	909	0	171	868	349
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	203	1186	531	251	654	556	124	1160	519	140	1194	534
Arrive On Green	0.06	0.33	0.00	0.08	0.34	0.34	0.07	0.32	0.00	0.08	0.33	0.33
Sat Flow, veh/h	3141	3610	1615	3141	1900	1615	1714	3610	1615	1714	3610	1615
Grp Volume(v), veh/h	420	1221	0	423	1029	178	491	909	0	171	868	349
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1900	1615	1714	1805	1615	1714	1805	1615
Q Serve(g_s), s	7.5	38.2	0.0	9.3	40.0	9.4	8.4	26.6	0.0	9.5	24.6	21.4
Cycle Q Clear(g_c), s	7.5	38.2	0.0	9.3	40.0	9.4	8.4	26.6	0.0	9.5	24.6	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	1186	531	251	654	556	124	1160	519	140	1194	534
V/C Ratio(X)	2.07	1.03	0.00	1.68	1.57	0.32	3.96	0.78	0.00	1.22	0.73	0.65
Avail Cap(c_a), veh/h	203	1186	531	251	654	556	124	1276	571	140	1310	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	39.0	0.0	53.5	38.1	28.1	53.9	35.8	0.0	53.4	34.3	33.2
Incr Delay (d2), s/veh	499.4	33.9	0.0	324.4	265.7	0.3	1353.1	3.0	0.0	147.3	1.9	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	24.5	0.0	15.3	69.1	4.3	50.5	13.7	0.0	10.2	12.6	9.9
LnGrp Delay(d),s/veh	553.8	73.0	0.0	377.8	303.8	28.4	1407.0	38.8	0.0	200.7	36.1	35.5
LnGrp LOS	F	F		F	F	C	F	D		F	D	D
Approach Vol, veh/h		1641			1630			1400			1388	
Approach Delay, s/veh		196.0			293.0			518.6			56.2	
Approach LOS		F			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	43.9	13.9	44.4	13.0	45.0	12.1	46.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	11.5	28.6	11.3	40.2	10.4	26.6	9.5	42.0				
Green Ext Time (p_c), s	0.0	8.8	0.0	0.0	0.0	10.3	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			264.6									
HCM 2010 LOS			F									

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/27/2017

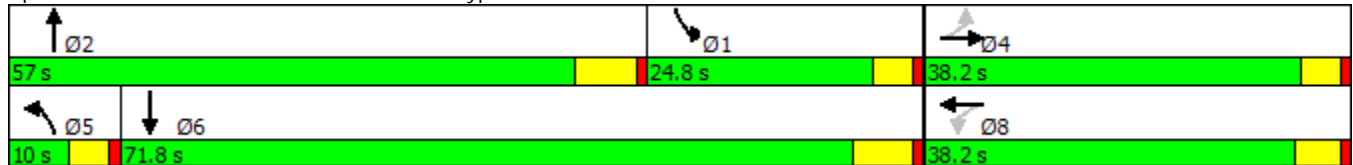


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↕
Traffic Volume (vph)	64	28	70	15	95	1522	145	1491
Future Volume (vph)	64	28	70	15	95	1522	145	1491
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	37.6	37.6	38.2	38.2	9.6	23.5	9.6	23.5
Total Split (s)	38.2	38.2	38.2	38.2	10.0	57.0	24.8	71.8
Total Split (%)	31.8%	31.8%	31.8%	31.8%	8.3%	47.5%	20.7%	59.8%
Yellow Time (s)	3.6	3.6	4.2	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		5.2	4.6	6.5	4.6	6.5
Lead/Lag					Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

07/27/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	28	104	70	15	82	95	1522	99	145	1491	36
Future Volume (veh/h)	64	28	104	70	15	82	95	1522	99	145	1491	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	70	30	113	76	16	75	103	1654	106	158	1621	39
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	119	52	141	138	40	104	90	1683	107	283	2232	54
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.05	0.49	0.49	0.16	0.62	0.62
Sat Flow, veh/h	427	305	827	514	236	611	1714	3447	219	1714	3603	87
Grp Volume(v), veh/h	213	0	0	167	0	0	103	861	899	158	810	850
Grp Sat Flow(s),veh/h/ln	1559	0	0	1361	0	0	1714	1805	1861	1714	1805	1885
Q Serve(g_s), s	1.3	0.0	0.0	0.0	0.0	0.0	5.4	48.2	49.5	8.8	32.1	32.3
Cycle Q Clear(g_c), s	13.5	0.0	0.0	12.2	0.0	0.0	5.4	48.2	49.5	8.8	32.1	32.3
Prop In Lane	0.33		0.53	0.46		0.45	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	312	0	0	283	0	0	90	881	909	283	1118	1167
V/C Ratio(X)	0.68	0.00	0.00	0.59	0.00	0.00	1.15	0.98	0.99	0.56	0.72	0.73
Avail Cap(c_a), veh/h	549	0	0	499	0	0	90	881	909	335	1140	1190
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	0.0	40.3	0.0	0.0	49.0	25.9	26.2	39.7	13.6	13.6
Incr Delay (d2), s/veh	2.6	0.0	0.0	2.0	0.0	0.0	141.4	24.5	27.2	0.6	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	4.7	0.0	0.0	6.1	29.9	32.1	4.2	16.5	17.2
LnGrp Delay(d),s/veh	43.6	0.0	0.0	42.2	0.0	0.0	190.4	50.4	53.4	40.4	15.9	15.9
LnGrp LOS	D			D			F	D	D	D	B	B
Approach Vol, veh/h		213			167			1863			1818	
Approach Delay, s/veh		43.6			42.2			59.6			18.0	
Approach LOS		D			D			E			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.6	57.0		22.9	10.0	70.6		22.9				
Change Period (Y+Rc), s	6.5	* 6.5		* 5.2	4.6	6.5		5.2				
Max Green Setting (Gmax), s	20.2	* 51		* 34	5.4	65.3		33.0				
Max Q Clear Time (g_c+I1), s	10.8	51.5		15.5	7.4	34.3		14.2				
Green Ext Time (p_c), s	6.5	0.0		2.1	0.0	13.5		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay				39.4								
HCM 2010 LOS				D								
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

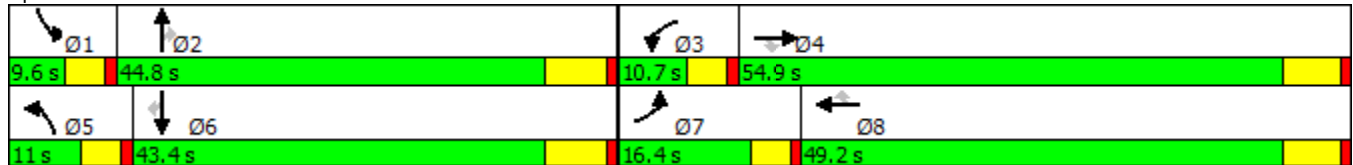


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	663	162	533	187	112	43	283	1545	193	83	1704	349
Future Volume (vph)	663	162	533	187	112	43	283	1545	193	83	1704	349
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	663	162	533	187	112	43	283	1545	193	83	1704	349
Future Volume (veh/h)	663	162	533	187	112	43	283	1545	193	83	1704	349
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	691	169	390	195	117	3	295	1609	187	86	1775	353
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	205	528	449	106	419	356	111	1417	634	144	1349	603
Arrive On Green	0.12	0.28	0.28	0.06	0.22	0.22	0.06	0.39	0.39	0.05	0.37	0.37
Sat Flow, veh/h	1714	1900	1615	1714	1900	1615	1714	3610	1615	3141	3610	1615
Grp Volume(v), veh/h	691	169	390	195	117	3	295	1609	187	86	1775	353
Grp Sat Flow(s),veh/h/ln	1714	1900	1615	1714	1900	1615	1714	1805	1615	1570	1805	1615
Q Serve(g_s), s	11.8	7.0	22.7	6.1	5.1	0.1	6.4	38.8	7.9	2.7	36.9	17.3
Cycle Q Clear(g_c), s	11.8	7.0	22.7	6.1	5.1	0.1	6.4	38.8	7.9	2.7	36.9	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	528	449	106	419	356	111	1417	634	144	1349	603
V/C Ratio(X)	3.37	0.32	0.87	1.84	0.28	0.01	2.66	1.14	0.29	0.60	1.32	0.58
Avail Cap(c_a), veh/h	205	937	796	106	827	703	111	1417	634	159	1349	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	28.3	33.9	46.3	32.0	30.1	46.2	30.0	20.6	46.2	30.9	24.8
Incr Delay (d2), s/veh	1080.4	0.3	5.3	412.8	0.4	0.0	770.0	70.1	0.3	2.8	147.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	67.0	3.7	10.8	15.0	2.7	0.1	26.8	32.9	3.5	1.2	45.8	8.0
LnGrp Delay(d),s/veh	1123.9	28.6	39.2	459.1	32.3	30.1	816.2	100.1	20.9	49.1	178.4	26.2
LnGrp LOS	F	C	D	F	C	C	F	F	C	D	F	C
Approach Vol, veh/h		1250			315			2091			2214	
Approach Delay, s/veh		637.4			296.5			194.0			149.2	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	45.3	10.7	33.7	11.0	43.4	16.4	28.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	4.7	40.8	8.1	24.7	8.4	38.9	13.8	7.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			277.0									
HCM 2010 LOS			F									

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	29	0	2021	2405	18
Future Vol, veh/h	0	29	0	2021	2405	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	32	0	2197	2614	20

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1317	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	5.4	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.9	- -
Pot Cap-1 Maneuver	0	240	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	240	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	22.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	240	-	-
HCM Lane V/C Ratio	-	0.131	-	-
HCM Control Delay (s)	-	22.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Timings
24: Archibald Av. & Driveway 4



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↘	↘	↑↑↑	↘	↑↑↑	↘
Traffic Volume (vph)	147	0	55	0	52	1838	24	2394	17
Future Volume (vph)	147	0	55	0	52	1838	24	2394	17
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	35.6	35.6	35.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	35.6	35.6	35.6	35.6	13.0	73.9	10.5	71.4	71.4
Total Split (%)	29.7%	29.7%	29.7%	29.7%	10.8%	61.6%	8.8%	59.5%	59.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4

↘ Ø1	↑ Ø2	↘ Ø4
10.5 s	73.9 s	35.6 s
↘ Ø5	↓ Ø6	↘ Ø8
13 s	71.4 s	35.6 s

HCM 2010 Signalized Intersection Summary
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	0	42	55	0	36	52	1838	172	24	2394	17
Future Volume (veh/h)	147	0	42	55	0	36	52	1838	172	24	2394	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	160	0	46	60	0	39	57	1998	187	26	2602	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	265	0	272	269	0	272	72	3163	294	46	3310	1031
Arrive On Green	0.17	0.00	0.17	0.17	0.00	0.17	0.04	0.65	0.65	0.03	0.64	0.64
Sat Flow, veh/h	1317	0	1615	1381	0	1615	1714	4830	449	1810	5187	1615
Grp Volume(v), veh/h	160	0	46	60	0	39	57	1426	759	26	2602	18
Grp Sat Flow(s),veh/h/ln	1317	0	1615	1381	0	1615	1714	1729	1821	1810	1729	1615
Q Serve(g_s), s	12.0	0.0	2.5	4.0	0.0	2.1	3.4	24.7	25.1	1.4	37.1	0.4
Cycle Q Clear(g_c), s	14.1	0.0	2.5	6.4	0.0	2.1	3.4	24.7	25.1	1.4	37.1	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	265	0	272	269	0	272	72	2264	1192	46	3310	1031
V/C Ratio(X)	0.60	0.00	0.17	0.22	0.00	0.14	0.79	0.63	0.64	0.56	0.79	0.02
Avail Cap(c_a), veh/h	445	0	492	458	0	492	142	2301	1212	105	3324	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	36.2	39.0	0.0	36.1	48.3	10.3	10.4	49.0	13.4	6.7
Incr Delay (d2), s/veh	2.2	0.0	0.3	0.4	0.0	0.2	16.9	0.5	1.1	10.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	1.1	1.5	0.0	0.9	1.9	11.9	12.8	0.9	18.0	0.2
LnGrp Delay(d),s/veh	44.3	0.0	36.5	39.4	0.0	36.3	65.1	10.9	11.5	59.2	14.7	6.7
LnGrp LOS	D		D	D		D	E	B	B	E	B	A
Approach Vol, veh/h		206			99			2242			2646	
Approach Delay, s/veh		42.5			38.2			12.4			15.1	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	72.8		21.7	8.9	71.1		21.7				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.9	67.7		31.0	8.4	65.2		31.0				
Max Q Clear Time (g_c+I1), s	3.4	27.1		16.1	5.4	39.1		8.4				
Green Ext Time (p_c), s	0.0	39.5		1.0	0.0	25.7		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	59	0	2062	2455	35
Future Vol, veh/h	0	59	0	2062	2455	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	64	0	2241	2668	38

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1334	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	5.1	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.8	- -
Pot Cap-1 Maneuver	0	267	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	267	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	22.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	267	-	-
HCM Lane V/C Ratio	-	0.24	-	-
HCM Control Delay (s)	-	22.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.9	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

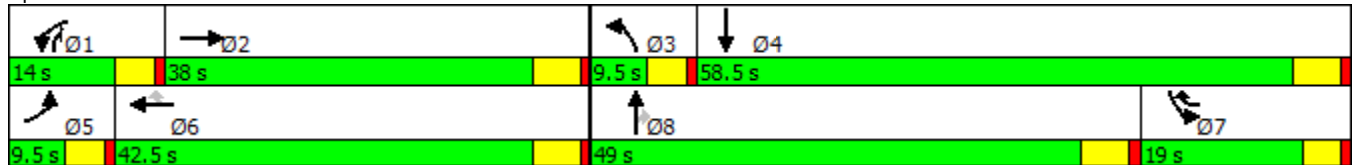


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	285	760	244	618	676	82	1085	280	403	1860
Future Volume (vph)	285	760	244	618	676	82	1085	280	403	1860
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2	1	6	7	3	8	1	7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3
Total Split (s)	9.5	38.0	14.0	42.5	19.0	9.5	49.0	14.0	19.0	58.5
Total Split (%)	7.9%	31.7%	11.7%	35.4%	15.8%	7.9%	40.8%	11.7%	15.8%	48.8%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	760	108	244	618	676	82	1085	280	403	1860	237
Future Volume (veh/h)	285	760	108	244	618	676	82	1085	280	403	1860	237
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	310	826	117	274	672	718	89	1219	315	453	2090	258
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	441	62	142	585	691	75	687	711	217	742	92
Arrive On Green	0.04	0.27	0.27	0.08	0.31	0.31	0.04	0.36	0.36	0.12	0.45	0.45
Sat Flow, veh/h	1810	1629	231	1810	1900	1615	1810	1900	1615	1810	1659	205
Grp Volume(v), veh/h	310	0	943	274	672	718	89	1219	315	453	0	2348
Grp Sat Flow(s),veh/h/ln	1810	0	1859	1810	1900	1615	1810	1900	1615	1810	0	1864
Q Serve(g_s), s	5.0	0.0	32.7	9.5	37.2	29.3	5.0	43.7	9.2	14.5	0.0	54.0
Cycle Q Clear(g_c), s	5.0	0.0	32.7	9.5	37.2	29.3	5.0	43.7	9.2	14.5	0.0	54.0
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	75	0	503	142	585	691	75	687	711	217	0	833
V/C Ratio(X)	4.14	0.00	1.87	1.93	1.15	1.04	1.19	1.77	0.44	2.09	0.00	2.82
Avail Cap(c_a), veh/h	75	0	503	142	585	691	75	687	711	217	0	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.9	0.0	44.1	55.7	41.8	22.1	57.9	38.6	9.4	53.1	0.0	33.4
Incr Delay (d2), s/veh	1443.6	0.0	400.7	441.3	85.4	44.7	163.4	354.0	0.5	504.0	0.0	821.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.5	0.0	72.7	22.1	33.2	21.5	5.9	90.3	4.1	37.6	0.0	217.7
LnGrp Delay(d),s/veh	1501.5	0.0	444.7	496.9	127.2	66.8	221.3	392.5	10.0	557.1	0.0	854.9
LnGrp LOS	F		F	F	F	F	F	F	A	F		F
Approach Vol, veh/h		1253			1664			1623			2801	
Approach Delay, s/veh		706.2			162.0			308.9			806.7	
Approach LOS		F			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	38.0	9.5	59.3	9.5	42.5	19.8	49.0				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	5.3	* 5.3				
Max Green Setting (Gmax), s	9.5	32.7	5.0	53.2	5.0	37.2	14.5	* 44				
Max Q Clear Time (g_c+I1), s	11.5	34.7	7.0	56.0	7.0	39.2	16.5	45.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			533.4									
HCM 2010 LOS			F									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

10/03/2017

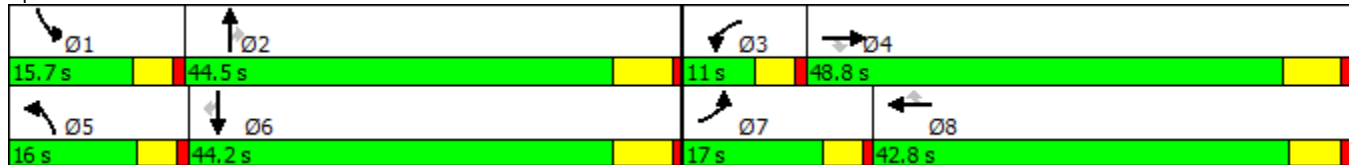


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	416	1613	523	474	1357	262	357	1319	482	690	1065	224
Future Volume (vph)	416	1613	523	474	1357	262	357	1319	482	690	1065	224
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	1613	523	474	1357	262	357	1319	482	690	1065	224
Future Volume (veh/h)	416	1613	523	474	1357	262	357	1319	482	690	1065	224
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	443	1716	469	504	1444	274	380	1403	478	734	1133	101
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	362	1846	562	187	1587	488	333	1653	504	324	1640	500
Arrive On Green	0.10	0.36	0.36	0.05	0.31	0.31	0.09	0.32	0.32	0.09	0.32	0.32
Sat Flow, veh/h	3510	5187	1579	3510	5187	1594	3510	5187	1582	3510	5187	1581
Grp Volume(v), veh/h	443	1716	469	504	1444	274	380	1403	478	734	1133	101
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1594	1755	1729	1582	1755	1729	1581
Q Serve(g_s), s	12.4	38.3	32.7	6.4	32.2	17.3	11.4	30.3	35.4	11.1	23.0	5.6
Cycle Q Clear(g_c), s	12.4	38.3	32.7	6.4	32.2	17.3	11.4	30.3	35.4	11.1	23.0	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	1846	562	187	1587	488	333	1653	504	324	1640	500
V/C Ratio(X)	1.22	0.93	0.83	2.69	0.91	0.56	1.14	0.85	0.95	2.26	0.69	0.20
Avail Cap(c_a), veh/h	362	1846	562	187	1598	491	333	1654	504	324	1641	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	37.2	35.4	56.9	40.1	34.9	54.4	38.2	40.0	54.5	35.9	30.0
Incr Delay (d2), s/veh	122.5	8.9	10.5	777.7	8.1	1.4	93.1	4.4	27.6	578.1	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	19.8	15.9	23.3	16.6	7.8	9.8	15.1	19.4	31.4	11.1	2.5
LnGrp Delay(d),s/veh	176.3	46.2	46.0	834.5	48.2	36.4	147.5	42.6	67.5	632.6	37.2	30.2
LnGrp LOS	F	D	D	F	D	D	F	D	E	F	D	C
Approach Vol, veh/h		2628			2222			2261			1968	
Approach Delay, s/veh		68.1			225.1			65.5			258.9	
Approach LOS		E			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	44.5	11.0	49.0	16.0	44.2	17.0	43.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	13.1	37.4	8.4	40.3	13.4	25.0	14.4	34.2				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.3	0.0	11.5	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			147.2									
HCM 2010 LOS			F									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

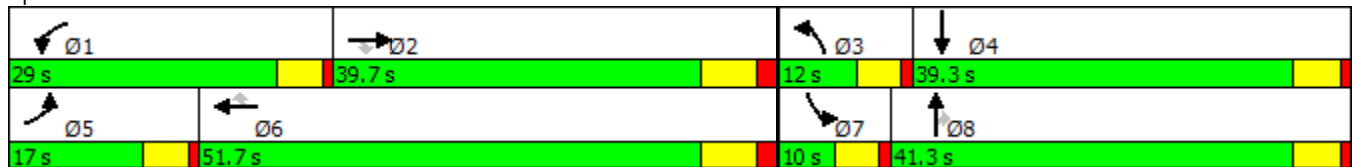


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	78	1555	210	251	1709	93	135	58	157	109	109
Future Volume (vph)	78	1555	210	251	1709	93	135	58	157	109	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1555	210	251	1709	93	135	58	157	109	109	144
Future Volume (veh/h)	78	1555	210	251	1709	93	135	58	157	109	109	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	1728	232	279	1899	103	150	64	145	121	121	153
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1756	535	312	1622	726	127	408	342	91	147	186
Arrive On Green	0.06	0.34	0.34	0.17	0.45	0.45	0.07	0.21	0.21	0.05	0.19	0.19
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1592	1810	758	958
Grp Volume(v), veh/h	87	1728	232	279	1899	103	150	64	145	121	0	274
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1592	1810	0	1716
Q Serve(g_s), s	4.7	32.9	11.3	15.0	44.7	3.7	7.0	2.7	7.8	5.0	0.0	15.2
Cycle Q Clear(g_c), s	4.7	32.9	11.3	15.0	44.7	3.7	7.0	2.7	7.8	5.0	0.0	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	111	1756	535	312	1622	726	127	408	342	91	0	334
V/C Ratio(X)	0.78	0.98	0.43	0.89	1.17	0.14	1.18	0.16	0.42	1.33	0.00	0.82
Avail Cap(c_a), veh/h	218	1756	535	437	1622	726	127	688	576	91	0	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	32.6	25.5	40.3	27.4	16.1	46.2	31.7	33.8	47.2	0.0	38.4
Incr Delay (d2), s/veh	4.4	17.7	0.6	12.9	83.8	0.1	135.4	0.2	0.8	206.1	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	18.6	5.0	8.6	41.0	1.7	8.3	1.4	3.5	7.7	0.0	7.7
LnGrp Delay(d),s/veh	50.4	50.3	26.1	53.2	111.2	16.2	181.7	31.9	34.6	253.4	0.0	43.4
LnGrp LOS	D	D	C	D	F	B	F	C	C	F		D
Approach Vol, veh/h		2047			2281			359			395	
Approach Delay, s/veh		47.6			99.8			95.6			107.7	
Approach LOS		D			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	40.7	12.0	24.6	11.1	51.7	10.0	26.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	17.0	34.9	9.0	17.2	6.7	46.7	7.0	9.8				
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	0.0	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			79.1									
HCM 2010 LOS			E									

Timings
29: Sumner Av. & Limonite Av.

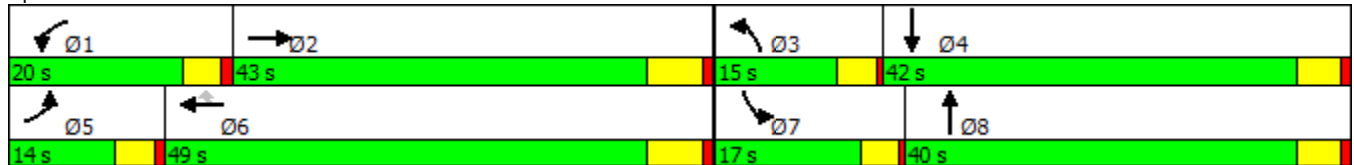


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖↗	↕↔	↖↗	↕↔	↖	↗	↕↔	↖	↕↔
Traffic Volume (vph)	114	1640	489	1885	66	422	79	93	166
Future Volume (vph)	114	1640	489	1885	66	422	79	93	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	1640	541	489	1885	66	422	79	321	93	166	88
Future Volume (veh/h)	114	1640	541	489	1885	66	422	79	321	93	166	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	118	1691	552	504	1943	47	435	81	257	96	171	64
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	1458	462	550	2483	773	201	371	330	122	419	151
Arrive On Green	0.05	0.37	0.37	0.16	0.48	0.48	0.11	0.21	0.21	0.07	0.16	0.16
Sat Flow, veh/h	3510	3902	1236	3510	5187	1614	1810	1805	1608	1810	2589	931
Grp Volume(v), veh/h	118	1493	750	504	1943	47	435	81	257	96	117	118
Grp Sat Flow(s),veh/h/ln	1755	1729	1680	1755	1729	1614	1810	1805	1608	1810	1805	1715
Q Serve(g_s), s	3.3	37.0	37.0	14.0	30.9	1.5	11.0	3.7	15.0	5.2	5.8	6.1
Cycle Q Clear(g_c), s	3.3	37.0	37.0	14.0	30.9	1.5	11.0	3.7	15.0	5.2	5.8	6.1
Prop In Lane	1.00		0.74	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	181	1292	628	550	2483	773	201	371	330	122	292	277
V/C Ratio(X)	0.65	1.16	1.20	0.92	0.78	0.06	2.16	0.22	0.78	0.79	0.40	0.43
Avail Cap(c_a), veh/h	337	1292	628	550	2483	773	201	638	568	238	675	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	31.0	31.0	41.1	21.5	13.9	44.0	32.7	37.2	45.5	37.2	37.4
Incr Delay (d2), s/veh	1.5	79.0	102.8	20.0	1.7	0.0	539.8	0.2	3.0	4.1	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	31.8	35.0	8.3	15.1	0.7	35.6	1.9	6.9	2.7	2.9	3.0
LnGrp Delay(d),s/veh	47.6	110.0	133.8	61.1	23.2	13.9	583.8	33.0	40.2	49.6	37.9	38.1
LnGrp LOS	D	F	F	E	C	B	F	C	D	D	D	D
Approach Vol, veh/h		2361			2494			773			331	
Approach Delay, s/veh		114.5			30.7			345.4			41.4	
Approach LOS		F			C			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	43.0	15.0	21.0	9.6	53.4	10.7	25.3				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	16.0	39.0	13.0	8.1	5.3	32.9	7.2	17.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	9.9	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			105.3									
HCM 2010 LOS			F									

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

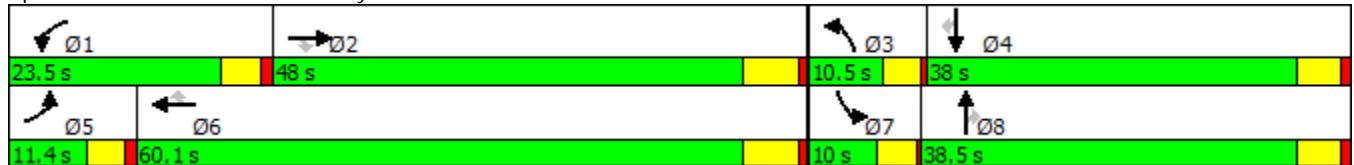


























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↖	↗	↖	↖	↗↗	↖
Traffic Volume (vph)	65	1589	197	214	2070	47	271	34	186	34	95	66
Future Volume (vph)	65	1589	197	214	2070	47	271	34	186	34	95	66
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 30: Scholar Wy. & Limonite Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1589	197	214	2070	47	271	34	186	34	95	66
Future Volume (veh/h)	65	1589	197	214	2070	47	271	34	186	34	95	66
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	66	1621	199	218	2112	48	277	35	142	35	97	64
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	1795	791	253	2130	931	128	236	200	47	286	125
Arrive On Green	0.05	0.50	0.50	0.14	0.59	0.59	0.07	0.12	0.12	0.03	0.08	0.08
Sat Flow, veh/h	1810	3610	1592	1810	3610	1578	1810	1900	1611	1810	3610	1585
Grp Volume(v), veh/h	66	1621	199	218	2112	48	277	35	142	35	97	64
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1578	1810	1900	1611	1810	1805	1585
Q Serve(g_s), s	3.3	37.6	6.6	10.8	53.0	1.2	6.5	1.5	7.8	1.8	2.3	3.6
Cycle Q Clear(g_c), s	3.3	37.6	6.6	10.8	53.0	1.2	6.5	1.5	7.8	1.8	2.3	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	1795	791	253	2130	931	128	236	200	47	286	125
V/C Ratio(X)	0.77	0.90	0.25	0.86	0.99	0.05	2.16	0.15	0.71	0.75	0.34	0.51
Avail Cap(c_a), veh/h	136	1795	791	375	2130	931	128	694	589	118	1299	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	21.0	13.2	38.5	18.6	7.9	42.6	35.8	38.5	44.4	39.9	40.5
Incr Delay (d2), s/veh	5.5	6.9	0.2	8.8	17.5	0.0	546.6	0.2	3.4	8.7	0.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	20.4	2.9	6.0	31.3	0.5	22.7	0.8	3.6	1.0	1.2	1.6
LnGrp Delay(d),s/veh	48.7	27.9	13.4	47.3	36.0	8.0	589.1	36.0	42.0	53.0	40.5	42.9
LnGrp LOS	D	C	B	D	D	A	F	D	D	D	D	D
Approach Vol, veh/h		1886			2378			454			196	
Approach Delay, s/veh		27.1			36.5			375.4			43.5	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	51.6	10.5	12.3	8.8	60.1	6.4	16.4				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	12.8	39.6	8.5	5.6	5.3	55.0	3.8	9.8				
Green Ext Time (p_c), s	0.1	2.4	0.0	1.0	0.0	0.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			64.5									
HCM 2010 LOS			E									

Timings

Colony Commerce Center East SP (JN 10522)

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

10/03/2017

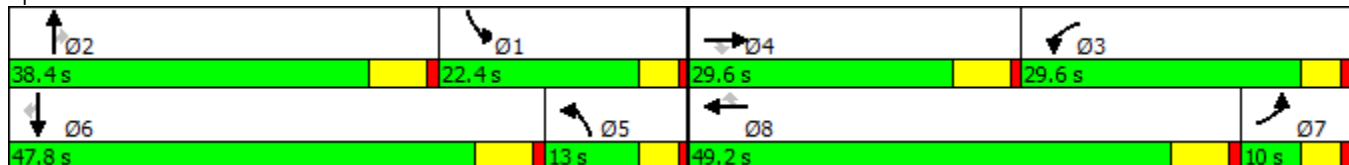


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	193	994	446	707	961	299	339	363	674	462	787	453
Future Volume (vph)	193	994	446	707	961	299	339	363	674	462	787	453
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	35.2	9.6	46.2	46.2
Total Split (s)	10.0	29.6	29.6	29.6	49.2	49.2	13.0	38.4	38.4	22.4	47.8	47.8
Total Split (%)	8.3%	24.7%	24.7%	24.7%	41.0%	41.0%	10.8%	32.0%	32.0%	18.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	994	446	707	961	299	339	363	674	462	787	453
Future Volume (veh/h)	193	994	446	707	961	299	339	363	674	462	787	453
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	203	1046	333	744	1012	246	357	382	700	486	828	472
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	275	1011	311	693	1158	518	306	1392	433	493	1172	523
Arrive On Green	0.08	0.19	0.19	0.21	0.32	0.32	0.09	0.27	0.27	0.15	0.32	0.32
Sat Flow, veh/h	3326	5187	1594	3326	3610	1615	3326	5187	1615	3326	3610	1612
Grp Volume(v), veh/h	203	1046	333	744	1012	246	357	382	700	486	828	472
Grp Sat Flow(s),veh/h/ln	1663	1729	1594	1663	1805	1615	1663	1729	1615	1663	1805	1612
Q Serve(g_s), s	7.2	23.4	23.4	25.0	31.8	14.6	11.1	7.0	32.2	17.5	24.1	33.6
Cycle Q Clear(g_c), s	7.2	23.4	23.4	25.0	31.8	14.6	11.1	7.0	32.2	17.5	24.1	33.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	1011	311	693	1158	518	306	1392	433	493	1172	523
V/C Ratio(X)	0.74	1.03	1.07	1.07	0.87	0.47	1.17	0.27	1.62	0.99	0.71	0.90
Avail Cap(c_a), veh/h	275	1011	311	693	1294	579	306	1392	433	493	1251	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	48.3	48.3	47.5	38.5	32.7	54.5	34.7	43.9	51.0	35.5	38.7
Incr Delay (d2), s/veh	8.9	37.5	71.3	55.7	6.4	0.7	104.1	0.1	287.4	36.5	1.7	17.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	14.7	16.5	16.8	16.8	6.6	9.5	3.3	48.9	10.5	12.2	17.5
LnGrp Delay(d),s/veh	62.7	85.8	119.6	103.2	44.9	33.3	158.6	34.8	331.3	87.4	37.2	55.9
LnGrp LOS	E	F	F	F	D	C	F	C	F	F	D	E
Approach Vol, veh/h		1582			2002			1439			1786	
Approach Delay, s/veh		89.9			65.1			209.7			55.8	
Approach LOS		F			E			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.4	38.4	29.6	29.6	15.7	45.1	14.5	44.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	17.8	32.2	25.0	23.4	8.4	41.6	5.4	43.0				
Max Q Clear Time (g_c+I1), s	19.5	34.2	27.0	25.4	13.1	35.6	9.2	33.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			99.0									
HCM 2010 LOS			F									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

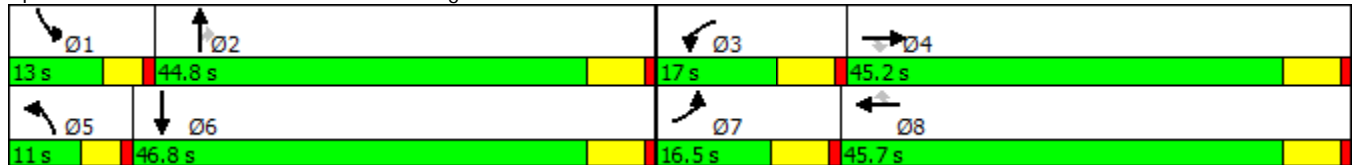


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑	↗	↖↗	↑↑	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	148	260	140	351	204	153	117	812	339	199	1203
Future Volume (vph)	148	260	140	351	204	153	117	812	339	199	1203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	45.2	45.2	16.2	43.2	43.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	16.5	45.2	45.2	17.0	45.7	45.7	11.0	44.8	44.8	13.0	46.8
Total Split (%)	13.8%	37.7%	37.7%	14.2%	38.1%	38.1%	9.2%	37.3%	37.3%	10.8%	39.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

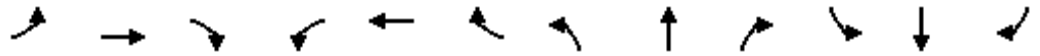
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	260	140	351	204	153	117	812	339	199	1203	313
Future Volume (veh/h)	148	260	140	351	204	153	117	812	339	199	1203	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	154	271	135	366	212	119	122	846	307	207	1253	312
Adj No. of Lanes	2	1	1	2	2	1	1	3	1	1	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	342	362	307	369	717	321	113	1941	604	148	1636	407
Arrive On Green	0.10	0.19	0.19	0.11	0.20	0.20	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	3326	1900	1615	3326	3610	1615	1714	5187	1615	1714	4144	1031
Grp Volume(v), veh/h	154	271	135	366	212	119	122	846	307	207	1046	519
Grp Sat Flow(s),veh/h/ln	1663	1900	1615	1663	1805	1615	1714	1729	1615	1714	1729	1717
Q Serve(g_s), s	4.2	13.1	7.2	10.7	4.9	6.2	6.4	11.9	14.3	8.4	25.5	25.6
Cycle Q Clear(g_c), s	4.2	13.1	7.2	10.7	4.9	6.2	6.4	11.9	14.3	8.4	25.5	25.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	342	362	307	369	717	321	113	1941	604	148	1365	678
V/C Ratio(X)	0.45	0.75	0.44	0.99	0.30	0.37	1.08	0.44	0.51	1.40	0.77	0.77
Avail Cap(c_a), veh/h	352	761	647	369	1464	655	113	2056	640	148	1442	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	37.2	34.8	43.2	33.2	33.8	45.5	22.8	23.5	44.5	25.6	25.6
Incr Delay (d2), s/veh	0.9	3.1	1.0	44.7	0.2	0.7	108.8	0.2	0.7	215.5	2.4	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	7.2	3.3	7.2	2.4	2.8	6.4	5.7	6.5	12.8	12.7	13.0
LnGrp Delay(d),s/veh	42.0	40.4	35.8	87.9	33.5	34.5	154.3	22.9	24.2	260.0	28.0	30.3
LnGrp LOS	D	D	D	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		560			697			1275			1772	
Approach Delay, s/veh		39.7			62.2			35.8			55.8	
Approach LOS		D			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	42.6	17.0	24.7	11.0	44.6	16.2	25.5				
Change Period (Y+Rc), s	4.6	6.2	6.2	6.2	4.6	6.2	6.2	6.2				
Max Green Setting (Gmax), s	8.4	38.6	10.8	39.0	6.4	40.6	10.3	39.5				
Max Q Clear Time (g_c+I1), s	10.4	16.3	12.7	15.1	8.4	27.6	6.2	8.2				
Green Ext Time (p_c), s	0.0	16.9	0.0	3.4	0.0	10.9	0.1	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			48.8									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

33: Hamner Av. & Limonite Av.

1/23/2017

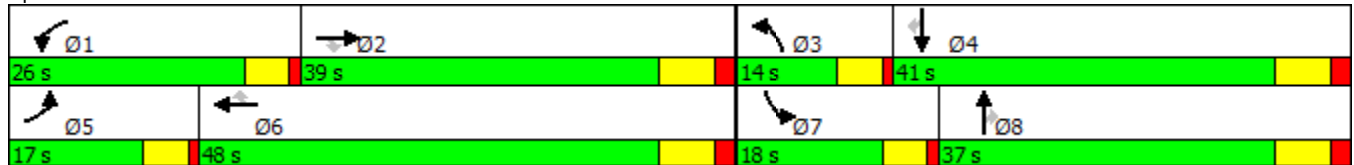


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	332	1111	185	362	1380	648	237	1010	363	633	983	413
Future Volume (vph)	332	1111	185	362	1380	648	237	1010	363	633	983	413
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

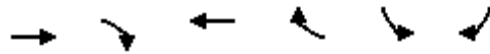
Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	332	1111	185	362	1380	648	237	1010	363	633	983	413
Future Volume (veh/h)	332	1111	185	362	1380	648	237	1010	363	633	983	413
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	339	1134	170	369	1408	592	242	1031	293	646	1003	380
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	351	1658	504	429	1233	550	263	1297	393	380	1023	457
Arrive On Green	0.10	0.32	0.32	0.12	0.34	0.34	0.08	0.25	0.25	0.11	0.28	0.28
Sat Flow, veh/h	3510	5187	1579	3510	3610	1611	3510	5187	1572	3510	3610	1612
Grp Volume(v), veh/h	339	1134	170	369	1408	592	242	1031	293	646	1003	380
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1805	1611	1755	1729	1572	1755	1805	1612
Q Serve(g_s), s	11.5	22.8	9.9	12.4	41.0	41.0	8.2	22.3	20.6	13.0	33.1	26.5
Cycle Q Clear(g_c), s	11.5	22.8	9.9	12.4	41.0	41.0	8.2	22.3	20.6	13.0	33.1	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	1658	504	429	1233	550	263	1297	393	380	1023	457
V/C Ratio(X)	0.97	0.68	0.34	0.86	1.14	1.08	0.92	0.80	0.75	1.70	0.98	0.83
Avail Cap(c_a), veh/h	351	1658	504	614	1233	550	263	1297	393	380	1023	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	35.6	31.1	51.7	39.5	39.5	55.1	42.1	41.5	53.5	42.7	40.3
Incr Delay (d2), s/veh	38.6	1.5	0.8	6.3	73.8	60.3	34.1	4.0	9.0	325.5	23.6	13.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	11.2	4.4	6.4	33.0	27.4	5.2	11.2	9.9	23.5	19.8	13.5
LnGrp Delay(d),s/veh	92.4	37.1	32.0	57.9	113.3	99.8	89.3	46.1	50.5	379.0	66.2	53.9
LnGrp LOS	F	D	C	E	F	F	F	D	D	F	E	D
Approach Vol, veh/h		1643			2369			1566			2029	
Approach Delay, s/veh		48.0			101.3			53.6			163.5	
Approach LOS		D			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	45.3	14.0	41.0	17.0	48.0	18.0	37.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	14.4	24.8	10.2	35.1	13.5	43.0	15.0	24.3				
Green Ext Time (p_c), s	0.3	7.1	0.0	0.0	0.0	0.0	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			96.6									
HCM 2010 LOS			F									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

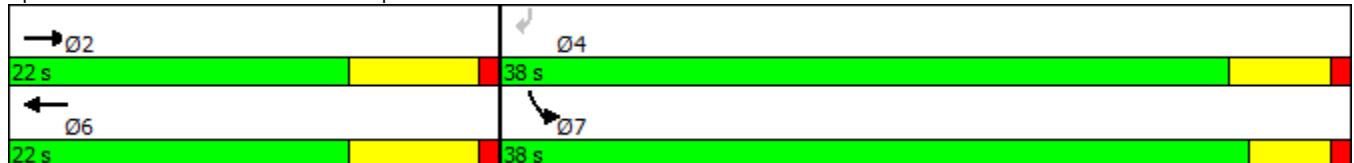


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1329	512	744	250	776	976
Future Volume (vph)	1329	512	744	250	776	976
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	22.0		22.0		38.0	38.0
Total Split (%)	36.7%		36.7%		63.3%	63.3%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

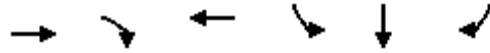
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	1329	512	0	744	250	0	0	0	776	0	976
Future Volume (veh/h)	0	1329	512	0	744	250	0	0	0	776	0	976
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1700	0	1900
Adj Flow Rate, veh/h	0	1445	0	0	809	0				843	0	915
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1314	409	0	915	409				1748	0	899
Arrive On Green	0.00	0.25	0.00	0.00	0.25	0.00				0.56	0.00	0.56
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3141	0	1615
Grp Volume(v), veh/h	0	1445	0	0	809	0				843	0	915
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1570	0	1615
Q Serve(g_s), s	0.0	15.2	0.0	0.0	12.9	0.0				9.8	0.0	33.4
Cycle Q Clear(g_c), s	0.0	15.2	0.0	0.0	12.9	0.0				9.8	0.0	33.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1314	409	0	915	409				1748	0	899
V/C Ratio(X)	0.00	1.10	0.00	0.00	0.88	0.00				0.48	0.00	1.02
Avail Cap(c_a), veh/h	0	1314	409	0	915	409				1748	0	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.4	0.0	0.0	21.6	0.0				8.1	0.0	13.3
Incr Delay (d2), s/veh	0.0	56.8	0.0	0.0	10.3	0.0				0.2	0.0	34.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.0	0.0	7.7	0.0				4.1	0.0	23.1
LnGrp Delay(d),s/veh	0.0	79.2	0.0	0.0	31.9	0.0				8.3	0.0	47.8
LnGrp LOS		F			C					A		F
Approach Vol, veh/h		1445			809						1758	
Approach Delay, s/veh		79.2			31.9						28.9	
Approach LOS		E			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		22.0		38.0		22.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		15.2		33.4		15.2						
Max Q Clear Time (g_c+I1), s		17.2		35.4		14.9						
Green Ext Time (p_c), s		0.0		0.0		0.2						
Intersection Summary												
HCM 2010 Ctrl Delay			47.6									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR	Ø1
Lane Configurations	↑↑	↑	↑↑	↑	↔	↑	
Traffic Volume (vph)	1666	710	2213	517	0	509	
Future Volume (vph)	1666	710	2213	517	0	509	
Turn Type	NA	Perm	NA	Split	NA	Perm	
Protected Phases	2		6	4	4		1
Permitted Phases		2				4	
Detector Phase	2	2	6	4	4	4	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	36.5	23.5	23.5	23.5	10.0
Total Split (s)	55.0	55.0	78.0	32.0	32.0	32.0	23.0
Total Split (%)	50.0%	50.0%	70.9%	29.1%	29.1%	29.1%	21%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?	Yes	Yes					Yes
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

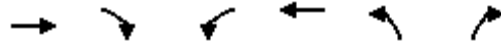
Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1666	710	0	2213	913	0	0	0	517	0	509
Future Volume (veh/h)	0	1666	710	0	2213	913	0	0	0	517	0	509
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1718	732	0	2281	941				669	0	292
Adj No. of Lanes	0	2	1	2	2	0				2	0	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2500	1119	3	1758	672				751	0	335
Arrive On Green	0.00	0.69	0.69	0.00	0.92	0.92				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1615	3510	2538	970				3619	0	1615
Grp Volume(v), veh/h	0	1718	732	0	1570	1652				669	0	292
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	1703				1810	0	1615
Q Serve(g_s), s	0.0	30.7	28.0	0.0	76.2	76.2				19.8	0.0	19.2
Cycle Q Clear(g_c), s	0.0	30.7	28.0	0.0	76.2	76.2				19.8	0.0	19.2
Prop In Lane	0.00		1.00	1.00		0.57				1.00		1.00
Lane Grp Cap(c), veh/h	0	2500	1119	3	1250	1179				751	0	335
V/C Ratio(X)	0.00	0.69	0.65	0.00	1.26	1.40				0.89	0.00	0.87
Avail Cap(c_a), veh/h	0	2500	1119	590	1250	1179				872	0	389
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.11	0.11	0.00	0.09	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.9	9.5	0.0	4.3	4.3				42.4	0.0	42.2
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	115.7	180.9				9.4	0.0	15.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	12.5	0.0	72.8	90.1				10.8	0.0	10.0
LnGrp Delay(d),s/veh	0.0	10.1	9.8	0.0	120.0	185.3				51.8	0.0	57.7
LnGrp LOS		B	A		F	F				D		E
Approach Vol, veh/h		2450			3222						961	
Approach Delay, s/veh		10.0			153.5						53.6	
Approach LOS		B			F						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	0.0	81.7		28.3		81.7						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	0.0	32.7		21.8		78.2						
Green Ext Time (p_c), s	0.0	16.7		1.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			86.0									
HCM 2010 LOS			F									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	768	1195	383	481	485	138
Future Volume (vph)	768	1195	383	481	485	138
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	768	1195	383	481	485	138		
Future Volume (veh/h)	768	1195	383	481	485	138		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	800	1119	399	501	505	94		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2222	853	471	3519	324	161		
Arrive On Green	0.43	0.43	0.15	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	800	1119	399	501	505	94		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	6.3	25.7	7.4	2.1	6.0	3.3		
Cycle Q Clear(g_c), s	6.3	25.7	7.4	2.1	6.0	3.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2222	853	471	3519	324	161		
V/C Ratio(X)	0.36	1.31	0.85	0.14	1.56	0.58		
Avail Cap(c_a), veh/h	2222	853	471	3519	324	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.37	0.37	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.6	12.7	24.8	3.4	27.0	25.8		
Incr Delay (d2), s/veh	0.2	143.3	13.4	0.1	266.4	14.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	48.0	4.1	1.0	14.6	2.1		
LnGrp Delay(d),s/veh	11.8	156.1	38.3	3.5	293.4	40.2		
LnGrp LOS	B	F	D	A	F	D		
Approach Vol, veh/h	1919			900	599			
Approach Delay, s/veh	95.9			18.9	253.7			
Approach LOS	F			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	33.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	9.4	27.7				4.1		8.0
Green Ext Time (p_c), s	0.0	0.0				20.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			103.3					
HCM 2010 LOS			F					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	Ø5
Lane Configurations	↑↑	↑↑	↗	↖	↕	↗	
Traffic Volume (vph)	1920	2523	480	603	0	910	
Future Volume (vph)	1920	2523	480	603	0	910	
Turn Type	NA	NA	Perm	Split	NA	Perm	
Protected Phases	2	6		8	8		5
Permitted Phases			6			8	
Detector Phase	2	6	6	8	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	34.5	34.5	10.5	10.5	10.5	10.0
Total Split (s)	72.0	46.0	46.0	38.0	38.0	38.0	26.0
Total Split (%)	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%	24%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	
Lead/Lag		Lag	Lag				Lead
Lead-Lag Optimize?		Yes	Yes				Yes
Recall Mode	C-Max	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
























Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

1/23/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	0	1920	263	0	2523	480	603	0	910	0	0	0
Future Volume (veh/h)	0	1920	263	0	2523	480	603	0	910	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	0	1939	266	0	2548	456	835	0	445			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	3	1944	261	0	2194	969	1058	0	472			
Arrive On Green	0.00	0.61	0.61	0.00	0.61	0.61	0.29	0.00	0.29			
Sat Flow, veh/h	3510	3200	429	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	0	1074	1131	0	2548	456	835	0	445			
Grp Sat Flow(s),veh/h/ln	1755	1805	1823	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	0.0	63.4	66.9	0.0	66.9	17.3	23.3	0.0	29.7			
Cycle Q Clear(g_c), s	0.0	63.4	66.9	0.0	66.9	17.3	23.3	0.0	29.7			
Prop In Lane	1.00		0.24	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	3	1097	1108	0	2194	969	1058	0	472			
V/C Ratio(X)	0.00	0.98	1.02	0.00	1.16	0.47	0.79	0.00	0.94			
Avail Cap(c_a), veh/h	686	1097	1108	0	2194	969	1069	0	477			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.58	0.58	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	20.9	21.6	0.0	21.6	11.9	35.8	0.0	38.0			
Incr Delay (d2), s/veh	0.0	16.3	25.9	0.0	78.1	1.6	4.0	0.0	27.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	36.3	41.2	0.0	56.7	8.0	12.2	0.0	16.8			
LnGrp Delay(d),s/veh	0.0	37.2	47.4	0.0	99.7	13.5	39.8	0.0	65.5			
LnGrp LOS		D	F		F	B	D		E			
Approach Vol, veh/h		2205			3004			1280				
Approach Delay, s/veh		42.5			86.6			48.8				
Approach LOS		D			F			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.4			0.0	72.4		37.6				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		68.9			0.0	68.9		31.7				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			64.1									
HCM 2010 LOS			E									
Notes												

APPENDIX 7.3:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>2040 NP</u>	
Jurisdiction: <u>City of Ontario</u>				<u>CHS</u>		<u>DATE 10/03/17</u>	
Major Street: <u>Archibald Avenue</u>				<u>CHK CHS</u>		<u>DATE 10/03/17</u>	
Minor Street: <u>Schaefer Avenue</u>					Critical Approach Speed (Major) <u>55 mph</u>		
					Critical Approach Speed (Minor) <u>25 mph</u>		
Major Street Approach Lanes =	<u>2</u>	lane		Minor Street Approach Lanes:	<u>1</u>	lane	
Major Street Future ADT =	<u>37,426</u>	vpd		Minor Street Future ADT =	<u>9,900</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input checked="" type="checkbox"/>					or	RURAL (R)
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>						

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX				
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
XX		(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1	1	8,000	5,600	2,400	1,680
2 + 37,426	1 9,900	9,600	6,720 *	2,400	1,680 *
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
XX		(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1	1	12,000	8,400	1,200	850
2 + 37,426	1 9,900	14,400	10,080 *	1,200	850 *
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
<u>Satisfied</u>		<u>Not Satisfied</u>			
XX					
No one condition satisfied, but following conditions fulfilled 80% of more		2 CONDITIONS 80%		2 CONDITIONS 80%	
		<u>A</u>	<u>B</u>		
		100%	100%		

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

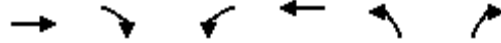
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APPENDIX 7.4:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING
ANALYSIS WORKSHEETS**

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	566	342	399	2263	244	1060
v/c Ratio	0.39	0.40	0.83	0.88	0.38	1.25
Control Delay	21.2	5.8	48.1	16.1	36.3	135.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	5.8	48.1	16.1	36.3	135.8
Queue Length 50th (ft)	180	61	237	498	69	~490
Queue Length 95th (ft)	m244	m105	311	636	106	#739
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1438	849	658	2581	642	851
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.40	0.61	0.88	0.38	1.25

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1174	499	745	78	265	164	165	70
v/c Ratio	0.85	2.79	0.39	0.92	0.76	0.58	0.54	0.16
Control Delay	37.5	833.6	18.4	126.7	21.4	43.9	42.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	833.6	18.4	126.7	21.4	43.9	42.3	0.8
Queue Length 50th (ft)	333	-562	134	51	0	105	105	0
Queue Length 95th (ft)	#671	m#663	m207	#142	#116	136	135	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1379	179	1887	85	347	552	589	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	2.79	0.39	0.92	0.76	0.30	0.28	0.11

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	476	700	709	1900	1124
v/c Ratio	0.87	1.28	1.55	0.65	0.67
Control Delay	49.9	169.0	273.4	8.1	28.8
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	49.9	169.0	273.4	8.8	28.8
Queue Length 50th (ft)	257	-483	-600	335	149
Queue Length 95th (ft)	#480	#739	m#497	m211	175
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	546	545	456	3181	1957
Starvation Cap Reductn	0	0	0	822	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.87	1.28	1.55	0.81	0.57

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	562	397	2542	291	952
v/c Ratio	0.92	0.66	1.25	0.96	0.34
Control Delay	51.6	24.7	144.4	71.7	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	24.7	144.4	71.7	9.9
Queue Length 50th (ft)	299	140	~522	~171	130
Queue Length 95th (ft)	#495	242	#600	m#303	m153
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	627	616	2037	302	2772
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	0.64	1.25	0.96	0.34

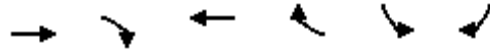
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

10/03/2017



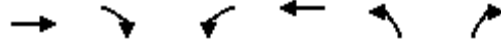
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1022	396	865	95	409	1076
v/c Ratio	0.69	0.25	0.84	0.06	0.25	1.26
Control Delay	21.9	0.4	23.2	0.0	8.3	145.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	0.4	23.2	0.0	8.3	145.3
Queue Length 50th (ft)	119	0	173	0	38	~497
Queue Length 95th (ft)	160	0	m163	m0	59	#714
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1486	1615	1034	1615	1639	854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.25	0.84	0.06	0.25	1.26

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

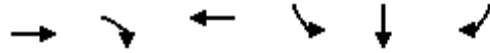


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	557	904	429	486	521	177
v/c Ratio	0.26	0.87	0.82	0.14	1.64	0.58
Control Delay	8.3	19.9	39.7	3.5	327.7	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	19.9	39.7	3.5	327.7	13.4
Queue Length 50th (ft)	25	148	78	17	-147	0
Queue Length 95th (ft)	49	#519	#145	27	#234	#57
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1035	522	3518	317	306
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.87	0.82	0.14	1.64	0.58

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2156	856	2761	261	257	235
v/c Ratio	0.82	0.65	1.08	0.88	0.75	0.71
Control Delay	14.0	4.5	54.0	74.2	43.7	40.6
Queue Delay	47.0	0.0	0.0	0.0	0.9	0.0
Total Delay	61.1	4.5	54.0	74.2	44.6	40.6
Queue Length 50th (ft)	499	53	~1112	187	130	108
Queue Length 95th (ft)	616	135	m#1035	#329	#235	201
Internal Link Dist (ft)	2381		680		968	
Turn Bay Length (ft)				400		
Base Capacity (vph)	2625	1324	2548	319	364	350
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	745	0	0	0	18	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.65	1.08	0.82	0.74	0.67

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

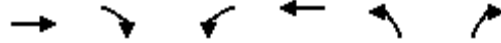


Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2652	2149	459	476	458	436
v/c Ratio	1.07	0.85	0.39	1.42	1.29	1.23
Control Delay	59.9	16.1	3.9	240.5	182.2	158.0
Queue Delay	14.3	1.1	0.0	3.1	2.7	0.0
Total Delay	74.2	17.1	3.9	243.6	184.9	158.0
Queue Length 50th (ft)	~1124	514	48	~477	~409	~357
Queue Length 95th (ft)	#1251	635	91	#690	#631	#569
Internal Link Dist (ft)	680	1069			1143	
Turn Bay Length (ft)				450		400
Base Capacity (vph)	2486	2543	1191	335	355	355
Starvation Cap Reductn	200	0	0	0	0	0
Spillback Cap Reductn	0	183	0	76	75	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.91	0.39	1.84	1.64	1.23

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	868	235	407	2197	270	1270
v/c Ratio	0.82	0.37	1.54	1.26	0.20	1.38
Control Delay	24.5	5.6	290.8	145.8	18.0	197.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	5.6	290.8	145.8	18.0	197.2
Queue Length 50th (ft)	249	19	-366	-927	53	-936
Queue Length 95th (ft)	m292	m28	#550	#1066	80	#1195
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1064	642	265	1750	1362	922
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.37	1.54	1.26	0.20	1.38

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	517	128	917	39	20	484	491	113
v/c Ratio	0.45	0.80	0.57	0.46	0.09	0.99	0.94	0.19
Control Delay	29.0	40.8	15.7	63.7	0.7	75.7	61.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	40.8	15.7	63.7	0.7	75.7	61.9	2.1
Queue Length 50th (ft)	142	74	293	25	0	323	320	0
Queue Length 95th (ft)	193	m68	m225	#64	0	#544	#528	15
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1140	166	1617	85	230	487	524	599
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.77	0.57	0.46	0.09	0.99	0.94	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	616	379	339	1086	2685
v/c Ratio	1.18	0.70	0.85	0.36	1.37
Control Delay	129.5	29.7	66.0	25.7	198.4
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	129.5	29.7	66.0	25.7	198.5
Queue Length 50th (ft)	~440	143	183	216	-586
Queue Length 95th (ft)	#664	#286	m229	249	#663
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	524	542	456	3181	1957
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	72
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.18	0.70	0.74	0.34	1.42

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



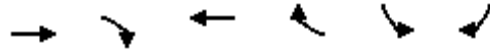
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	256	497	1629	626	1962
v/c Ratio	0.45	0.89	0.80	1.83	0.68
Control Delay	26.8	43.1	29.9	393.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	1.6
Total Delay	26.8	43.1	29.9	393.2	23.5
Queue Length 50th (ft)	109	215	228	~604	415
Queue Length 95th (ft)	176	#385	274	m#414	m317
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	627	613	2026	343	2898
Starvation Cap Reductn	0	0	0	0	698
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.81	0.80	1.83	0.89

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



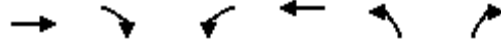
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1370	557	805	272	843	1034
v/c Ratio	1.12	0.34	0.94	0.17	0.47	1.11
Control Delay	88.9	0.6	44.7	0.2	8.6	81.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	0.6	44.7	0.2	8.6	81.1
Queue Length 50th (ft)	~215	0	151	0	80	~432
Queue Length 95th (ft)	#297	0	#255	0	118	#647
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1227	1615	854	1615	1796	932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.34	0.94	0.17	0.47	1.11

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	794	1179	399	498	519	130
v/c Ratio	0.36	1.11	0.85	0.14	1.64	0.49
Control Delay	12.1	78.9	44.7	3.5	325.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	78.9	44.7	3.5	325.0	12.8
Queue Length 50th (ft)	67	-504	73	18	-146	0
Queue Length 95th (ft)	93	#726	#142	27	#233	47
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2221	1060	469	3518	317	264
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	1.11	0.85	0.14	1.64	0.49

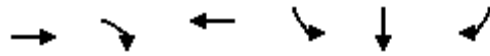
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.

10/03/2017



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1706	687	3200	368	354	336
v/c Ratio	0.71	0.55	1.37	0.93	0.86	0.83
Control Delay	13.7	4.1	192.4	72.3	53.3	49.4
Queue Delay	0.0	0.0	0.3	53.1	55.1	0.0
Total Delay	13.7	4.1	192.7	125.4	108.4	49.4
Queue Length 50th (ft)	373	46	-1606	265	214	189
Queue Length 95th (ft)	455	112	m#1302	#445	#385	#342
Internal Link Dist (ft)	2381		680		968	
Turn Bay Length (ft)				400		
Base Capacity (vph)	2414	1246	2332	413	426	421
Starvation Cap Reductn	0	0	232	0	0	0
Spillback Cap Reductn	0	0	0	162	150	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.55	1.52	1.47	1.28	0.80

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2194	2544	485	527	497	487
v/c Ratio	1.02	1.17	0.46	1.04	1.02	0.98
Control Delay	47.2	103.4	8.0	89.9	81.3	70.7
Queue Delay	2.8	1.2	0.0	29.3	34.0	0.0
Total Delay	50.0	104.5	8.0	119.2	115.3	70.7
Queue Length 50th (ft)	~754	~1126	92	~424	~371	317
Queue Length 95th (ft)	#993	#1260	164	#644	#600	#550
Internal Link Dist (ft)	680	1069			1143	
Turn Bay Length (ft)				450		400
Base Capacity (vph)	2147	2182	1045	506	485	495
Starvation Cap Reductn	17	0	0	0	0	0
Spillback Cap Reductn	0	720	0	268	248	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.74	0.46	2.21	2.10	0.98

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX 7.5:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS
WORKSHEETS**

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Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	566	342	399	2275	244	1101
v/c Ratio	0.39	0.40	0.83	0.88	0.38	1.31
Control Delay	23.5	6.8	48.6	16.4	36.3	163.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	6.8	48.6	16.4	36.3	163.3
Queue Length 50th (ft)	184	73	238	506	69	~559
Queue Length 95th (ft)	m244	m170	312	645	106	#810
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1442	850	641	2581	642	842
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.40	0.62	0.88	0.38	1.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	1174	499	745	78	265	164	165	70
v/c Ratio	0.85	2.76	0.39	0.92	0.76	0.58	0.54	0.16
Control Delay	37.7	820.1	22.2	126.7	21.4	43.9	42.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	820.1	22.2	126.7	21.4	43.9	42.3	0.8
Queue Length 50th (ft)	334	~548	176	51	0	105	105	0
Queue Length 95th (ft)	#673	m#658	m256	#142	#116	136	135	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1375	181	1887	85	347	552	589	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	2.76	0.39	0.92	0.76	0.30	0.28	0.11

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	509	700	721	1904	1137
v/c Ratio	0.94	1.29	1.58	0.65	0.67
Control Delay	59.6	172.0	285.1	8.1	28.8
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	59.6	172.0	285.1	8.8	28.8
Queue Length 50th (ft)	282	-485	-614	336	151
Queue Length 95th (ft)	#524	#739	m#504	m208	177
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	543	542	456	3181	1958
Starvation Cap Reductn	0	0	0	829	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.94	1.29	1.58	0.81	0.58

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



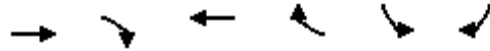
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	562	437	2568	291	996
v/c Ratio	0.92	0.74	1.26	0.96	0.36
Control Delay	51.6	29.1	149.9	65.3	23.1
Queue Delay	3.5	0.0	0.0	0.0	0.0
Total Delay	55.1	29.1	149.9	65.3	23.1
Queue Length 50th (ft)	299	172	~531	~186	201
Queue Length 95th (ft)	#495	286	#609	m#275	m220
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	627	609	2037	302	2772
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	28	0	2	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.94	0.72	1.26	0.96	0.36

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



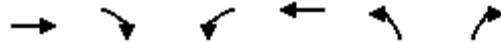
Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1043	396	872	95	409	1139
v/c Ratio	0.70	0.25	0.84	0.06	0.25	1.33
Control Delay	22.2	0.4	23.5	0.0	8.3	177.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	0.4	23.5	0.0	8.3	177.2
Queue Length 50th (ft)	122	0	175	0	38	~548
Queue Length 95th (ft)	164	0	m164	m0	59	#768
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1486	1615	1034	1615	1639	854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.25	0.84	0.06	0.25	1.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

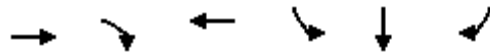


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	559	924	429	492	521	177
v/c Ratio	0.26	0.89	0.82	0.14	1.64	0.58
Control Delay	8.5	21.7	39.7	3.5	327.7	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	21.7	39.7	3.5	327.7	13.4
Queue Length 50th (ft)	25	153	78	18	-147	0
Queue Length 95th (ft)	50	#538	#145	27	#234	#57
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1035	522	3518	317	306
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.89	0.82	0.14	1.64	0.58

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2159	869	2818	261	257	235
v/c Ratio	0.81	0.65	1.09	0.94	0.79	0.75
Control Delay	12.6	4.4	54.8	87.6	48.3	44.7
Queue Delay	2.6	0.0	3.7	0.0	0.6	0.0
Total Delay	15.3	4.4	58.4	87.6	48.9	44.7
Queue Length 50th (ft)	451	52	~1052	193	135	111
Queue Length 95th (ft)	557	125	m#100	#358	#272	#230
Internal Link Dist (ft)	2381		680		968	
Turn Bay Length (ft)				400		
Base Capacity (vph)	2665	1334	2588	280	330	317
Starvation Cap Reductn	0	0	20	0	0	0
Spillback Cap Reductn	377	0	0	0	7	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.65	1.10	0.93	0.80	0.74

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2655	2160	459	489	476	451
v/c Ratio	1.03	0.82	0.37	1.70	1.50	1.43
Control Delay	42.4	13.2	3.2	359.0	270.8	241.8
Queue Delay	29.2	0.0	0.0	21.1	12.8	0.0
Total Delay	71.6	13.2	3.2	380.1	283.6	241.8
Queue Length 50th (ft)	~1038	462	41	~534	~470	~412
Queue Length 95th (ft)	#1181	570	75	#748	#696	#625
Internal Link Dist (ft)	680	1069			1143	
Turn Bay Length (ft)				450		400
Base Capacity (vph)	2581	2641	1231	288	317	315
Starvation Cap Reductn	228	0	0	0	0	0
Spillback Cap Reductn	0	1	0	198	180	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.82	0.37	5.43	3.47	1.43

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	868	235	407	2240	270	1288
v/c Ratio	0.74	0.34	1.77	1.25	0.20	1.46
Control Delay	42.4	13.0	392.0	144.9	18.6	234.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	13.0	392.0	144.9	18.6	234.6
Queue Length 50th (ft)	316	58	~389	~945	54	~1005
Queue Length 95th (ft)	m378	m101	#573	#1083	81	#1263
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1173	683	230	1786	1331	882
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.34	1.77	1.25	0.20	1.46

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	517	128	917	39	20	484	491	113
v/c Ratio	0.60	0.53	0.61	0.42	0.08	0.90	0.85	0.17
Control Delay	37.1	45.5	23.7	60.4	0.7	52.9	45.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	45.5	23.7	60.4	0.7	52.9	45.6	1.1
Queue Length 50th (ft)	162	88	326	25	0	294	291	0
Queue Length 95th (ft)	207	m81	m265	#64	0	#481	#461	7
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	957	243	1503	92	247	576	620	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.53	0.61	0.42	0.08	0.84	0.79	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	629	379	382	1100	2690
v/c Ratio	1.27	0.73	0.90	0.36	1.38
Control Delay	167.4	31.7	73.8	24.4	199.8
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	167.4	31.7	73.8	24.4	199.9
Queue Length 50th (ft)	~475	147	235	234	-588
Queue Length 95th (ft)	#681	#286	m#293	m275	#665
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	496	518	456	3181	1956
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	42
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.27	0.73	0.84	0.35	1.41

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



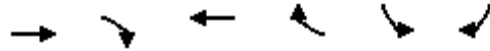
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	256	514	1719	626	1981
v/c Ratio	0.45	0.90	0.85	1.87	0.69
Control Delay	26.5	45.4	31.6	415.3	23.7
Queue Delay	0.0	0.0	0.0	0.0	1.4
Total Delay	26.5	45.4	31.6	415.3	25.2
Queue Length 50th (ft)	109	228	247	~604	400
Queue Length 95th (ft)	176	#408	294	m#402	m296
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	627	613	2028	335	2871
Starvation Cap Reductn	0	0	0	0	641
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.84	0.85	1.87	0.89

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1445	557	809	272	843	1061
v/c Ratio	1.10	0.34	0.89	0.17	0.48	1.17
Control Delay	81.3	0.6	35.6	0.2	9.2	106.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.3	0.6	35.6	0.2	9.2	106.5
Queue Length 50th (ft)	~224	0	147	0	85	~464
Queue Length 95th (ft)	#307	0	#244	0	123	#679
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	1314	1615	914	1615	1744	906
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.34	0.89	0.17	0.48	1.17

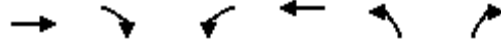
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

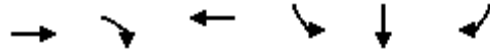


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	800	1245	399	501	519	130
v/c Ratio	0.36	1.17	0.85	0.14	1.64	0.49
Control Delay	12.2	104.5	44.7	3.5	325.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	104.5	44.7	3.5	325.0	12.8
Queue Length 50th (ft)	68	-557	73	18	-146	0
Queue Length 95th (ft)	94	#784	#142	27	#233	47
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2221	1060	469	3518	317	264
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	1.17	0.85	0.14	1.64	0.49

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1718	732	3222	368	354	336
v/c Ratio	0.71	0.58	1.38	0.93	0.86	0.83
Control Delay	13.9	4.4	196.5	72.3	53.3	49.4
Queue Delay	0.0	0.0	0.2	53.5	55.4	0.0
Total Delay	13.9	4.4	196.8	125.8	108.7	49.4
Queue Length 50th (ft)	377	51	~1623	265	214	189
Queue Length 95th (ft)	460	126	m#1314	#445	#385	#342
Internal Link Dist (ft)	2381		680		968	
Turn Bay Length (ft)				400		
Base Capacity (vph)	2414	1255	2332	413	426	421
Starvation Cap Reductn	0	0	226	0	0	0
Spillback Cap Reductn	0	0	0	170	157	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.58	1.53	1.51	1.32	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	2205	2548	485	530	502	496
v/c Ratio	1.03	1.17	0.46	1.05	1.03	1.00
Control Delay	48.8	104.2	8.0	91.6	83.4	75.3
Queue Delay	2.9	1.2	0.0	27.4	31.6	0.0
Total Delay	51.7	105.3	8.0	118.9	115.0	75.3
Queue Length 50th (ft)	~763	~1129	92	~429	~378	~327
Queue Length 95th (ft)	#1001	#1263	164	#649	#608	#565
Internal Link Dist (ft)	680	1069			1143	
Turn Bay Length (ft)				450		400
Base Capacity (vph)	2147	2182	1045	506	486	495
Starvation Cap Reductn	17	0	0	0	0	0
Spillback Cap Reductn	0	724	0	268	249	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.75	0.46	2.23	2.12	1.00

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX 7.6:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT
ANALYSIS WORKSHEETS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6544	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3592	Design LOS	
S	3.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	989.9	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7827	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			11
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.948
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2992	Design LOS	
S	32.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	91.4	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4959	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1381	Design LOS	
S	69.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	19.8	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5100	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1136	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	70.0	x f _p)	
S	mph	S	mph
D = v _p / S	16.2	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	B		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	8475	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2395	Design LOS	
S	53.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	44.8	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/17/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6665	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.962	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1884	Design LOS	
S	64.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	29.2	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5707	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			9
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.957	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2161	Design LOS	
S	59.3	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	36.4	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6895	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2586	Design LOS	
S	47.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	54.2	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5096	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1865	Design LOS	
S	64.9	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5579	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2042	Design LOS	
S	61.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	33.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6403	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3515	Design LOS	
S	7.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	448.7	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	8190	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3086	Design LOS	
S	28.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	107.4	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6686	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1835	Design LOS	
S	65.3	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6628	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1462 pc/h/ln	Design LOS	
S	69.2 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	21.1 pc/mi/ln	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7606	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2119	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	60.2	x f _p)	
D = v _p / S	35.2	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7919	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2206	Design LOS	
S	58.3	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	37.9	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/17/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	3738	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			13
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.939	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1082	Design LOS	
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	15.5	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4335	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			11
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.948	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1657	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	67.6	mph	pc/h/ln
D = v _p / S	24.5	pc/mi/ln	S
LOS	C	D = v _p / S	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4966	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			10
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
0.952			
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1889	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.5	x f _p)	
S	mph	S	mph
D = v _p / S	29.3	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/17/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5210	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1144	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	16.3	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4304	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1575	Design LOS	
S	68.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	23.0	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5100</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>2</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.990</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1866</i>	Design LOS	
S	<i>64.9</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>28.8</i>	S	mph
LOS	<i>D</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 7.7:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT
ANALYSIS WORKSHEETS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6551	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3596	Design LOS	
S	3.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	1055.6	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7849	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			11
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.948
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	3000	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	32.4	x f _p)	
D = v _p / S	92.5	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4973	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1392	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	69.6	pc/h/ln	
D = v _p / S	20.0	S	
LOS	C	mph	
		D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5120	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P _T 5
Peak-Hr Prop. of AADT, K			%RVs, P _R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width		ft	
Rt-Side Lat. Clearance		ft	f _{LW} mph
Number of Lanes, N	5		f _{LC} mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment mph
FFS (measured)	70.0	mph	FFS 70.0 mph
Base free-flow Speed, BFFS		mph	
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1141	pc/h/ln	
x f _p)			v _p = (V or DDHV) / (PHF x N x f _{HV})
S	70.0	mph	x f _p)
D = v _p / S	16.3	pc/mi/ln	S
LOS	B		D = v _p / S
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	8519	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2408	Design LOS	
S	53.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	45.4	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	8388	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2371	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	54.1	x f _p)	
D = v _p / S	43.8	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6712	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
0.962			
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph	mph	
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1897	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.4	S	mph
D = v _p / S	29.5	D = v _p / S	pc/mi/ln
LOS	D	Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5707</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>9</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.957</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>2161</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>59.3</i>	x f _p)	
D = v _p / S	<i>36.4</i>	S	mph
LOS	<i>E</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6902	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.966	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2588	Design LOS	
S	47.7	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	54.3	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5715</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>3</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.985</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>5</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1261</i>	Design LOS	
S	<i>70.0</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>18.0</i>	S	mph
LOS	<i>C</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5096	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1865	Design LOS	
S	64.9	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5603	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2050	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	61.6	x f _p)	
S	mph	S	mph
D = v _p / S	33.3	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6426	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3527	Design LOS	
S	7.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	490.8	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	8199	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	3089	Design LOS	
S	28.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	108.0	S	mph
LOS	F	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6730	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1856	Design LOS	
S	65.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.6	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6656	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1469	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	69.2	x f _p)	
D = v _p / S	21.2	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7626	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2124	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	60.1	x f _p)	
D = v _p / S	35.3	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	7943	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2212	Design LOS	
S	58.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	38.1	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>3758</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>13</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.939</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>4</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV}) <i>1088</i>		Design LOS	
x f _p)	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
S	<i>70.0</i>	x f _p)	pc/h/ln
D = v _p / S	<i>15.5</i>	S	mph
LOS	<i>B</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4355	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			11
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.948	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1665	Design LOS	
S	67.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	24.7	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4992	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			10
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
0.952			
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1899	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.3	x f _p)	
S	mph	S	mph
D = v _p / S	29.5	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5256	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1154	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	16.5	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4304	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)		Design LOS	
1583	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
S	68.3	mph	pc/h/ln
D = v _p / S	23.2	pc/mi/ln	S
LOS	C	D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>Horizon Year (2040) WP</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5110</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>3</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.985</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>3</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>1879</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>64.7</i>	x f _p)	
D = v _p / S	<i>29.1</i>	S	mph
LOS	<i>D</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 7.8:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS RAMP JUNCTION ANALYSIS
WORKSHEETS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1460 ft		Deceleration Lane Length L _D			L _{down} = ft				
V _u = 364 veh/h		Freeway Volume, V _F	4606		V _D = veh/h				
		Ramp Volume, V _R	1239						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4606	0.92	Level	2	0	0.990	1.00	5057	
Ramp	1239	0.92	Level	6	0	0.971	1.00	1387	
UpStream	364	0.92	Level	11	0	0.948	1.00	417	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5057 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6444	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6444	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 52.1 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 2.750 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -7.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -7.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes	<input type="checkbox"/> On	Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No	<input type="checkbox"/> Off	Acceleration Lane Length, L _A	475		<input type="checkbox"/> No	<input type="checkbox"/> Off			
L _{up} =	ft	Deceleration Lane Length L _D			L _{down} =	1200 ft			
V _u =	veh/h	Freeway Volume, V _F	4606		V _D =	699 veh/h			
		Ramp Volume, V _R	1239						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4606	0.92	Level	2	0	0.990	1.00	5057	
Ramp	1239	0.92	Level	6	0	0.971	1.00	1387	
UpStream									
DownStream	699	0.92	Level	1	0	0.995	1.00	764	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5057 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6444	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6444	Exhibit 13-8		Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 52.1 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 2.750 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -7.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -7.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	711 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	7827	Ramp Volume, V_R	1276
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Freeway Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	7827	0.92	Level	11	0	0.948	1.00	8976	
Ramp	1276	0.92	Level	8	0	0.962	1.00	1442	
UpStream									
DownStream	711	0.92	Level	6	0	0.971	1.00	796	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.469 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	4977 pc/h	V_3 or V_{av34}	3999 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	6276 pc/h (Equation 13-16, 13-18, or 13-19)						
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	8976	Exhibit 13-8	7200	Yes
					$V_{FO} = V_F - V_R$	7534	Exhibit 13-8	7200	Yes
					V_R	1442	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	4977	Exhibit 13-8	4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	58.2 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	F (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.428 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.0 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	70.2 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	61.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1068 veh/h	Freeway Volume, V _F = 4032				V _D = veh/h				
	Ramp Volume, V _R = 927								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4032	0.92	Level	4	0	0.980	1.00	4470	
Ramp	927	0.92	Level	11	0	0.948	1.00	1063	
UpStream	1068	0.92	Level	9	0	0.957	1.00	1213	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.085 using Equation (Exhibit 13-6) V ₁₂ = 380 pc/h V ₃ or V _{av34} = 2045 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1788 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5533	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2851	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 22.5 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.321 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 61.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 67.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 5					Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1					<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D = 0					L _{down} = 1970 ft			
V _u = veh/h	Freeway Volume, V _F = 5100					V _D = 927 veh/h			
	Ramp Volume, V _R = 1068								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5100	0.92	Level	5	0	0.976	1.00	5682	
Ramp	1068	0.92	Level	9	0	0.957	1.00	1213	
UpStream									
DownStream	927	0.92	Level	11	0	0.948	1.00	1063	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2790 pc/h V ₃ or V _{av34} = 1020 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4830	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3617	Exhibit 13-8	9600	No
					V _R	1213	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	2790	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 28.2 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.407 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.7 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.1 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4					Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1					<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D = 200					L _{down} = 2060 ft			
V _u = veh/h	Freeway Volume, V _F = 8475					V _D = 794 veh/h			
	Ramp Volume, V _R = 907								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	8475	0.92	Level	8	0	0.962	1.00	9580	
Ramp	907	0.92	Level	11	0	0.948	1.00	1040	
UpStream									
DownStream	794	0.92	Level	15	0	0.930	1.00	928	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4763 pc/h V ₃ or V _{av34} = 2408 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	9580	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	8540	Exhibit 13-8	9600	No
					V _R	1040	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4763	Exhibit 13-8	4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 43.4 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.392 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.0 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 71.3 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 64.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 907 veh/h	Freeway Volume, V _F	7568	V _D = veh/h						
	Ramp Volume, V _R	794							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7568	0.92	Level	7	0	0.966	1.00	8514	
Ramp	794	0.92	Level	15	0	0.930	1.00	928	
UpStream	907	0.92	Level	11	0	0.948	1.00	1040	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.102 using Equation (Exhibit 13-6) V ₁₂ = 867 pc/h V ₃ or V _{av34} = 3823 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3405 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	9442	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4333	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.8 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.545 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 54.7 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 61.9 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.4 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1150 ft	$V_D =$	372 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	150	Freeway Volume, V_F	6665	Ramp Volume, V_R	1420	
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0	
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	6665	0.92	Level	8	0	0.962	1.00	7534		
Ramp	1420	0.92	Level	8	0	0.962	1.00	1605		
UpStream										
DownStream	372	0.92	Level	7	0	0.966	1.00	418		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)				
$V_{12} =$	pc/h				$V_{12} =$	4190 pc/h				
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1672 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	7534	Exhibit 13-8		9600	No
					$V_{FO} = V_F - V_R$	5929	Exhibit 13-8		9600	No
					V_R	1605	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	4190	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	38.9 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.442 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.6 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	74.2 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	63.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 661 veh/h	Freeway Volume, V _F		5046		V _D = veh/h				
	Ramp Volume, V _R		1849						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5046	0.92	Level	8	0	0.962	1.00	5704	
Ramp	1849	0.92	Level	7	0	0.966	1.00	2080	
UpStream	661	0.92	Level	18	0	0.917	1.00	783	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1916.88 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3402 pc/h V ₃ or V _{av34} = 2302 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3402 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7784	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	5482	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 43.0 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 1.198 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 36.5 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 63.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 41.7 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 642 veh/h	Freeway Volume, V _F		4454		V _D = veh/h				
	Ramp Volume, V _R		1246						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4454	0.92	Level	1	0	0.995	1.00	4866	
Ramp	1246	0.92	Level	8	0	0.962	1.00	1409	
UpStream	642	0.92	Level	7	0	0.966	1.00	722	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2701 pc/h V ₃ or V _{av34} = 2165 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2780 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6275	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4189	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.5 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.578 (Exhibit 13-11) S _R = 53.8 mph (Exhibit 13-11) S ₀ = 64.3 mph (Exhibit 13-11) S = 56.9 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	800 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	5597	Ramp Volume, V_R	1283
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5597	0.92	Level	2	0	0.990	1.00	6145	
Ramp	1283	0.92	Level	6	0	0.971	1.00	1436	
UpStream									
DownStream	800	0.92	Level	11	0	0.948	1.00	917	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)			
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.540 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	3980 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	2165 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	6145	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4709	Exhibit 13-8	7200	No
					V_R	1436	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	3980	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	36.7 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.427 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.0 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	72.2 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	62.4 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 1460 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 980 veh/h	Freeway Volume, V _F	4853	V _D = veh/h						
	Ramp Volume, V _R	1460							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4853	0.92	Level	1	0	0.995	1.00	5301	
Ramp	1460	0.92	Level	4	0	0.980	1.00	1619	
UpStream	980	0.92	Level	5	0	0.976	1.00	1092	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5301 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6920	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6920	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 55.7 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 4.245 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -48.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -48.9 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On						
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = ft	Deceleration Lane Length L _D		L _{down} = 1200 ft						
V _u = veh/h	Freeway Volume, V _F	4853	V _D = 90 veh/h						
	Ramp Volume, V _R	1460							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4853	0.92	Level	1	0	0.995	1.00	5301	
Ramp	1460	0.92	Level	4	0	0.980	1.00	1619	
UpStream									
DownStream	90	0.92	Level	8	0	0.962	1.00	102	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5301 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	6920	Exhibit 13-8	Yes		V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	6920	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 55.7 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 4.245 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -48.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -48.9 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	623 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	8190	Ramp Volume, V_R	1507	
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0	
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	8190	0.92	Level	8	0	0.962	1.00	9258		
Ramp	1507	0.92	Level	8	0	0.962	1.00	1704		
UpStream										
DownStream	623	0.92	Level	2	0	0.990	1.00	684		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.450 using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	5105 pc/h	V_3 or V_{av34}	4153 pc/h (Equation 13-14 or 13-17)		
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	6558 pc/h (Equation 13-16, 13-18, or 13-19)							
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	9258	Exhibit 13-8		7200	Yes
					$V_{FO} = V_F - V_R$	7554	Exhibit 13-8		7200	Yes
					V_R	1704	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	5105	Exhibit 13-8		4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	60.7 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	F (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.451 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.4 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	70.2 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	60.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		750		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 900 veh/h	Freeway Volume, V _F		5728		V _D = veh/h				
	Ramp Volume, V _R		958						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5728	0.92	Level	2	0	0.990	1.00	6288	
Ramp	958	0.92	Level	8	0	0.962	1.00	1083	
UpStream	900	0.92	Level	10	0	0.952	1.00	1027	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.082 using Equation (Exhibit 13-6) V ₁₂ = 518 pc/h V ₃ or V _{av34} = 2885 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2515 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7371	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3598	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.3 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.396 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 58.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 65.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 61.9 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1970 ft V _D = 958 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	0
	Freeway Volume, V _F	6628		Ramp Volume, V _R	900	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6628	0.92	Level	3	0	0.985	1.00	7312	
Ramp	900	0.92	Level	10	0	0.952	1.00	1027	
UpStream									
DownStream	958	0.92	Level	8	0	0.962	1.00	1083	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3130 pc/h V ₃ or V _{av34} 1360 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5850	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4823	Exhibit 13-8	9600	No
					V _R	1027	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3130	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.2 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.390 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.1 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 75.4 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.7 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N 4						Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N 1						<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A						<input type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = ft	Deceleration Lane Length L _D 200						L _{down} = 2060 ft		
V _u = veh/h	Freeway Volume, V _F 7606						V _D = 1019 veh/h		
	Ramp Volume, V _R 706								
	Freeway Free-Flow Speed, S _{FF} 70.0								
	Ramp Free-Flow Speed, S _{FR} 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7606	0.92	Level	5	0	0.976	1.00	8474	
Ramp	706	0.92	Level	10	0	0.952	1.00	806	
UpStream									
DownStream	1019	0.92	Level	7	0	0.966	1.00	1146	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4149 pc/h V ₃ or V _{av34} 2162 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	8474	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	7668	Exhibit 13-8	9600	No
					V _R	806	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4149	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 38.1 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.371 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	72.3 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.5 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 706 veh/h	Freeway Volume, V _F = 6900				V _D = veh/h				
	Ramp Volume, V _R = 1019								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6900	0.92	Level	5	0	0.976	1.00	7687	
Ramp	1019	0.92	Level	7	0	0.966	1.00	1146	
UpStream	706	0.92	Level	10	0	0.952	1.00	806	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.075 using Equation (Exhibit 13-6) V ₁₂ = 573 pc/h V ₃ or V _{av34} = 3557 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3074 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	8833	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4220	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 32.8 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.513 (Exhibit 13-11) S _R = 55.6 mph (Exhibit 13-11) S ₀ = 63.4 mph (Exhibit 13-11) S = 59.4 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	3738	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1006			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Deceleration Lane Length L _D	150				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3738	0.92	Level	13	0	0.939	1.00	4327	
Ramp	1006	0.92	Level	5	0	0.976	1.00	1121	
UpStream									
DownStream	710	0.92	Level	1	0	0.995	1.00	776	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2519 pc/h V ₃ or V _{av34} 904 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4327	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3206	Exhibit 13-8	9600	No
					V _R	1121	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2519	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 24.6 (pc/mi/ln) LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.399 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.8 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1020 veh/h	Freeway Volume, V _F		3335		V _D = veh/h				
	Ramp Volume, V _R		1631						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3335	0.92	Level	12	0	0.943	1.00	3842	
Ramp	1631	0.92	Level	5	0	0.976	1.00	1817	
UpStream	1020	0.92	Level	6	0	0.971	1.00	1142	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1462.13 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 2291 pc/h V ₃ or V _{av34} = 1551 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2291 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5659	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4108	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 32.4 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.497 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 56.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 619 veh/h	Freeway Volume, V _F		3685		V _D = veh/h				
	Ramp Volume, V _R		1525						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3685	0.92	Level	2	0	0.990	1.00	4045	
Ramp	1525	0.92	Level	4	0	0.980	1.00	1691	
UpStream	619	0.92	Level	7	0	0.966	1.00	696	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2245 pc/h V ₃ or V _{av34} = 1800 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2311 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5736	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4002	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 35.9 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.534 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 55.0 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 65.6 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	720 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	5100	Freeway Free-Flow Speed, S_{FF}	70.0	
$V_u =$	veh/h	Ramp Volume, V_R		Freeway Free-Flow Speed, S_{FR}	45.0	Ramp Free-Flow Speed, S_{FR}	45.0			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	5100	0.92	Level	2	0	0.990	1.00	5599		
Ramp	1516	0.92	Level	5	0	0.976	1.00	1689		
UpStream										
DownStream	720	0.92	Level	7	0	0.966	1.00	810		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.542 using Equation (Exhibit 13-7)				
$V_{12} =$	pc/h				$V_{12} =$	3810 pc/h				
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1789 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	5599	Exhibit 13-8		7200	No
					$V_{FO} = V_F - V_R$	3910	Exhibit 13-8		7200	No
					V_R	1689	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3810	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	35.2 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.450 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.4 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.7 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	61.8 mph (Exhibit 13-13)				

APPENDIX 7.9:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS RAMP JUNCTION ANALYSIS
WORKSHEETS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
		Deceleration Lane Length L _D			L _{down} =	ft			
L _{up} =	1460 ft	Freeway Volume, V _F	4606		V _D =	veh/h			
V _u =	364 veh/h	Ramp Volume, V _R	1246						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4606	0.92	Level	2	0	0.990	1.00	5057	
Ramp	1246	0.92	Level	6	0	0.971	1.00	1395	
UpStream	364	0.92	Level	11	0	0.948	1.00	417	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5057 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6452	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6452	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 52.2 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 2.770 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -7.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -7.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} =	ft	Deceleration Lane Length L _D			L _{down} =	1200 ft			
V _u =	veh/h	Freeway Volume, V _F	4606		V _D =	699 veh/h			
		Ramp Volume, V _R	1246						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4606	0.92	Level	2	0	0.990	1.00	5057	
Ramp	1246	0.92	Level	6	0	0.971	1.00	1395	
UpStream									
DownStream	699	0.92	Level	1	0	0.995	1.00	764	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5057 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6452	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6452	Exhibit 13-8		4600:All	Yes	V ₁₂		Exhibit 13-8	
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 52.2 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 2.770 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -7.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -7.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	711 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	7849	Ramp Volume, V_R	1298	
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Freeway Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0	
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	7849	0.92	Level	11	0	0.948	1.00	9001		
Ramp	1298	0.92	Level	9	0	0.957	1.00	1474		
UpStream										
DownStream	711	0.92	Level	6	0	0.971	1.00	796		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.467 using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	4990 pc/h	V_3 or V_{av34}	4011 pc/h (Equation 13-14 or 13-17)		
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	6301 pc/h (Equation 13-16, 13-18, or 13-19)							
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	9001	Exhibit 13-8		7200	Yes
					$V_{FO} = V_F - V_R$	7527	Exhibit 13-8		7200	Yes
					V_R	1474	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	4990	Exhibit 13-8		4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	58.4 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	F (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.431 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.9 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	70.2 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	61.1 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1081 veh/h	Freeway Volume, V _F = 4039				V _D = veh/h				
	Ramp Volume, V _R = 934								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4039	0.92	Level	4	0	0.980	1.00	4478	
Ramp	934	0.92	Level	12	0	0.943	1.00	1076	
UpStream	1081	0.92	Level	10	0	0.952	1.00	1234	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.083 using Equation (Exhibit 13-6) V ₁₂ = 373 pc/h V ₃ or V _{av34} = 2052 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1791 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5554	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2867	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 22.6 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.322 (Exhibit 13-11) S _R = 61.0 mph (Exhibit 13-11) S ₀ = 67.0 mph (Exhibit 13-11) S = 63.7 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5120	L _{down} =	1970 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1081			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Deceleration Lane Length L _D	0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5120	0.92	Level	5	0	0.976	1.00	5704	
Ramp	1081	0.92	Level	10	0	0.952	1.00	1234	
UpStream									
DownStream	934	0.92	Level	12	0	0.943	1.00	1076	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2810 pc/h V ₃ or V _{av34} 1019 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4849	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3615	Exhibit 13-8	9600	No
					V _R	1234	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2810	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 28.4 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.409 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.5 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.7 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.0 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2060 ft V _D = 798 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200
	Freeway Volume, V _F	8519		Ramp Volume, V _R	929	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	8519	0.92	Level	8	0	0.962	1.00	9630	
Ramp	929	0.92	Level	12	0	0.943	1.00	1070	
UpStream									
DownStream	798	0.92	Level	15	0	0.930	1.00	932	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4802 pc/h V ₃ or V _{av34} 2414 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	9630	Exhibit 13-8	9600	Yes
					V _{FO} = V _F - V _R	8560	Exhibit 13-8	9600	No
					V _R	1070	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4802	Exhibit 13-8	4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 43.7 (pc/mi/ln) LOS = F (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.394 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.0 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 71.3 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 64.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		810		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 929 veh/h	Freeway Volume, V _F		7590		V _D = veh/h				
	Ramp Volume, V _R		798						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7590	0.92	Level	7	0	0.966	1.00	8539	
Ramp	798	0.92	Level	15	0	0.930	1.00	932	
UpStream	929	0.92	Level	12	0	0.943	1.00	1070	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.101 using Equation (Exhibit 13-6) V ₁₂ = 865 pc/h V ₃ or V _{av34} = 3837 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3415 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	9471	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4347	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.9 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.549 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 54.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 61.9 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6712	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1467			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	150		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6712	0.92	Level	8	0	0.962	1.00	7587	
Ramp	1467	0.92	Level	8	0	0.962	1.00	1658	
UpStream									
DownStream	90	0.92	Level	29	0	0.873	1.00	112	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4243 pc/h V ₃ or V _{av34} 1672 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7587	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5929	Exhibit 13-8	9600	No
					V _R	1658	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4243	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 39.4 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.447 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	57.5 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	74.2 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	63.8 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 661 veh/h	Freeway Volume, V _F		5046		V _D = veh/h				
	Ramp Volume, V _R		1856						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5046	0.92	Level	8	0	0.962	1.00	5704	
Ramp	1856	0.92	Level	7	0	0.966	1.00	2088	
UpStream	661	0.92	Level	18	0	0.917	1.00	783	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1918.59 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3402 pc/h V ₃ or V _{av34} = 2302 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3402 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7792	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	5490	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 43.1 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 1.205 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 36.3 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 63.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 41.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 642 veh/h	Freeway Volume, V _F		4454		V _D = veh/h				
	Ramp Volume, V _R		1261						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4454	0.92	Level	1	0	0.995	1.00	4866	
Ramp	1261	0.92	Level	8	0	0.962	1.00	1425	
UpStream	642	0.92	Level	7	0	0.966	1.00	722	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2701 pc/h V ₃ or V _{av34} = 2165 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2780 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6291	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4205	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.6 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.582 (Exhibit 13-11) S _R = 53.7 mph (Exhibit 13-11) S ₀ = 64.3 mph (Exhibit 13-11) S = 56.8 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	800 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	5603	Freeway Free-Flow Speed, S_{FF}	70.0
$V_u =$	veh/h	Ramp Volume, V_R		Freeway Free-Flow Speed, S_{FR}	45.0	Ramp Free-Flow Speed, S_{FR}	45.0		
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5603	0.92	Level	2	0	0.990	1.00	6151	
Ramp	1307	0.92	Level	6	0	0.971	1.00	1463	
UpStream									
DownStream	800	0.92	Level	12	0	0.943	1.00	922	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)			
$P_{FM} =$					$P_{FD} =$	0.539			
$V_{12} =$	pc/h				$V_{12} =$	3989 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	2162 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	6151	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4688	Exhibit 13-8	7200	No
					V_R	1463	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3989	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	36.8 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.430 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.0 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	72.3 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	62.3 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Upstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1460 ft		Deceleration Lane Length L _D			L _{down} = ft				
V _u = 980 veh/h		Freeway Volume, V _F	4853		V _D = veh/h				
		Ramp Volume, V _R	1485						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4853	0.92	Level	1	0	0.995	1.00	5301	
Ramp	1485	0.92	Level	5	0	0.976	1.00	1654	
UpStream	980	0.92	Level	5	0	0.976	1.00	1092	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = 1.000 using Equation (Exhibit 13-6) V ₁₂ = 5301 pc/h V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6955	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6955	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 56.0 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 4.386 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -52.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -52.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N	1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L _A	475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} =	ft	Deceleration Lane Length L _D			L _{down} =	1200 ft			
V _u =	veh/h	Freeway Volume, V _F	4853		V _D =	90 veh/h			
		Ramp Volume, V _R	1485						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4853	0.92	Level	1	0	0.995	1.00	5301	
Ramp	1485	0.92	Level	5	0	0.976	1.00	1654	
UpStream									
DownStream	90	0.92	Level	8	0	0.962	1.00	102	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 5301 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6955	Exhibit 13-8		Yes	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	6955	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
D _R = 56.0 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 4.386 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = -52.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = -52.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off						
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$L_{down} =$ 1500 ft						
$V_u =$ veh/h	Acceleration Lane Length, L_A		$V_D =$ 623 veh/h						
	Deceleration Lane Length L_D	0							
	Freeway Volume, V_F	8199							
	Ramp Volume, V_R	1516							
	Freeway Free-Flow Speed, S_{FF}	70.0							
	Ramp Free-Flow Speed, S_{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	8199	0.92	Level	8	0	0.962	1.00	9268	
Ramp	1516	0.92	Level	9	0	0.957	1.00	1722	
UpStream									
DownStream	623	0.92	Level	2	0	0.990	1.00	684	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)			
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.449 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	5111 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	4157 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	6568 pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	9268	Exhibit 13-8	7200	Yes
					$V_{FO} = V_F - V_R$	7546	Exhibit 13-8	7200	Yes
					V_R	1722	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	5111	Exhibit 13-8	4400:All	Yes
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 60.7 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = F (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.453 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 57.3 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 70.2 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 60.5 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		750		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 906 veh/h	Freeway Volume, V _F		5750		V _D = veh/h				
	Ramp Volume, V _R		980						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5750	0.92	Level	2	0	0.990	1.00	6312	
Ramp	980	0.92	Level	9	0	0.957	1.00	1113	
UpStream	906	0.92	Level	11	0	0.948	1.00	1039	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.079 using Equation (Exhibit 13-6) V ₁₂ = 497 pc/h V ₃ or V _{av34} = 2907 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2524 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7425	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3637	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.6 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.402 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 58.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 65.0 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 61.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6656	L _{down} =	1970 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	906				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6656	0.92	Level	3	0	0.985	1.00	7343	
Ramp	906	0.92	Level	11	0	0.948	1.00	1039	
UpStream									
DownStream	980	0.92	Level	9	0	0.957	1.00	1113	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3147 pc/h V ₃ or V _{av34} 1364 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5875	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4836	Exhibit 13-8	9600	No
					V _R	1039	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3147	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.3 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.392 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.0 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	75.4 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.6 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET											
General Information					Site Information						
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound								
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald								
Date Performed	10/03/2017	Jurisdiction	Caltrans								
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP								
Project Description Colony Commerce Center East Specific Plan (JN 10522)											
Inputs											
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	7626	$L_{down} =$	2060 ft	Freeway Free-Flow Speed, S_{FF}	70.0	$V_D =$	1033 veh/h
$L_{up} =$	Ramp Number of Lanes, N	1		Ramp Volume, V_R	716			Ramp Free-Flow Speed, S_{FR}	45.0		
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0						
	Deceleration Lane Length L_D	200		Ramp Free-Flow Speed, S_{FR}	45.0						
Conversion to pc/h Under Base Conditions											
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$			
Freeway	7626	0.92	Level	5	0	0.976	1.00	8496			
Ramp	716	0.92	Level	11	0	0.948	1.00	821			
UpStream											
DownStream	1033	0.92	Level	8	0	0.962	1.00	1168			
Merge Areas					Diverge Areas						
Estimation of v_{12}					Estimation of v_{12}						
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)					
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)					
$V_{12} =$	pc/h				$V_{12} =$	4167 pc/h					
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	2164 pc/h (Equation 13-14 or 13-17)					
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks						
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?		
V_{FO}		Exhibit 13-8			V_F	8496	Exhibit 13-8	9600	No		
					$V_{FO} = V_F - V_R$	7675	Exhibit 13-8	9600	No		
					V_R	821	Exhibit 13-10	2100	No		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area						
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?			
V_{R12}		Exhibit 13-8			V_{12}	4167	Exhibit 13-8	4400:All	No		
Level of Service Determination (if not F)					Level of Service Determination (if not F)						
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$						
$D_R =$	(pc/mi/ln)				$D_R =$	38.3 (pc/mi/ln)					
LOS =	(Exhibit 13-2)				LOS =	E (Exhibit 13-2)					
Speed Determination					Speed Determination						
$M_S =$	(Exhibit 13-11)				$D_S =$	0.372 (Exhibit 13-12)					
$S_R =$	mph (Exhibit 13-11)				$S_R =$	59.6 mph (Exhibit 13-12)					
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	72.3 mph (Exhibit 13-12)					
$S =$	mph (Exhibit 13-13)				$S =$	65.4 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 716 veh/h	Freeway Volume, V _F	6910	V _D = veh/h						
	Ramp Volume, V _R	1033							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6910	0.92	Level	5	0	0.976	1.00	7699	
Ramp	1033	0.92	Level	8	0	0.962	1.00	1168	
UpStream	716	0.92	Level	11	0	0.948	1.00	821	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.072 using Equation (Exhibit 13-6) V ₁₂ = 553 pc/h V ₃ or V _{av34} = 3573 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3079 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	8867	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	4247	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.0 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.521 (Exhibit 13-11) S _R = 55.4 mph (Exhibit 13-11) S ₀ = 63.4 mph (Exhibit 13-11) S = 59.3 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	3758	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1026			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}					
	Deceleration Lane Length L _D	150		Ramp Free-Flow Speed, S _{FR}					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3758	0.92	Level	13	0	0.939	1.00	4350	
Ramp	1026	0.92	Level	5	0	0.976	1.00	1143	
UpStream									
DownStream	913	0.92	Level	1	0	0.995	1.00	997	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2541 pc/h V ₃ or V _{av34} 904 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4350	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3207	Exhibit 13-8	9600	No
					V _R	1143	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2541	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 24.8 (pc/mi/ln) LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.401 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.8 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.1 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1020 veh/h	Freeway Volume, V _F		3335		V _D = veh/h				
	Ramp Volume, V _R		1657						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3335	0.92	Level	12	0	0.943	1.00	3842	
Ramp	1657	0.92	Level	6	0	0.971	1.00	1855	
UpStream	1020	0.92	Level	6	0	0.971	1.00	1142	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1470.26 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 2291 pc/h V ₃ or V _{av34} = 1551 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2291 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5697	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4146	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 32.7 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.507 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 55.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 58.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 619 veh/h	Freeway Volume, V _F		3685		V _D = veh/h				
	Ramp Volume, V _R		1571						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3685	0.92	Level	2	0	0.990	1.00	4045	
Ramp	1571	0.92	Level	4	0	0.980	1.00	1742	
UpStream	619	0.92	Level	7	0	0.966	1.00	696	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2245 pc/h V ₃ or V _{av34} = 1800 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2311 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5787	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4053	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 36.3 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.546 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 54.7 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 65.6 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	Horizon Year (2040) WP							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	720 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200	Freeway Volume, V_F	5110	Ramp Volume, V_R	1526	
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0	
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	5110	0.92	Level	3	0	0.985	1.00	5638		
Ramp	1526	0.92	Level	5	0	0.976	1.00	1700		
UpStream										
DownStream	720	0.92	Level	8	0	0.962	1.00	814		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)					
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	using Equation (Exhibit 13-7)				
$P_{FM} =$					$P_{FD} =$	0.541				
$V_{12} =$	pc/h				$V_{12} =$	3830 pc/h				
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1808 pc/h (Equation 13-14 or 13-17)				
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	5638	Exhibit 13-8		7200	No
					$V_{FO} = V_F - V_R$	3938	Exhibit 13-8		7200	No
					V_R	1700	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3830	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$					
$D_R =$ (pc/mi/ln)					$D_R =$ 35.4 (pc/mi/ln)					
LOS = (Exhibit 13-2)					LOS = E (Exhibit 13-2)					
Speed Determination					Speed Determination					
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.451 (Exhibit 13-12)					
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 57.4 mph (Exhibit 13-12)					
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 73.6 mph (Exhibit 13-12)					
$S =$ mph (Exhibit 13-13)					$S =$ 61.7 mph (Exhibit 13-13)					

APPENDIX 7.10:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↗	↑↑↑
Traffic Volume (vph)	10	8	222	62	461	25	1150	130	459	2337
Future Volume (vph)	10	8	222	62	461	25	1150	130	459	2337
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	36.8	14.5	37.2	37.2	36.8	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	30.7%	12.1%	31.0%	31.0%	30.7%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	5	222	62	461	25	1150	130	459	2337	56
Future Volume (veh/h)	10	8	5	222	62	461	25	1150	130	459	2337	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1872	1900	1900	1768	1900	1900
Adj Flow Rate, veh/h	10	8	4	148	181	434	26	1198	109	478	2434	55
Adj No. of Lanes	0	1	0	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	134	102	43	370	474	665	86	2364	736	541	2992	67
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.05	0.46	0.46	0.17	0.57	0.57
Sat Flow, veh/h	362	410	172	1350	1900	1592	1783	5187	1615	3267	5220	118
Grp Volume(v), veh/h	22	0	0	148	181	434	26	1198	109	478	1610	879
Grp Sat Flow(s),veh/h/ln	943	0	0	1350	1900	1592	1783	1729	1615	1633	1729	1879
Q Serve(g_s), s	0.1	0.0	0.0	4.1	9.5	26.3	1.7	19.6	4.7	17.2	44.6	45.1
Cycle Q Clear(g_c), s	9.6	0.0	0.0	13.7	9.5	26.3	1.7	19.6	4.7	17.2	44.6	45.1
Prop In Lane	0.45		0.18	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	279	0	0	370	474	665	86	2364	736	541	1982	1077
V/C Ratio(X)	0.08	0.00	0.00	0.40	0.38	0.65	0.30	0.51	0.15	0.88	0.81	0.82
Avail Cap(c_a), veh/h	386	0	0	495	649	812	149	2364	736	879	1982	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	39.3	37.4	28.2	55.1	23.1	19.1	48.9	20.4	20.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.2	0.7	0.7	0.7	0.4	3.8	3.8	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	4.3	5.0	11.6	0.8	9.5	2.2	8.1	22.3	25.3
LnGrp Delay(d),s/veh	34.5	0.0	0.0	39.6	37.6	29.0	55.8	23.8	19.4	52.7	24.2	27.4
LnGrp LOS	C			D	D	C	E	C	B	D	C	C
Approach Vol, veh/h		22			763			1333			2967	
Approach Delay, s/veh		34.5			33.1			24.1			29.7	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.4	60.7		34.9	10.3	74.8		34.9				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	32.3	31.2		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	19.2	21.6		11.6	3.7	47.1		28.3				
Green Ext Time (p_c), s	0.7	9.3		1.6	0.0	6.3		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				28.8								
HCM 2010 LOS				C								
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

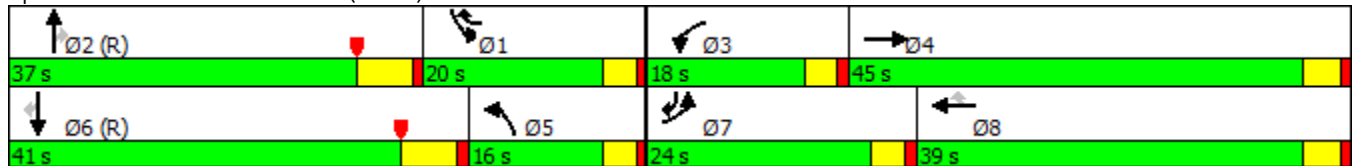


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖↗	↕	↖	↖	↕↕↕	↖	↖↗	↕↕↕	↖
Traffic Volume (vph)	131	391	268	364	280	124	720	203	548	1470	212
Future Volume (vph)	131	391	268	364	280	124	720	203	548	1470	212
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	24.0	45.0	18.0	39.0	20.0	16.0	37.0	37.0	20.0	41.0	24.0
Total Split (%)	20.0%	37.5%	15.0%	32.5%	16.7%	13.3%	30.8%	30.8%	16.7%	34.2%	20.0%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	391	150	268	364	280	124	720	203	548	1470	212
Future Volume (veh/h)	131	391	150	268	364	280	124	720	203	548	1470	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	134	399	151	273	371	264	127	735	199	559	1500	178
Adj No. of Lanes	2	2	0	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	186	528	197	323	898	964	422	983	306	1094	1513	561
Arrive On Green	0.06	0.21	0.21	0.10	0.25	0.25	0.08	0.06	0.06	0.35	0.29	0.29
Sat Flow, veh/h	3141	2573	962	3141	3610	1615	1714	5187	1615	3141	5187	1594
Grp Volume(v), veh/h	134	278	272	273	371	264	127	735	199	559	1500	178
Grp Sat Flow(s),veh/h/ln	1570	1805	1730	1570	1805	1615	1714	1729	1615	1570	1729	1594
Q Serve(g_s), s	5.0	17.4	17.8	10.2	10.3	2.2	8.4	16.7	11.1	16.9	34.6	4.3
Cycle Q Clear(g_c), s	5.0	17.4	17.8	10.2	10.3	2.2	8.4	16.7	11.1	16.9	34.6	4.3
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	370	355	323	898	964	422	983	306	1094	1513	561
V/C Ratio(X)	0.72	0.75	0.77	0.85	0.41	0.27	0.30	0.75	0.65	0.51	0.99	0.32
Avail Cap(c_a), veh/h	523	609	584	366	1038	1027	422	1340	417	1094	1513	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.60	0.60	0.60
Uniform Delay (d), s/veh	55.5	44.8	45.0	52.9	37.7	4.7	45.4	53.4	31.1	31.0	42.4	10.8
Incr Delay (d2), s/veh	2.0	3.1	3.5	13.5	0.1	0.1	0.1	4.8	9.5	0.1	16.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.0	8.8	5.0	5.2	2.5	4.0	8.4	5.8	7.3	18.8	2.0
LnGrp Delay(d),s/veh	57.4	47.9	48.4	66.4	37.9	4.8	45.5	58.2	40.6	31.1	58.4	11.7
LnGrp LOS	E	D	D	E	D	A	D	E	D	C	E	B
Approach Vol, veh/h		684			908			1061			2237	
Approach Delay, s/veh		50.0			36.8			53.4			47.9	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	45.8	28.7	16.3	29.1	33.5	41.0	11.1	34.3				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	16.0	31.0	14.0	40.5	12.0	35.0	20.0	34.5				
Max Q Clear Time (g_c+I1), s	18.9	18.7	12.2	19.8	10.4	36.6	7.0	12.3				
Green Ext Time (p_c), s	0.0	4.0	0.1	4.9	0.1	0.0	0.2	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			47.3									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

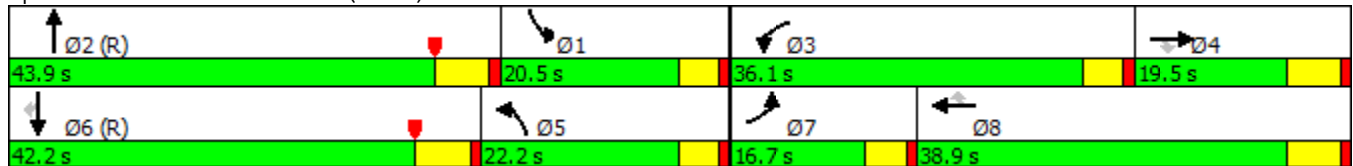
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	80	329	199	703	418	227	186	840	510	255	1360	94	
Future Volume (vph)	80	329	199	703	418	227	186	840	510	255	1360	94	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases			4			8			Free			6	
Detector Phase	7	4	4	3	8	8	5	2		1	6	6	
Switch Phase													
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	37.9	9.6	32.9		9.6	32.9	32.9	
Total Split (s)	16.7	19.5	19.5	36.1	38.9	38.9	22.2	43.9		20.5	42.2	42.2	
Total Split (%)	13.9%	16.3%	16.3%	30.1%	32.4%	32.4%	18.5%	36.6%		17.1%	35.2%	35.2%	
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	4.9	3.6	4.9		3.6	4.9	4.9	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	5.9	4.6	5.9		4.6	5.9	5.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead		Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28.5 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
 4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	329	199	703	418	227	186	840	510	255	1360	94
Future Volume (veh/h)	80	329	199	703	418	227	186	840	510	255	1360	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1872	1976	1976	1768	1976	1976	1872	1976	1976	1768	1976	1976
Adj Flow Rate, veh/h	81	332	0	710	422	0	188	848	0	258	1374	90
Adj No. of Lanes	1	2	1	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	397	178	767	1063	476	354	1042	324	951	1541	480
Arrive On Green	0.06	0.11	0.00	0.23	0.28	0.00	0.20	0.19	0.00	0.20	0.19	0.19
Sat Flow, veh/h	1783	3754	1680	3267	3754	1680	1783	5394	1680	3267	5394	1680
Grp Volume(v), veh/h	81	332	0	710	422	0	188	848	0	258	1374	90
Grp Sat Flow(s),veh/h/ln	1783	1877	1680	1633	1877	1680	1783	1798	1680	1633	1798	1680
Q Serve(g_s), s	5.4	10.4	0.0	25.5	10.9	0.0	11.3	18.1	0.0	8.1	29.8	4.3
Cycle Q Clear(g_c), s	5.4	10.4	0.0	25.5	10.9	0.0	11.3	18.1	0.0	8.1	29.8	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	397	178	767	1063	476	354	1042	324	951	1541	480
V/C Ratio(X)	0.79	0.84	0.00	0.93	0.40	0.00	0.53	0.81	0.00	0.27	0.89	0.19
Avail Cap(c_a), veh/h	180	425	190	857	1063	476	354	1708	532	951	1632	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.24	0.24	0.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	55.8	52.6	0.0	44.9	34.7	0.0	43.1	46.3	0.0	37.5	46.7	23.4
Incr Delay (d2), s/veh	5.0	13.5	0.0	14.0	0.3	0.0	0.2	1.7	0.0	0.0	7.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.1	0.0	13.0	5.7	0.0	5.6	9.1	0.0	3.7	15.9	2.1
LnGrp Delay(d),s/veh	60.8	66.2	0.0	58.9	35.1	0.0	43.3	48.1	0.0	37.5	53.8	24.1
LnGrp LOS	E	E		E	D		D	D		D	D	C
Approach Vol, veh/h		413			1132			1036			1722	
Approach Delay, s/veh		65.1			50.0			47.2			49.8	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	39.5	29.1	32.8	18.6	28.4	40.2	11.5	39.9				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	15.9	38.0	31.5	13.6	17.6	36.3	12.1	33.0				
Max Q Clear Time (g_c+1), s	10.1	20.1	27.5	12.4	13.3	31.8	7.4	12.9				
Green Ext Time (p_c), s	0.4	3.1	0.7	0.3	0.1	2.5	0.0	6.1				
Intersection Summary												
HCM 2010 Ctrl Delay			50.7									
HCM 2010 LOS			D									

Timings
7: Merrill Av. & Grove Av.

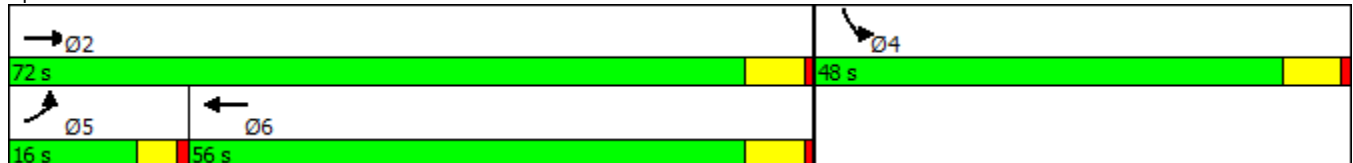


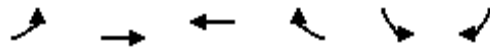
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	68	537	602	225
Future Volume (vph)	68	537	602	225
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	16.0	72.0	56.0	48.0
Total Split (%)	13.3%	60.0%	46.7%	40.0%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.2
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated

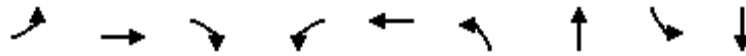
Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	68	537	602	342	225	124		
Future Volume (veh/h)	68	537	602	342	225	124		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900		
Adj Flow Rate, veh/h	79	624	700	398	262	144		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	101	2056	1010	573	294	162		
Arrive On Green	0.06	0.57	0.45	0.45	0.28	0.28		
Sat Flow, veh/h	1714	3705	2316	1261	1059	582		
Grp Volume(v), veh/h	79	624	569	529	407	0		
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1677	1644	0		
Q Serve(g_s), s	3.7	7.3	20.4	20.5	19.3	0.0		
Cycle Q Clear(g_c), s	3.7	7.3	20.4	20.5	19.3	0.0		
Prop In Lane	1.00			0.75	0.64	0.35		
Lane Grp Cap(c), veh/h	101	2056	820	762	457	0		
V/C Ratio(X)	0.79	0.30	0.69	0.69	0.89	0.00		
Avail Cap(c_a), veh/h	240	2919	1105	1027	845	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	37.8	9.1	17.7	17.7	28.2	0.0		
Incr Delay (d2), s/veh	5.0	0.1	1.2	1.3	6.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	3.7	10.4	9.7	9.5	0.0		
LnGrp Delay(d),s/veh	42.8	9.2	18.9	19.0	34.3	0.0		
LnGrp LOS	D	A	B	B	C			
Approach Vol, veh/h		703	1098		407			
Approach Delay, s/veh		13.0	18.9		34.3			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		52.6		28.8	9.4	43.2		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		65.8		41.8	11.4	49.8		
Max Q Clear Time (g_c+I1), s		9.3		21.3	5.7	22.5		
Green Ext Time (p_c), s		19.5		1.3	0.0	14.5		
Intersection Summary								
HCM 2010 Ctrl Delay			19.9					
HCM 2010 LOS			B					
Notes								

Timings
8: Flight Av. & Merrill Av.

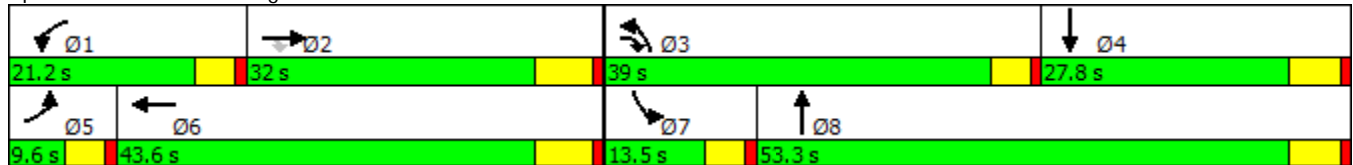


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙	↑↑	↙	↗	↙	↗
Traffic Volume (vph)	5	521	235	163	548	363	10	37	22
Future Volume (vph)	5	521	235	163	548	363	10	37	22
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	3	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.2	9.6	9.6	24.2	9.6	27.8	9.6	27.8
Total Split (s)	9.6	32.0	39.0	21.2	43.6	39.0	53.3	13.5	27.8
Total Split (%)	8.0%	26.7%	32.5%	17.7%	36.3%	32.5%	44.4%	11.3%	23.2%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	521	235	163	548	9	363	10	195	37	22	31
Future Volume (veh/h)	5	521	235	163	548	9	363	10	195	37	22	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	5	573	258	179	602	10	399	11	214	40	24	34
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.92	0.91	0.92	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	864	800	215	1302	22	439	27	528	62	87	123
Arrive On Green	0.01	0.24	0.24	0.13	0.36	0.36	0.26	0.34	0.34	0.04	0.12	0.12
Sat Flow, veh/h	1714	3610	1615	1714	3634	60	1714	80	1547	1714	713	1009
Grp Volume(v), veh/h	5	573	258	179	299	313	399	0	225	40	0	58
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1889	1714	0	1627	1714	0	1722
Q Serve(g_s), s	0.2	11.8	7.9	8.4	10.5	10.5	18.6	0.0	8.7	1.9	0.0	2.5
Cycle Q Clear(g_c), s	0.2	11.8	7.9	8.4	10.5	10.5	18.6	0.0	8.7	1.9	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.95	1.00		0.59
Lane Grp Cap(c), veh/h	11	864	800	215	647	677	439	0	555	62	0	209
V/C Ratio(X)	0.44	0.66	0.32	0.83	0.46	0.46	0.91	0.00	0.41	0.64	0.00	0.28
Avail Cap(c_a), veh/h	104	1132	920	346	820	859	717	0	939	185	0	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	28.3	12.5	35.1	20.3	20.3	29.7	0.0	20.7	39.1	0.0	32.9
Incr Delay (d2), s/veh	9.9	0.9	0.2	4.4	0.5	0.5	6.6	0.0	0.5	4.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.0	3.5	4.2	5.3	5.6	9.6	0.0	3.9	1.0	0.0	1.2
LnGrp Delay(d),s/veh	50.6	29.2	12.7	39.5	20.8	20.8	36.2	0.0	21.2	43.1	0.0	33.6
LnGrp LOS	D	C	B	D	C	C	D		C	D		C
Approach Vol, veh/h		836			791			624			98	
Approach Delay, s/veh		24.2			25.0			30.8			37.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	25.9	25.7	15.8	5.1	35.7	7.6	33.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	16.6	25.8	34.4	22.0	5.0	37.4	8.9	47.5				
Max Q Clear Time (g_c+I1), s	10.4	13.8	20.6	4.5	2.2	12.5	3.9	10.7				
Green Ext Time (p_c), s	0.1	5.9	0.5	1.4	0.0	8.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									

Timings
9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

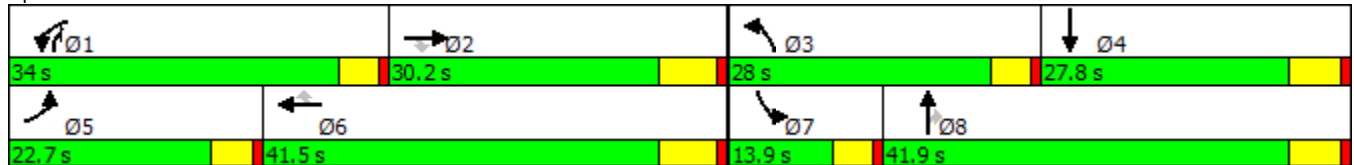


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗
Traffic Volume (vph)	127	436	191	307	162	176	487	78	167	33	44
Future Volume (vph)	127	436	191	307	162	176	487	78	167	33	44
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	24.2	24.2	9.6	24.2	24.2	9.6	27.8	9.6	9.6	27.8
Total Split (s)	22.7	30.2	30.2	34.0	41.5	41.5	28.0	41.9	34.0	13.9	27.8
Total Split (%)	18.9%	25.2%	25.2%	28.3%	34.6%	34.6%	23.3%	34.9%	28.3%	11.6%	23.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	4.8	3.6	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	5.8	4.6	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 9: Hellman Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	436	191	307	162	176	487	78	167	33	44	72
Future Volume (veh/h)	127	436	191	307	162	176	487	78	167	33	44	72
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	138	474	208	334	176	191	529	85	182	36	48	78
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	718	321	375	1146	513	626	532	806	59	82	134
Arrive On Green	0.10	0.20	0.20	0.22	0.32	0.32	0.19	0.28	0.28	0.03	0.13	0.13
Sat Flow, veh/h	1714	3610	1615	1714	3610	1615	3326	1900	1615	1714	653	1060
Grp Volume(v), veh/h	138	474	208	334	176	191	529	85	182	36	0	126
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1615	1663	1900	1615	1714	0	1713
Q Serve(g_s), s	6.2	9.6	9.4	15.0	2.8	7.3	12.2	2.7	5.0	1.6	0.0	5.5
Cycle Q Clear(g_c), s	6.2	9.6	9.4	15.0	2.8	7.3	12.2	2.7	5.0	1.6	0.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	172	718	321	375	1146	513	626	532	806	59	0	216
V/C Ratio(X)	0.80	0.66	0.65	0.89	0.15	0.37	0.84	0.16	0.23	0.61	0.00	0.58
Avail Cap(c_a), veh/h	392	1094	489	637	1609	720	983	866	1090	201	0	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	29.3	29.2	30.0	19.4	20.9	31.0	21.5	11.2	37.7	0.0	32.6
Incr Delay (d2), s/veh	3.3	1.0	2.2	4.5	0.1	0.5	2.3	0.1	0.1	3.7	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.8	4.4	7.5	1.4	3.3	5.8	1.4	2.2	0.8	0.0	2.7
LnGrp Delay(d),s/veh	38.2	30.3	31.4	34.5	19.5	21.4	33.3	21.6	11.3	41.4	0.0	35.1
LnGrp LOS	D	C	C	C	B	C	C	C	B	D		D
Approach Vol, veh/h		820			701			796			162	
Approach Delay, s/veh		31.9			27.1			27.0			36.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.9	21.9	19.5	15.8	12.5	31.3	7.3	28.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	29.4	24.0	23.4	22.0	18.1	35.3	9.3	36.1				
Max Q Clear Time (g_c+I1), s	17.0	11.6	14.2	7.5	8.2	9.3	3.6	7.0				
Green Ext Time (p_c), s	0.4	4.2	0.8	1.4	0.1	5.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			29.3									
HCM 2010 LOS			C									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

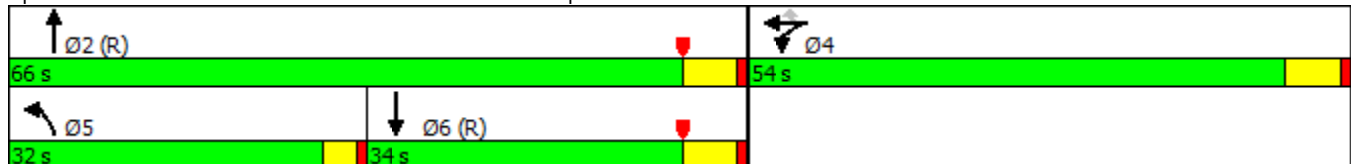


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↶	↶	↶	↑↑↑	↓↓↓
Traffic Volume (vph)	427	2	630	638	1710	729
Future Volume (vph)	427	2	630	638	1710	729
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	54.0	54.0	54.0	32.0	66.0	34.0
Total Split (%)	45.0%	45.0%	45.0%	26.7%	55.0%	28.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	427	2	630	638	1710	0	0	729	283
Future Volume (veh/h)	0	0	0	427	2	630	638	1710	0	0	729	283
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1900	1900	1700	1900	0	0	1900	1900
Adj Flow Rate, veh/h				475	0	524	709	1900	0	0	810	234
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1179	0	588	733	2789	0	0	1384	389
Arrive On Green				0.36	0.00	0.36	0.47	1.00	0.00	0.00	0.27	0.27
Sat Flow, veh/h				3238	0	1615	3141	5358	0	0	5374	1434
Grp Volume(v), veh/h				475	0	524	709	1900	0	0	776	268
Grp Sat Flow(s),veh/h/ln				1619	0	1615	1570	1729	0	0	1634	1641
Q Serve(g_s), s				13.1	0.0	36.7	26.3	0.0	0.0	0.0	16.5	17.1
Cycle Q Clear(g_c), s				13.1	0.0	36.7	26.3	0.0	0.0	0.0	16.5	17.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.87
Lane Grp Cap(c), veh/h				1179	0	588	733	2789	0	0	1328	445
V/C Ratio(X)				0.40	0.00	0.89	0.97	0.68	0.00	0.00	0.58	0.60
Avail Cap(c_a), veh/h				1295	0	646	733	2789	0	0	1328	445
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.12	0.12	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.4	0.0	35.9	31.6	0.0	0.0	0.0	37.9	38.1
Incr Delay (d2), s/veh				0.5	0.0	15.3	6.0	0.2	0.0	0.0	1.9	5.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.9	0.0	30.9	11.8	0.0	0.0	0.0	7.6	8.5
LnGrp Delay(d),s/veh				28.9	0.0	51.2	37.6	0.2	0.0	0.0	39.8	44.0
LnGrp LOS				C		D	D	A			D	D
Approach Vol, veh/h					999			2609			1044	
Approach Delay, s/veh					40.6			10.3			40.9	
Approach LOS					D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.3		49.7	32.0	38.3						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		60.2		48.0	28.0	28.2						
Max Q Clear Time (g_c+I1), s		2.0		38.7	28.3	19.1						
Green Ext Time (p_c), s		39.2		5.0	0.0	8.4						
Intersection Summary												
HCM 2010 Ctrl Delay				23.7								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

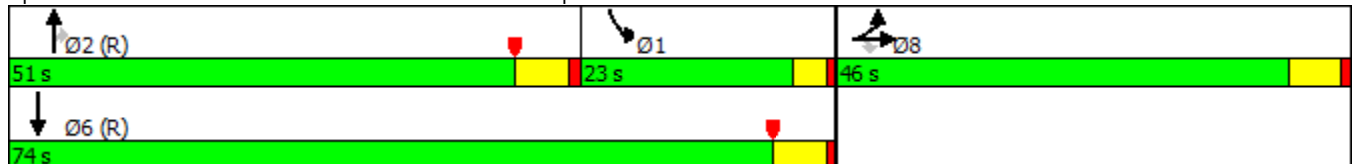


Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↑↑↑	↖	↘↗	↑↑↑
Traffic Volume (vph)	2	369	1827	537	271	885
Future Volume (vph)	2	369	1827	537	271	885
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	18.2	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (s)	46.0	46.0	51.0	51.0	23.0	74.0
Total Split (%)	38.3%	38.3%	42.5%	42.5%	19.2%	61.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated




















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

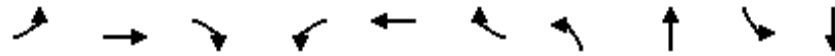
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	2	369	0	0	0	0	1827	537	271	885	0
Future Volume (veh/h)	521	2	369	0	0	0	0	1827	537	271	885	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1700	1900	0
Adj Flow Rate, veh/h	560	2	187				0	1965	459	291	952	0
Adj No. of Lanes	0	1	1				0	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	589	2	520				0	1954	608	477	2992	0
Arrive On Green	0.33	0.33	0.33				0.00	0.38	0.38	0.15	0.58	0.00
Sat Flow, veh/h	1803	6	1592				0	5358	1615	3141	5358	0
Grp Volume(v), veh/h	562	0	187				0	1965	459	291	952	0
Grp Sat Flow(s),veh/h/ln	1810	0	1592				0	1729	1615	1570	1729	0
Q Serve(g_s), s	36.4	0.0	10.8				0.0	45.2	29.7	10.4	11.4	0.0
Cycle Q Clear(g_c), s	36.4	0.0	10.8				0.0	45.2	29.7	10.4	11.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	591	0	520				0	1954	608	477	2992	0
V/C Ratio(X)	0.95	0.00	0.36				0.00	1.01	0.75	0.61	0.32	0.00
Avail Cap(c_a), veh/h	606	0	533				0	1954	608	497	2992	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.5	0.0	30.8				0.0	37.4	32.6	47.6	13.2	0.0
Incr Delay (d2), s/veh	24.7	0.0	0.4				0.0	7.6	0.8	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.2	0.0	4.8				0.0	22.9	13.4	4.6	5.4	0.0
LnGrp Delay(d),s/veh	64.2	0.0	31.3				0.0	45.0	33.4	48.5	13.3	0.0
LnGrp LOS	E		C					F	C	D	B	
Approach Vol, veh/h		749						2424			1243	
Approach Delay, s/veh		56.0						42.8			21.6	
Approach LOS		E						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	24.0	51.0				75.0		45.0				
Change Period (Y+Rc), s	5.8	* 5.8				5.8		5.8				
Max Green Setting (Gmax), s	19.0	* 45				68.2		40.2				
Max Q Clear Time (g_c+I1), s	12.4	47.2				13.4		38.4				
Green Ext Time (p_c), s	3.4	0.0				7.6		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			39.0									
HCM 2010 LOS			D									
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

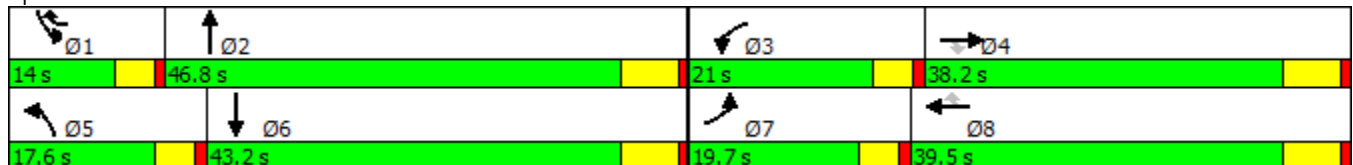


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	211	411	198	240	284	270	185	1421	242	655
Future Volume (vph)	211	411	198	240	284	270	185	1421	242	655
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	19.7	38.2	38.2	21.0	39.5	14.0	17.6	46.8	14.0	43.2
Total Split (%)	16.4%	31.8%	31.8%	17.5%	32.9%	11.7%	14.7%	39.0%	11.7%	36.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	411	198	240	284	270	185	1421	244	242	655	120
Future Volume (veh/h)	211	411	198	240	284	270	185	1421	244	242	655	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	234	457	187	267	316	207	206	1579	261	269	728	60
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	237	714	315	257	757	470	263	1654	272	270	1813	149
Arrive On Green	0.14	0.20	0.20	0.15	0.21	0.21	0.08	0.37	0.37	0.09	0.37	0.37
Sat Flow, veh/h	1714	3610	1591	1714	3610	1578	3141	4486	739	3141	4886	400
Grp Volume(v), veh/h	234	457	187	267	316	207	206	1216	624	269	514	274
Grp Sat Flow(s),veh/h/ln	1714	1805	1591	1714	1805	1578	1570	1729	1767	1570	1729	1828
Q Serve(g_s), s	14.9	12.7	11.7	16.4	8.3	11.6	7.0	37.4	37.7	9.4	12.0	12.1
Cycle Q Clear(g_c), s	14.9	12.7	11.7	16.4	8.3	11.6	7.0	37.4	37.7	9.4	12.0	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.22
Lane Grp Cap(c), veh/h	237	714	315	257	757	470	263	1275	651	270	1283	678
V/C Ratio(X)	0.99	0.64	0.59	1.04	0.42	0.44	0.78	0.95	0.96	1.00	0.40	0.40
Avail Cap(c_a), veh/h	237	1057	466	257	1100	620	374	1284	656	270	1283	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	40.3	39.9	46.5	37.4	31.2	49.1	33.6	33.7	49.9	25.4	25.4
Incr Delay (d2), s/veh	54.9	1.0	1.8	66.4	0.4	0.7	4.2	15.3	25.1	53.6	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	6.4	5.3	12.5	4.2	5.1	3.2	20.6	22.9	6.0	5.7	6.2
LnGrp Delay(d),s/veh	101.9	41.2	41.7	112.9	37.8	31.9	53.3	48.9	58.7	103.5	25.6	25.8
LnGrp LOS	F	D	D	F	D	C	D	D	E	F	C	C
Approach Vol, veh/h		878			790			2046			1057	
Approach Delay, s/veh		57.5			61.6			52.4			45.5	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	46.5	21.0	27.8	13.7	46.8	19.7	29.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	40.6	16.4	32.0	13.0	37.0	15.1	33.3				
Max Q Clear Time (g_c+I1), s	11.4	39.7	18.4	14.7	9.0	14.1	16.9	13.6				
Green Ext Time (p_c), s	0.0	0.6	0.0	5.5	0.1	17.4	0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay			53.3									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

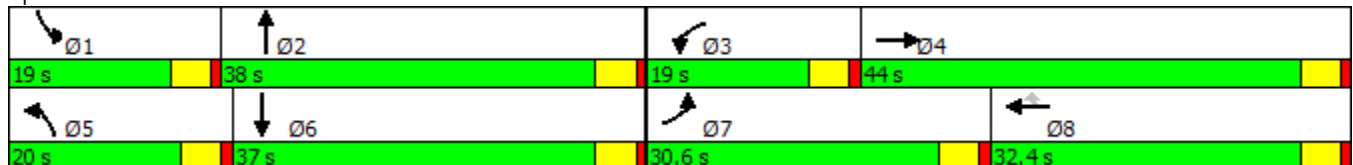


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	204	212	97	140	110	112	835	96	690
Future Volume (vph)	204	212	97	140	110	112	835	96	690
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	30.6	44.0	19.0	32.4	32.4	20.0	38.0	19.0	37.0
Total Split (%)	25.5%	36.7%	15.8%	27.0%	27.0%	16.7%	31.7%	15.8%	30.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.1
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	212	184	97	140	110	112	835	91	96	690	117
Future Volume (veh/h)	204	212	184	97	140	110	112	835	91	96	690	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	224	233	193	107	154	-3	123	918	96	105	758	124
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	269	279	231	137	405	344	156	1534	160	134	1389	225
Arrive On Green	0.16	0.29	0.29	0.08	0.21	0.00	0.09	0.32	0.32	0.08	0.31	0.31
Sat Flow, veh/h	1714	962	797	1714	1900	1615	1714	4773	498	1714	4498	730
Grp Volume(v), veh/h	224	0	426	107	154	-3	123	664	350	105	581	301
Grp Sat Flow(s),veh/h/ln	1714	0	1759	1714	1900	1615	1714	1729	1812	1714	1729	1770
Q Serve(g_s), s	10.1	0.0	18.1	4.9	5.5	0.0	5.6	12.9	12.9	4.8	11.1	11.3
Cycle Q Clear(g_c), s	10.1	0.0	18.1	4.9	5.5	0.0	5.6	12.9	12.9	4.8	11.1	11.3
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.27	1.00		0.41
Lane Grp Cap(c), veh/h	269	0	511	137	405	344	156	1111	582	134	1068	546
V/C Ratio(X)	0.83	0.00	0.83	0.78	0.38	-0.01	0.79	0.60	0.60	0.78	0.54	0.55
Avail Cap(c_a), veh/h	558	0	868	309	662	563	331	1447	758	309	1404	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	26.5	36.1	26.9	0.0	35.5	22.7	22.8	36.1	22.9	23.0
Incr Delay (d2), s/veh	6.7	0.0	3.7	9.4	0.6	0.0	8.6	0.5	1.0	9.5	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	9.3	2.7	3.0	0.0	3.0	6.2	6.6	2.6	5.4	5.6
LnGrp Delay(d),s/veh	39.3	0.0	30.2	45.5	27.5	0.0	44.1	23.3	23.8	45.7	23.4	23.8
LnGrp LOS	D		C	D	C		D	C	C	D	C	C
Approach Vol, veh/h		650			258			1137			987	
Approach Delay, s/veh		33.3			35.3			25.7			25.9	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	30.3	11.0	27.8	11.9	29.2	17.1	21.6				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	14.4	33.4	14.4	39.4	15.4	32.4	26.0	27.8				
Max Q Clear Time (g_c+I1), s	6.8	14.9	6.9	20.1	7.6	13.3	12.1	7.5				
Green Ext Time (p_c), s	0.1	10.7	0.1	3.1	0.1	10.9	0.5	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			28.2									
HCM 2010 LOS			C									

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

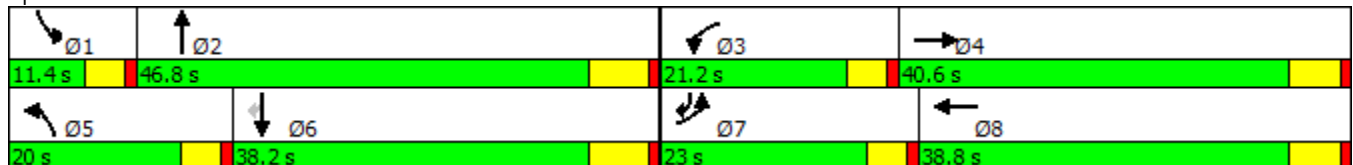


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕↗	↙	↕↗	↙↗	↕↗↗	↙	↕↕↕	↗
Traffic Volume (vph)	174	107	114	103	287	925	31	936	199
Future Volume (vph)	174	107	114	103	287	925	31	936	199
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4	3	8	5	2	1	6	7
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	28.5	9.6	28.5	9.6
Total Split (s)	23.0	40.6	21.2	38.8	20.0	46.8	11.4	38.2	23.0
Total Split (%)	19.2%	33.8%	17.7%	32.3%	16.7%	39.0%	9.5%	31.8%	19.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

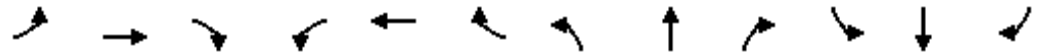
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	107	137	114	103	97	287	925	32	31	936	199
Future Volume (veh/h)	174	107	137	114	103	97	287	925	32	31	936	199
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	189	116	149	124	112	105	312	1005	35	34	1017	216
Adj No. of Lanes	1	2	0	1	2	0	2	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	309	276	156	239	204	402	2194	76	57	1758	762
Arrive On Green	0.13	0.17	0.17	0.09	0.13	0.13	0.12	0.43	0.43	0.03	0.34	0.34
Sat Flow, veh/h	1714	1805	1615	1714	1846	1580	3326	5147	179	1714	5187	1615
Grp Volume(v), veh/h	189	116	149	124	109	108	312	675	365	34	1017	216
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1621	1663	1729	1868	1714	1729	1615
Q Serve(g_s), s	8.3	4.4	6.5	5.5	4.3	4.8	7.0	10.8	10.8	1.5	12.5	6.3
Cycle Q Clear(g_c), s	8.3	4.4	6.5	5.5	4.3	4.8	7.0	10.8	10.8	1.5	12.5	6.3
Prop In Lane	1.00		1.00	1.00		0.97	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	228	309	276	156	233	210	402	1474	796	57	1758	762
V/C Ratio(X)	0.83	0.38	0.54	0.79	0.47	0.51	0.78	0.46	0.46	0.59	0.58	0.28
Avail Cap(c_a), veh/h	408	812	727	368	770	692	662	1802	974	151	2127	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.4	29.3	34.4	31.2	31.4	33.0	15.8	15.8	36.8	21.0	12.4
Incr Delay (d2), s/veh	3.0	0.8	1.6	3.4	1.5	1.9	1.2	0.2	0.4	3.6	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.3	3.0	2.7	2.3	2.3	3.3	5.1	5.6	0.8	6.0	2.9
LnGrp Delay(d),s/veh	35.6	29.1	30.9	37.9	32.7	33.3	34.2	16.0	16.2	40.4	21.3	12.7
LnGrp LOS	D	C	C	D	C	C	C	B	B	D	C	B
Approach Vol, veh/h		454			341			1352			1267	
Approach Delay, s/veh		32.4			34.8			20.3			20.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	39.5	11.6	19.0	13.9	32.7	14.9	15.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	6.8	40.3	16.6	34.8	15.4	31.7	18.4	33.0				
Max Q Clear Time (g_c+I1), s	3.5	12.8	7.5	8.5	9.0	14.5	10.3	6.8				
Green Ext Time (p_c), s	0.0	16.0	0.1	2.7	0.3	11.7	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

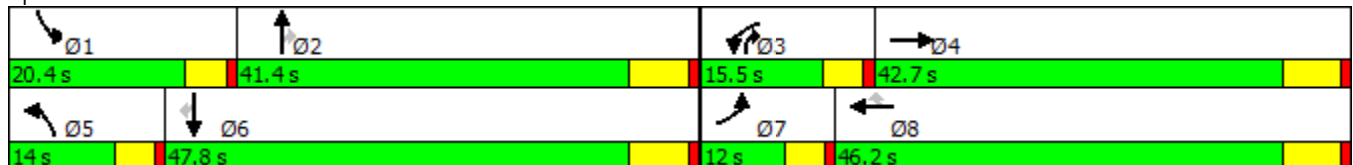


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	239	720	401	300	676	199	371	625	127	108	688	283
Future Volume (vph)	239	720	401	300	676	199	371	625	127	108	688	283
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	12.0	42.7		15.5	46.2	46.2	14.0	41.4	15.5	20.4	47.8	47.8
Total Split (%)	10.0%	35.6%		12.9%	38.5%	38.5%	11.7%	34.5%	12.9%	17.0%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



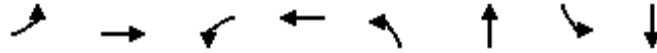
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	720	401	300	676	199	371	625	127	108	688	283
Future Volume (veh/h)	239	720	401	300	676	199	371	625	127	108	688	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1768	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	254	766	0	319	719	164	395	665	0	115	732	282
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	1	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	249	1358	423	367	1553	483	329	1572	678	143	1484	462
Arrive On Green	0.08	0.26	0.00	0.12	0.30	0.30	0.10	0.30	0.00	0.08	0.29	0.29
Sat Flow, veh/h	3141	5187	1615	3141	5187	1615	3267	5187	1615	1714	5187	1615
Grp Volume(v), veh/h	254	766	0	319	719	164	395	665	0	115	732	282
Grp Sat Flow(s),veh/h/ln	1570	1729	1615	1570	1729	1615	1633	1729	1615	1714	1729	1615
Q Serve(g_s), s	7.4	11.9	0.0	9.3	10.5	7.4	9.4	9.6	0.0	6.2	10.9	14.1
Cycle Q Clear(g_c), s	7.4	11.9	0.0	9.3	10.5	7.4	9.4	9.6	0.0	6.2	10.9	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	1358	423	367	1553	483	329	1572	678	143	1484	462
V/C Ratio(X)	1.02	0.56	0.00	0.87	0.46	0.34	1.20	0.42	0.00	0.80	0.49	0.61
Avail Cap(c_a), veh/h	249	2029	632	367	2223	692	329	1940	793	290	2295	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	29.8	0.0	40.5	26.6	25.5	42.0	26.0	0.0	42.0	27.7	28.8
Incr Delay (d2), s/veh	62.3	0.4	0.0	18.8	0.2	0.4	115.8	0.2	0.0	3.9	0.3	1.3
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.7	0.0	5.0	5.0	3.4	9.5	4.6	0.0	3.1	5.3	6.4
LnGrp Delay(d),s/veh	105.3	30.2	0.0	59.4	26.8	25.9	157.8	26.2	0.0	45.9	28.0	30.1
LnGrp LOS	F	C		E	C	C	F	C		D	C	C
Approach Vol, veh/h		1020			1202			1060			1129	
Approach Delay, s/veh		48.9			35.3			75.2			30.3	
Approach LOS		D			D			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	34.8	15.5	30.6	14.0	33.2	12.0	34.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.8	34.9	10.9	36.5	9.4	41.3	7.4	40.0				
Max Q Clear Time (g_c+I1), s	8.2	11.6	11.3	13.9	11.4	16.1	9.4	12.5				
Green Ext Time (p_c), s	0.1	10.2	0.0	10.5	0.0	10.6	0.0	11.5				
Intersection Summary												
HCM 2010 Ctrl Delay			46.8									
HCM 2010 LOS			D									

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	112	54	128	33	306	1056	88	1102
Future Volume (vph)	112	54	128	33	306	1056	88	1102
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.6	9.6	38.2	9.6	28.5	9.6	28.5
Total Split (s)	13.6	37.6	14.4	38.4	26.0	50.3	17.7	42.0
Total Split (%)	11.3%	31.3%	12.0%	32.0%	21.7%	41.9%	14.8%	35.0%
Yellow Time (s)	3.6	3.6	3.6	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.2	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated























Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	54	301	128	33	139	306	1056	53	88	1102	354
Future Volume (veh/h)	112	54	301	128	33	139	306	1056	53	88	1102	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	115	56	310	132	34	113	315	1089	54	91	1136	365
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	133	62	344	145	98	325	316	2143	106	113	1186	381
Arrive On Green	0.08	0.25	0.25	0.08	0.25	0.25	0.18	0.42	0.42	0.07	0.31	0.31
Sat Flow, veh/h	1714	253	1400	1714	387	1286	1714	5063	251	1714	3888	1249
Grp Volume(v), veh/h	115	0	366	132	0	147	315	744	399	91	1010	491
Grp Sat Flow(s),veh/h/ln	1714	0	1653	1714	0	1673	1714	1729	1856	1714	1729	1680
Q Serve(g_s), s	7.7	0.0	24.9	8.9	0.0	8.4	21.3	18.3	18.4	6.1	33.3	33.3
Cycle Q Clear(g_c), s	7.7	0.0	24.9	8.9	0.0	8.4	21.3	18.3	18.4	6.1	33.3	33.3
Prop In Lane	1.00		0.85	1.00		0.77	1.00		0.14	1.00		0.74
Lane Grp Cap(c), veh/h	133	0	407	145	0	423	316	1464	786	113	1055	512
V/C Ratio(X)	0.87	0.00	0.90	0.91	0.00	0.35	1.00	0.51	0.51	0.80	0.96	0.96
Avail Cap(c_a), veh/h	133	0	470	145	0	479	316	1464	786	194	1058	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	42.4	52.7	0.0	35.5	47.3	24.6	24.6	53.4	39.6	39.6
Incr Delay (d2), s/veh	39.5	0.0	18.5	48.5	0.0	0.5	49.6	0.3	0.5	4.9	18.3	29.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	13.5	6.2	0.0	3.9	14.4	8.8	9.5	3.0	18.5	19.6
LnGrp Delay(d),s/veh	92.4	0.0	60.8	101.2	0.0	36.0	96.9	24.9	25.1	58.3	57.9	68.8
LnGrp LOS	F		E	F		D	F	C	C	E	E	E
Approach Vol, veh/h		481			279			1458			1592	
Approach Delay, s/veh		68.4			66.8			40.5			61.3	
Approach LOS		E			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	55.6	14.4	33.7	26.0	41.9	13.6	34.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 5.2	4.6	6.5	4.6	5.2				
Max Green Setting (Gmax), s	13.1	43.8	9.8	* 33	21.4	35.5	9.0	33.2				
Max Q Clear Time (g_c+I1), s	8.1	20.4	10.9	26.9	23.3	35.3	9.7	10.4				
Green Ext Time (p_c), s	0.0	17.3	0.0	1.7	0.0	0.1	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

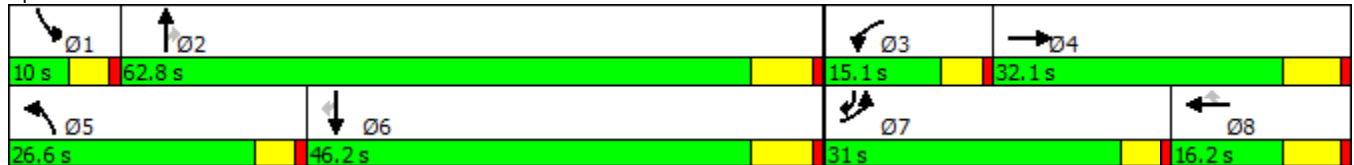


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	296	67	237	207	125	86	346	1155	386	85	1153	479
Future Volume (vph)	296	67	237	207	125	86	346	1155	386	85	1153	479
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	31.0	32.1		15.1	16.2	16.2	26.6	62.8	62.8	10.0	46.2	31.0
Total Split (%)	25.8%	26.8%		12.6%	13.5%	13.5%	22.2%	52.3%	52.3%	8.3%	38.5%	25.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.3
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	67	237	207	125	86	346	1155	386	85	1153	479
Future Volume (veh/h)	296	67	237	207	125	86	346	1155	386	85	1153	479
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	305	69	0	213	129	26	357	1191	382	88	1189	437
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	380	505	226	277	387	173	431	2534	789	151	2073	841
Arrive On Green	0.12	0.14	0.00	0.09	0.11	0.11	0.14	0.49	0.49	0.05	0.40	0.40
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	5187	1615	3141	5187	1615
Grp Volume(v), veh/h	305	69	0	213	129	26	357	1191	382	88	1189	437
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1729	1615	1570	1729	1615
Q Serve(g_s), s	8.8	1.6	0.0	6.2	3.1	1.4	10.3	14.2	14.8	2.6	16.6	16.6
Cycle Q Clear(g_c), s	8.8	1.6	0.0	6.2	3.1	1.4	10.3	14.2	14.8	2.6	16.6	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	505	226	277	387	173	431	2534	789	151	2073	841
V/C Ratio(X)	0.80	0.14	0.00	0.77	0.33	0.15	0.83	0.47	0.48	0.58	0.57	0.52
Avail Cap(c_a), veh/h	890	1004	449	354	387	173	742	3134	976	182	2210	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	35.1	0.0	41.5	38.5	37.7	39.1	15.8	16.0	43.4	21.8	14.7
Incr Delay (d2), s/veh	1.5	0.1	0.0	5.4	0.5	0.4	1.6	0.1	0.5	1.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.8	0.0	2.9	1.6	0.6	4.6	6.8	6.6	1.1	8.0	7.5
LnGrp Delay(d),s/veh	41.4	35.3	0.0	47.0	39.0	38.1	40.7	16.0	16.4	44.7	22.1	15.2
LnGrp LOS	D	D		D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		374			368			1930			1714	
Approach Delay, s/veh		40.3			43.6			20.6			21.5	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	52.0	12.8	19.2	17.4	43.7	15.9	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.4	56.3	10.5	25.9	22.0	39.7	26.4	10.0				
Max Q Clear Time (g_c+I1), s	4.6	16.8	8.2	3.6	12.3	18.6	10.8	5.1				
Green Ext Time (p_c), s	0.0	28.8	0.1	1.1	0.5	17.5	0.5	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

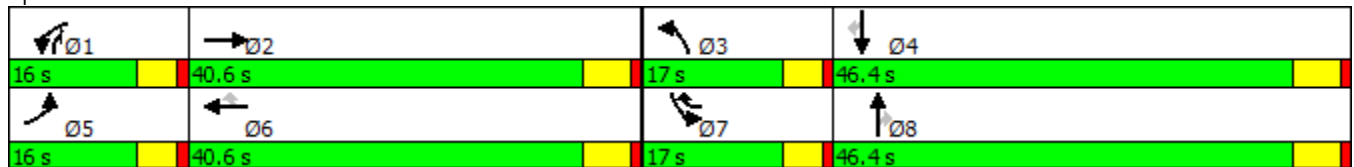

























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	204	620	229	711	458	120	1310	204	228	1077	215
Future Volume (vph)	204	620	229	711	458	120	1310	204	228	1077	215
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	1	6	7	3	8	1	7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	1	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3	46.3
Total Split (s)	16.0	40.6	16.0	40.6	17.0	17.0	46.4	16.0	17.0	46.4	46.4
Total Split (%)	13.3%	33.8%	13.3%	33.8%	14.2%	14.2%	38.7%	13.3%	14.2%	38.7%	38.7%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.2
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	620	92	229	711	458	120	1310	204	228	1077	215
Future Volume (veh/h)	204	620	92	229	711	458	120	1310	204	228	1077	215
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	674	100	239	773	412	130	1365	212	238	1122	234
Adj No. of Lanes	2	2	0	2	2	2	1	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	284	900	133	301	1047	1068	158	1888	719	301	1879	585
Arrive On Green	0.08	0.29	0.29	0.09	0.29	0.29	0.09	0.36	0.36	0.09	0.36	0.36
Sat Flow, veh/h	3510	3155	468	3510	3610	2842	1810	5187	1595	3510	5187	1615
Grp Volume(v), veh/h	222	385	389	239	773	412	130	1365	212	238	1122	234
Grp Sat Flow(s),veh/h/ln	1755	1805	1817	1755	1805	1421	1810	1729	1595	1755	1729	1615
Q Serve(g_s), s	6.8	21.2	21.2	7.3	21.1	11.6	7.7	24.8	9.2	7.3	19.2	11.8
Cycle Q Clear(g_c), s	6.8	21.2	21.2	7.3	21.1	11.6	7.7	24.8	9.2	7.3	19.2	11.8
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	515	518	301	1047	1068	158	1888	719	301	1879	585
V/C Ratio(X)	0.78	0.75	0.75	0.79	0.74	0.39	0.82	0.72	0.29	0.79	0.60	0.40
Avail Cap(c_a), veh/h	370	584	588	370	1167	1162	207	1952	739	402	1952	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	35.5	35.5	49.0	35.0	24.9	49.0	30.0	19.1	49.0	28.3	26.0
Incr Delay (d2), s/veh	5.7	4.7	4.7	7.5	2.2	0.2	14.0	1.4	0.3	5.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	11.3	11.4	3.9	10.8	4.6	4.5	12.0	4.1	3.8	9.2	5.3
LnGrp Delay(d),s/veh	54.9	40.1	40.2	56.4	37.3	25.1	63.0	31.3	19.3	54.4	28.9	26.5
LnGrp LOS	D	D	D	E	D	C	E	C	B	D	C	C
Approach Vol, veh/h		996			1424			1707			1594	
Approach Delay, s/veh		43.4			37.0			32.3			32.3	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	36.4	14.0	44.8	13.3	37.0	13.8	45.0				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	11.5	35.3	12.5	41.1	11.5	35.3	12.5	41.1				
Max Q Clear Time (g_c+I1), s	9.3	23.2	9.7	21.2	8.8	23.1	9.3	26.8				
Green Ext Time (p_c), s	0.1	7.9	0.0	17.5	0.1	8.0	0.1	12.9				
Intersection Summary												
HCM 2010 Ctrl Delay			35.4									
HCM 2010 LOS			D									

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

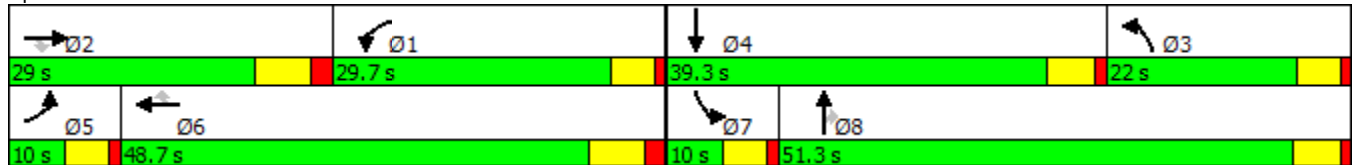


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑	↗	↖	↗
Traffic Volume (vph)	71	1275	56	38	1345	82	117	57	144	164	30
Future Volume (vph)	71	1275	56	38	1345	82	117	57	144	164	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	29.0	29.0	29.7	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	24.2%	24.2%	24.8%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.5
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1275	56	38	1345	82	117	57	144	164	30	136
Future Volume (veh/h)	71	1275	56	38	1345	82	117	57	144	164	30	136
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1386	59	41	1462	89	127	62	123	178	33	127
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1527	476	254	2110	643	172	322	273	122	47	180
Arrive On Green	0.05	0.29	0.29	0.14	0.41	0.41	0.09	0.17	0.17	0.07	0.14	0.14
Sat Flow, veh/h	1810	5187	1615	1810	5187	1581	1810	1900	1612	1810	339	1304
Grp Volume(v), veh/h	77	1386	59	41	1462	89	127	62	123	178	0	160
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1729	1581	1810	1900	1612	1810	0	1643
Q Serve(g_s), s	3.1	19.0	2.0	1.5	17.2	2.6	5.1	2.1	3.2	5.0	0.0	6.9
Cycle Q Clear(g_c), s	3.1	19.0	2.0	1.5	17.2	2.6	5.1	2.1	3.2	5.0	0.0	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	99	1527	476	254	2110	643	172	322	273	122	0	227
V/C Ratio(X)	0.78	0.91	0.12	0.16	0.69	0.14	0.74	0.19	0.45	1.46	0.00	0.71
Avail Cap(c_a), veh/h	122	1542	480	604	2923	891	416	1181	1002	122	0	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	25.1	19.1	28.0	18.1	13.8	32.6	26.4	11.0	34.5	0.0	30.5
Incr Delay (d2), s/veh	17.1	8.1	0.1	0.1	0.4	0.1	2.3	0.3	1.2	244.6	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.3	0.9	0.7	8.2	1.2	2.6	1.1	1.5	10.8	0.0	3.4
LnGrp Delay(d),s/veh	51.6	33.3	19.2	28.1	18.5	13.9	34.9	26.7	12.2	279.1	0.0	34.4
LnGrp LOS	D	C	B	C	B	B	C	C	B	F		C
Approach Vol, veh/h		1522			1592			312			338	
Approach Delay, s/veh		33.7			18.5			24.3			163.3	
Approach LOS		C			B			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.8	12.3	15.5	9.1	37.1	10.0	17.8				
Change Period (Y+Rc), s	7.0	* 7	5.3	* 5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.7	* 22	17.0	* 34	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	3.5	21.0	7.1	8.9	5.1	19.2	7.0	5.2				
Green Ext Time (p_c), s	10.6	0.8	0.5	0.8	0.0	10.9	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			38.1									
HCM 2010 LOS			D									
Notes												

Timings
29: Sumner Av. & Limonite Av.

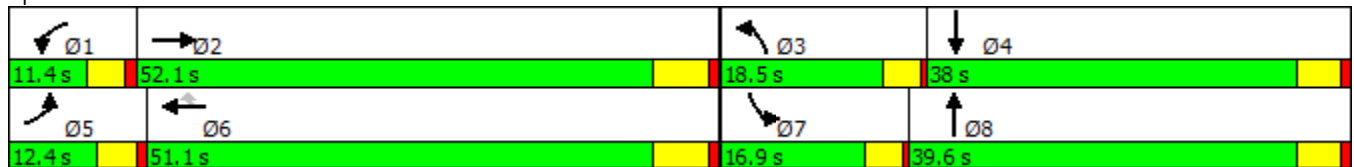


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔↔	↕↕	↔	↕↕
Traffic Volume (vph)	100	1627	165	1284	22	386	212	126	140
Future Volume (vph)	100	1627	165	1284	22	386	212	126	140
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	12.4	52.1	11.4	51.1	51.1	18.5	39.6	16.9	38.0
Total Split (%)	10.3%	43.4%	9.5%	42.6%	42.6%	15.4%	33.0%	14.1%	31.7%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1627	294	165	1284	22	386	212	276	126	140	96
Future Volume (veh/h)	100	1627	294	165	1284	22	386	212	276	126	140	96
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	108	1749	308	177	1381	18	415	228	223	135	151	76
Adj No. of Lanes	2	3	0	2	3	1	2	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	169	2023	353	243	2470	769	481	335	295	166	330	158
Arrive On Green	0.05	0.46	0.46	0.07	0.48	0.48	0.14	0.19	0.19	0.09	0.14	0.14
Sat Flow, veh/h	3510	4446	776	3510	5187	1615	3510	1805	1589	1810	2360	1126
Grp Volume(v), veh/h	108	1357	700	177	1381	18	415	228	223	135	114	113
Grp Sat Flow(s),veh/h/ln	1755	1729	1763	1755	1729	1615	1755	1805	1589	1810	1805	1681
Q Serve(g_s), s	3.0	34.5	35.2	4.9	18.7	0.6	11.4	11.6	13.1	7.2	5.7	6.1
Cycle Q Clear(g_c), s	3.0	34.5	35.2	4.9	18.7	0.6	11.4	11.6	13.1	7.2	5.7	6.1
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	169	1574	802	243	2470	769	481	335	295	166	253	235
V/C Ratio(X)	0.64	0.86	0.87	0.73	0.56	0.02	0.86	0.68	0.76	0.81	0.45	0.48
Avail Cap(c_a), veh/h	282	1624	828	247	2470	769	518	636	560	238	607	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	24.0	24.2	44.8	18.4	13.6	41.5	37.3	37.9	43.8	38.7	38.9
Incr Delay (d2), s/veh	1.5	4.9	9.9	8.9	0.3	0.0	12.4	1.8	3.0	8.8	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	17.5	19.3	2.7	8.9	0.3	6.4	5.9	5.9	4.0	2.9	2.9
LnGrp Delay(d),s/veh	47.4	28.9	34.1	53.7	18.6	13.6	53.9	39.1	40.9	52.6	39.7	40.1
LnGrp LOS	D	C	C	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		2165			1576			866			362	
Approach Delay, s/veh		31.5			22.5			46.6			44.6	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	50.7	17.4	18.7	9.2	52.8	13.0	23.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	6.9	46.1	14.5	33.0	7.9	45.1	12.9	34.6				
Max Q Clear Time (g_c+I1), s	6.9	37.2	13.4	8.1	5.0	20.7	9.2	15.1				
Green Ext Time (p_c), s	0.0	7.4	0.1	3.1	0.0	22.2	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			32.2									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑↑
Traffic Volume (vph)	1962	779	1455	1057	424	0	261
Future Volume (vph)	1962	779	1455	1057	424	0	261
Turn Type	NA	Free	NA	Free	Split	NA	Perm
Protected Phases	2		6		4	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	23.5		36.5		23.5	23.5	23.5
Total Split (s)	74.0		74.0		36.0	36.0	36.0
Total Split (%)	67.3%		67.3%		32.7%	32.7%	32.7%
Yellow Time (s)	4.5		4.5		4.5	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Max		Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 103 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

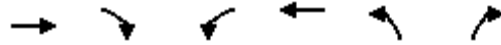
Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑				↑	↑	↑↑
Traffic Volume (veh/h)	0	1962	779	0	1455	1057	0	0	0	424	0	261
Future Volume (veh/h)	0	1962	779	0	1455	1057	0	0	0	424	0	261
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2156	0	0	1599	0				466	0	188
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	3871	1205	0	3871	1205				556	0	496
Arrive On Green	0.00	0.75	0.00	0.00	1.00	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	5358	1615	0	5358	1615				3619	0	3230
Grp Volume(v), veh/h	0	2156	0	0	1599	0				466	0	188
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1729	1615				1810	0	1615
Q Serve(g_s), s	0.0	19.8	0.0	0.0	0.0	0.0				13.8	0.0	5.8
Cycle Q Clear(g_c), s	0.0	19.8	0.0	0.0	0.0	0.0				13.8	0.0	5.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3871	1205	0	3871	1205				556	0	496
V/C Ratio(X)	0.00	0.56	0.00	0.00	0.41	0.00				0.84	0.00	0.38
Avail Cap(c_a), veh/h	0	3871	1205	0	3871	1205				1003	0	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.43	0.00	0.00	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.1	0.0	0.0	0.0	0.0				45.2	0.0	41.8
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.0				1.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	0.0	0.0	0.1	0.0				7.0	0.0	2.6
LnGrp Delay(d),s/veh	0.0	6.3	0.0	0.0	0.2	0.0				46.5	0.0	42.0
LnGrp LOS		A			A					D		D
Approach Vol, veh/h		2156			1599						654	
Approach Delay, s/veh		6.3			0.2						45.2	
Approach LOS		A			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		87.6		22.4		87.6						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		68.5		30.5		68.5						
Max Q Clear Time (g_c+I1), s		21.8		15.8		2.0						
Green Ext Time (p_c), s		33.7		1.1		42.5						
Intersection Summary												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

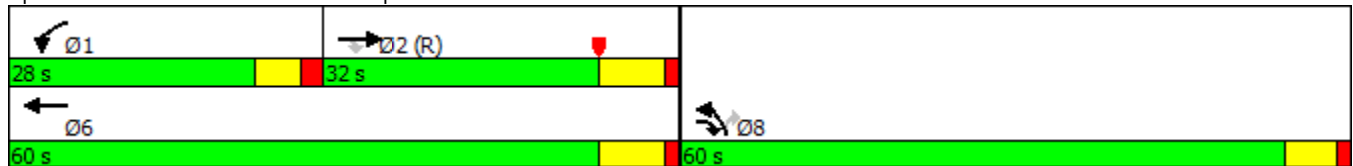


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑
Traffic Volume (vph)	518	841	399	452	466	183
Future Volume (vph)	518	841	399	452	466	183
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	60.0	28.0	60.0	60.0	60.0
Total Split (%)	26.7%	50.0%	23.3%	50.0%	50.0%	50.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 12 (10%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	518	841	399	452	466	183		
Future Volume (veh/h)	518	841	399	452	466	183		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	557	799	429	486	501	108		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1068	1059	576	2278	1457	727		
Arrive On Green	0.34	0.34	0.18	0.44	0.45	0.45		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	557	799	429	486	501	108		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	10.3	24.7	15.5	7.0	12.1	4.7		
Cycle Q Clear(g_c), s	10.3	24.7	15.5	7.0	12.1	4.7		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1068	1059	576	2278	1457	727		
V/C Ratio(X)	0.52	0.75	0.74	0.21	0.34	0.15		
Avail Cap(c_a), veh/h	1068	1059	576	2278	1457	727		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.73	0.73	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	9.4	46.3	20.8	21.5	19.5		
Incr Delay (d2), s/veh	1.3	3.7	8.5	0.0	0.6	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.0	27.3	7.4	3.3	5.5	2.2		
LnGrp Delay(d),s/veh	36.0	13.1	54.8	20.9	22.1	19.9		
LnGrp LOS	D	B	D	C	C	B		
Approach Vol, veh/h	1356			915	609			
Approach Delay, s/veh	22.5			36.8	21.7			
Approach LOS	C			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.0	32.0				60.0		60.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	22.0	24.7				52.7		54.0
Max Q Clear Time (g_c+I1), s	17.5	26.7				9.0		14.1
Green Ext Time (p_c), s	0.7	0.0				13.5		2.2
Intersection Summary								
HCM 2010 Ctrl Delay			26.9					
HCM 2010 LOS			C					
Notes								

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

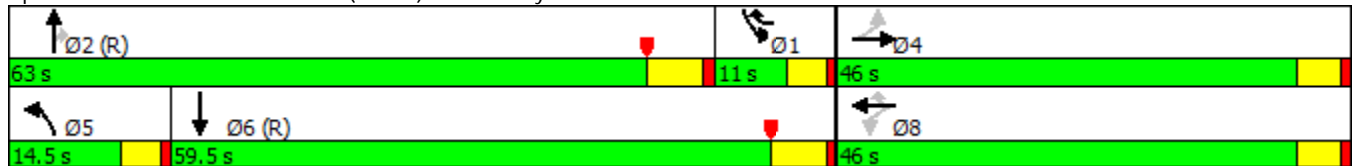


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↖	↑↑↕
Traffic Volume (vph)	6	27	145	0	407	2	2280	239	606	1898
Future Volume (vph)	6	27	145	0	407	2	2280	239	606	1898
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	9.5	14.5	28.0	28.0	9.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	11.0	14.5	63.0	63.0	11.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	9.2%	12.1%	52.5%	52.5%	9.2%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	27	14	145	0	407	2	2280	239	606	1898	1
Future Volume (veh/h)	6	27	14	145	0	407	2	2280	239	606	1898	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1872	1900	1900	1768	1900	1900
Adj Flow Rate, veh/h	6	29	7	156	0	410	2	2452	228	652	2041	1
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	169	36	466	0	619	10	2464	757	844	3965	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.01	0.47	0.47	0.26	0.74	0.74
Sat Flow, veh/h	106	1354	292	2641	0	1615	1783	5187	1594	3267	5355	3
Grp Volume(v), veh/h	42	0	0	156	0	410	2	2452	228	652	1318	724
Grp Sat Flow(s),veh/h/ln	1752	0	0	1321	0	1615	1783	1729	1594	1633	1729	1899
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	0.1	56.5	10.5	22.2	19.2	19.2
Cycle Q Clear(g_c), s	2.4	0.0	0.0	5.8	0.0	0.0	0.1	56.5	10.5	22.2	19.2	19.2
Prop In Lane	0.14		0.17	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	253	0	0	466	0	619	10	2464	757	844	2561	1406
V/C Ratio(X)	0.17	0.00	0.00	0.33	0.00	0.66	0.21	1.00	0.30	0.77	0.51	0.51
Avail Cap(c_a), veh/h	608	0	0	1038	0	969	149	2464	757	844	2561	1406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0	48.3	0.0	30.6	59.4	31.4	19.3	41.2	6.5	6.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	2.1	12.1	0.5	4.1	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.4	0.0	11.2	0.1	29.5	4.7	10.4	9.2	10.4
LnGrp Delay(d),s/veh	47.1	0.0	0.0	48.5	0.0	31.0	61.5	43.4	19.8	45.3	7.3	7.9
LnGrp LOS	D			D		C	E	D	B	D	A	A
Approach Vol, veh/h		42			566			2682			2694	
Approach Delay, s/veh		47.1			35.8			41.5			16.6	
Approach LOS		D			D			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	63.0		20.0	5.1	94.9		20.0				
Change Period (Y+Rc), s	6.0	* 6		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	6.5	* 57		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	24.2	58.5		4.4	2.1	21.2		7.8				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	19.4		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				29.8								
HCM 2010 LOS				C								
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

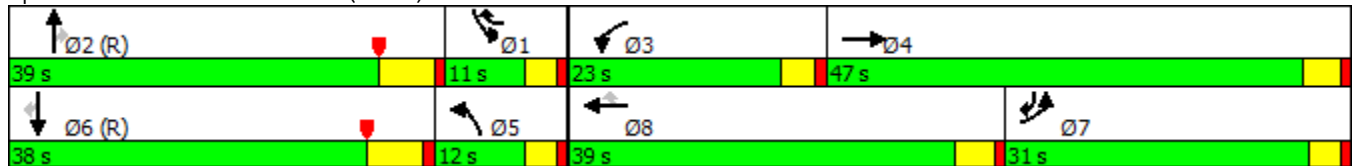


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖↗	↕	↖	↖	↕↕↕	↖	↖↗	↕↕↕	↖
Traffic Volume (vph)	277	572	304	552	576	195	1318	295	402	1244	226
Future Volume (vph)	277	572	304	552	576	195	1318	295	402	1244	226
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	31.0	47.0	23.0	39.0	11.0	12.0	39.0	39.0	11.0	38.0	31.0
Total Split (%)	25.8%	39.2%	19.2%	32.5%	9.2%	10.0%	32.5%	32.5%	9.2%	31.7%	25.8%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	572	232	304	552	576	195	1318	295	402	1244	226
Future Volume (veh/h)	277	572	232	304	552	576	195	1318	295	402	1244	226
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	289	596	238	317	575	566	203	1373	292	419	1296	217
Adj No. of Lanes	2	2	0	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	597	702	280	371	730	608	315	1426	444	548	1377	730
Arrive On Green	0.19	0.28	0.28	0.12	0.20	0.20	0.06	0.09	0.09	0.17	0.27	0.27
Sat Flow, veh/h	3141	2522	1006	3141	3610	1615	1714	5187	1615	3141	5187	1594
Grp Volume(v), veh/h	289	426	408	317	575	566	203	1373	292	419	1296	217
Grp Sat Flow(s),veh/h/ln	1570	1805	1723	1570	1805	1615	1714	1729	1615	1570	1729	1594
Q Serve(g_s), s	9.8	26.8	26.8	11.9	18.1	19.4	13.9	31.6	15.2	15.3	29.4	0.0
Cycle Q Clear(g_c), s	9.8	26.8	26.8	11.9	18.1	19.4	13.9	31.6	15.2	15.3	29.4	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	597	503	480	371	730	608	315	1426	444	548	1377	730
V/C Ratio(X)	0.48	0.85	0.85	0.86	0.79	0.93	0.64	0.96	0.66	0.76	0.94	0.30
Avail Cap(c_a), veh/h	707	639	610	497	1038	746	315	1426	444	548	1383	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.82	0.82	0.82
Uniform Delay (d), s/veh	43.3	40.9	40.9	51.9	45.4	35.9	52.5	53.9	25.6	47.2	43.2	20.5
Incr Delay (d2), s/veh	0.2	8.5	9.0	8.5	1.6	14.9	1.8	10.1	3.8	4.8	11.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	14.6	14.0	5.6	9.2	11.0	6.8	16.5	7.3	7.0	15.6	4.7
LnGrp Delay(d),s/veh	43.6	49.4	49.9	60.4	47.0	50.8	54.3	64.1	29.4	52.0	55.0	21.4
LnGrp LOS	D	D	D	E	D	D	D	E	C	D	E	C
Approach Vol, veh/h		1123			1458			1868			1932	
Approach Delay, s/veh		48.1			51.4			57.6			50.6	
Approach LOS		D			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.9	39.0	18.2	37.9	26.1	37.9	27.3	28.8				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.5	* 4.5				
Max Green Setting (Gmax), s	7.0	33.0	19.0	42.5	8.0	32.0	27.0	* 35				
Max Q Clear Time (g_c+I1), s	17.3	33.6	13.9	28.8	15.9	31.4	11.8	21.4				
Green Ext Time (p_c), s	0.0	0.0	0.3	4.6	0.0	0.5	4.8	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			52.4									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

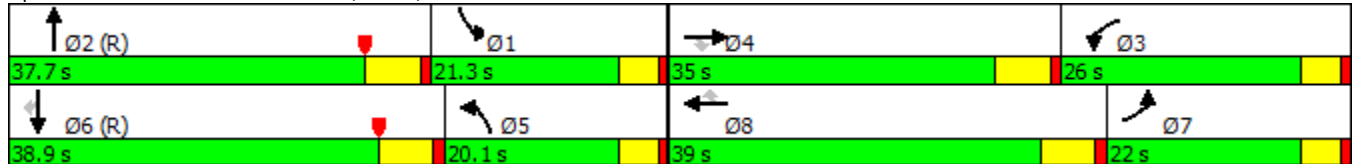
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	865	367	543	552	308	212	1048	767	356	1301	113
Future Volume (vph)	135	865	367	543	552	308	212	1048	767	356	1301	113
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	37.9	9.6	32.9		9.6	32.9	32.9
Total Split (s)	22.0	35.0	35.0	26.0	39.0	39.0	20.1	37.7		21.3	38.9	38.9
Total Split (%)	18.3%	29.2%	29.2%	21.7%	32.5%	32.5%	16.8%	31.4%		17.8%	32.4%	32.4%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	4.9	3.6	4.9		3.6	4.9	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	5.9	4.6	5.9		4.6	5.9	5.9
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	865	367	543	552	308	212	1048	767	356	1301	113
Future Volume (veh/h)	135	865	367	543	552	308	212	1048	767	356	1301	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1872	1976	1976	1768	1976	1976	1872	1976	1976	1768	1976	1976
Adj Flow Rate, veh/h	136	874	0	548	558	0	214	1059	0	360	1314	110
Adj No. of Lanes	1	2	1	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	411	910	407	583	715	320	255	1226	382	578	1408	438
Arrive On Green	0.23	0.24	0.00	0.18	0.19	0.00	0.14	0.23	0.00	0.35	0.52	0.52
Sat Flow, veh/h	1783	3754	1680	3267	3754	1680	1783	5394	1680	3267	5394	1680
Grp Volume(v), veh/h	136	874	0	548	558	0	214	1059	0	360	1314	110
Grp Sat Flow(s),veh/h/ln	1783	1877	1680	1633	1877	1680	1783	1798	1680	1633	1798	1680
Q Serve(g_s), s	7.6	27.6	0.0	19.9	17.0	0.0	14.0	22.6	0.0	11.0	27.2	4.3
Cycle Q Clear(g_c), s	7.6	27.6	0.0	19.9	17.0	0.0	14.0	22.6	0.0	11.0	27.2	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	910	407	583	715	320	255	1226	382	578	1408	438
V/C Ratio(X)	0.33	0.96	0.00	0.94	0.78	0.00	0.84	0.86	0.00	0.62	0.93	0.25
Avail Cap(c_a), veh/h	411	910	407	583	1036	463	255	1430	445	578	1483	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.09	0.09	0.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	38.5	44.9	0.0	48.7	46.2	0.0	50.1	44.6	0.0	35.5	27.7	22.2
Incr Delay (d2), s/veh	0.2	20.8	0.0	23.3	3.1	0.0	2.3	0.8	0.0	1.2	10.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	17.0	0.0	10.9	9.1	0.0	7.1	11.4	0.0	5.0	14.4	2.1
LnGrp Delay(d),s/veh	38.6	65.7	0.0	72.0	49.3	0.0	52.3	45.4	0.0	36.6	37.7	23.2
LnGrp LOS	D	E		E	D		D	D		D	D	C
Approach Vol, veh/h		1010			1106			1273			1784	
Approach Delay, s/veh		62.0			60.6			46.6			36.6	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.8	33.2	26.0	35.0	21.8	37.2	32.3	28.7				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	16.7	31.8	21.4	29.1	15.5	33.0	17.4	33.1				
Max Q Clear Time (g_c+I1), s	13.0	24.6	21.9	29.6	16.0	29.2	9.6	19.0				
Green Ext Time (p_c), s	0.4	2.6	0.0	0.0	0.0	2.1	0.9	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay			49.1									
HCM 2010 LOS			D									

Timings
7: Merrill Av. & Grove Av.



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	139	731	496	270
Future Volume (vph)	139	731	496	270
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	24.2
Total Split (s)	25.0	75.0	50.0	45.0
Total Split (%)	20.8%	62.5%	41.7%	37.5%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 79.9
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

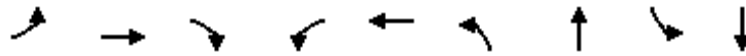
Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	139	731	496	265	270	53		
Future Volume (veh/h)	139	731	496	265	270	53		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900		
Adj Flow Rate, veh/h	151	795	539	288	293	58		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	189	2098	925	493	341	68		
Arrive On Green	0.11	0.58	0.41	0.41	0.24	0.24		
Sat Flow, veh/h	1714	3705	2372	1214	1399	277		
Grp Volume(v), veh/h	151	795	427	400	352	0		
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1686	1680	0		
Q Serve(g_s), s	6.1	8.4	13.1	13.1	14.2	0.0		
Cycle Q Clear(g_c), s	6.1	8.4	13.1	13.1	14.2	0.0		
Prop In Lane	1.00			0.72	0.83	0.16		
Lane Grp Cap(c), veh/h	189	2098	733	685	410	0		
V/C Ratio(X)	0.80	0.38	0.58	0.58	0.86	0.00		
Avail Cap(c_a), veh/h	493	3501	1114	1041	919	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	30.8	8.0	16.4	16.4	25.6	0.0		
Incr Delay (d2), s/veh	2.9	0.1	0.7	0.8	5.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	4.1	6.6	6.3	7.2	0.0		
LnGrp Delay(d),s/veh	33.7	8.1	17.1	17.2	31.0	0.0		
LnGrp LOS	C	A	B	B	C			
Approach Vol, veh/h		946	827		352			
Approach Delay, s/veh		12.2	17.2		31.0			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.4		23.5	12.4	35.0		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		68.8		38.8	20.4	43.8		
Max Q Clear Time (g_c+I1), s		10.4		16.2	8.1	15.1		
Green Ext Time (p_c), s		17.5		1.1	0.1	13.7		
Intersection Summary								
HCM 2010 Ctrl Delay			17.2					
HCM 2010 LOS			B					
Notes								

Timings
8: Flight Av. & Merrill Av.

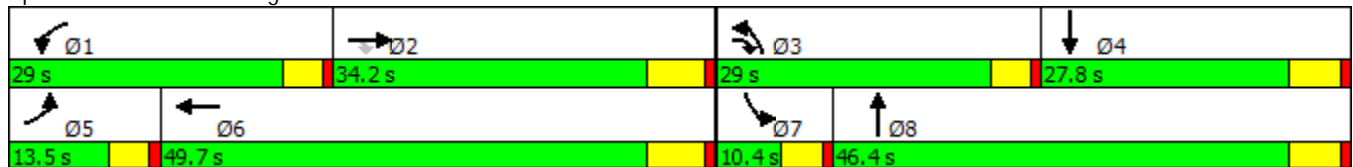


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↗↗	↗	↙	↗↗	↙	↗	↙	↗
Traffic Volume (vph)	42	612	346	254	495	250	15	16	15
Future Volume (vph)	42	612	346	254	495	250	15	16	15
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	3	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.2	9.6	9.6	24.2	9.6	27.8	9.6	27.8
Total Split (s)	13.5	34.2	29.0	29.0	49.7	29.0	46.4	10.4	27.8
Total Split (%)	11.3%	28.5%	24.2%	24.2%	41.4%	24.2%	38.7%	8.7%	23.2%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	612	346	254	495	41	250	15	205	16	15	16
Future Volume (veh/h)	42	612	346	254	495	41	250	15	205	16	15	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	46	658	372	273	532	45	269	16	220	17	16	17
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.92	0.93	0.92	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	965	720	311	1381	117	308	31	425	33	101	107
Arrive On Green	0.04	0.27	0.27	0.18	0.41	0.41	0.18	0.28	0.28	0.02	0.12	0.12
Sat Flow, veh/h	1714	3610	1609	1714	3370	284	1714	111	1521	1714	844	897
Grp Volume(v), veh/h	46	658	372	273	284	293	269	0	236	17	0	33
Grp Sat Flow(s),veh/h/ln	1714	1805	1609	1714	1805	1850	1714	0	1632	1714	0	1742
Q Serve(g_s), s	2.2	13.7	14.0	13.0	9.3	9.3	12.8	0.0	10.2	0.8	0.0	1.4
Cycle Q Clear(g_c), s	2.2	13.7	14.0	13.0	9.3	9.3	12.8	0.0	10.2	0.8	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.93	1.00		0.52
Lane Grp Cap(c), veh/h	67	965	720	311	739	758	308	0	456	33	0	207
V/C Ratio(X)	0.68	0.68	0.52	0.88	0.38	0.39	0.87	0.00	0.52	0.51	0.00	0.16
Avail Cap(c_a), veh/h	182	1204	827	498	935	958	498	0	789	118	0	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	27.6	16.7	33.5	17.4	17.4	33.5	0.0	25.5	40.8	0.0	33.2
Incr Delay (d2), s/veh	4.5	1.1	0.6	6.3	0.3	0.3	5.7	0.0	0.9	4.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.0	6.3	6.7	4.6	4.8	6.5	0.0	4.7	0.4	0.0	0.7
LnGrp Delay(d),s/veh	44.4	28.7	17.3	39.7	17.7	17.7	39.2	0.0	26.4	45.2	0.0	33.6
LnGrp LOS	D	C	B	D	B	B	D		C	D		C
Approach Vol, veh/h		1076			850			505			50	
Approach Delay, s/veh		25.4			24.8			33.2			37.5	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	28.6	19.7	15.8	7.9	40.6	6.2	29.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	24.4	28.0	24.4	22.0	8.9	43.5	5.8	40.6				
Max Q Clear Time (g_c+I1), s	15.0	16.0	14.8	3.4	4.2	11.3	2.8	12.2				
Green Ext Time (p_c), s	0.3	6.5	0.3	1.4	0.0	10.2	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			27.0									
HCM 2010 LOS			C									

Timings
9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

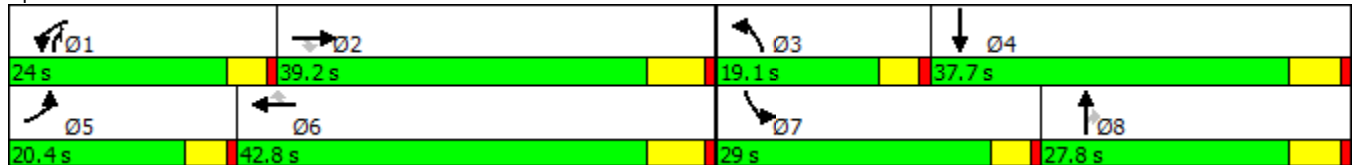


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗
Traffic Volume (vph)	122	646	365	109	579	98	219	66	424	229	75
Future Volume (vph)	122	646	365	109	579	98	219	66	424	229	75
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	24.2	24.2	9.6	24.2	24.2	9.6	27.8	9.6	9.6	27.8
Total Split (s)	20.4	39.2	39.2	24.0	42.8	42.8	19.1	27.8	24.0	29.0	37.7
Total Split (%)	17.0%	32.7%	32.7%	20.0%	35.7%	35.7%	15.9%	23.2%	20.0%	24.2%	31.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	4.8	3.6	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	5.8	4.6	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 9: Hellman Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	646	365	109	579	98	219	66	424	229	75	192
Future Volume (veh/h)	122	646	365	109	579	98	219	66	424	229	75	192
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	133	702	397	118	629	107	238	72	461	249	82	209
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	162	1109	496	146	1076	481	307	428	502	282	141	360
Arrive On Green	0.09	0.31	0.31	0.09	0.30	0.30	0.09	0.23	0.23	0.16	0.30	0.30
Sat Flow, veh/h	1714	3610	1615	1714	3610	1615	3326	1900	1615	1714	475	1211
Grp Volume(v), veh/h	133	702	397	118	629	107	238	72	461	249	0	291
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1615	1663	1900	1615	1714	0	1686
Q Serve(g_s), s	7.4	16.3	22.0	6.6	14.5	4.9	6.8	3.0	22.0	13.9	0.0	14.3
Cycle Q Clear(g_c), s	7.4	16.3	22.0	6.6	14.5	4.9	6.8	3.0	22.0	13.9	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	162	1109	496	146	1076	481	307	428	502	282	0	502
V/C Ratio(X)	0.82	0.63	0.80	0.81	0.58	0.22	0.77	0.17	0.92	0.88	0.00	0.58
Avail Cap(c_a), veh/h	278	1221	546	341	1354	606	494	428	502	429	0	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.3	29.1	31.0	43.8	29.1	25.8	43.3	30.4	32.4	39.8	0.0	29.1
Incr Delay (d2), s/veh	3.8	0.9	7.6	3.9	0.5	0.2	1.6	0.2	22.0	9.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.2	10.8	3.3	7.2	2.2	3.2	1.6	15.0	7.3	0.0	6.8
LnGrp Delay(d),s/veh	47.2	30.0	38.7	47.8	29.6	26.0	44.9	30.6	54.4	49.2	0.0	30.4
LnGrp LOS	D	C	D	D	C	C	D	C	D	D		C
Approach Vol, veh/h		1232			854			771			540	
Approach Delay, s/veh		34.6			31.7			49.2			39.0	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	36.2	13.6	34.8	13.8	35.3	20.7	27.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	19.4	33.0	14.5	31.9	15.8	36.6	24.4	22.0				
Max Q Clear Time (g_c+I1), s	8.6	24.0	8.8	16.3	9.4	16.5	15.9	24.0				
Green Ext Time (p_c), s	0.1	6.0	0.2	3.4	0.1	10.2	0.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			37.9									
HCM 2010 LOS			D									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

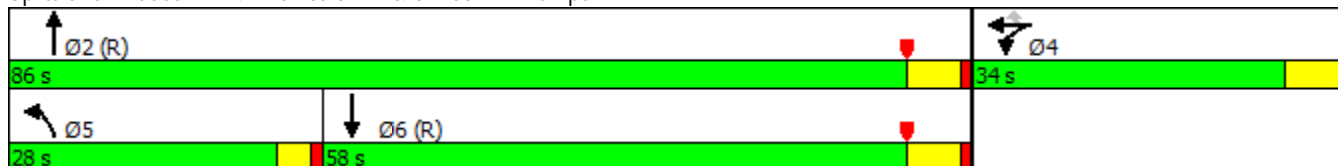


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↖	↖	↖	↖↖	↑↑↑	↑↑↑
Traffic Volume (vph)	559	7	349	312	999	1848
Future Volume (vph)	559	7	349	312	999	1848
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	34.0	34.0	34.0	28.0	86.0	58.0
Total Split (%)	28.3%	28.3%	28.3%	23.3%	71.7%	48.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 113 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated




















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	559	7	349	312	999	0	0	1848	622
Future Volume (veh/h)	0	0	0	559	7	349	312	999	0	0	1848	622
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1900	1900	1700	1900	0	0	1900	1900
Adj Flow Rate, veh/h				614	0	263	339	1086	0	0	2009	536
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				707	0	353	389	3544	0	0	2730	720
Arrive On Green				0.22	0.00	0.22	0.25	1.00	0.00	0.00	0.53	0.53
Sat Flow, veh/h				3238	0	1615	3141	5358	0	0	5456	1369
Grp Volume(v), veh/h				614	0	263	339	1086	0	0	1896	649
Grp Sat Flow(s),veh/h/ln				1619	0	1615	1570	1729	0	0	1634	1657
Q Serve(g_s), s				21.9	0.0	18.2	12.4	0.0	0.0	0.0	35.9	36.6
Cycle Q Clear(g_c), s				21.9	0.0	18.2	12.4	0.0	0.0	0.0	35.9	36.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.83
Lane Grp Cap(c), veh/h				707	0	353	389	3544	0	0	2579	872
V/C Ratio(X)				0.87	0.00	0.75	0.87	0.31	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h				756	0	377	628	3544	0	0	2579	872
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				45.2	0.0	43.8	44.2	0.0	0.0	0.0	22.0	22.2
Incr Delay (d2), s/veh				11.2	0.0	9.3	3.1	0.2	0.0	0.0	1.9	5.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.9	0.0	16.5	5.5	0.1	0.0	0.0	16.6	18.0
LnGrp Delay(d),s/veh				56.5	0.0	53.1	47.4	0.2	0.0	0.0	23.9	27.9
LnGrp LOS				E		D	D	A			C	C
Approach Vol, veh/h					877			1425			2545	
Approach Delay, s/veh					55.5			11.4			24.9	
Approach LOS					E			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		87.8		32.2	18.9	68.9						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		80.2		28.0	24.0	52.2						
Max Q Clear Time (g_c+I1), s		2.0		23.9	14.4	38.6						
Green Ext Time (p_c), s		61.4		2.3	0.4	12.9						
Intersection Summary												
HCM 2010 Ctrl Delay				26.5								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↑↑↑	↖	↖↗	↑↑↑
Traffic Volume (vph)	1	462	1074	441	582	1825
Future Volume (vph)	1	462	1074	441	582	1825
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	18.2	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (s)	49.0	49.0	40.0	40.0	31.0	71.0
Total Split (%)	40.8%	40.8%	33.3%	33.3%	25.8%	59.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated




















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

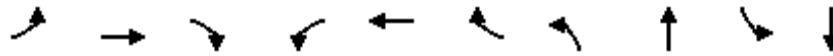
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	1	462	0	0	0	0	1074	441	582	1825	0
Future Volume (veh/h)	237	1	462	0	0	0	0	1074	441	582	1825	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1700	1900	0
Adj Flow Rate, veh/h	255	1	296				0	1155	303	626	1962	0
Adj No. of Lanes	0	1	1				0	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	383	2	343				0	1478	449	1123	3584	0
Arrive On Green	0.21	0.21	0.21				0.00	0.28	0.28	0.12	0.23	0.00
Sat Flow, veh/h	1803	7	1615				0	5358	1576	3141	5358	0
Grp Volume(v), veh/h	256	0	296				0	1155	303	626	1962	0
Grp Sat Flow(s),veh/h/ln	1810	0	1615				0	1729	1576	1570	1729	0
Q Serve(g_s), s	15.6	0.0	21.2				0.0	24.6	20.4	22.6	40.0	0.0
Cycle Q Clear(g_c), s	15.6	0.0	21.2				0.0	24.6	20.4	22.6	40.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	384	0	343				0	1478	449	1123	3584	0
V/C Ratio(X)	0.67	0.00	0.86				0.00	0.78	0.67	0.56	0.55	0.00
Avail Cap(c_a), veh/h	652	0	581				0	1478	449	1123	3584	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.70	0.70	0.40	0.40	0.00
Uniform Delay (d), s/veh	43.3	0.0	45.6				0.0	39.5	38.0	44.0	29.8	0.0
Incr Delay (d2), s/veh	2.0	0.0	6.8				0.0	3.0	5.6	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	10.1				0.0	12.2	9.5	9.9	19.3	0.0
LnGrp Delay(d),s/veh	45.3	0.0	52.4				0.0	42.4	43.6	44.1	30.0	0.0
LnGrp LOS	D		D					D	D	D	C	
Approach Vol, veh/h		552						1458			2588	
Approach Delay, s/veh		49.1						42.7			33.4	
Approach LOS		D						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	48.7	40.0				88.7		31.3				
Change Period (Y+Rc), s	5.8	* 5.8				5.8		5.8				
Max Green Setting (Gmax), s	27.0	* 34				65.2		43.2				
Max Q Clear Time (g_c+I1), s	24.6	26.6				42.0		23.2				
Green Ext Time (p_c), s	1.0	4.6				16.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			38.2									
HCM 2010 LOS			D									
Notes												

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↵	↑↑	↗	↵	↑↑	↗	↗↗	↑↑↗	↗↗	↑↑↗
Traffic Volume (vph)	145	544	302	316	364	133	324	906	313	1280
Future Volume (vph)	145	544	302	316	364	133	324	906	313	1280
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	23.8	38.2	38.2	25.0	39.4	17.4	16.0	39.4	17.4	40.8
Total Split (%)	19.8%	31.8%	31.8%	20.8%	32.8%	14.5%	13.3%	32.8%	14.5%	34.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.

↵ Ø1	↑ Ø2	↗ Ø3	↗ Ø4
17.4 s	39.4 s	25 s	38.2 s
↵ Ø5	↓ Ø6	↗ Ø7	↗ Ø8
16 s	40.8 s	23.8 s	39.4 s

HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	544	302	316	364	133	324	906	231	313	1280	189
Future Volume (veh/h)	145	544	302	316	364	133	324	906	231	313	1280	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	154	579	249	336	387	85	345	964	229	333	1362	129
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	812	354	308	1079	663	316	1222	289	354	1464	139
Arrive On Green	0.11	0.22	0.22	0.18	0.30	0.30	0.10	0.29	0.29	0.11	0.30	0.30
Sat Flow, veh/h	1714	3610	1573	1714	3610	1610	3141	4183	991	3141	4811	456
Grp Volume(v), veh/h	154	579	249	336	387	85	345	796	397	333	979	512
Grp Sat Flow(s),veh/h/ln	1714	1805	1573	1714	1805	1610	1570	1729	1717	1570	1729	1809
Q Serve(g_s), s	10.0	16.8	16.5	20.4	9.6	3.7	11.4	24.0	24.1	11.9	31.2	31.2
Cycle Q Clear(g_c), s	10.0	16.8	16.5	20.4	9.6	3.7	11.4	24.0	24.1	11.9	31.2	31.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		0.25
Lane Grp Cap(c), veh/h	182	812	354	308	1079	663	316	1010	501	354	1052	551
V/C Ratio(X)	0.85	0.71	0.70	1.09	0.36	0.13	1.09	0.79	0.79	0.94	0.93	0.93
Avail Cap(c_a), veh/h	290	1018	444	308	1079	663	316	1012	502	354	1055	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	40.6	40.5	46.5	31.2	20.7	51.0	36.9	37.0	49.9	38.3	38.3
Incr Delay (d2), s/veh	6.9	1.8	3.7	77.4	0.2	0.1	77.8	4.2	8.4	32.1	14.0	22.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.6	7.5	16.2	4.8	1.7	8.3	12.1	12.6	6.8	16.9	18.9
LnGrp Delay(d),s/veh	56.7	42.3	44.2	123.9	31.4	20.8	128.9	41.2	45.3	82.1	52.3	60.8
LnGrp LOS	E	D	D	F	C	C	F	D	D	F	D	E
Approach Vol, veh/h		982			808			1538			1824	
Approach Delay, s/veh		45.1			68.8			61.9			60.1	
Approach LOS		D			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	39.3	25.0	31.7	16.0	40.7	16.6	40.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.8	33.2	20.4	32.0	11.4	34.6	19.2	33.2				
Max Q Clear Time (g_c+I1), s	13.9	26.1	22.4	18.8	13.4	33.2	12.0	11.6				
Green Ext Time (p_c), s	0.0	6.3	0.0	5.3	0.0	1.4	0.1	7.1				
Intersection Summary												
HCM 2010 Ctrl Delay			59.1									
HCM 2010 LOS			E									
Notes												

Timings
18: Archibald Av. & Chino Av.

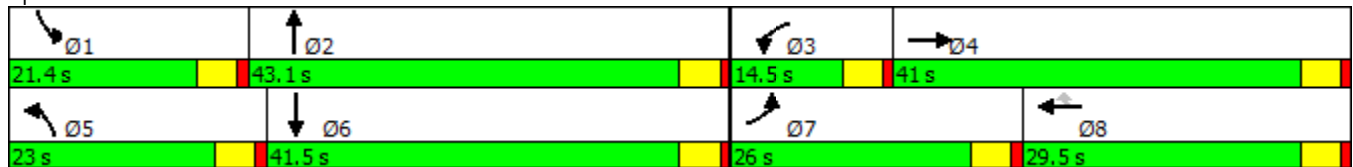


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↘	↘	↑	↗	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	232	312	117	288	133	232	916	174	1083
Future Volume (vph)	232	312	117	288	133	232	916	174	1083
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	26.0	41.0	14.5	29.5	29.5	23.0	43.1	21.4	41.5
Total Split (%)	21.7%	34.2%	12.1%	24.6%	24.6%	19.2%	35.9%	17.8%	34.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	312	206	117	288	133	232	916	142	174	1083	280
Future Volume (veh/h)	232	312	206	117	288	133	232	916	142	174	1083	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	237	318	207	119	294	75	237	935	140	178	1105	286
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	264	331	215	143	450	382	262	1518	226	205	1233	319
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.15	0.33	0.33	0.12	0.30	0.30
Sat Flow, veh/h	1714	1076	700	1714	1900	1615	1714	4543	678	1714	4101	1061
Grp Volume(v), veh/h	237	0	525	119	294	75	237	711	364	178	932	459
Grp Sat Flow(s),veh/h/ln	1714	0	1776	1714	1900	1615	1714	1729	1762	1714	1729	1704
Q Serve(g_s), s	16.1	0.0	34.4	8.1	16.5	4.4	16.1	20.4	20.5	12.1	30.5	30.5
Cycle Q Clear(g_c), s	16.1	0.0	34.4	8.1	16.5	4.4	16.1	20.4	20.5	12.1	30.5	30.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.38	1.00		0.62
Lane Grp Cap(c), veh/h	264	0	546	143	450	382	262	1156	589	205	1040	513
V/C Ratio(X)	0.90	0.00	0.96	0.83	0.65	0.20	0.90	0.62	0.62	0.87	0.90	0.90
Avail Cap(c_a), veh/h	310	0	546	143	450	382	266	1156	589	243	1078	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	0.0	40.3	53.4	40.8	36.2	49.3	33.0	33.1	51.2	39.6	39.6
Incr Delay (d2), s/veh	24.4	0.0	28.9	31.9	3.4	0.2	31.1	1.0	2.0	24.0	9.7	17.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	21.3	5.1	9.1	2.0	9.9	9.9	10.3	7.1	16.0	16.9
LnGrp Delay(d),s/veh	73.6	0.0	69.3	85.4	44.2	36.4	80.4	34.0	35.1	75.2	49.3	57.0
LnGrp LOS	E		E	F	D	D	F	C	D	E	D	E
Approach Vol, veh/h		762			488			1312			1569	
Approach Delay, s/veh		70.6			53.0			42.7			54.5	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	44.2	14.5	41.0	22.7	40.2	22.9	32.6				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	16.8	38.5	9.9	36.4	18.4	36.9	21.4	24.9				
Max Q Clear Time (g_c+I1), s	14.1	22.5	10.1	36.4	18.1	32.5	18.1	18.5				
Green Ext Time (p_c), s	0.1	12.3	0.0	0.0	0.0	3.1	0.2	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			53.6									
HCM 2010 LOS			D									

Timings
19: Archibald Av. & Schaefer Av.

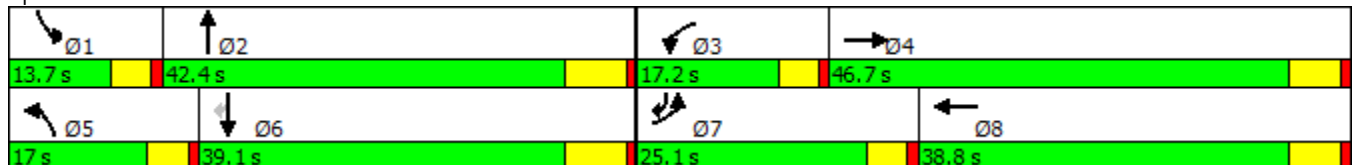


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↵	↕	↵	↕	↵↕	↕↕	↵	↕↕↕	↕
Traffic Volume (vph)	284	111	76	447	314	1226	111	1288	269
Future Volume (vph)	284	111	76	447	314	1226	111	1288	269
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4	3	8	5	2	1	6	7
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	28.5	9.6	28.5	9.6
Total Split (s)	25.1	46.7	17.2	38.8	17.0	42.4	13.7	39.1	25.1
Total Split (%)	20.9%	38.9%	14.3%	32.3%	14.2%	35.3%	11.4%	32.6%	20.9%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

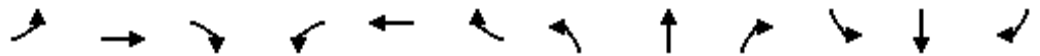
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	111	188	76	447	108	314	1226	125	111	1288	269
Future Volume (veh/h)	284	111	188	76	447	108	314	1226	125	111	1288	269
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	309	121	204	83	486	117	341	1333	136	121	1400	292
Adj No. of Lanes	1	2	0	1	2	0	2	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	317	614	550	105	626	150	372	1545	158	141	1521	772
Arrive On Green	0.18	0.34	0.34	0.06	0.22	0.22	0.11	0.32	0.32	0.08	0.29	0.29
Sat Flow, veh/h	1714	1805	1615	1714	2891	692	3326	4784	488	1714	5187	1615
Grp Volume(v), veh/h	309	121	204	83	302	301	341	964	505	121	1400	292
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1778	1663	1729	1814	1714	1729	1615
Q Serve(g_s), s	19.9	5.3	10.6	5.3	17.5	17.7	11.3	29.0	29.0	7.7	29.0	12.8
Cycle Q Clear(g_c), s	19.9	5.3	10.6	5.3	17.5	17.7	11.3	29.0	29.0	7.7	29.0	12.8
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	317	614	550	105	391	385	372	1117	586	141	1521	772
V/C Ratio(X)	0.98	0.20	0.37	0.79	0.77	0.78	0.92	0.86	0.86	0.86	0.92	0.38
Avail Cap(c_a), veh/h	317	665	595	195	537	529	372	1118	587	141	1524	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	25.9	27.6	51.4	40.9	41.0	48.8	35.3	35.3	50.3	38.0	18.5
Incr Delay (d2), s/veh	43.7	0.2	0.4	5.1	4.7	5.1	26.7	7.1	12.6	37.0	9.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	2.6	4.8	2.7	9.2	9.2	6.5	14.9	16.5	5.1	15.2	5.7
LnGrp Delay(d),s/veh	88.7	26.0	28.1	56.5	45.6	46.1	75.5	42.4	47.8	87.4	47.4	18.8
LnGrp LOS	F	C	C	E	D	D	E	D	D	F	D	B
Approach Vol, veh/h		634			686			1810			1813	
Approach Delay, s/veh		57.2			47.1			50.1			45.5	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	42.3	11.4	43.6	17.0	39.0	25.1	29.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	9.1	35.9	12.6	40.9	12.4	32.6	20.5	33.0				
Max Q Clear Time (g_c+I1), s	9.7	31.0	7.3	12.6	13.3	31.0	21.9	19.7				
Green Ext Time (p_c), s	0.0	4.6	0.0	5.7	0.0	1.5	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			48.9									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

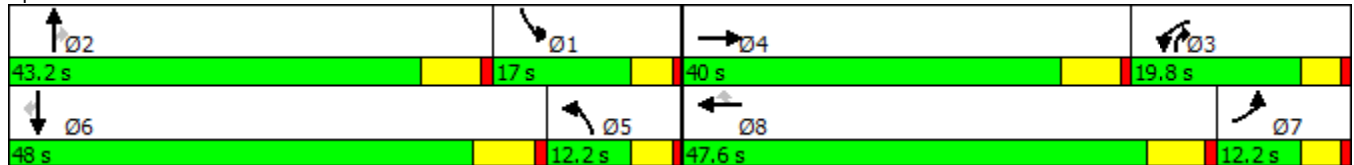


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	416	1209	514	391	1019	196	486	808	168	169	823	354
Future Volume (vph)	416	1209	514	391	1019	196	486	808	168	169	823	354
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	12.2	40.0		19.8	47.6	47.6	12.2	43.2	19.8	17.0	48.0	48.0
Total Split (%)	10.2%	33.3%		16.5%	39.7%	39.7%	10.2%	36.0%	16.5%	14.2%	40.0%	40.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

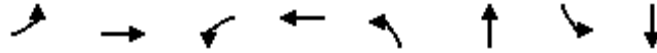
Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	1209	514	391	1019	196	486	808	168	169	823	354
Future Volume (veh/h)	416	1209	514	391	1019	196	486	808	168	169	823	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1768	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	420	1221	0	395	1029	178	491	816	0	171	831	349
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	1	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	506	1496	466	451	1405	437	244	1106	576	239	1443	449
Arrive On Green	0.16	0.29	0.00	0.14	0.27	0.27	0.07	0.21	0.00	0.14	0.28	0.28
Sat Flow, veh/h	3141	5187	1615	3141	5187	1615	3267	5187	1615	1714	5187	1615
Grp Volume(v), veh/h	420	1221	0	395	1029	178	491	816	0	171	831	349
Grp Sat Flow(s),veh/h/ln	1570	1729	1615	1570	1729	1615	1633	1729	1615	1714	1729	1615
Q Serve(g_s), s	13.2	22.3	0.0	12.5	18.4	9.2	7.6	15.0	0.0	9.7	14.0	20.3
Cycle Q Clear(g_c), s	13.2	22.3	0.0	12.5	18.4	9.2	7.6	15.0	0.0	9.7	14.0	20.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	506	1496	466	451	1405	437	244	1106	576	239	1443	449
V/C Ratio(X)	0.83	0.82	0.00	0.88	0.73	0.41	2.01	0.74	0.00	0.71	0.58	0.78
Avail Cap(c_a), veh/h	506	1722	536	469	2109	657	244	1870	814	239	2114	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	33.7	0.0	42.7	33.8	30.4	47.1	37.4	0.0	41.9	31.6	33.8
Incr Delay (d2), s/veh	10.4	2.8	0.0	15.6	0.8	0.6	470.3	1.0	0.0	8.4	0.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	11.0	0.0	6.4	8.9	4.2	19.3	7.2	0.0	5.2	6.7	9.4
LnGrp Delay(d),s/veh	51.8	36.5	0.0	58.3	34.5	31.0	517.5	38.4	0.0	50.2	31.9	37.4
LnGrp LOS	D	D		E	C	C	F	D		D	C	D
Approach Vol, veh/h		1641			1602			1307			1351	
Approach Delay, s/veh		40.4			40.0			218.4			35.7	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	28.2	19.2	35.6	12.2	34.8	21.0	33.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	12.4	36.7	15.2	33.8	7.6	41.5	7.6	41.4				
Max Q Clear Time (g_c+I1), s	11.7	17.0	14.5	24.3	9.6	22.3	15.2	20.4				
Green Ext Time (p_c), s	0.1	4.8	0.1	5.1	0.0	6.1	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			78.6									
HCM 2010 LOS			E									

Timings
21: Archibald Av. & Eucalyptus Av.

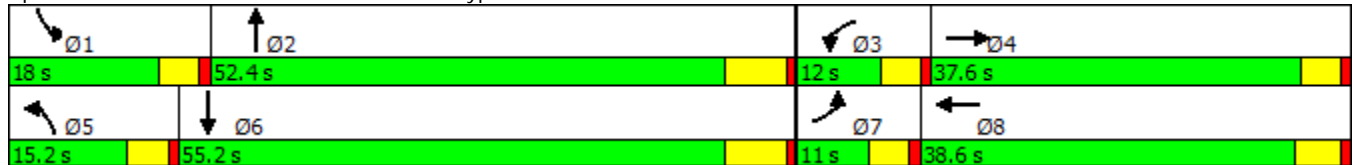


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	64	28	69	15	95	1361	145	1427
Future Volume (vph)	64	28	69	15	95	1361	145	1427
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.6	9.6	38.2	9.6	23.5	9.6	23.5
Total Split (s)	11.0	37.6	12.0	38.6	15.2	52.4	18.0	55.2
Total Split (%)	9.2%	31.3%	10.0%	32.2%	12.7%	43.7%	15.0%	46.0%
Yellow Time (s)	3.6	3.6	3.6	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.2	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.9
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

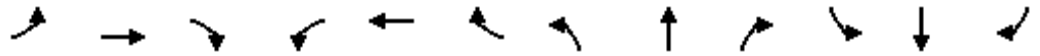
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	28	104	69	15	82	95	1361	97	145	1427	36
Future Volume (veh/h)	64	28	104	69	15	82	95	1361	97	145	1427	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	70	30	113	75	16	75	103	1479	103	158	1551	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	89	42	159	95	36	170	129	2355	164	191	2661	67
Arrive On Green	0.05	0.12	0.12	0.06	0.12	0.12	0.08	0.48	0.48	0.11	0.51	0.51
Sat Flow, veh/h	1714	350	1318	1714	292	1367	1714	4952	345	1714	5204	131
Grp Volume(v), veh/h	70	0	143	75	0	91	103	1033	549	158	1031	559
Grp Sat Flow(s),veh/h/ln	1714	0	1667	1714	0	1659	1714	1729	1839	1714	1729	1877
Q Serve(g_s), s	3.6	0.0	7.3	3.8	0.0	4.5	5.2	19.7	19.7	7.9	18.3	18.3
Cycle Q Clear(g_c), s	3.6	0.0	7.3	3.8	0.0	4.5	5.2	19.7	19.7	7.9	18.3	18.3
Prop In Lane	1.00		0.79	1.00		0.82	1.00		0.19	1.00		0.07
Lane Grp Cap(c), veh/h	89	0	201	95	0	206	129	1644	875	191	1768	960
V/C Ratio(X)	0.79	0.00	0.71	0.79	0.00	0.44	0.80	0.63	0.63	0.83	0.58	0.58
Avail Cap(c_a), veh/h	125	0	625	144	0	629	206	1802	959	261	1912	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	37.3	41.1	0.0	35.7	40.0	17.3	17.3	38.3	15.0	15.0
Incr Delay (d2), s/veh	13.0	0.0	4.6	7.7	0.0	1.5	4.2	0.6	1.1	11.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.6	2.0	0.0	2.1	2.6	9.5	10.2	4.4	8.7	9.5
LnGrp Delay(d),s/veh	54.2	0.0	41.9	48.8	0.0	37.2	44.2	17.9	18.4	49.3	15.4	15.7
LnGrp LOS	D		D	D		D	D	B	B	D	B	B
Approach Vol, veh/h		213			166			1685			1748	
Approach Delay, s/veh		45.9			42.4			19.7			18.5	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	48.4	9.5	15.8	11.3	51.5	9.2	16.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 5.2	4.6	6.5	4.6	5.2				
Max Green Setting (Gmax), s	13.4	45.9	7.4	* 33	10.6	48.7	6.4	33.4				
Max Q Clear Time (g_c+I1), s	9.9	21.7	5.8	9.3	7.2	20.3	5.6	6.5				
Green Ext Time (p_c), s	0.1	20.2	0.0	1.3	0.0	23.1	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

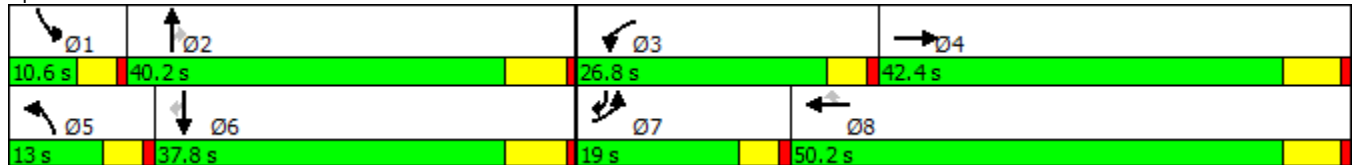


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	563	156	507	184	109	43	256	1482	187	83	1669	319
Future Volume (vph)	563	156	507	184	109	43	256	1482	187	83	1669	319
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	19.0	42.4		26.8	50.2	50.2	13.0	40.2	40.2	10.6	37.8	19.0
Total Split (%)	15.8%	35.3%		22.3%	41.8%	41.8%	10.8%	33.5%	33.5%	8.8%	31.5%	15.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	156	507	184	109	43	256	1482	187	83	1669	319
Future Volume (veh/h)	563	156	507	184	109	43	256	1482	187	83	1669	319
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	586	162	0	192	114	3	267	1544	181	86	1739	321
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	531	726	325	268	424	189	310	2105	655	160	1858	851
Arrive On Green	0.17	0.20	0.00	0.09	0.12	0.12	0.10	0.41	0.41	0.05	0.36	0.36
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	5187	1615	3141	5187	1615
Grp Volume(v), veh/h	586	162	0	192	114	3	267	1544	181	86	1739	321
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1729	1615	1570	1729	1615
Q Serve(g_s), s	14.4	3.2	0.0	5.1	2.5	0.1	7.1	21.5	6.4	2.3	27.6	10.0
Cycle Q Clear(g_c), s	14.4	3.2	0.0	5.1	2.5	0.1	7.1	21.5	6.4	2.3	27.6	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	531	726	325	268	424	189	310	2105	655	160	1858	851
V/C Ratio(X)	1.10	0.22	0.00	0.72	0.27	0.02	0.86	0.73	0.28	0.54	0.94	0.38
Avail Cap(c_a), veh/h	531	1533	686	818	1863	834	310	2105	655	221	1905	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	28.5	0.0	38.0	34.3	33.3	37.9	21.4	16.9	39.5	26.4	11.9
Incr Delay (d2), s/veh	70.8	0.2	0.0	1.4	0.3	0.0	20.5	1.4	0.2	1.0	9.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	1.6	0.0	2.3	1.2	0.1	4.0	10.4	2.9	1.0	14.6	4.5
LnGrp Delay(d),s/veh	106.2	28.6	0.0	39.3	34.6	33.3	58.3	22.8	17.2	40.5	35.6	12.2
LnGrp LOS	F	C		D	C	C	E	C	B	D	D	B
Approach Vol, veh/h		748			309			1992			2146	
Approach Delay, s/veh		89.4			37.5			27.0			32.3	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	41.1	11.9	23.3	13.0	37.0	19.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	33.7	22.2	36.2	8.4	31.3	14.4	44.0				
Max Q Clear Time (g_c+I1), s	4.3	23.5	7.1	5.2	9.1	29.6	16.4	4.5				
Green Ext Time (p_c), s	0.0	9.8	0.3	1.6	0.0	1.0	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			38.8									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

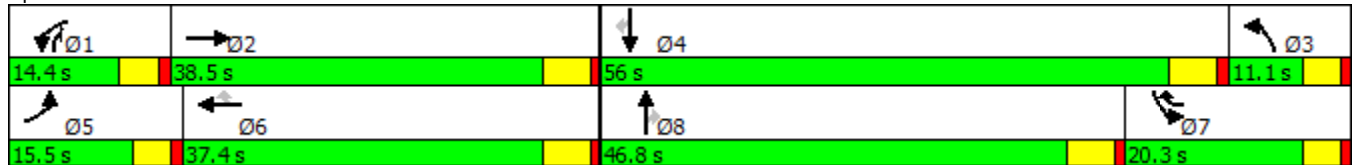


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	274	760	244	618	648	82	1076	280	334	1839	209
Future Volume (vph)	274	760	244	618	648	82	1076	280	334	1839	209
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	1	6	7	3	8	1	7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	1	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3	46.3
Total Split (s)	15.5	38.5	14.4	37.4	20.3	11.1	46.8	14.4	20.3	56.0	56.0
Total Split (%)	12.9%	32.1%	12.0%	31.2%	16.9%	9.3%	39.0%	12.0%	16.9%	46.7%	46.7%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	760	108	244	618	648	82	1076	280	334	1839	209
Future Volume (veh/h)	274	760	108	244	618	648	82	1076	280	334	1839	209
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	298	826	117	274	672	686	89	1209	315	375	2066	227
Adj No. of Lanes	2	2	0	2	2	2	1	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	322	879	124	290	965	1265	100	1553	617	623	2188	681
Arrive On Green	0.09	0.28	0.28	0.08	0.27	0.27	0.06	0.30	0.30	0.18	0.42	0.42
Sat Flow, veh/h	3510	3176	450	3510	3610	2842	1810	5187	1615	3510	5187	1615
Grp Volume(v), veh/h	298	469	474	274	672	686	89	1209	315	375	2066	227
Grp Sat Flow(s),veh/h/ln	1755	1805	1821	1755	1805	1421	1810	1729	1615	1755	1729	1615
Q Serve(g_s), s	10.1	30.4	30.4	9.3	20.1	4.9	5.9	25.5	9.3	11.8	45.8	7.9
Cycle Q Clear(g_c), s	10.1	30.4	30.4	9.3	20.1	4.9	5.9	25.5	9.3	11.8	45.8	7.9
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	499	504	290	965	1265	100	1553	617	623	2188	681
V/C Ratio(X)	0.92	0.94	0.94	0.94	0.70	0.54	0.89	0.78	0.51	0.60	0.94	0.33
Avail Cap(c_a), veh/h	322	500	505	290	968	1267	100	1798	693	623	2196	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	42.3	42.3	54.6	39.5	10.6	56.2	38.3	11.1	45.3	33.3	11.4
Incr Delay (d2), s/veh	30.8	26.0	25.9	37.6	2.2	0.5	55.8	2.1	0.8	1.2	9.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	18.7	18.9	6.0	10.3	5.0	4.5	12.5	4.3	5.8	23.7	4.4
LnGrp Delay(d),s/veh	84.7	68.4	68.2	92.3	41.7	11.1	112.0	40.4	11.9	46.5	42.5	11.7
LnGrp LOS	F	E	E	F	D	B	F	D	B	D	D	B
Approach Vol, veh/h		1241			1632			1613			2668	
Approach Delay, s/veh		72.2			37.3			38.8			40.5	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	38.4	11.1	55.8	15.5	37.3	25.8	41.2				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	9.9	33.2	6.6	50.7	11.0	32.1	15.8	41.5				
Max Q Clear Time (g_c+I1), s	11.3	32.4	7.9	47.8	12.1	22.1	13.8	27.5				
Green Ext Time (p_c), s	0.0	0.7	0.0	2.7	0.0	7.6	0.2	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay			44.9									
HCM 2010 LOS			D									

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	78	1488	208	251	1682	93	134	58	157	109	109
Future Volume (vph)	78	1488	208	251	1682	93	134	58	157	109	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1488	208	251	1682	93	134	58	157	109	109	144
Future Volume (veh/h)	78	1488	208	251	1682	93	134	58	157	109	109	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	1653	230	279	1869	103	149	64	145	121	121	153
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	112	1739	530	312	2314	721	129	409	343	92	148	187
Arrive On Green	0.06	0.34	0.34	0.17	0.45	0.45	0.07	0.22	0.22	0.05	0.19	0.19
Sat Flow, veh/h	1810	5187	1581	1810	5187	1615	1810	1900	1592	1810	758	958
Grp Volume(v), veh/h	87	1653	230	279	1869	103	149	64	145	121	0	274
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1729	1615	1810	1900	1592	1810	0	1716
Q Serve(g_s), s	4.7	30.6	11.2	14.9	30.7	3.7	7.0	2.7	7.7	5.0	0.0	15.1
Cycle Q Clear(g_c), s	4.7	30.6	11.2	14.9	30.7	3.7	7.0	2.7	7.7	5.0	0.0	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	112	1739	530	312	2314	721	129	409	343	92	0	334
V/C Ratio(X)	0.78	0.95	0.43	0.89	0.81	0.14	1.16	0.16	0.42	1.32	0.00	0.82
Avail Cap(c_a), veh/h	220	1739	530	441	2353	733	129	694	582	92	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.6	32.0	25.5	39.9	23.6	16.1	45.8	31.4	33.4	46.8	0.0	38.0
Incr Delay (d2), s/veh	4.4	11.9	0.6	12.5	2.2	0.1	128.5	0.2	0.8	200.9	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	16.5	4.9	8.5	15.0	1.7	8.1	1.4	3.5	7.6	0.0	7.6
LnGrp Delay(d),s/veh	50.0	43.9	26.0	52.4	25.8	16.2	174.2	31.6	34.2	247.7	0.0	43.0
LnGrp LOS	D	D	C	D	C	B	F	C	C	F		D
Approach Vol, veh/h		1970			2251			358			395	
Approach Delay, s/veh		42.1			28.6			92.0			105.7	
Approach LOS		D			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	40.0	12.0	24.5	11.1	51.0	10.0	26.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	16.9	32.6	9.0	17.1	6.7	32.7	7.0	9.7				
Green Ext Time (p_c), s	0.1	0.1	0.0	2.1	0.0	11.2	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			44.6									
HCM 2010 LOS			D									

Timings
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

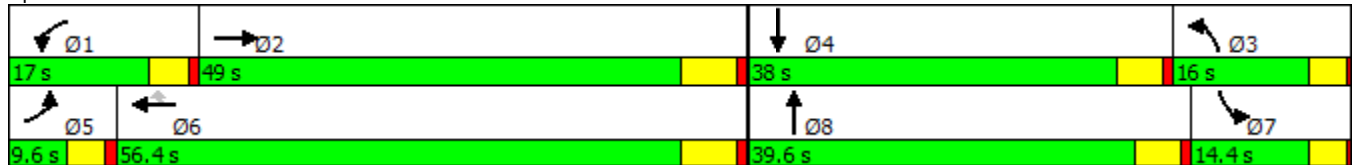


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔↔	↕↕	↔	↕↕
Traffic Volume (vph)	114	1575	489	1859	66	421	79	93	166
Future Volume (vph)	114	1575	489	1859	66	421	79	93	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	9.6	49.0	17.0	56.4	56.4	16.0	39.6	14.4	38.0
Total Split (%)	8.0%	40.8%	14.2%	47.0%	47.0%	13.3%	33.0%	12.0%	31.7%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	1575	539	489	1859	66	421	79	321	93	166	88
Future Volume (veh/h)	114	1575	539	489	1859	66	421	79	321	93	166	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	118	1624	550	504	1916	47	434	81	257	96	171	64
Adj No. of Lanes	2	3	0	2	3	1	2	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	1629	538	431	2568	799	536	354	315	122	286	103
Arrive On Green	0.05	0.42	0.42	0.12	0.50	0.50	0.15	0.20	0.20	0.07	0.11	0.11
Sat Flow, veh/h	3510	3858	1273	3510	5187	1614	3510	1805	1608	1810	2587	930
Grp Volume(v), veh/h	118	1451	723	504	1916	47	434	81	257	96	117	118
Grp Sat Flow(s),veh/h/ln	1755	1729	1673	1755	1729	1614	1755	1805	1608	1810	1805	1712
Q Serve(g_s), s	3.4	42.5	43.0	12.5	30.1	1.0	12.2	3.8	15.6	5.3	6.3	6.7
Cycle Q Clear(g_c), s	3.4	42.5	43.0	12.5	30.1	1.0	12.2	3.8	15.6	5.3	6.3	6.7
Prop In Lane	1.00		0.76	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	176	1460	707	431	2568	799	536	354	315	122	199	189
V/C Ratio(X)	0.67	0.99	1.02	1.17	0.75	0.06	0.81	0.23	0.82	0.79	0.59	0.62
Avail Cap(c_a), veh/h	176	1460	707	431	2568	799	536	613	546	185	585	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	29.3	29.4	44.7	20.6	6.0	41.7	34.5	39.2	46.8	43.1	43.3
Incr Delay (d2), s/veh	7.8	22.0	39.8	98.5	1.2	0.0	8.4	0.2	3.9	5.9	2.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	24.6	27.4	11.9	14.7	0.7	6.5	1.9	7.3	2.9	3.2	3.3
LnGrp Delay(d),s/veh	55.4	51.2	69.2	143.2	21.8	6.1	50.1	34.7	43.1	52.7	45.1	45.7
LnGrp LOS	E	D	F	F	C	A	D	C	D	D	D	D
Approach Vol, veh/h		2292			2467			772			331	
Approach Delay, s/veh		57.1			46.3			46.1			47.5	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	49.0	19.6	16.3	9.6	56.4	10.9	24.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	12.5	43.0	12.0	33.0	5.1	50.4	10.4	34.6				
Max Q Clear Time (g_c+I1), s	14.5	45.0	14.2	8.7	5.4	32.1	7.3	17.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	17.7	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			50.6									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑↑
Traffic Volume (vph)	1655	666	2191	913	517	0	509
Future Volume (vph)	1655	666	2191	913	517	0	509
Turn Type	NA	Free	NA	Free	Split	NA	Perm
Protected Phases	2		6		4	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	23.5		36.5		23.5	23.5	23.5
Total Split (s)	73.0		73.0		37.0	37.0	37.0
Total Split (%)	66.4%		66.4%		33.6%	33.6%	33.6%
Yellow Time (s)	4.5		4.5		4.5	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Max		Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 11 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

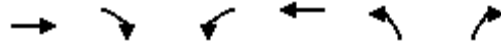
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑				↑	↑	↑↑
Traffic Volume (veh/h)	0	1655	666	0	2191	913	0	0	0	517	0	509
Future Volume (veh/h)	0	1655	666	0	2191	913	0	0	0	517	0	509
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1706	0	0	2259	0				533	0	438
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	3752	1168	0	3752	1168				640	0	571
Arrive On Green	0.00	0.72	0.00	0.00	1.00	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	5358	1615	0	5358	1615				3619	0	3230
Grp Volume(v), veh/h	0	1706	0	0	2259	0				533	0	438
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1729	1615				1810	0	1615
Q Serve(g_s), s	0.0	14.9	0.0	0.0	0.0	0.0				15.6	0.0	14.2
Cycle Q Clear(g_c), s	0.0	14.9	0.0	0.0	0.0	0.0				15.6	0.0	14.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3752	1168	0	3752	1168				640	0	571
V/C Ratio(X)	0.00	0.45	0.00	0.00	0.60	0.00				0.83	0.00	0.77
Avail Cap(c_a), veh/h	0	3752	1168	0	3752	1168				1036	0	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.44	0.00	0.00	0.42	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.3	0.0	0.0	0.0	0.0				43.7	0.0	43.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.0				1.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	0.0	0.0	0.1	0.0				8.0	0.0	6.4
LnGrp Delay(d),s/veh	0.0	6.5	0.0	0.0	0.3	0.0				45.2	0.0	44.0
LnGrp LOS		A			A					D		D
Approach Vol, veh/h		1706			2259						971	
Approach Delay, s/veh		6.5			0.3						44.6	
Approach LOS		A			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		85.1		24.9		85.1						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		67.5		31.5		67.5						
Max Q Clear Time (g_c+I1), s		16.9		17.6		2.0						
Green Ext Time (p_c), s		38.1		1.8		45.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

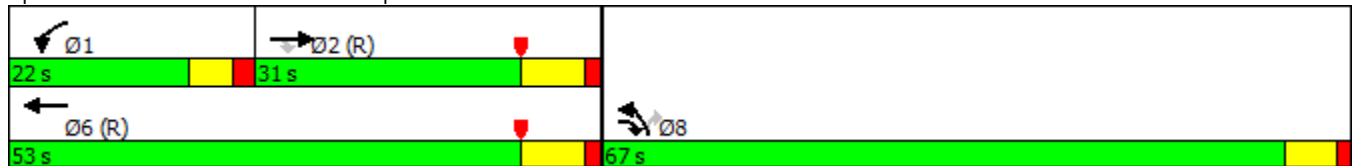


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	762	1132	383	478	485	138
Future Volume (vph)	762	1132	383	478	485	138
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	67.0	22.0	53.0	67.0	67.0
Total Split (%)	25.8%	55.8%	18.3%	44.2%	55.8%	55.8%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	762	1132	383	478	485	138		
Future Volume (veh/h)	762	1132	383	478	485	138		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	794	1053	399	498	505	94		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1024	1140	419	1975	1646	821		
Arrive On Green	0.20	0.20	0.13	0.38	0.51	0.51		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	794	1053	399	498	505	94		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	17.4	23.7	15.1	7.9	10.9	3.6		
Cycle Q Clear(g_c), s	17.4	23.7	15.1	7.9	10.9	3.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1024	1140	419	1975	1646	821		
V/C Ratio(X)	0.78	0.92	0.95	0.25	0.31	0.11		
Avail Cap(c_a), veh/h	1024	1140	419	1975	1646	821		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.60	0.60	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	45.6	8.7	51.6	25.4	17.2	15.4		
Incr Delay (d2), s/veh	3.5	9.0	32.0	0.3	0.5	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.6	37.7	8.4	3.8	5.0	1.7		
LnGrp Delay(d),s/veh	49.1	17.7	83.6	25.8	17.7	15.7		
LnGrp LOS	D	B	F	C	B	B		
Approach Vol, veh/h	1847			897	599			
Approach Delay, s/veh	31.2			51.5	17.4			
Approach LOS	C			D	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	31.0				53.0		67.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	16.0	23.7				45.7		61.0
Max Q Clear Time (g_c+I1), s	17.1	25.7				9.9		12.9
Green Ext Time (p_c), s	0.0	0.0				18.9		2.1
Intersection Summary								
HCM 2010 Ctrl Delay			34.2					
HCM 2010 LOS			C					
Notes								

APPENDIX 7.11:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↗	↑↑↑
Traffic Volume (vph)	10	8	231	62	465	25	1150	159	473	2337
Future Volume (vph)	10	8	231	62	465	25	1150	159	473	2337
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	36.8	14.5	37.2	37.2	36.8	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	30.7%	12.1%	31.0%	31.0%	30.7%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	5	231	62	465	25	1150	159	473	2337	56
Future Volume (veh/h)	10	8	5	231	62	465	25	1150	159	473	2337	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1872	1900	1900	1768	1900	1900
Adj Flow Rate, veh/h	10	8	4	153	188	438	26	1198	140	493	2434	55
Adj No. of Lanes	0	1	0	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	101	42	369	476	674	86	2335	727	556	2987	67
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.05	0.45	0.45	0.17	0.57	0.57
Sat Flow, veh/h	353	403	168	1350	1900	1592	1783	5187	1615	3267	5220	118
Grp Volume(v), veh/h	22	0	0	153	188	438	26	1198	140	493	1610	879
Grp Sat Flow(s),veh/h/ln	924	0	0	1350	1900	1592	1783	1729	1615	1633	1729	1879
Q Serve(g_s), s	0.1	0.0	0.0	4.4	9.9	26.4	1.7	19.8	6.3	17.7	44.7	45.2
Cycle Q Clear(g_c), s	10.0	0.0	0.0	14.4	9.9	26.4	1.7	19.8	6.3	17.7	44.7	45.2
Prop In Lane	0.45		0.18	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	275	0	0	369	476	674	86	2335	727	556	1979	1075
V/C Ratio(X)	0.08	0.00	0.00	0.41	0.40	0.65	0.30	0.51	0.19	0.89	0.81	0.82
Avail Cap(c_a), veh/h	381	0	0	492	649	819	149	2335	727	879	1979	1075
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	0.0	39.5	37.4	27.8	55.1	23.6	19.9	48.6	20.5	20.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.2	0.7	0.6	0.7	0.5	4.4	3.8	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	4.4	5.2	11.8	0.8	9.6	2.9	8.4	22.3	25.3
LnGrp Delay(d),s/veh	34.4	0.0	0.0	39.8	37.6	28.5	55.8	24.3	20.4	53.1	24.3	27.6
LnGrp LOS	C			D	D	C	E	C	C	D	C	C
Approach Vol, veh/h		22			779			1364			2982	
Approach Delay, s/veh		34.4			32.9			24.5			30.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.9	60.0		35.0	10.3	74.7		35.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	32.3	31.2		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	19.7	21.8		12.0	3.7	47.2		28.4				
Green Ext Time (p_c), s	0.7	9.1		1.6	0.0	6.2		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			29.0									
HCM 2010 LOS			C									
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

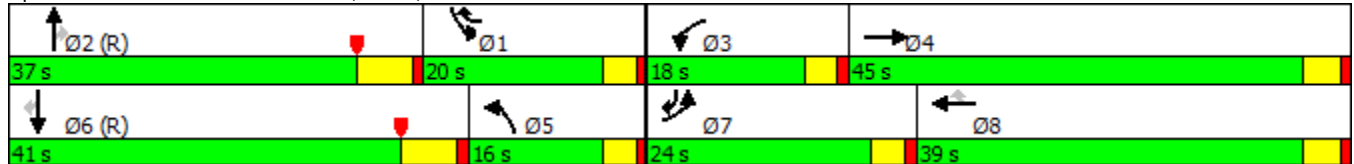


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕	↕↔	↕↕	↕↕	↕	↕	↕↕↕	↕	↕↕	↕↕↕	↕
Traffic Volume (vph)	131	397	269	366	280	124	749	205	548	1479	212
Future Volume (vph)	131	397	269	366	280	124	749	205	548	1479	212
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	24.0	45.0	18.0	39.0	20.0	16.0	37.0	37.0	20.0	41.0	24.0
Total Split (%)	20.0%	37.5%	15.0%	32.5%	16.7%	13.3%	30.8%	30.8%	16.7%	34.2%	20.0%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
 2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	397	150	269	366	280	124	749	205	548	1479	212
Future Volume (veh/h)	131	397	150	269	366	280	124	749	205	548	1479	212
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	134	405	151	274	373	264	127	764	201	559	1509	178
Adj No. of Lanes	2	2	0	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	186	535	197	324	905	955	419	1012	315	1070	1513	561
Arrive On Green	0.06	0.21	0.21	0.10	0.25	0.25	0.08	0.06	0.06	0.34	0.29	0.29
Sat Flow, veh/h	3141	2584	953	3141	3610	1615	1714	5187	1615	3141	5187	1594
Grp Volume(v), veh/h	134	281	275	274	373	264	127	764	201	559	1509	178
Grp Sat Flow(s),veh/h/ln	1570	1805	1732	1570	1805	1615	1714	1729	1615	1570	1729	1594
Q Serve(g_s), s	5.0	17.6	17.9	10.3	10.4	2.2	8.4	17.4	11.2	17.1	34.9	4.3
Cycle Q Clear(g_c), s	5.0	17.6	17.9	10.3	10.4	2.2	8.4	17.4	11.2	17.1	34.9	4.3
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	373	358	324	905	955	419	1012	315	1070	1513	561
V/C Ratio(X)	0.72	0.75	0.77	0.85	0.41	0.28	0.30	0.75	0.64	0.52	1.00	0.32
Avail Cap(c_a), veh/h	523	609	585	366	1038	1014	419	1340	417	1070	1513	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.60	0.60	0.60
Uniform Delay (d), s/veh	55.5	44.7	44.9	52.9	37.6	4.9	45.5	53.3	30.7	31.7	42.5	10.8
Incr Delay (d2), s/veh	2.0	3.1	3.4	13.6	0.1	0.1	0.1	4.8	8.7	0.1	17.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.1	8.9	5.1	5.2	2.5	4.0	8.8	5.8	7.5	19.0	2.0
LnGrp Delay(d),s/veh	57.4	47.8	48.3	66.5	37.7	5.0	45.7	58.1	39.4	31.9	59.8	11.7
LnGrp LOS	E	D	D	E	D	A	D	E	D	C	E	B
Approach Vol, veh/h		690			911			1092			2246	
Approach Delay, s/veh		49.9			36.9			53.2			49.0	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.9	29.4	16.4	29.3	33.3	41.0	11.1	34.6				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	16.0	31.0	14.0	40.5	12.0	35.0	20.0	34.5				
Max Q Clear Time (g_c+I1), s	19.1	19.4	12.3	19.9	10.4	36.9	7.0	12.4				
Green Ext Time (p_c), s	0.0	4.0	0.1	4.9	0.1	0.0	0.2	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			47.8									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

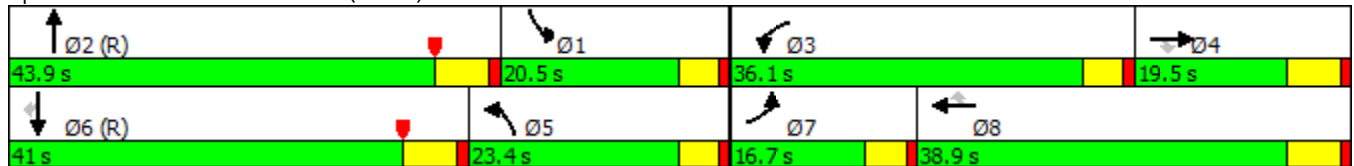
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	80	329	199	705	418	227	186	871	518	255	1369	94	
Future Volume (vph)	80	329	199	705	418	227	186	871	518	255	1369	94	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases			4			8			Free			6	
Detector Phase	7	4	4	3	8	8	5	2		1	6	6	
Switch Phase													
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	37.9	9.6	32.9		9.6	32.9	32.9	
Total Split (s)	16.7	19.5	19.5	36.1	38.9	38.9	23.4	43.9		20.5	41.0	41.0	
Total Split (%)	13.9%	16.3%	16.3%	30.1%	32.4%	32.4%	19.5%	36.6%		17.1%	34.2%	34.2%	
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	4.9	3.6	4.9		3.6	4.9	4.9	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	5.9	4.6	5.9		4.6	5.9	5.9	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead		Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28.5 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	329	199	705	418	227	186	871	518	255	1369	94
Future Volume (veh/h)	80	329	199	705	418	227	186	871	518	255	1369	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1872	1976	1976	1768	1976	1976	1872	1976	1976	1768	1976	1976
Adj Flow Rate, veh/h	81	332	0	712	422	0	188	880	0	258	1383	90
Adj No. of Lanes	1	2	1	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	397	178	769	1065	476	359	1077	335	928	1524	474
Arrive On Green	0.06	0.11	0.00	0.24	0.28	0.00	0.20	0.20	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1783	3754	1680	3267	3754	1680	1783	5394	1680	3267	5394	1680
Grp Volume(v), veh/h	81	332	0	712	422	0	188	880	0	258	1383	90
Grp Sat Flow(s),veh/h/ln	1783	1877	1680	1633	1877	1680	1783	1798	1680	1633	1798	1680
Q Serve(g_s), s	5.4	10.4	0.0	25.6	10.9	0.0	11.3	18.7	0.0	8.1	30.1	4.3
Cycle Q Clear(g_c), s	5.4	10.4	0.0	25.6	10.9	0.0	11.3	18.7	0.0	8.1	30.1	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	397	178	769	1065	476	359	1077	335	928	1524	474
V/C Ratio(X)	0.79	0.84	0.00	0.93	0.40	0.00	0.52	0.82	0.00	0.28	0.91	0.19
Avail Cap(c_a), veh/h	180	425	190	857	1065	476	359	1708	532	928	1578	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.16	0.16	0.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	55.8	52.6	0.0	44.8	34.7	0.0	42.8	45.9	0.0	38.1	47.1	23.6
Incr Delay (d2), s/veh	5.0	13.5	0.0	14.1	0.3	0.0	0.1	1.2	0.0	0.1	8.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.1	0.0	13.1	5.7	0.0	5.6	9.4	0.0	3.7	16.2	2.1
LnGrp Delay(d),s/veh	60.8	66.2	0.0	59.0	35.0	0.0	42.9	47.1	0.0	38.1	55.3	24.4
LnGrp LOS	E	E		E	D		D	D		D	E	C
Approach Vol, veh/h		413			1134			1068			1731	
Approach Delay, s/veh		65.1			50.1			46.4			51.1	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.7	29.8	32.9	18.6	28.7	39.8	11.5	39.9				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	15.9	38.0	31.5	13.6	18.8	35.1	12.1	33.0				
Max Q Clear Time (g_c+I1), s	10.1	20.7	27.6	12.4	13.3	32.1	7.4	12.9				
Green Ext Time (p_c), s	0.4	3.2	0.7	0.3	0.2	1.8	0.0	6.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.0									
HCM 2010 LOS			D									

Timings
7: Merrill Av. & Grove Av.

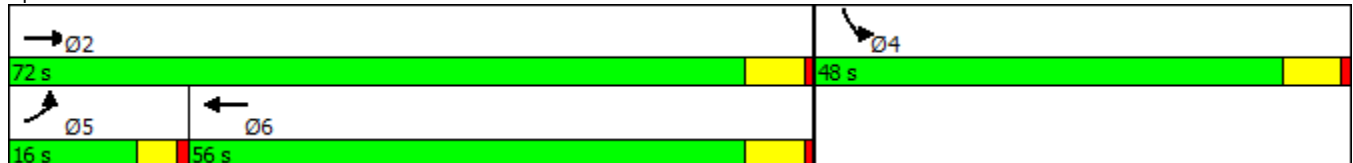


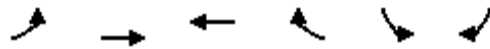
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↗↗	↗↖	↘
Traffic Volume (vph)	68	580	615	233
Future Volume (vph)	68	580	615	233
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	28.2
Total Split (s)	16.0	72.0	56.0	48.0
Total Split (%)	13.3%	60.0%	46.7%	40.0%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.7
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated

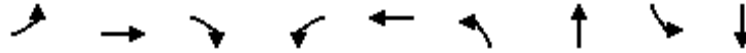
Splits and Phases: 7: Merrill Av. & Grove Av.





Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	68	580	615	344	233	124		
Future Volume (veh/h)	68	580	615	344	233	124		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900		
Adj Flow Rate, veh/h	79	674	715	400	271	144		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	101	2058	1021	570	303	161		
Arrive On Green	0.06	0.57	0.46	0.46	0.28	0.28		
Sat Flow, veh/h	1714	3705	2331	1249	1072	570		
Grp Volume(v), veh/h	79	674	577	538	416	0		
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1680	1646	0		
Q Serve(g_s), s	3.8	8.3	21.4	21.5	20.4	0.0		
Cycle Q Clear(g_c), s	3.8	8.3	21.4	21.5	20.4	0.0		
Prop In Lane	1.00			0.74	0.65	0.35		
Lane Grp Cap(c), veh/h	101	2058	824	767	465	0		
V/C Ratio(X)	0.79	0.33	0.70	0.70	0.90	0.00		
Avail Cap(c_a), veh/h	233	2829	1071	996	819	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	39.0	9.5	18.2	18.2	28.9	0.0		
Incr Delay (d2), s/veh	5.0	0.1	1.4	1.5	6.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	4.1	10.9	10.2	10.1	0.0		
LnGrp Delay(d),s/veh	44.0	9.6	19.6	19.8	35.6	0.0		
LnGrp LOS	D	A	B	B	D			
Approach Vol, veh/h		753	1115		416			
Approach Delay, s/veh		13.2	19.7		35.6			
Approach LOS		B	B		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		54.1		29.9	9.5	44.5		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		65.8		41.8	11.4	49.8		
Max Q Clear Time (g_c+I1), s		10.3		22.4	5.8	23.5		
Green Ext Time (p_c), s		20.6		1.3	0.0	14.8		
Intersection Summary								
HCM 2010 Ctrl Delay			20.5					
HCM 2010 LOS			C					
Notes								

Timings
8: Flight Av. & Merrill Av.

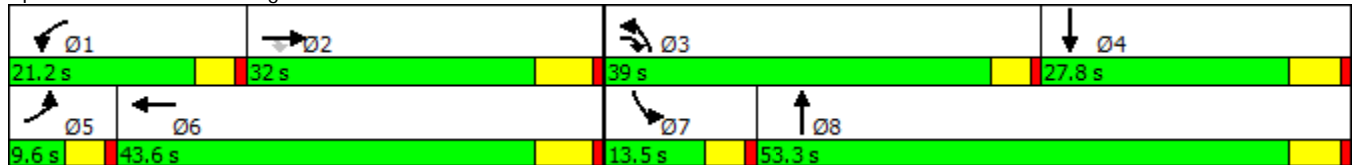


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↗	↖	↗
Traffic Volume (vph)	5	573	235	163	564	363	10	41	22
Future Volume (vph)	5	573	235	163	564	363	10	41	22
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	3	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.2	9.6	9.6	24.2	9.6	27.8	9.6	27.8
Total Split (s)	9.6	32.0	39.0	21.2	43.6	39.0	53.3	13.5	27.8
Total Split (%)	8.0%	26.7%	32.5%	17.7%	36.3%	32.5%	44.4%	11.3%	23.2%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	573	235	163	564	10	363	10	195	41	22	31
Future Volume (veh/h)	5	573	235	163	564	10	363	10	195	41	22	31
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	5	630	258	179	620	11	399	11	214	45	24	34
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.92	0.91	0.92	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	901	816	214	1336	24	438	27	519	66	84	120
Arrive On Green	0.01	0.25	0.25	0.13	0.37	0.37	0.26	0.34	0.34	0.04	0.12	0.12
Sat Flow, veh/h	1714	3610	1615	1714	3629	64	1714	80	1547	1714	713	1009
Grp Volume(v), veh/h	5	630	258	179	308	323	399	0	225	45	0	58
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1889	1714	0	1627	1714	0	1722
Q Serve(g_s), s	0.2	13.4	7.9	8.6	11.0	11.0	19.1	0.0	9.0	2.2	0.0	2.6
Cycle Q Clear(g_c), s	0.2	13.4	7.9	8.6	11.0	11.0	19.1	0.0	9.0	2.2	0.0	2.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.95	1.00		0.59
Lane Grp Cap(c), veh/h	11	901	816	214	665	695	438	0	545	66	0	204
V/C Ratio(X)	0.45	0.70	0.32	0.83	0.46	0.46	0.91	0.00	0.41	0.68	0.00	0.28
Avail Cap(c_a), veh/h	102	1104	906	337	800	837	699	0	916	181	0	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	28.8	12.3	36.0	20.3	20.3	30.5	0.0	21.6	40.0	0.0	33.9
Incr Delay (d2), s/veh	9.9	1.5	0.2	5.4	0.5	0.5	7.5	0.0	0.5	4.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.8	3.5	4.4	5.6	5.8	9.9	0.0	4.1	1.1	0.0	1.3
LnGrp Delay(d),s/veh	51.7	30.3	12.5	41.4	20.8	20.8	38.0	0.0	22.1	44.5	0.0	34.7
LnGrp LOS	D	C	B	D	C	C	D		C	D		C
Approach Vol, veh/h		893			810			624			103	
Approach Delay, s/veh		25.3			25.4			32.3			39.0	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	27.3	26.1	15.8	5.2	37.3	7.9	34.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	16.6	25.8	34.4	22.0	5.0	37.4	8.9	47.5				
Max Q Clear Time (g_c+I1), s	10.6	15.4	21.1	4.6	2.2	13.0	4.2	11.0				
Green Ext Time (p_c), s	0.1	5.7	0.5	1.4	0.0	8.9	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			27.7									
HCM 2010 LOS			C									

Timings
9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

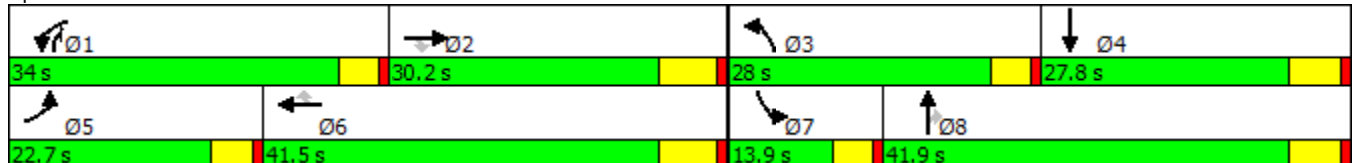


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗
Traffic Volume (vph)	127	492	191	307	179	180	487	78	167	47	44
Future Volume (vph)	127	492	191	307	179	180	487	78	167	47	44
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	24.2	24.2	9.6	24.2	24.2	9.6	27.8	9.6	9.6	27.8
Total Split (s)	22.7	30.2	30.2	34.0	41.5	41.5	28.0	41.9	34.0	13.9	27.8
Total Split (%)	18.9%	25.2%	25.2%	28.3%	34.6%	34.6%	23.3%	34.9%	28.3%	11.6%	23.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	4.8	3.6	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	5.8	4.6	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 9: Hellman Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	492	191	307	179	180	487	78	167	47	44	72
Future Volume (veh/h)	127	492	191	307	179	180	487	78	167	47	44	72
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	138	535	208	334	195	196	529	85	182	51	48	78
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	769	344	374	1196	535	623	509	784	72	80	130
Arrive On Green	0.10	0.21	0.21	0.22	0.33	0.33	0.19	0.27	0.27	0.04	0.12	0.12
Sat Flow, veh/h	1714	3610	1615	1714	3610	1615	3326	1900	1615	1714	653	1060
Grp Volume(v), veh/h	138	535	208	334	195	196	529	85	182	51	0	126
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1615	1663	1900	1615	1714	0	1713
Q Serve(g_s), s	6.4	11.2	9.5	15.5	3.1	7.6	12.6	2.8	5.3	2.4	0.0	5.7
Cycle Q Clear(g_c), s	6.4	11.2	9.5	15.5	3.1	7.6	12.6	2.8	5.3	2.4	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	171	769	344	374	1196	535	623	509	784	72	0	209
V/C Ratio(X)	0.81	0.70	0.60	0.89	0.16	0.37	0.85	0.17	0.23	0.71	0.00	0.60
Avail Cap(c_a), veh/h	379	1060	474	616	1559	697	952	839	1065	195	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	29.7	29.1	31.0	19.3	20.8	32.1	23.0	12.2	38.7	0.0	34.0
Incr Delay (d2), s/veh	3.4	1.2	1.7	5.7	0.1	0.4	2.9	0.2	0.1	4.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.7	4.4	7.9	1.6	3.4	6.0	1.5	2.4	1.2	0.0	2.9
LnGrp Delay(d),s/veh	39.4	30.9	30.8	36.7	19.4	21.2	35.0	23.1	12.3	43.4	0.0	36.8
LnGrp LOS	D	C	C	D	B	C	C	C	B	D		D
Approach Vol, veh/h		881			725			796			177	
Approach Delay, s/veh		32.2			27.9			28.5			38.7	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.4	23.6	19.9	15.8	12.8	33.3	8.0	27.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	29.4	24.0	23.4	22.0	18.1	35.3	9.3	36.1				
Max Q Clear Time (g_c+I1), s	17.5	13.2	14.6	7.7	8.4	9.6	4.4	7.3				
Green Ext Time (p_c), s	0.4	4.2	0.7	1.4	0.1	6.0	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			30.3									
HCM 2010 LOS			C									

Timings
14: Archibald Av. & SR-60 WB Ramps

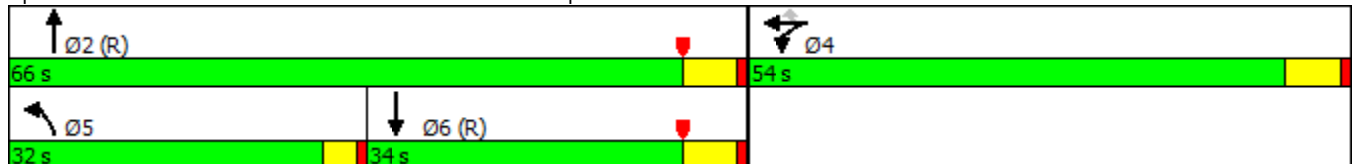


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↷	↷	↶↷	↷↷↷	↷↷↷
Traffic Volume (vph)	456	2	630	649	1714	741
Future Volume (vph)	456	2	630	649	1714	741
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	54.0	54.0	54.0	32.0	66.0	34.0
Total Split (%)	45.0%	45.0%	45.0%	26.7%	55.0%	28.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated





















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	456	2	630	649	1714	0	0	741	283
Future Volume (veh/h)	0	0	0	456	2	630	649	1714	0	0	741	283
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1900	1900	1700	1900	0	0	1900	1900
Adj Flow Rate, veh/h				508	0	524	721	1904	0	0	823	234
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1182	0	589	733	2784	0	0	1385	383
Arrive On Green				0.36	0.00	0.36	0.47	1.00	0.00	0.00	0.27	0.27
Sat Flow, veh/h				3238	0	1615	3141	5358	0	0	5393	1418
Grp Volume(v), veh/h				508	0	524	721	1904	0	0	786	271
Grp Sat Flow(s),veh/h/ln				1619	0	1615	1570	1729	0	0	1634	1643
Q Serve(g_s), s				14.2	0.0	36.6	27.2	0.0	0.0	0.0	16.7	17.3
Cycle Q Clear(g_c), s				14.2	0.0	36.6	27.2	0.0	0.0	0.0	16.7	17.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.86
Lane Grp Cap(c), veh/h				1182	0	589	733	2784	0	0	1324	444
V/C Ratio(X)				0.43	0.00	0.89	0.98	0.68	0.00	0.00	0.59	0.61
Avail Cap(c_a), veh/h				1295	0	646	733	2784	0	0	1324	444
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.10	0.10	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.7	0.0	35.8	31.8	0.0	0.0	0.0	38.1	38.3
Incr Delay (d2), s/veh				0.5	0.0	15.0	7.5	0.1	0.0	0.0	2.0	6.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.4	0.0	30.9	12.4	0.0	0.0	0.0	7.8	8.6
LnGrp Delay(d),s/veh				29.2	0.0	50.8	39.2	0.1	0.0	0.0	40.0	44.4
LnGrp LOS				C		D	D	A			D	D
Approach Vol, veh/h					1032			2625			1057	
Approach Delay, s/veh					40.2			10.9			41.2	
Approach LOS					D			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.2		49.8	32.0	38.2						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		60.2		48.0	28.0	28.2						
Max Q Clear Time (g_c+I1), s		2.0		38.6	29.2	19.3						
Green Ext Time (p_c), s		39.4		5.2	0.0	8.2						
Intersection Summary												
HCM 2010 Ctrl Delay				24.1								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

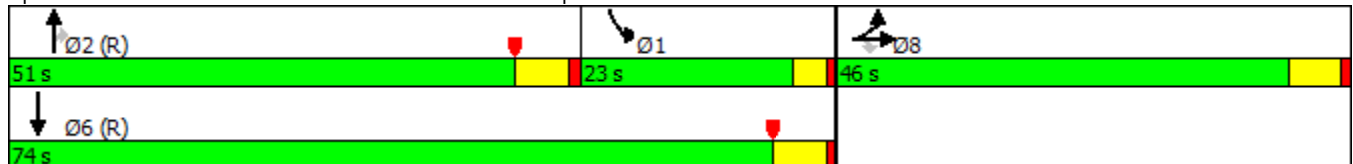


Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↑↑↑	↖	↘↗	↑↑↑
Traffic Volume (vph)	2	406	1842	546	271	926
Future Volume (vph)	2	406	1842	546	271	926
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	18.2	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (s)	46.0	46.0	51.0	51.0	23.0	74.0
Total Split (%)	38.3%	38.3%	42.5%	42.5%	19.2%	61.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated




















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



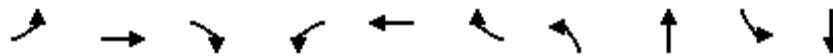
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	2	406	0	0	0	0	1842	546	271	926	0
Future Volume (veh/h)	521	2	406	0	0	0	0	1842	546	271	926	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1700	1900	0
Adj Flow Rate, veh/h	560	2	227				0	1981	469	291	996	0
Adj No. of Lanes	0	1	1				0	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	589	2	520				0	1954	608	476	2991	0
Arrive On Green	0.33	0.33	0.33				0.00	0.38	0.38	0.15	0.58	0.00
Sat Flow, veh/h	1803	6	1592				0	5358	1615	3141	5358	0
Grp Volume(v), veh/h	562	0	227				0	1981	469	291	996	0
Grp Sat Flow(s),veh/h/ln	1810	0	1592				0	1729	1615	1570	1729	0
Q Serve(g_s), s	36.4	0.0	13.4				0.0	45.2	30.6	10.4	12.1	0.0
Cycle Q Clear(g_c), s	36.4	0.0	13.4				0.0	45.2	30.6	10.4	12.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	591	0	520				0	1954	608	476	2991	0
V/C Ratio(X)	0.95	0.00	0.44				0.00	1.01	0.77	0.61	0.33	0.00
Avail Cap(c_a), veh/h	606	0	533				0	1954	608	497	2991	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.63	0.63	0.00
Uniform Delay (d), s/veh	39.5	0.0	31.7				0.0	37.4	32.9	47.6	13.3	0.0
Incr Delay (d2), s/veh	24.6	0.0	0.6				0.0	10.0	0.9	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.2	0.0	6.0				0.0	23.3	13.8	4.6	5.8	0.0
LnGrp Delay(d),s/veh	64.1	0.0	32.3				0.0	47.4	33.7	48.5	13.5	0.0
LnGrp LOS	E		C					F	C	D	B	
Approach Vol, veh/h		789						2450			1287	
Approach Delay, s/veh		54.9						44.8			21.4	
Approach LOS		D						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	24.0	51.0				75.0		45.0				
Change Period (Y+Rc), s	5.8	* 5.8				5.8		5.8				
Max Green Setting (Gmax), s	19.0	* 45				68.2		40.2				
Max Q Clear Time (g_c+I1), s	12.4	47.2				14.1		38.4				
Green Ext Time (p_c), s	3.5	0.0				8.1		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			39.9									
HCM 2010 LOS			D									
Notes												

Timings
17: Archibald Av. & Riverside Dr.

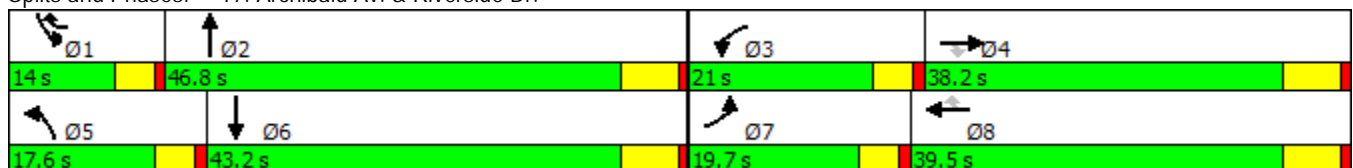


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖
Traffic Volume (vph)	211	411	200	242	284	270	186	1445	242	734
Future Volume (vph)	211	411	200	242	284	270	186	1445	242	734
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	19.7	38.2	38.2	21.0	39.5	14.0	17.6	46.8	14.0	43.2
Total Split (%)	16.4%	31.8%	31.8%	17.5%	32.9%	11.7%	14.7%	39.0%	11.7%	36.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	411	200	242	284	270	186	1445	245	242	734	120
Future Volume (veh/h)	211	411	200	242	284	270	186	1445	245	242	734	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	234	457	189	269	316	207	207	1606	262	269	816	60
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	236	713	314	256	756	469	263	1665	270	269	1835	134
Arrive On Green	0.14	0.20	0.20	0.15	0.21	0.21	0.08	0.37	0.37	0.09	0.37	0.37
Sat Flow, veh/h	1714	3610	1591	1714	3610	1578	3141	4496	730	3141	4932	361
Grp Volume(v), veh/h	234	457	189	269	316	207	207	1234	634	269	571	305
Grp Sat Flow(s),veh/h/ln	1714	1805	1591	1714	1805	1578	1570	1729	1768	1570	1729	1835
Q Serve(g_s), s	14.9	12.8	11.9	16.4	8.3	11.7	7.1	38.3	38.6	9.4	13.6	13.7
Cycle Q Clear(g_c), s	14.9	12.8	11.9	16.4	8.3	11.7	7.1	38.3	38.6	9.4	13.6	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		0.20
Lane Grp Cap(c), veh/h	236	713	314	256	756	469	263	1280	655	269	1287	683
V/C Ratio(X)	0.99	0.64	0.60	1.05	0.42	0.44	0.79	0.96	0.97	1.00	0.44	0.45
Avail Cap(c_a), veh/h	236	1053	464	256	1096	618	372	1280	655	269	1287	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	40.4	40.1	46.6	37.6	31.4	49.3	33.8	33.9	50.1	25.9	25.9
Incr Delay (d2), s/veh	55.9	1.0	1.8	69.7	0.4	0.7	4.4	17.1	27.5	54.6	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	6.4	5.4	12.7	4.2	5.2	3.2	21.2	23.8	6.1	6.5	7.0
LnGrp Delay(d),s/veh	103.1	41.4	41.9	116.3	37.9	32.0	53.6	50.9	61.4	104.7	26.1	26.4
LnGrp LOS	F	D	D	F	D	C	D	D	E	F	C	C
Approach Vol, veh/h		880			792			2075			1145	
Approach Delay, s/veh		57.9			63.0			54.4			44.7	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	46.8	21.0	27.9	13.8	47.0	19.7	29.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	40.6	16.4	32.0	13.0	37.0	15.1	33.3				
Max Q Clear Time (g_c+I1), s	11.4	40.6	18.4	14.8	9.1	15.7	16.9	13.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.5	0.1	16.9	0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay			54.1									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

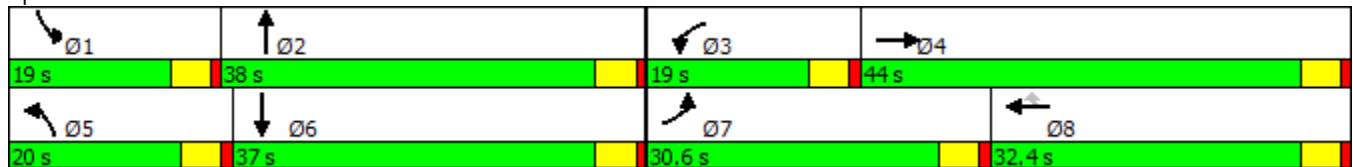


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	204	212	99	140	110	112	860	96	773
Future Volume (vph)	204	212	99	140	110	112	860	96	773
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	30.6	44.0	19.0	32.4	32.4	20.0	38.0	19.0	37.0
Total Split (%)	25.5%	36.7%	15.8%	27.0%	27.0%	16.7%	31.7%	15.8%	30.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	212	184	99	140	110	112	860	92	96	773	117
Future Volume (veh/h)	204	212	184	99	140	110	112	860	92	96	773	117
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	224	233	193	109	154	-3	123	945	97	105	849	124
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	268	278	230	139	406	345	155	1568	161	134	1443	210
Arrive On Green	0.16	0.29	0.29	0.08	0.21	0.00	0.09	0.33	0.33	0.08	0.32	0.32
Sat Flow, veh/h	1714	962	797	1714	1900	1615	1714	4782	490	1714	4575	665
Grp Volume(v), veh/h	224	0	426	109	154	-3	123	683	359	105	641	332
Grp Sat Flow(s),veh/h/ln	1714	0	1759	1714	1900	1615	1714	1729	1814	1714	1729	1781
Q Serve(g_s), s	10.4	0.0	18.6	5.1	5.7	0.0	5.8	13.6	13.6	4.9	12.8	12.9
Cycle Q Clear(g_c), s	10.4	0.0	18.6	5.1	5.7	0.0	5.8	13.6	13.6	4.9	12.8	12.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.27	1.00		0.37
Lane Grp Cap(c), veh/h	268	0	508	139	406	345	155	1134	595	134	1090	562
V/C Ratio(X)	0.84	0.00	0.84	0.79	0.38	-0.01	0.79	0.60	0.60	0.78	0.59	0.59
Avail Cap(c_a), veh/h	544	0	845	301	644	548	322	1409	739	301	1367	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	27.4	37.0	27.6	0.0	36.5	23.1	23.1	37.1	23.6	23.6
Incr Delay (d2), s/veh	6.8	0.0	3.9	9.4	0.6	0.0	8.7	0.5	1.0	9.6	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	9.5	2.8	3.1	0.0	3.1	6.5	7.0	2.7	6.1	6.4
LnGrp Delay(d),s/veh	40.4	0.0	31.3	46.4	28.2	0.0	45.2	23.6	24.1	46.7	24.1	24.6
LnGrp LOS	D		C	D	C		D	C	C	D	C	C
Approach Vol, veh/h		650			260			1165			1078	
Approach Delay, s/veh		34.4			36.1			26.0			26.5	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	31.5	11.2	28.3	12.0	30.5	17.4	22.1				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	14.4	33.4	14.4	39.4	15.4	32.4	26.0	27.8				
Max Q Clear Time (g_c+I1), s	6.9	15.6	7.1	20.6	7.8	14.9	12.4	7.7				
Green Ext Time (p_c), s	0.1	11.1	0.1	3.0	0.1	11.0	0.5	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			28.7									
HCM 2010 LOS			C									

Timings
19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

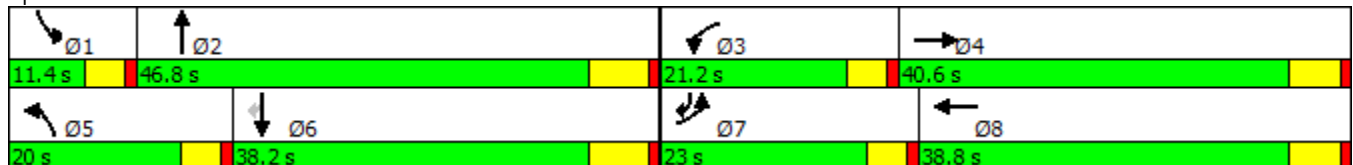


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕	↙
Traffic Volume (vph)	174	107	116	103	287	951	31	1021	199
Future Volume (vph)	174	107	116	103	287	951	31	1021	199
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4	3	8	5	2	1	6	7
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	28.5	9.6	28.5	9.6
Total Split (s)	23.0	40.6	21.2	38.8	20.0	46.8	11.4	38.2	23.0
Total Split (%)	19.2%	33.8%	17.7%	32.3%	16.7%	39.0%	9.5%	31.8%	19.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	107	137	116	103	97	287	951	33	31	1021	199
Future Volume (veh/h)	174	107	137	116	103	97	287	951	33	31	1021	199
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	189	116	149	126	112	105	312	1034	36	34	1110	216
Adj No. of Lanes	1	2	0	1	2	0	2	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	227	301	270	158	234	200	400	2239	78	57	1806	776
Arrive On Green	0.13	0.17	0.17	0.09	0.13	0.13	0.12	0.43	0.43	0.03	0.35	0.35
Sat Flow, veh/h	1714	1805	1615	1714	1846	1580	3326	5147	179	1714	5187	1615
Grp Volume(v), veh/h	189	116	149	126	109	108	312	694	376	34	1110	216
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1621	1663	1729	1868	1714	1729	1615
Q Serve(g_s), s	8.5	4.5	6.7	5.7	4.4	4.9	7.2	11.2	11.2	1.5	14.0	6.3
Cycle Q Clear(g_c), s	8.5	4.5	6.7	5.7	4.4	4.9	7.2	11.2	11.2	1.5	14.0	6.3
Prop In Lane	1.00		1.00	1.00		0.97	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	227	301	270	158	229	205	400	1504	813	57	1806	776
V/C Ratio(X)	0.83	0.38	0.55	0.80	0.48	0.52	0.78	0.46	0.46	0.60	0.61	0.28
Avail Cap(c_a), veh/h	400	796	712	361	755	678	649	1766	954	148	2084	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	29.3	30.2	35.1	32.0	32.2	33.7	15.8	15.8	37.6	21.3	12.3
Incr Delay (d2), s/veh	3.0	0.8	1.8	3.4	1.5	2.1	1.3	0.2	0.4	3.7	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.3	3.1	2.8	2.3	2.3	3.4	5.4	5.8	0.8	6.8	2.9
LnGrp Delay(d),s/veh	36.4	30.1	31.9	38.5	33.6	34.3	35.0	16.0	16.2	41.3	21.8	12.5
LnGrp LOS	D	C	C	D	C	C	C	B	B	D	C	B
Approach Vol, veh/h		454			343			1382			1360	
Approach Delay, s/veh		33.3			35.6			20.3			20.8	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	40.8	11.9	19.0	14.1	34.0	15.1	15.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	6.8	40.3	16.6	34.8	15.4	31.7	18.4	33.0				
Max Q Clear Time (g_c+I1), s	3.5	13.2	7.7	8.7	9.2	16.0	10.5	6.9				
Green Ext Time (p_c), s	0.0	16.8	0.1	2.7	0.3	11.5	0.1	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

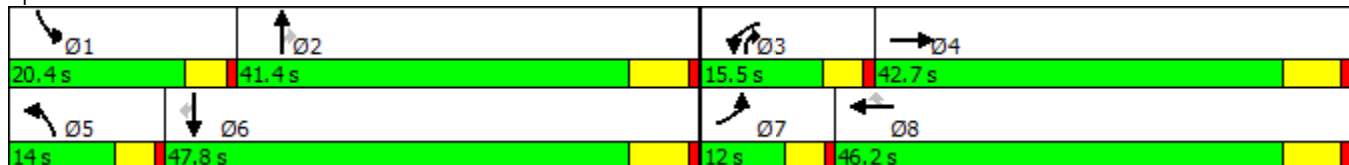


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	239	720	401	366	676	199	371	651	147	108	775	283
Future Volume (vph)	239	720	401	366	676	199	371	651	147	108	775	283
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	12.0	42.7		15.5	46.2	46.2	14.0	41.4	15.5	20.4	47.8	47.8
Total Split (%)	10.0%	35.6%		12.9%	38.5%	38.5%	11.7%	34.5%	12.9%	17.0%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



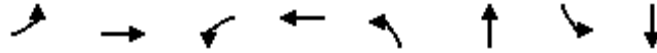
HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	720	401	366	676	199	371	651	147	108	775	283
Future Volume (veh/h)	239	720	401	366	676	199	371	651	147	108	775	283
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1768	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	254	766	0	389	719	164	395	693	0	115	824	282
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	1	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	246	1349	420	362	1541	480	325	1604	686	143	1521	474
Arrive On Green	0.08	0.26	0.00	0.12	0.30	0.30	0.10	0.31	0.00	0.08	0.29	0.29
Sat Flow, veh/h	3141	5187	1615	3141	5187	1615	3267	5187	1615	1714	5187	1615
Grp Volume(v), veh/h	254	766	0	389	719	164	395	693	0	115	824	282
Grp Sat Flow(s),veh/h/ln	1570	1729	1615	1570	1729	1615	1633	1729	1615	1714	1729	1615
Q Serve(g_s), s	7.4	12.1	0.0	10.9	10.7	7.5	9.4	10.1	0.0	6.2	12.6	14.1
Cycle Q Clear(g_c), s	7.4	12.1	0.0	10.9	10.7	7.5	9.4	10.1	0.0	6.2	12.6	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	1349	420	362	1541	480	325	1604	686	143	1521	474
V/C Ratio(X)	1.03	0.57	0.00	1.07	0.47	0.34	1.22	0.43	0.00	0.80	0.54	0.60
Avail Cap(c_a), veh/h	246	2004	624	362	2196	684	325	1916	783	287	2267	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	30.3	0.0	41.8	27.1	26.0	42.5	26.0	0.0	42.5	28.1	28.6
Incr Delay (d2), s/veh	66.1	0.4	0.0	68.2	0.2	0.4	121.8	0.2	0.0	4.0	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	5.8	0.0	8.1	5.2	3.4	9.7	4.8	0.0	3.1	6.1	6.4
LnGrp Delay(d),s/veh	109.6	30.7	0.0	110.0	27.3	26.4	164.3	26.2	0.0	46.5	28.4	29.8
LnGrp LOS	F	C		F	C	C	F	C		D	C	C
Approach Vol, veh/h		1020			1272			1088			1221	
Approach Delay, s/veh		50.4			52.5			76.3			30.4	
Approach LOS		D			D			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	35.7	15.5	30.8	14.0	34.2	12.0	34.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.8	34.9	10.9	36.5	9.4	41.3	7.4	40.0				
Max Q Clear Time (g_c+I1), s	8.2	12.1	12.9	14.1	11.4	16.1	9.4	12.7				
Green Ext Time (p_c), s	0.1	11.0	0.0	10.5	0.0	11.6	0.0	11.5				
Intersection Summary												
HCM 2010 Ctrl Delay			51.8									
HCM 2010 LOS			D									

Timings
21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

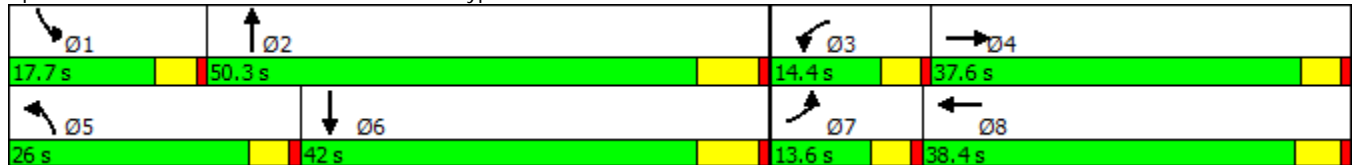


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	112	54	130	33	306	1102	88	1255
Future Volume (vph)	112	54	130	33	306	1102	88	1255
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.6	9.6	38.2	9.6	28.5	9.6	28.5
Total Split (s)	13.6	37.6	14.4	38.4	26.0	50.3	17.7	42.0
Total Split (%)	11.3%	31.3%	12.0%	32.0%	21.7%	41.9%	14.8%	35.0%
Yellow Time (s)	3.6	3.6	3.6	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.2	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated























Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	54	301	130	33	139	306	1102	54	88	1255	354
Future Volume (veh/h)	112	54	301	130	33	139	306	1102	54	88	1255	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	115	56	310	134	34	113	315	1136	55	91	1294	365
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	133	62	344	145	98	325	316	2148	104	113	1230	346
Arrive On Green	0.08	0.25	0.25	0.08	0.25	0.25	0.18	0.42	0.42	0.07	0.31	0.31
Sat Flow, veh/h	1714	253	1400	1714	387	1286	1714	5069	245	1714	4025	1133
Grp Volume(v), veh/h	115	0	366	134	0	147	315	775	416	91	1111	548
Grp Sat Flow(s),veh/h/ln	1714	0	1653	1714	0	1673	1714	1729	1857	1714	1729	1700
Q Serve(g_s), s	7.7	0.0	24.9	9.0	0.0	8.4	21.3	19.3	19.4	6.1	35.5	35.5
Cycle Q Clear(g_c), s	7.7	0.0	24.9	9.0	0.0	8.4	21.3	19.3	19.4	6.1	35.5	35.5
Prop In Lane	1.00		0.85	1.00		0.77	1.00		0.13	1.00		0.67
Lane Grp Cap(c), veh/h	133	0	407	145	0	423	316	1465	787	113	1057	519
V/C Ratio(X)	0.87	0.00	0.90	0.93	0.00	0.35	1.00	0.53	0.53	0.80	1.05	1.05
Avail Cap(c_a), veh/h	133	0	470	145	0	478	316	1465	787	193	1057	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	0.0	42.4	52.8	0.0	35.6	47.4	24.9	24.9	53.5	40.3	40.3
Incr Delay (d2), s/veh	39.7	0.0	18.5	52.5	0.0	0.5	49.9	0.4	0.7	4.9	42.4	54.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	13.5	6.4	0.0	3.9	14.4	9.3	10.1	3.0	23.1	24.5
LnGrp Delay(d),s/veh	92.7	0.0	60.9	105.3	0.0	36.0	97.3	25.2	25.5	58.4	82.7	94.8
LnGrp LOS	F		E	F		D	F	C	C	E	F	F
Approach Vol, veh/h		481			281			1506			1750	
Approach Delay, s/veh		68.5			69.1			40.4			85.2	
Approach LOS		E			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	55.7	14.4	33.8	26.0	42.0	13.6	34.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 5.2	4.6	6.5	4.6	5.2				
Max Green Setting (Gmax), s	13.1	43.8	9.8	* 33	21.4	35.5	9.0	33.2				
Max Q Clear Time (g_c+I1), s	8.1	21.4	11.0	26.9	23.3	37.5	9.7	10.4				
Green Ext Time (p_c), s	0.0	17.7	0.0	1.7	0.0	0.0	0.0	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			65.3									
HCM 2010 LOS			E									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

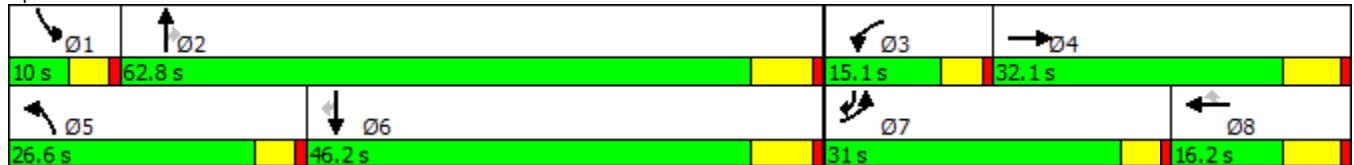


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕	↖
Traffic Volume (vph)	325	69	260	213	131	86	371	1173	388	85	1236	551
Future Volume (vph)	325	69	260	213	131	86	371	1173	388	85	1236	551
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	16.2	16.2	9.6	16.5	16.5	9.6	16.5	9.6
Total Split (s)	31.0	32.1		15.1	16.2	16.2	26.6	62.8	62.8	10.0	46.2	31.0
Total Split (%)	25.8%	26.8%		12.6%	13.5%	13.5%	22.2%	52.3%	52.3%	8.3%	38.5%	25.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.4
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	325	69	260	213	131	86	371	1173	388	85	1236	551
Future Volume (veh/h)	325	69	260	213	131	86	371	1173	388	85	1236	551
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	335	71	0	220	135	26	382	1209	384	88	1274	511
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	408	520	233	282	375	168	453	2548	793	148	2044	846
Arrive On Green	0.13	0.14	0.00	0.09	0.10	0.10	0.14	0.49	0.49	0.05	0.39	0.39
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	5187	1615	3141	5187	1615
Grp Volume(v), veh/h	335	71	0	220	135	26	382	1209	384	88	1274	511
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1729	1615	1570	1729	1615
Q Serve(g_s), s	10.0	1.7	0.0	6.6	3.3	1.4	11.4	14.9	15.3	2.6	19.0	21.2
Cycle Q Clear(g_c), s	10.0	1.7	0.0	6.6	3.3	1.4	11.4	14.9	15.3	2.6	19.0	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	520	233	282	375	168	453	2548	793	148	2044	846
V/C Ratio(X)	0.82	0.14	0.00	0.78	0.36	0.15	0.84	0.47	0.48	0.60	0.62	0.60
Avail Cap(c_a), veh/h	862	972	435	343	375	168	719	3037	946	176	2142	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	35.9	0.0	42.8	40.1	39.2	40.1	16.2	16.3	44.9	23.4	15.9
Incr Delay (d2), s/veh	1.6	0.1	0.0	7.1	0.6	0.4	2.8	0.1	0.5	1.4	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.8	0.0	3.2	1.7	0.6	5.1	7.1	6.8	1.2	9.1	9.6
LnGrp Delay(d),s/veh	42.3	36.0	0.0	50.0	40.7	39.6	42.9	16.4	16.8	46.3	23.9	17.1
LnGrp LOS	D	D		D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		406			381			1975			1873	
Approach Delay, s/veh		41.2			46.0			21.6			23.1	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	53.7	13.2	20.0	18.5	44.4	17.1	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.4	56.3	10.5	25.9	22.0	39.7	26.4	10.0				
Max Q Clear Time (g_c+I1), s	4.6	17.3	8.6	3.7	13.4	23.2	12.0	5.3				
Green Ext Time (p_c), s	0.0	30.0	0.1	1.1	0.5	14.6	0.5	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			25.9									
HCM 2010 LOS			C									
Notes												

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

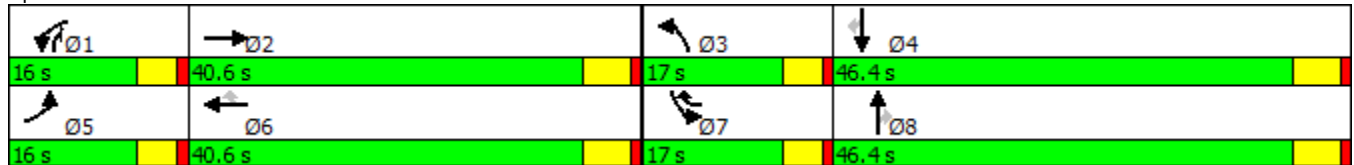

























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖↗	↕	↖↗	↖	↕↕↕	↖	↖↗	↕↕↕	↖
Traffic Volume (vph)	230	620	229	711	524	120	1330	204	248	1083	223
Future Volume (vph)	230	620	229	711	524	120	1330	204	248	1083	223
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	1	6	7	3	8	1	7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	1	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3	46.3
Total Split (s)	16.0	40.6	16.0	40.6	17.0	17.0	46.4	16.0	17.0	46.4	46.4
Total Split (%)	13.3%	33.8%	13.3%	33.8%	14.2%	14.2%	38.7%	13.3%	14.2%	38.7%	38.7%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	620	92	229	711	524	120	1330	204	248	1083	223
Future Volume (veh/h)	230	620	92	229	711	524	120	1330	204	248	1083	223
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	250	674	100	239	773	481	130	1385	212	258	1128	242
Adj No. of Lanes	2	2	0	2	2	2	1	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	310	906	134	300	1025	1066	158	1868	712	319	1887	587
Arrive On Green	0.09	0.29	0.29	0.09	0.28	0.28	0.09	0.36	0.36	0.09	0.36	0.36
Sat Flow, veh/h	3510	3155	468	3510	3610	2842	1810	5187	1595	3510	5187	1615
Grp Volume(v), veh/h	250	385	389	239	773	481	130	1385	212	258	1128	242
Grp Sat Flow(s),veh/h/ln	1755	1805	1817	1755	1805	1421	1810	1729	1595	1755	1729	1615
Q Serve(g_s), s	7.8	21.5	21.5	7.4	21.7	14.1	7.8	25.9	9.4	8.0	19.6	12.4
Cycle Q Clear(g_c), s	7.8	21.5	21.5	7.4	21.7	14.1	7.8	25.9	9.4	8.0	19.6	12.4
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	518	522	300	1025	1066	158	1868	712	319	1887	587
V/C Ratio(X)	0.81	0.74	0.75	0.80	0.75	0.45	0.82	0.74	0.30	0.81	0.60	0.41
Avail Cap(c_a), veh/h	364	574	578	364	1148	1162	204	1921	728	395	1921	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	35.9	35.9	49.8	36.2	26.1	49.8	31.0	19.7	49.5	28.7	26.4
Incr Delay (d2), s/veh	9.2	4.7	4.7	8.0	2.6	0.3	14.9	1.6	0.3	7.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.4	11.5	3.9	11.1	5.5	4.6	12.6	4.2	4.2	9.5	5.6
LnGrp Delay(d),s/veh	58.9	40.6	40.6	57.8	38.8	26.4	64.7	32.6	20.0	57.4	29.3	27.0
LnGrp LOS	E	D	D	E	D	C	E	C	B	E	C	C
Approach Vol, veh/h		1024			1493			1727			1628	
Approach Delay, s/veh		45.0			37.8			33.5			33.4	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	37.2	14.2	45.7	14.3	36.8	14.6	45.3				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	11.5	35.3	12.5	41.1	11.5	35.3	12.5	41.1				
Max Q Clear Time (g_c+I1), s	9.4	23.5	9.8	21.6	9.8	23.7	10.0	27.9				
Green Ext Time (p_c), s	0.1	7.9	0.0	17.2	0.1	7.9	0.1	12.1				
Intersection Summary												
HCM 2010 Ctrl Delay			36.6									
HCM 2010 LOS			D									

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

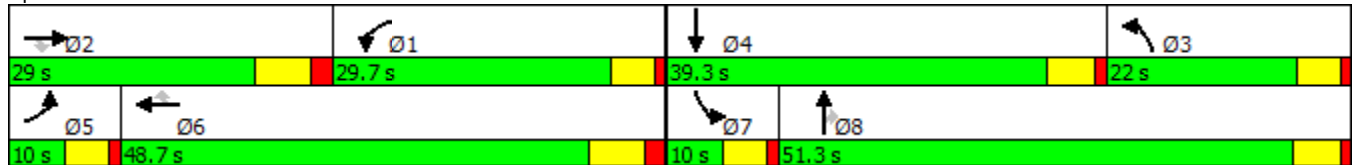


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↗
Traffic Volume (vph)	71	1294	57	38	1409	82	119	57	144	164	30
Future Volume (vph)	71	1294	57	38	1409	82	119	57	144	164	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	29.0	29.0	29.7	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	24.2%	24.2%	24.8%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1294	57	38	1409	82	119	57	144	164	30	136
Future Volume (veh/h)	71	1294	57	38	1409	82	119	57	144	164	30	136
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1407	60	41	1532	89	129	62	123	178	33	127
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	1496	466	283	2158	658	173	325	276	119	46	179
Arrive On Green	0.05	0.29	0.29	0.16	0.42	0.42	0.10	0.17	0.17	0.07	0.14	0.14
Sat Flow, veh/h	1810	5187	1615	1810	5187	1581	1810	1900	1612	1810	339	1304
Grp Volume(v), veh/h	77	1407	60	41	1532	89	129	62	123	178	0	160
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1729	1581	1810	1900	1612	1810	0	1643
Q Serve(g_s), s	3.2	20.2	2.1	1.5	18.7	2.7	5.3	2.1	3.2	5.0	0.0	7.1
Cycle Q Clear(g_c), s	3.2	20.2	2.1	1.5	18.7	2.7	5.3	2.1	3.2	5.0	0.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	99	1496	466	283	2158	658	173	325	276	119	0	225
V/C Ratio(X)	0.78	0.94	0.13	0.15	0.71	0.14	0.74	0.19	0.45	1.50	0.00	0.71
Avail Cap(c_a), veh/h	119	1496	466	586	2836	865	403	1146	972	119	0	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.6	26.5	20.0	27.8	18.5	13.8	33.6	27.1	10.8	35.6	0.0	31.5
Incr Delay (d2), s/veh	18.7	11.9	0.1	0.1	0.6	0.1	2.4	0.3	1.1	263.9	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	11.3	1.0	0.7	8.9	1.2	2.8	1.1	2.2	11.2	0.0	3.5
LnGrp Delay(d),s/veh	54.3	38.4	20.2	27.9	19.0	13.9	36.0	27.4	11.9	299.6	0.0	35.6
LnGrp LOS	D	D	C	C	B	B	D	C	B	F		D
Approach Vol, veh/h		1544			1662			314			338	
Approach Delay, s/veh		38.5			19.0			24.8			174.6	
Approach LOS		D			B			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	29.0	12.6	15.7	9.2	38.7	10.0	18.3				
Change Period (Y+Rc), s	7.0	* 7	5.3	* 5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.7	* 22	17.0	* 34	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	3.5	22.2	7.3	9.1	5.2	20.7	7.0	5.2				
Green Ext Time (p_c), s	11.1	0.0	0.5	0.8	0.0	11.1	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			40.9									
HCM 2010 LOS			D									
Notes												

Timings
29: Sumner Av. & Limonite Av.

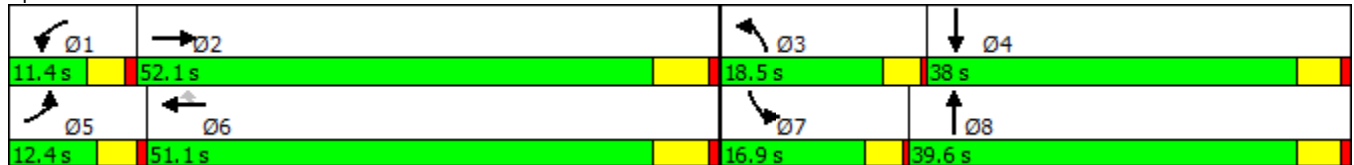


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↔	↔↔	↕↕↕	↔	↔↔	↕↔	↔	↕↔
Traffic Volume (vph)	100	1646	165	1346	22	388	212	126	140
Future Volume (vph)	100	1646	165	1346	22	388	212	126	140
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	12.4	52.1	11.4	51.1	51.1	18.5	39.6	16.9	38.0
Total Split (%)	10.3%	43.4%	9.5%	42.6%	42.6%	15.4%	33.0%	14.1%	31.7%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.9
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1646	295	165	1346	22	388	212	276	126	140	96
Future Volume (veh/h)	100	1646	295	165	1346	22	388	212	276	126	140	96
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	108	1770	309	177	1447	18	417	228	223	135	151	76
Adj No. of Lanes	2	3	0	2	3	1	2	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	169	2027	350	243	2471	769	483	335	295	166	329	157
Arrive On Green	0.05	0.46	0.46	0.07	0.48	0.48	0.14	0.19	0.19	0.09	0.14	0.14
Sat Flow, veh/h	3510	4453	770	3510	5187	1615	3510	1805	1589	1810	2360	1126
Grp Volume(v), veh/h	108	1371	708	177	1447	18	417	228	223	135	114	113
Grp Sat Flow(s),veh/h/ln	1755	1729	1764	1755	1729	1615	1755	1805	1589	1810	1805	1681
Q Serve(g_s), s	3.0	35.1	35.9	4.9	19.9	0.6	11.4	11.6	13.1	7.2	5.7	6.1
Cycle Q Clear(g_c), s	3.0	35.1	35.9	4.9	19.9	0.6	11.4	11.6	13.1	7.2	5.7	6.1
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	169	1574	803	243	2471	769	483	335	295	166	252	234
V/C Ratio(X)	0.64	0.87	0.88	0.73	0.59	0.02	0.86	0.68	0.76	0.81	0.45	0.48
Avail Cap(c_a), veh/h	282	1623	828	247	2471	769	518	636	560	238	606	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	24.1	24.4	44.8	18.7	13.6	41.5	37.3	37.9	43.8	38.8	39.0
Incr Delay (d2), s/veh	1.5	5.3	10.8	8.9	0.4	0.0	12.6	1.8	3.0	8.9	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	17.9	19.7	2.7	9.6	0.3	6.4	5.9	6.0	4.0	2.9	2.9
LnGrp Delay(d),s/veh	47.4	29.5	35.1	53.7	19.0	13.6	54.0	39.1	40.9	52.7	39.7	40.1
LnGrp LOS	D	C	D	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		2187			1642			868			362	
Approach Delay, s/veh		32.2			22.7			46.7			44.7	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	50.7	17.5	18.7	9.2	52.8	13.0	23.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	6.9	46.1	14.5	33.0	7.9	45.1	12.9	34.6				
Max Q Clear Time (g_c+I1), s	6.9	37.9	13.4	8.1	5.0	21.9	9.2	15.1				
Green Ext Time (p_c), s	0.0	6.8	0.1	3.1	0.0	21.4	0.0	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			32.5									
HCM 2010 LOS			C									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑↑
Traffic Volume (vph)	1965	791	1507	1057	424	0	261
Future Volume (vph)	1965	791	1507	1057	424	0	261
Turn Type	NA	Free	NA	Free	Split	NA	Perm
Protected Phases	2		6		4	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	23.5		36.5		23.5	23.5	23.5
Total Split (s)	79.0		79.0		31.0	31.0	31.0
Total Split (%)	71.8%		71.8%		28.2%	28.2%	28.2%
Yellow Time (s)	4.5		4.5		4.5	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Max		Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 103 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

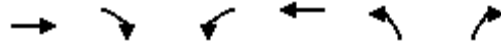
Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑				↑	↑	↑↑
Traffic Volume (veh/h)	0	1965	791	0	1507	1057	0	0	0	424	0	261
Future Volume (veh/h)	0	1965	791	0	1507	1057	0	0	0	424	0	261
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2159	0	0	1656	0				466	0	188
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	3877	1207	0	3877	1207				552	0	493
Arrive On Green	0.00	0.75	0.00	0.00	1.00	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	5358	1615	0	5358	1615				3619	0	3230
Grp Volume(v), veh/h	0	2159	0	0	1656	0				466	0	188
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1729	1615				1810	0	1615
Q Serve(g_s), s	0.0	19.8	0.0	0.0	0.0	0.0				13.8	0.0	5.8
Cycle Q Clear(g_c), s	0.0	19.8	0.0	0.0	0.0	0.0				13.8	0.0	5.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3877	1207	0	3877	1207				552	0	493
V/C Ratio(X)	0.00	0.56	0.00	0.00	0.43	0.00				0.84	0.00	0.38
Avail Cap(c_a), veh/h	0	3877	1207	0	3877	1207				839	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.42	0.00	0.00	0.64	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.0	0.0	0.0	0.0	0.0				45.3	0.0	41.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				3.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.3	0.0	0.0	0.1	0.0				7.1	0.0	2.6
LnGrp Delay(d),s/veh	0.0	6.3	0.0	0.0	0.2	0.0				48.4	0.0	42.1
LnGrp LOS		A			A					D		D
Approach Vol, veh/h		2159			1656						654	
Approach Delay, s/veh		6.3			0.2						46.6	
Approach LOS		A			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		87.7		22.3		87.7						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		73.5		25.5		73.5						
Max Q Clear Time (g_c+I1), s		21.8		15.8		2.0						
Green Ext Time (p_c), s		36.9		1.0		45.6						
Intersection Summary												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

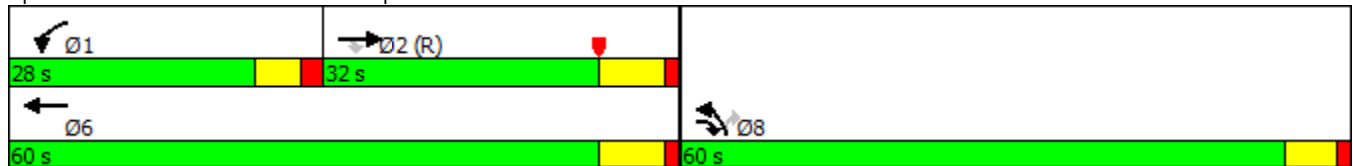


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	520	859	399	458	466	183
Future Volume (vph)	520	859	399	458	466	183
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	60.0	28.0	60.0	60.0	60.0
Total Split (%)	26.7%	50.0%	23.3%	50.0%	50.0%	50.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 12 (10%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	520	859	399	458	466	183		
Future Volume (veh/h)	520	859	399	458	466	183		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	559	819	429	492	501	108		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1068	1059	576	2278	1457	727		
Arrive On Green	0.34	0.34	0.18	0.44	0.45	0.45		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	559	819	429	492	501	108		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	10.3	24.7	15.5	7.1	12.1	4.7		
Cycle Q Clear(g_c), s	10.3	24.7	15.5	7.1	12.1	4.7		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1068	1059	576	2278	1457	727		
V/C Ratio(X)	0.52	0.77	0.74	0.22	0.34	0.15		
Avail Cap(c_a), veh/h	1068	1059	576	2278	1457	727		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.71	0.71	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	34.7	9.4	46.3	20.8	21.5	19.5		
Incr Delay (d2), s/veh	1.3	4.0	8.5	0.0	0.6	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.0	28.1	7.4	3.4	5.5	2.2		
LnGrp Delay(d),s/veh	36.0	13.4	54.8	20.9	22.1	19.9		
LnGrp LOS	D	B	D	C	C	B		
Approach Vol, veh/h	1378			921	609			
Approach Delay, s/veh	22.5			36.7	21.7			
Approach LOS	C			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.0	32.0				60.0		60.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	22.0	24.7				52.7		54.0
Max Q Clear Time (g_c+I1), s	17.5	26.7				9.1		14.1
Green Ext Time (p_c), s	0.7	0.0				13.8		2.2
Intersection Summary								
HCM 2010 Ctrl Delay			26.9					
HCM 2010 LOS			C					
Notes								

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

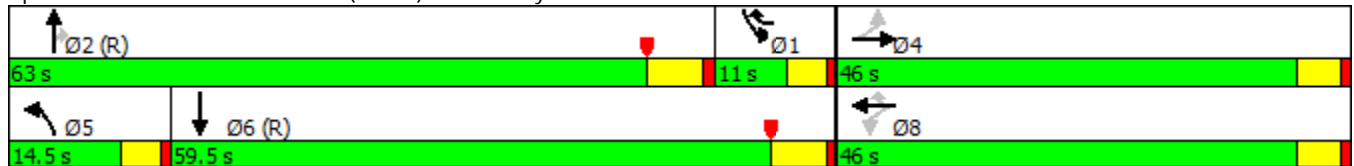


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↗	↑↑↑	↗	↗↖	↑↑↑
Traffic Volume (vph)	6	27	176	0	422	2	2280	251	612	1898
Future Volume (vph)	6	27	176	0	422	2	2280	251	612	1898
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	10.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	9.5	14.5	28.0	28.0	9.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	11.0	14.5	63.0	63.0	11.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	9.2%	12.1%	52.5%	52.5%	9.2%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	27	14	176	0	422	2	2280	251	612	1898	1
Future Volume (veh/h)	6	27	14	176	0	422	2	2280	251	612	1898	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1872	1900	1900	1768	1900	1900
Adj Flow Rate, veh/h	6	29	7	189	0	426	2	2452	241	658	2041	1
Adj No. of Lanes	0	1	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	169	36	466	0	619	10	2464	757	844	3965	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.01	0.47	0.47	0.26	0.74	0.74
Sat Flow, veh/h	105	1352	292	2641	0	1615	1783	5187	1594	3267	5355	3
Grp Volume(v), veh/h	42	0	0	189	0	426	2	2452	241	658	1318	724
Grp Sat Flow(s),veh/h/ln	1749	0	0	1321	0	1615	1783	1729	1594	1633	1729	1899
Q Serve(g_s), s	0.0	0.0	0.0	4.9	0.0	0.0	0.1	56.5	11.2	22.4	19.2	19.2
Cycle Q Clear(g_c), s	2.4	0.0	0.0	7.3	0.0	0.0	0.1	56.5	11.2	22.4	19.2	19.2
Prop In Lane	0.14		0.17	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	253	0	0	466	0	619	10	2464	757	844	2561	1406
V/C Ratio(X)	0.17	0.00	0.00	0.41	0.00	0.69	0.21	1.00	0.32	0.78	0.51	0.51
Avail Cap(c_a), veh/h	606	0	0	1038	0	969	149	2464	757	844	2561	1406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.52	0.52	0.52	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0	48.9	0.0	31.0	59.4	31.4	19.5	41.3	6.5	6.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.5	2.0	12.0	0.6	4.3	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	3.0	0.0	11.9	0.1	29.5	5.1	10.6	9.2	10.4
LnGrp Delay(d),s/veh	47.1	0.0	0.0	49.1	0.0	31.5	61.5	43.4	20.1	45.6	7.3	7.9
LnGrp LOS	D			D		C	E	D	C	D	A	A
Approach Vol, veh/h		42			615			2695			2700	
Approach Delay, s/veh		47.1			36.9			41.3			16.8	
Approach LOS		D			D			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	37.0	63.0		20.0	5.1	94.9		20.0				
Change Period (Y+Rc), s	6.0	* 6		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	6.5	* 57		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	24.4	58.5		4.4	2.1	21.2		9.3				
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	19.4		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				30.0								
HCM 2010 LOS				C								
Notes												

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

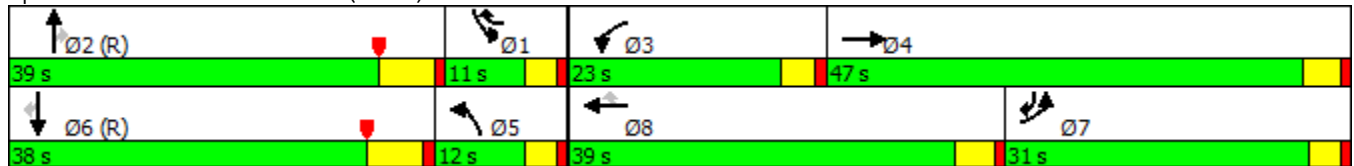


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖↗	↕	↖	↖	↕↕↕	↖	↖↗	↕↕↕	↖
Traffic Volume (vph)	277	575	306	558	576	195	1330	296	402	1275	226
Future Volume (vph)	277	575	306	558	576	195	1330	296	402	1275	226
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8	1	5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	1	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	9.0	33.0	33.0	9.0	33.0	9.0
Total Split (s)	31.0	47.0	23.0	39.0	11.0	12.0	39.0	39.0	11.0	38.0	31.0
Total Split (%)	25.8%	39.2%	19.2%	32.5%	9.2%	10.0%	32.5%	32.5%	9.2%	31.7%	25.8%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	4.0	6.0	6.0	4.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	575	232	306	558	576	195	1330	296	402	1275	226
Future Volume (veh/h)	277	575	232	306	558	576	195	1330	296	402	1275	226
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	289	599	238	319	581	566	203	1385	293	419	1328	217
Adj No. of Lanes	2	2	0	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	597	705	280	373	735	608	311	1426	444	543	1383	732
Arrive On Green	0.19	0.28	0.28	0.12	0.20	0.20	0.06	0.09	0.09	0.17	0.27	0.27
Sat Flow, veh/h	3141	2526	1002	3141	3610	1615	1714	5187	1615	3141	5187	1594
Grp Volume(v), veh/h	289	428	409	319	581	566	203	1385	293	419	1328	217
Grp Sat Flow(s),veh/h/ln	1570	1805	1723	1570	1805	1615	1714	1729	1615	1570	1729	1594
Q Serve(g_s), s	9.8	26.9	26.9	12.0	18.3	19.6	13.9	31.9	15.2	15.3	30.3	0.0
Cycle Q Clear(g_c), s	9.8	26.9	26.9	12.0	18.3	19.6	13.9	31.9	15.2	15.3	30.3	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	597	504	481	373	735	608	311	1426	444	543	1383	732
V/C Ratio(X)	0.48	0.85	0.85	0.86	0.79	0.93	0.65	0.97	0.66	0.77	0.96	0.30
Avail Cap(c_a), veh/h	707	639	610	497	1038	744	311	1426	444	543	1383	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49	0.82	0.82	0.82
Uniform Delay (d), s/veh	43.4	40.9	40.9	51.9	45.3	35.9	52.7	54.1	25.6	47.4	43.4	20.5
Incr Delay (d2), s/veh	0.2	8.6	9.1	8.6	1.7	15.0	1.9	11.1	3.7	5.1	14.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	14.6	14.1	5.6	9.3	11.2	6.8	16.8	7.3	7.0	16.2	4.7
LnGrp Delay(d),s/veh	43.6	49.4	49.9	60.5	47.1	50.9	54.6	65.2	29.3	52.4	57.7	21.3
LnGrp LOS	D	D	D	E	D	D	D	E	C	D	E	C
Approach Vol, veh/h		1126			1466			1881			1964	
Approach Delay, s/veh		48.1			51.5			58.5			52.5	
Approach LOS		D			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.8	39.0	18.2	38.0	25.8	38.0	27.3	28.9				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.5	* 4.5				
Max Green Setting (Gmax), s	7.0	33.0	19.0	42.5	8.0	32.0	27.0	* 35				
Max Q Clear Time (g_c+I1), s	17.3	33.9	14.0	28.9	15.9	32.3	11.8	21.6				
Green Ext Time (p_c), s	0.0	0.0	0.3	4.6	0.0	0.0	4.8	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			53.3									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

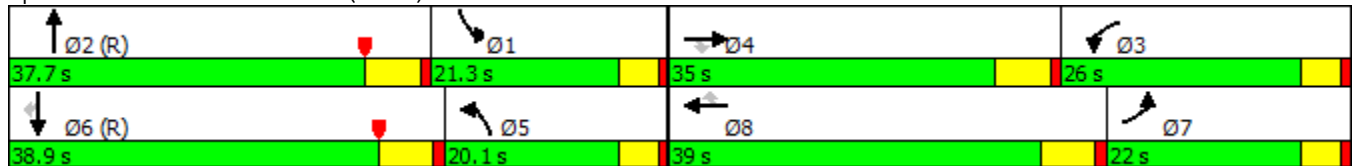
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	865	367	551	552	308	212	1061	770	356	1334	113
Future Volume (vph)	135	865	367	551	552	308	212	1061	770	356	1334	113
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	37.9	9.6	32.9		9.6	32.9	32.9
Total Split (s)	22.0	35.0	35.0	26.0	39.0	39.0	20.1	37.7		21.3	38.9	38.9
Total Split (%)	18.3%	29.2%	29.2%	21.7%	32.5%	32.5%	16.8%	31.4%		17.8%	32.4%	32.4%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	4.9	3.6	4.9		3.6	4.9	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	5.9	4.6	5.9		4.6	5.9	5.9
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 83 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	865	367	551	552	308	212	1061	770	356	1334	113
Future Volume (veh/h)	135	865	367	551	552	308	212	1061	770	356	1334	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1872	1976	1976	1768	1976	1976	1872	1976	1976	1768	1976	1976
Adj Flow Rate, veh/h	136	874	0	557	558	0	214	1072	0	360	1347	110
Adj No. of Lanes	1	2	1	2	2	1	1	3	1	2	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	411	910	407	583	715	320	248	1237	385	571	1430	445
Arrive On Green	0.23	0.24	0.00	0.18	0.19	0.00	0.14	0.23	0.00	0.35	0.53	0.53
Sat Flow, veh/h	1783	3754	1680	3267	3754	1680	1783	5394	1680	3267	5394	1680
Grp Volume(v), veh/h	136	874	0	557	558	0	214	1072	0	360	1347	110
Grp Sat Flow(s),veh/h/ln	1783	1877	1680	1633	1877	1680	1783	1798	1680	1633	1798	1680
Q Serve(g_s), s	7.6	27.6	0.0	20.3	17.0	0.0	14.1	22.9	0.0	11.0	28.1	4.2
Cycle Q Clear(g_c), s	7.6	27.6	0.0	20.3	17.0	0.0	14.1	22.9	0.0	11.0	28.1	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	910	407	583	715	320	248	1237	385	571	1430	445
V/C Ratio(X)	0.33	0.96	0.00	0.96	0.78	0.00	0.86	0.87	0.00	0.63	0.94	0.25
Avail Cap(c_a), veh/h	411	910	407	583	1036	463	248	1430	445	571	1483	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.09	0.09	0.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	38.5	44.9	0.0	48.8	46.2	0.0	50.5	44.5	0.0	35.8	27.3	21.7
Incr Delay (d2), s/veh	0.2	20.8	0.0	26.5	3.1	0.0	3.0	0.8	0.0	1.3	10.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	17.0	0.0	11.3	9.1	0.0	7.2	11.5	0.0	5.0	15.1	2.1
LnGrp Delay(d),s/veh	38.6	65.7	0.0	75.3	49.3	0.0	53.5	45.3	0.0	37.0	38.0	22.7
LnGrp LOS	D	E		E	D		D	D		D	D	C
Approach Vol, veh/h		1010			1115			1286			1817	
Approach Delay, s/veh		62.0			62.3			46.7			36.9	
Approach LOS		E			E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.6	33.4	26.0	35.0	21.3	37.7	32.3	28.7				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	16.7	31.8	21.4	29.1	15.5	33.0	17.4	33.1				
Max Q Clear Time (g_c+1), s	13.0	24.9	22.3	29.6	16.1	30.1	9.6	19.0				
Green Ext Time (p_c), s	0.4	2.6	0.0	0.0	0.0	1.7	0.9	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay			49.6									
HCM 2010 LOS			D									

Timings
7: Merrill Av. & Grove Av.



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	139	749	542	273
Future Volume (vph)	139	749	542	273
Turn Type	Prot	NA	NA	Prot
Protected Phases	5	2	6	4
Permitted Phases				
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	24.2	24.2
Total Split (s)	25.0	75.0	50.0	45.0
Total Split (%)	20.8%	62.5%	41.7%	37.5%
Yellow Time (s)	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

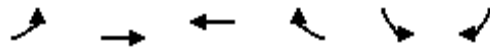
Splits and Phases: 7: Merrill Av. & Grove Av.



HCM 2010 Signalized Intersection Summary
7: Merrill Av. & Grove Av.

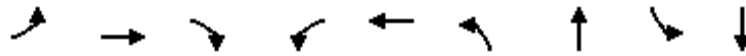
Colony Commerce Center East SP (JN 10522)

10/03/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	139	749	542	273	273	53		
Future Volume (veh/h)	139	749	542	273	273	53		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900		
Adj Flow Rate, veh/h	151	814	589	297	297	58		
Adj No. of Lanes	1	2	2	0	0	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	188	2122	967	487	343	67		
Arrive On Green	0.11	0.59	0.42	0.42	0.24	0.24		
Sat Flow, veh/h	1714	3705	2421	1172	1402	274		
Grp Volume(v), veh/h	151	814	457	429	356	0		
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1693	1681	0		
Q Serve(g_s), s	6.4	8.9	14.7	14.7	15.0	0.0		
Cycle Q Clear(g_c), s	6.4	8.9	14.7	14.7	15.0	0.0		
Prop In Lane	1.00			0.69	0.83	0.16		
Lane Grp Cap(c), veh/h	188	2122	751	704	411	0		
V/C Ratio(X)	0.80	0.38	0.61	0.61	0.87	0.00		
Avail Cap(c_a), veh/h	472	3356	1068	1002	881	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	32.2	8.1	16.9	16.9	26.8	0.0		
Incr Delay (d2), s/veh	3.0	0.1	0.8	0.9	5.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.2	4.4	7.4	7.0	7.6	0.0		
LnGrp Delay(d),s/veh	35.2	8.2	17.7	17.8	32.4	0.0		
LnGrp LOS	D	A	B	B	C			
Approach Vol, veh/h		965	886		356			
Approach Delay, s/veh		12.4	17.7		32.4			
Approach LOS		B	B		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		49.7		24.3	12.7	37.0		
Change Period (Y+Rc), s		6.2		6.2	4.6	6.2		
Max Green Setting (Gmax), s		68.8		38.8	20.4	43.8		
Max Q Clear Time (g_c+I1), s		10.9		17.0	8.4	16.7		
Green Ext Time (p_c), s		18.9		1.1	0.1	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			17.8					
HCM 2010 LOS			B					
Notes								

Timings
8: Flight Av. & Merrill Av.

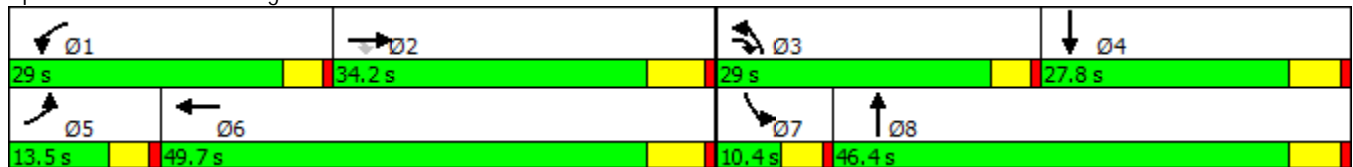


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗	↗	↖	↗↗	↖	↗	↖	↗
Traffic Volume (vph)	42	634	346	254	549	250	15	18	15
Future Volume (vph)	42	634	346	254	549	250	15	18	15
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	3	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.2	9.6	9.6	24.2	9.6	27.8	9.6	27.8
Total Split (s)	13.5	34.2	29.0	29.0	49.7	29.0	46.4	10.4	27.8
Total Split (%)	11.3%	28.5%	24.2%	24.2%	41.4%	24.2%	38.7%	8.7%	23.2%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 8: Flight Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
8: Flight Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	634	346	254	549	45	250	15	205	18	15	16
Future Volume (veh/h)	42	634	346	254	549	45	250	15	205	18	15	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	46	682	372	273	590	49	269	16	220	20	16	17
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.93	0.92	0.93	0.92	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	981	727	311	1398	116	307	30	418	38	100	106
Arrive On Green	0.04	0.27	0.27	0.18	0.41	0.41	0.18	0.28	0.28	0.02	0.12	0.12
Sat Flow, veh/h	1714	3610	1609	1714	3376	280	1714	111	1521	1714	844	897
Grp Volume(v), veh/h	46	682	372	273	315	324	269	0	236	20	0	33
Grp Sat Flow(s),veh/h/ln	1714	1805	1609	1714	1805	1851	1714	0	1632	1714	0	1742
Q Serve(g_s), s	2.2	14.4	14.0	13.2	10.5	10.6	13.0	0.0	10.4	1.0	0.0	1.4
Cycle Q Clear(g_c), s	2.2	14.4	14.0	13.2	10.5	10.6	13.0	0.0	10.4	1.0	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.93	1.00		0.52
Lane Grp Cap(c), veh/h	67	981	727	311	747	766	307	0	449	38	0	205
V/C Ratio(X)	0.69	0.70	0.51	0.88	0.42	0.42	0.87	0.00	0.53	0.53	0.00	0.16
Avail Cap(c_a), veh/h	180	1191	821	493	925	949	493	0	781	117	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	27.8	16.6	33.8	17.7	17.7	33.9	0.0	26.1	41.1	0.0	33.7
Incr Delay (d2), s/veh	4.6	1.4	0.6	6.7	0.4	0.4	6.1	0.0	1.0	4.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.4	6.3	6.8	5.3	5.5	6.6	0.0	4.8	0.5	0.0	0.7
LnGrp Delay(d),s/veh	44.9	29.1	17.2	40.5	18.0	18.0	40.0	0.0	27.0	45.2	0.0	34.0
LnGrp LOS	D	C	B	D	B	B	D		C	D		C
Approach Vol, veh/h		1100			912			505			53	
Approach Delay, s/veh		25.7			24.8			33.9			38.2	
Approach LOS		C			C			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	29.3	19.8	15.8	7.9	41.3	6.5	29.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	24.4	28.0	24.4	22.0	8.9	43.5	5.8	40.6				
Max Q Clear Time (g_c+I1), s	15.2	16.4	15.0	3.4	4.2	12.6	3.0	12.4				
Green Ext Time (p_c), s	0.3	6.7	0.3	1.4	0.0	10.9	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			27.3									
HCM 2010 LOS			C									

Timings
9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

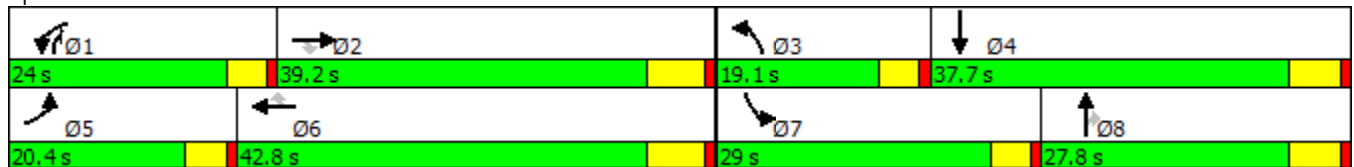


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗
Traffic Volume (vph)	122	669	365	109	638	113	219	66	424	235	75
Future Volume (vph)	122	669	365	109	638	113	219	66	424	235	75
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	5	2		1	6		3	8	1	7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	1	7	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	24.2	24.2	9.6	24.2	24.2	9.6	27.8	9.6	9.6	27.8
Total Split (s)	20.4	39.2	39.2	24.0	42.8	42.8	19.1	27.8	24.0	29.0	37.7
Total Split (%)	17.0%	32.7%	32.7%	20.0%	35.7%	35.7%	15.9%	23.2%	20.0%	24.2%	31.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	4.8	3.6	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	5.8	4.6	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 9: Hellman Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 9: Hellman Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	669	365	109	638	113	219	66	424	235	75	192
Future Volume (veh/h)	122	669	365	109	638	113	219	66	424	235	75	192
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	133	727	397	118	693	123	238	72	461	255	82	209
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	162	1112	498	146	1078	482	307	425	499	288	142	362
Arrive On Green	0.09	0.31	0.31	0.09	0.30	0.30	0.09	0.22	0.22	0.17	0.30	0.30
Sat Flow, veh/h	1714	3610	1615	1714	3610	1615	3326	1900	1615	1714	475	1211
Grp Volume(v), veh/h	133	727	397	118	693	123	238	72	461	255	0	291
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1615	1663	1900	1615	1714	0	1686
Q Serve(g_s), s	7.5	17.2	22.2	6.7	16.4	5.7	6.9	3.0	22.0	14.3	0.0	14.4
Cycle Q Clear(g_c), s	7.5	17.2	22.2	6.7	16.4	5.7	6.9	3.0	22.0	14.3	0.0	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	162	1112	498	146	1078	482	307	425	499	288	0	504
V/C Ratio(X)	0.82	0.65	0.80	0.81	0.64	0.25	0.78	0.17	0.92	0.89	0.00	0.58
Avail Cap(c_a), veh/h	275	1210	541	338	1342	600	490	425	499	425	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.7	29.5	31.2	44.2	30.0	26.2	43.7	30.9	32.9	40.0	0.0	29.2
Incr Delay (d2), s/veh	3.9	1.1	7.7	3.9	0.7	0.3	1.6	0.2	23.2	10.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.8	10.9	3.3	8.3	2.6	3.2	1.6	15.3	7.7	0.0	6.9
LnGrp Delay(d),s/veh	47.6	30.6	38.9	48.2	30.7	26.5	45.3	31.0	56.1	50.7	0.0	30.5
LnGrp LOS	D	C	D	D	C	C	D	C	E	D		C
Approach Vol, veh/h		1257			934			771				546
Approach Delay, s/veh		35.1			32.3			50.4				40.0
Approach LOS		D			C			D				D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	36.5	13.7	35.2	13.9	35.6	21.1	27.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	19.4	33.0	14.5	31.9	15.8	36.6	24.4	22.0				
Max Q Clear Time (g_c+I1), s	8.7	24.2	8.9	16.4	9.5	18.4	16.3	24.0				
Green Ext Time (p_c), s	0.1	6.1	0.2	3.4	0.1	10.2	0.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			38.5									
HCM 2010 LOS			D									

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

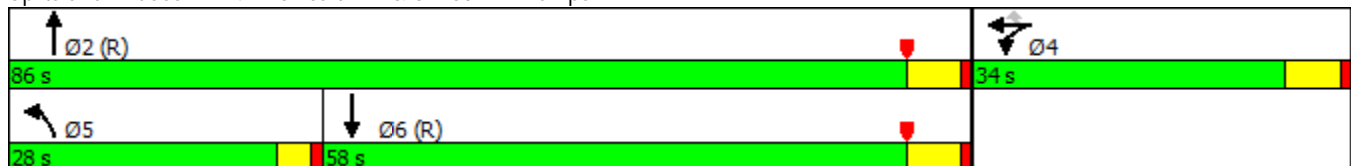


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↶	↷	↷	↶↷	↶↶↶	↶↶↶
Traffic Volume (vph)	571	7	349	351	1012	1853
Future Volume (vph)	571	7	349	351	1012	1853
Turn Type	Split	NA	Perm	Prot	NA	NA
Protected Phases	4	4		5	2	6
Permitted Phases			4			
Detector Phase	4	4	4	5	2	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	29.0	28.0	61.0	33.0
Total Split (s)	34.0	34.0	34.0	28.0	86.0	58.0
Total Split (%)	28.3%	28.3%	28.3%	23.3%	71.7%	48.3%
Yellow Time (s)	5.0	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	4.0	5.8	5.8
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 113 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated




















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	571	7	349	351	1012	0	0	1853	622
Future Volume (veh/h)	0	0	0	571	7	349	351	1012	0	0	1853	622
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1900	1900	1700	1900	0	0	1900	1900
Adj Flow Rate, veh/h				627	0	263	382	1100	0	0	2014	536
Adj No. of Lanes				2	0	1	2	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				715	0	357	431	3532	0	0	2650	697
Arrive On Green				0.22	0.00	0.22	0.27	1.00	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3238	0	1615	3141	5358	0	0	5459	1366
Grp Volume(v), veh/h				627	0	263	382	1100	0	0	1900	650
Grp Sat Flow(s),veh/h/ln				1619	0	1615	1570	1729	0	0	1634	1657
Q Serve(g_s), s				22.5	0.0	18.2	14.0	0.0	0.0	0.0	37.2	37.9
Cycle Q Clear(g_c), s				22.5	0.0	18.2	14.0	0.0	0.0	0.0	37.2	37.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.82
Lane Grp Cap(c), veh/h				715	0	357	431	3532	0	0	2502	846
V/C Ratio(X)				0.88	0.00	0.74	0.89	0.31	0.00	0.00	0.76	0.77
Avail Cap(c_a), veh/h				756	0	377	628	3532	0	0	2502	846
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				45.2	0.0	43.5	42.6	0.0	0.0	0.0	23.5	23.7
Incr Delay (d2), s/veh				12.0	0.0	8.9	5.2	0.1	0.0	0.0	2.2	6.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.2	0.0	16.4	6.4	0.0	0.0	0.0	17.2	18.9
LnGrp Delay(d),s/veh				57.2	0.0	52.4	47.8	0.1	0.0	0.0	25.7	30.3
LnGrp LOS				E		D	D	A			C	C
Approach Vol, veh/h					890			1482			2550	
Approach Delay, s/veh					55.8			12.4			26.9	
Approach LOS					E			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		87.5		32.5	20.5	67.0						
Change Period (Y+Rc), s		5.8		6.0	4.0	5.8						
Max Green Setting (Gmax), s		80.2		28.0	24.0	52.2						
Max Q Clear Time (g_c+I1), s		2.0		24.5	16.0	39.9						
Green Ext Time (p_c), s		61.7		2.0	0.5	11.7						
Intersection Summary												
HCM 2010 Ctrl Delay				27.8								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↕↕↕	↗	↖↗	↕↕↕
Traffic Volume (vph)	1	478	1126	472	582	1842
Future Volume (vph)	1	478	1126	472	582	1842
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	18.2	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (s)	49.0	49.0	40.0	40.0	31.0	71.0
Total Split (%)	40.8%	40.8%	33.3%	33.3%	25.8%	59.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
























Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



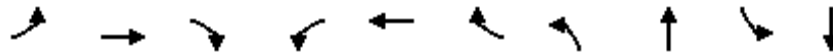
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  		 	  	
Traffic Volume (veh/h)	237	1	478	0	0	0	0	1126	472	582	1842	0
Future Volume (veh/h)	237	1	478	0	0	0	0	1126	472	582	1842	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900				0	1900	1900	1700	1900	0
Adj Flow Rate, veh/h	255	1	313				0	1211	337	626	1981	0
Adj No. of Lanes	0	1	1				0	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	402	2	360				0	1478	449	1091	3530	0
Arrive On Green	0.22	0.22	0.22				0.00	0.28	0.28	0.11	0.22	0.00
Sat Flow, veh/h	1803	7	1615				0	5358	1576	3141	5358	0
Grp Volume(v), veh/h	256	0	313				0	1211	337	626	1981	0
Grp Sat Flow(s),veh/h/ln	1810	0	1615				0	1729	1576	1570	1729	0
Q Serve(g_s), s	15.4	0.0	22.4				0.0	26.1	23.3	22.7	40.7	0.0
Cycle Q Clear(g_c), s	15.4	0.0	22.4				0.0	26.1	23.3	22.7	40.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	403	0	360				0	1478	449	1091	3530	0
V/C Ratio(X)	0.63	0.00	0.87				0.00	0.82	0.75	0.57	0.56	0.00
Avail Cap(c_a), veh/h	652	0	581				0	1478	449	1091	3530	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.65	0.65	0.35	0.35	0.00
Uniform Delay (d), s/veh	42.2	0.0	45.0				0.0	40.0	39.0	44.7	30.6	0.0
Incr Delay (d2), s/veh	1.7	0.0	8.1				0.0	3.5	7.4	0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	10.8				0.0	12.9	11.0	9.9	19.6	0.0
LnGrp Delay(d),s/veh	43.9	0.0	53.1				0.0	43.5	46.4	44.9	30.9	0.0
LnGrp LOS	D		D					D	D	D	C	
Approach Vol, veh/h		569						1548			2607	
Approach Delay, s/veh		48.9						44.1			34.2	
Approach LOS		D						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	47.5	40.0				87.5		32.5				
Change Period (Y+Rc), s	5.8	* 5.8				5.8		5.8				
Max Green Setting (Gmax), s	27.0	* 34				65.2		43.2				
Max Q Clear Time (g_c+I1), s	24.7	28.1				42.7		24.4				
Green Ext Time (p_c), s	0.9	4.0				15.8		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			39.2									
HCM 2010 LOS			D									
Notes												

Timings
17: Archibald Av. & Riverside Dr.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↗	↘↗	↑↑↗
Traffic Volume (vph)	145	544	303	317	364	133	326	989	313	1313
Future Volume (vph)	145	544	303	317	364	133	326	989	313	1313
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	9.6	9.6	32.2	9.6	33.2
Total Split (s)	23.8	38.2	38.2	25.0	39.4	17.4	16.0	39.4	17.4	40.8
Total Split (%)	19.8%	31.8%	31.8%	20.8%	32.8%	14.5%	13.3%	32.8%	14.5%	34.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 17: Archibald Av. & Riverside Dr.

↘ Ø1	↑ Ø2	↗ Ø3	→ Ø4
17.4 s	39.4 s	25 s	38.2 s
↗ Ø5	↓ Ø6	↘ Ø7	← Ø8
16 s	40.8 s	23.8 s	39.4 s

HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	544	303	317	364	133	326	989	233	313	1313	189
Future Volume (veh/h)	145	544	303	317	364	133	326	989	233	313	1313	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	154	579	250	337	387	85	347	1052	231	333	1397	129
Adj No. of Lanes	1	2	1	1	2	1	2	3	0	2	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	812	354	308	1078	663	315	1243	273	354	1470	136
Arrive On Green	0.11	0.22	0.22	0.18	0.30	0.30	0.10	0.29	0.29	0.11	0.30	0.30
Sat Flow, veh/h	1714	3610	1573	1714	3610	1610	3141	4253	933	3141	4824	445
Grp Volume(v), veh/h	154	579	250	337	387	85	347	855	428	333	1001	525
Grp Sat Flow(s),veh/h/ln	1714	1805	1573	1714	1805	1610	1570	1729	1727	1570	1729	1811
Q Serve(g_s), s	10.0	16.8	16.6	20.4	9.6	3.7	11.4	26.4	26.4	11.9	32.2	32.2
Cycle Q Clear(g_c), s	10.0	16.8	16.6	20.4	9.6	3.7	11.4	26.4	26.4	11.9	32.2	32.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		0.25
Lane Grp Cap(c), veh/h	182	812	354	308	1078	663	315	1011	505	354	1054	552
V/C Ratio(X)	0.85	0.71	0.71	1.09	0.36	0.13	1.10	0.85	0.85	0.94	0.95	0.95
Avail Cap(c_a), veh/h	290	1018	443	308	1078	663	315	1011	505	354	1054	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	40.6	40.5	46.6	31.3	20.8	51.1	37.8	37.8	50.0	38.6	38.6
Incr Delay (d2), s/veh	6.9	1.8	3.8	78.7	0.2	0.1	80.2	6.8	12.7	32.3	17.1	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.6	7.6	16.3	4.8	1.7	8.4	13.5	14.4	6.8	17.8	20.1
LnGrp Delay(d),s/veh	56.8	42.4	44.3	125.3	31.5	20.8	131.2	44.5	50.4	82.3	55.7	65.1
LnGrp LOS	E	D	D	F	C	C	F	D	D	F	E	E
Approach Vol, veh/h		983			809			1630			1859	
Approach Delay, s/veh		45.1			69.4			64.5			63.1	
Approach LOS		D			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	39.4	25.0	31.7	16.0	40.8	16.6	40.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.8	33.2	20.4	32.0	11.4	34.6	19.2	33.2				
Max Q Clear Time (g_c+I1), s	13.9	28.4	22.4	18.8	13.4	34.2	12.0	11.6				
Green Ext Time (p_c), s	0.0	4.4	0.0	5.3	0.0	0.4	0.1	7.1				
Intersection Summary												
HCM 2010 Ctrl Delay			61.2									
HCM 2010 LOS			E									
Notes												

Timings
18: Archibald Av. & Chino Av.

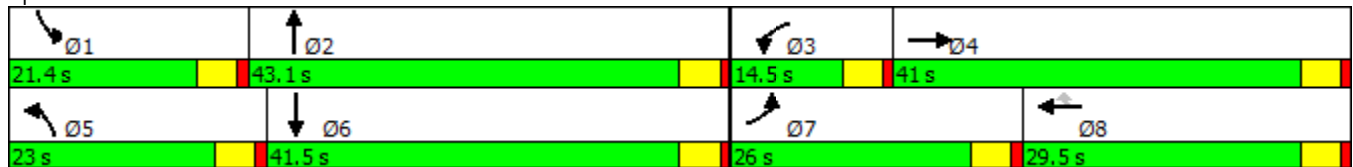


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↖	↖↗↘	↖	↖↗↘
Traffic Volume (vph)	232	312	118	288	133	232	1003	174	1118
Future Volume (vph)	232	312	118	288	133	232	1003	174	1118
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	26.0	41.0	14.5	29.5	29.5	23.0	43.1	21.4	41.5
Total Split (%)	21.7%	34.2%	12.1%	24.6%	24.6%	19.2%	35.9%	17.8%	34.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	312	206	118	288	133	232	1003	144	174	1118	280
Future Volume (veh/h)	232	312	206	118	288	133	232	1003	144	174	1118	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	237	318	207	120	294	75	237	1023	142	178	1141	286
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	264	330	215	143	449	382	262	1537	213	205	1244	312
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.15	0.33	0.33	0.12	0.30	0.30
Sat Flow, veh/h	1714	1076	700	1714	1900	1615	1714	4593	636	1714	4132	1036
Grp Volume(v), veh/h	237	0	525	120	294	75	237	770	395	178	955	472
Grp Sat Flow(s),veh/h/ln	1714	0	1776	1714	1900	1615	1714	1729	1771	1714	1729	1709
Q Serve(g_s), s	16.1	0.0	34.5	8.2	16.6	4.4	16.1	22.6	22.7	12.1	31.6	31.6
Cycle Q Clear(g_c), s	16.1	0.0	34.5	8.2	16.6	4.4	16.1	22.6	22.7	12.1	31.6	31.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.36	1.00		0.61
Lane Grp Cap(c), veh/h	264	0	546	143	449	382	262	1157	592	205	1042	515
V/C Ratio(X)	0.90	0.00	0.96	0.84	0.65	0.20	0.90	0.67	0.67	0.87	0.92	0.92
Avail Cap(c_a), veh/h	310	0	546	143	449	382	266	1157	592	243	1077	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	0.0	40.4	53.5	40.9	36.2	49.3	33.8	33.8	51.3	40.0	40.0
Incr Delay (d2), s/veh	24.5	0.0	29.1	33.3	3.4	0.2	31.2	1.5	2.9	24.0	11.9	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	21.3	5.2	9.1	2.0	9.9	11.0	11.6	7.1	16.8	17.9
LnGrp Delay(d),s/veh	73.7	0.0	69.5	86.8	44.3	36.5	80.5	35.2	36.6	75.3	51.9	60.5
LnGrp LOS	E		E	F	D	D	F	D	D	E	D	E
Approach Vol, veh/h		762			489			1402			1605	
Approach Delay, s/veh		70.8			53.5			43.3			57.0	
Approach LOS		E			D			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	44.3	14.5	41.0	22.7	40.3	22.9	32.6				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	16.8	38.5	9.9	36.4	18.4	36.9	21.4	24.9				
Max Q Clear Time (g_c+I1), s	14.1	24.7	10.2	36.5	18.1	33.6	18.1	18.6				
Green Ext Time (p_c), s	0.1	11.2	0.0	0.0	0.0	2.1	0.2	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									

Timings
19: Archibald Av. & Schaefer Av.

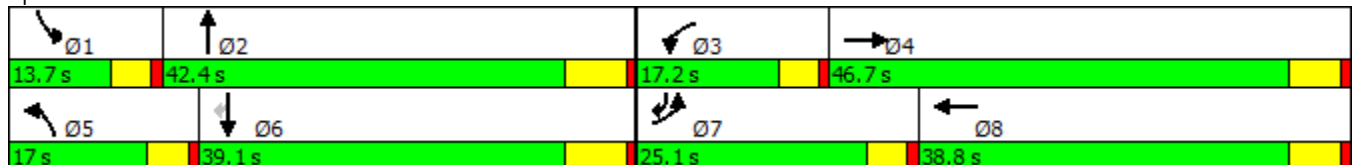


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕	↗
Traffic Volume (vph)	284	111	77	447	314	1316	111	1324	269
Future Volume (vph)	284	111	77	447	314	1316	111	1324	269
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4	3	8	5	2	1	6	7
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	38.8	9.6	38.8	9.6	28.5	9.6	28.5	9.6
Total Split (s)	25.1	46.7	17.2	38.8	17.0	42.4	13.7	39.1	25.1
Total Split (%)	20.9%	38.9%	14.3%	32.3%	14.2%	35.3%	11.4%	32.6%	20.9%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated



























Splits and Phases: 19: Archibald Av. & Schaefer Av.



HCM 2010 Signalized Intersection Summary
 19: Archibald Av. & Schaefer Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

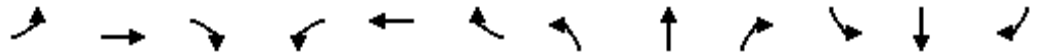
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (veh/h)	284	111	188	77	447	108	314	1316	127	111	1324	269
Future Volume (veh/h)	284	111	188	77	447	108	314	1316	127	111	1324	269
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	309	121	204	84	486	117	341	1430	138	121	1439	292
Adj No. of Lanes	1	2	0	1	2	0	2	3	0	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	316	613	548	106	626	150	371	1555	150	140	1522	772
Arrive On Green	0.18	0.34	0.34	0.06	0.22	0.22	0.11	0.32	0.32	0.08	0.29	0.29
Sat Flow, veh/h	1714	1805	1615	1714	2891	692	3326	4812	464	1714	5187	1615
Grp Volume(v), veh/h	309	121	204	84	302	301	341	1028	540	121	1439	292
Grp Sat Flow(s),veh/h/ln	1714	1805	1615	1714	1805	1778	1663	1729	1818	1714	1729	1615
Q Serve(g_s), s	19.9	5.3	10.6	5.4	17.5	17.7	11.3	31.8	31.8	7.7	30.1	12.8
Cycle Q Clear(g_c), s	19.9	5.3	10.6	5.4	17.5	17.7	11.3	31.8	31.8	7.7	30.1	12.8
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	316	613	548	106	391	385	371	1118	588	140	1522	772
V/C Ratio(X)	0.98	0.20	0.37	0.79	0.77	0.78	0.92	0.92	0.92	0.86	0.95	0.38
Avail Cap(c_a), veh/h	316	665	595	195	536	528	371	1118	588	140	1523	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	26.0	27.7	51.4	40.9	41.0	48.8	36.2	36.2	50.3	38.4	18.5
Incr Delay (d2), s/veh	43.9	0.2	0.4	5.0	4.7	5.1	26.8	12.1	19.8	37.2	12.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	2.6	4.8	2.7	9.3	9.2	6.5	17.0	19.1	5.1	16.1	5.7
LnGrp Delay(d),s/veh	88.9	26.1	28.1	56.4	45.7	46.1	75.6	48.2	56.0	87.5	50.8	18.8
LnGrp LOS	F	C	C	E	D	D	E	D	E	F	D	B
Approach Vol, veh/h		634			687			1909			1852	
Approach Delay, s/veh		57.4			47.2			55.3			48.1	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	42.4	11.4	43.5	17.0	39.1	25.1	29.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	9.1	35.9	12.6	40.9	12.4	32.6	20.5	33.0				
Max Q Clear Time (g_c+I1), s	9.7	33.8	7.4	12.6	13.3	32.1	21.9	19.7				
Green Ext Time (p_c), s	0.0	2.0	0.0	5.7	0.0	0.5	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			51.9									
HCM 2010 LOS			D									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

10/03/2017

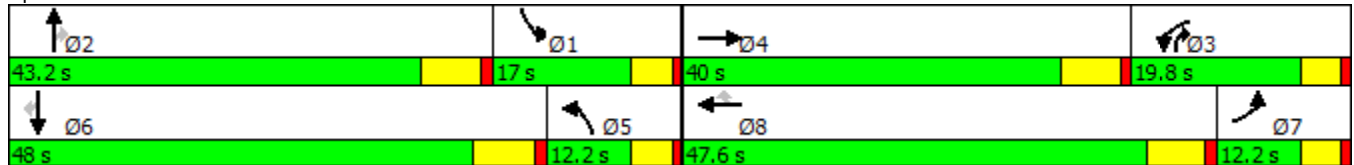


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	416	1209	514	419	1019	196	486	900	237	169	859	354
Future Volume (vph)	416	1209	514	419	1019	196	486	900	237	169	859	354
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	9.6	9.6	46.5	46.5
Total Split (s)	12.2	40.0		19.8	47.6	47.6	12.2	43.2	19.8	17.0	48.0	48.0
Total Split (%)	10.2%	33.3%		16.5%	39.7%	39.7%	10.2%	36.0%	16.5%	14.2%	40.0%	40.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	1209	514	419	1019	196	486	900	237	169	859	354
Future Volume (veh/h)	416	1209	514	419	1019	196	486	900	237	169	859	354
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1768	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	420	1221	0	423	1029	178	491	909	0	171	868	349
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	1	3	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	517	1488	463	463	1399	436	241	1207	614	206	1448	451
Arrive On Green	0.16	0.29	0.00	0.15	0.27	0.27	0.07	0.23	0.00	0.12	0.28	0.28
Sat Flow, veh/h	3141	5187	1615	3141	5187	1615	3267	5187	1615	1714	5187	1615
Grp Volume(v), veh/h	420	1221	0	423	1029	178	491	909	0	171	868	349
Grp Sat Flow(s),veh/h/ln	1570	1729	1615	1570	1729	1615	1633	1729	1615	1714	1729	1615
Q Serve(g_s), s	13.3	22.6	0.0	13.7	18.6	9.3	7.6	16.8	0.0	10.0	14.9	20.5
Cycle Q Clear(g_c), s	13.3	22.6	0.0	13.7	18.6	9.3	7.6	16.8	0.0	10.0	14.9	20.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	517	1488	463	463	1399	436	241	1207	614	206	1448	451
V/C Ratio(X)	0.81	0.82	0.00	0.91	0.74	0.41	2.04	0.75	0.00	0.83	0.60	0.77
Avail Cap(c_a), veh/h	517	1702	530	463	2085	649	241	1848	814	206	2090	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	34.3	0.0	43.3	34.3	30.9	47.7	36.8	0.0	44.3	32.1	34.1
Incr Delay (d2), s/veh	8.9	3.0	0.0	21.9	0.8	0.6	481.1	1.0	0.0	22.5	0.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	11.1	0.0	7.3	9.0	4.2	19.5	8.1	0.0	6.0	7.2	9.6
LnGrp Delay(d),s/veh	50.4	37.2	0.0	65.2	35.0	31.5	528.8	37.7	0.0	66.7	32.5	37.7
LnGrp LOS	D	D		E	D	C	F	D		E	C	D
Approach Vol, veh/h		1641			1630			1400			1388	
Approach Delay, s/veh		40.6			42.5			210.0			38.1	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	30.5	19.8	35.8	12.2	35.3	21.6	34.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	12.4	36.7	15.2	33.8	7.6	41.5	7.6	41.4				
Max Q Clear Time (g_c+I1), s	12.0	18.8	15.7	24.6	9.6	22.5	15.3	20.6				
Green Ext Time (p_c), s	0.1	5.2	0.0	4.9	0.0	6.3	0.0	7.2				
Intersection Summary												
HCM 2010 Ctrl Delay			79.7									
HCM 2010 LOS			E									

Timings
21: Archibald Av. & Eucalyptus Av.

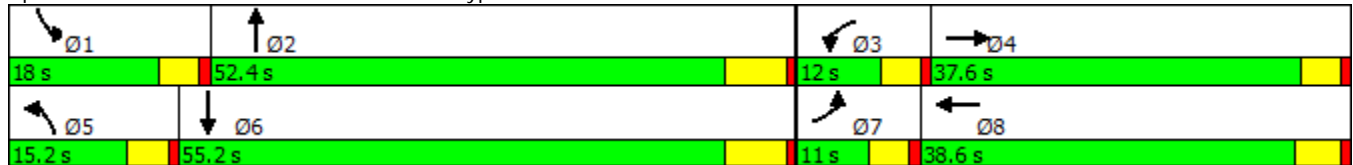


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	64	28	70	15	95	1522	145	1491
Future Volume (vph)	64	28	70	15	95	1522	145	1491
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.6	9.6	38.2	9.6	23.5	9.6	23.5
Total Split (s)	11.0	37.6	12.0	38.6	15.2	52.4	18.0	55.2
Total Split (%)	9.2%	31.3%	10.0%	32.2%	12.7%	43.7%	15.0%	46.0%
Yellow Time (s)	3.6	3.6	3.6	4.2	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.2	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.8
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	28	104	70	15	82	95	1522	99	145	1491	36
Future Volume (veh/h)	64	28	104	70	15	82	95	1522	99	145	1491	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	70	30	113	76	16	75	103	1654	106	158	1621	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	89	42	157	96	36	169	129	2403	154	190	2698	65
Arrive On Green	0.05	0.12	0.12	0.06	0.12	0.12	0.08	0.48	0.48	0.11	0.52	0.52
Sat Flow, veh/h	1714	350	1318	1714	292	1367	1714	4983	319	1714	5211	125
Grp Volume(v), veh/h	70	0	143	76	0	91	103	1147	613	158	1076	584
Grp Sat Flow(s),veh/h/ln	1714	0	1667	1714	0	1659	1714	1729	1844	1714	1729	1878
Q Serve(g_s), s	3.7	0.0	7.5	4.0	0.0	4.6	5.3	23.2	23.3	8.2	19.7	19.7
Cycle Q Clear(g_c), s	3.7	0.0	7.5	4.0	0.0	4.6	5.3	23.2	23.3	8.2	19.7	19.7
Prop In Lane	1.00		0.79	1.00		0.82	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	89	0	199	96	0	206	129	1668	889	190	1790	972
V/C Ratio(X)	0.79	0.00	0.72	0.79	0.00	0.44	0.80	0.69	0.69	0.83	0.60	0.60
Avail Cap(c_a), veh/h	121	0	609	140	0	613	201	1755	936	254	1862	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	38.3	42.1	0.0	36.7	41.1	18.1	18.1	39.4	15.3	15.3
Incr Delay (d2), s/veh	14.6	0.0	4.8	9.9	0.0	1.5	5.3	1.1	2.0	12.2	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	3.7	2.1	0.0	2.2	2.7	11.2	12.2	4.5	9.4	10.3
LnGrp Delay(d),s/veh	57.0	0.0	43.1	52.0	0.0	38.2	46.5	19.2	20.2	51.6	15.8	16.2
LnGrp LOS	E		D	D		D	D	B	C	D	B	B
Approach Vol, veh/h		213			167			1863			1818	
Approach Delay, s/veh		47.7			44.5			21.0			19.0	
Approach LOS		D			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	50.1	9.7	16.0	11.4	53.3	9.3	16.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 5.2	4.6	6.5	4.6	5.2				
Max Green Setting (Gmax), s	13.4	45.9	7.4	* 33	10.6	48.7	6.4	33.4				
Max Q Clear Time (g_c+I1), s	10.2	25.3	6.0	9.5	7.3	21.7	5.7	6.6				
Green Ext Time (p_c), s	0.1	18.3	0.0	1.3	0.0	23.3	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			22.5									
HCM 2010 LOS			C									
Notes												

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

10/03/2017

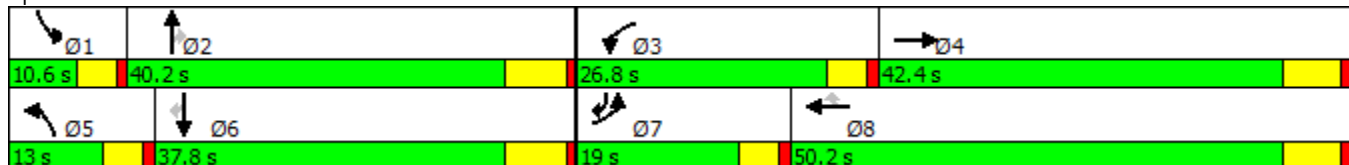


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	663	162	533	187	112	43	283	1545	193	83	1704	349
Future Volume (vph)	663	162	533	187	112	43	283	1545	193	83	1704	349
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	19.0	42.4		26.8	50.2	50.2	13.0	40.2	40.2	10.6	37.8	19.0
Total Split (%)	15.8%	35.3%		22.3%	41.8%	41.8%	10.8%	33.5%	33.5%	8.8%	31.5%	15.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	663	162	533	187	112	43	283	1545	193	83	1704	349
Future Volume (veh/h)	663	162	533	187	112	43	283	1545	193	83	1704	349
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	691	169	0	195	117	3	295	1609	187	86	1775	353
Adj No. of Lanes	2	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	528	718	321	270	422	189	308	2118	659	160	1873	855
Arrive On Green	0.17	0.20	0.00	0.09	0.12	0.12	0.10	0.41	0.41	0.05	0.36	0.36
Sat Flow, veh/h	3141	3610	1615	3141	3610	1615	3141	5187	1615	3141	5187	1615
Grp Volume(v), veh/h	691	169	0	195	117	3	295	1609	187	86	1775	353
Grp Sat Flow(s),veh/h/ln	1570	1805	1615	1570	1805	1615	1570	1729	1615	1570	1729	1615
Q Serve(g_s), s	14.4	3.4	0.0	5.2	2.5	0.1	8.0	22.8	6.6	2.3	28.5	11.3
Cycle Q Clear(g_c), s	14.4	3.4	0.0	5.2	2.5	0.1	8.0	22.8	6.6	2.3	28.5	11.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	528	718	321	270	422	189	308	2118	659	160	1873	855
V/C Ratio(X)	1.31	0.24	0.00	0.72	0.28	0.02	0.96	0.76	0.28	0.54	0.95	0.41
Avail Cap(c_a), veh/h	528	1526	683	814	1855	830	308	2118	659	220	1896	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	28.8	0.0	38.1	34.5	33.5	38.4	21.7	16.9	39.6	26.6	12.1
Incr Delay (d2), s/veh	151.8	0.2	0.0	1.4	0.4	0.0	39.5	1.6	0.2	1.0	10.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	1.7	0.0	2.3	1.3	0.1	5.1	11.2	3.0	1.0	15.3	5.0
LnGrp Delay(d),s/veh	187.4	29.0	0.0	39.5	34.9	33.5	77.9	23.4	17.2	40.7	37.3	12.5
LnGrp LOS	F	C		D	C	C	E	C	B	D	D	B
Approach Vol, veh/h		860			315			2091			2214	
Approach Delay, s/veh		156.3			37.7			30.5			33.5	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	41.5	12.0	23.2	13.0	37.4	19.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	33.7	22.2	36.2	8.4	31.3	14.4	44.0				
Max Q Clear Time (g_c+I1), s	4.3	24.8	7.2	5.4	10.0	30.5	16.4	4.5				
Green Ext Time (p_c), s	0.0	8.6	0.3	1.6	0.0	0.5	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			51.9									
HCM 2010 LOS			D									

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

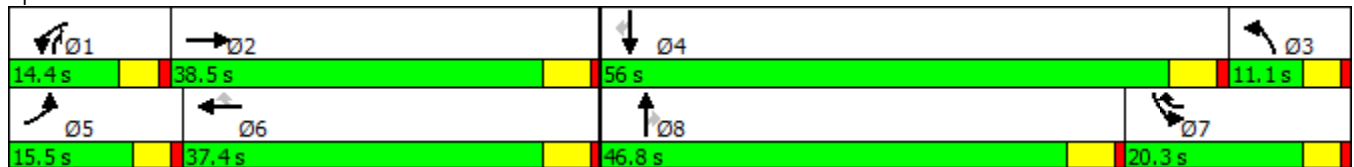


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖↗	↕	↖↗	↖	↕↕↕	↖	↖↗	↕↕↕	↖
Traffic Volume (vph)	285	760	244	618	676	82	1085	280	403	1860	237
Future Volume (vph)	285	760	244	618	676	82	1085	280	403	1860	237
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	1	6	7	3	8	1	7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	1	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	6.0
Minimum Split (s)	9.5	36.3	9.5	36.3	9.5	9.5	46.3	9.5	9.5	46.3	46.3
Total Split (s)	15.5	38.5	14.4	37.4	20.3	11.1	46.8	14.4	20.3	56.0	56.0
Total Split (%)	12.9%	32.1%	12.0%	31.2%	16.9%	9.3%	39.0%	12.0%	16.9%	46.7%	46.7%
Yellow Time (s)	3.5	4.3	3.5	4.3	3.5	3.5	4.3	3.5	3.5	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.3	4.5	5.3	4.5	4.5	5.3	4.5	4.5	5.3	5.3
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 26: Archibald Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	760	108	244	618	676	82	1085	280	403	1860	237
Future Volume (veh/h)	285	760	108	244	618	676	82	1085	280	403	1860	237
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	310	826	117	274	672	718	89	1219	315	453	2090	258
Adj No. of Lanes	2	2	0	2	2	2	1	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	322	878	124	290	965	1261	100	1561	619	619	2190	682
Arrive On Green	0.09	0.28	0.28	0.08	0.27	0.27	0.06	0.30	0.30	0.18	0.42	0.42
Sat Flow, veh/h	3510	3176	450	3510	3610	2842	1810	5187	1615	3510	5187	1615
Grp Volume(v), veh/h	310	469	474	274	672	718	89	1219	315	453	2090	258
Grp Sat Flow(s),veh/h/ln	1755	1805	1821	1755	1805	1421	1810	1729	1615	1755	1729	1615
Q Serve(g_s), s	10.5	30.5	30.5	9.3	20.1	5.2	5.9	25.7	9.3	14.6	46.7	9.2
Cycle Q Clear(g_c), s	10.5	30.5	30.5	9.3	20.1	5.2	5.9	25.7	9.3	14.6	46.7	9.2
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	499	503	290	965	1261	100	1561	619	619	2190	682
V/C Ratio(X)	0.96	0.94	0.94	0.94	0.70	0.57	0.89	0.78	0.51	0.73	0.95	0.38
Avail Cap(c_a), veh/h	322	500	504	290	967	1263	100	1796	693	619	2195	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	42.4	42.4	54.7	39.5	10.9	56.3	38.3	11.1	46.7	33.5	11.6
Incr Delay (d2), s/veh	39.6	26.1	26.0	37.8	2.2	0.6	56.0	2.1	0.8	3.9	10.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	18.7	18.9	6.0	10.3	5.5	4.5	12.6	4.3	7.4	24.4	5.0
LnGrp Delay(d),s/veh	93.8	68.5	68.4	92.5	41.7	11.5	112.2	40.4	11.8	50.5	44.0	12.1
LnGrp LOS	F	E	E	F	D	B	F	D	B	D	D	B
Approach Vol, veh/h		1253			1664			1623			2801	
Approach Delay, s/veh		74.7			37.0			38.8			42.1	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	38.4	11.1	55.9	15.5	37.3	25.6	41.4				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	9.9	33.2	6.6	50.7	11.0	32.1	15.8	41.5				
Max Q Clear Time (g_c+I1), s	11.3	32.5	7.9	48.7	12.5	22.1	16.6	27.7				
Green Ext Time (p_c), s	0.0	0.7	0.0	1.9	0.0	7.6	0.0	8.3				
Intersection Summary												
HCM 2010 Ctrl Delay			45.8									
HCM 2010 LOS			D									

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

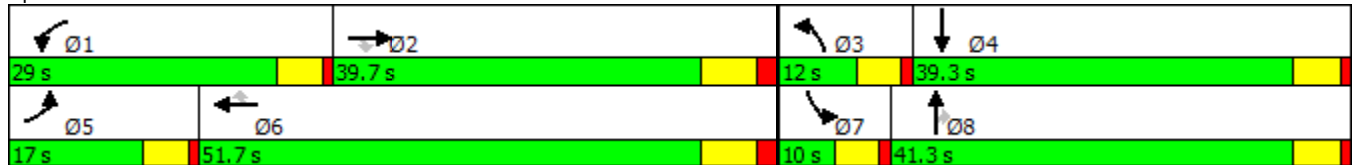


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑	↘	↙	↑	↘	↙	↘
Traffic Volume (vph)	78	1555	210	251	1709	93	135	58	157	109	109
Future Volume (vph)	78	1555	210	251	1709	93	135	58	157	109	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	1555	210	251	1709	93	135	58	157	109	109	144
Future Volume (veh/h)	78	1555	210	251	1709	93	135	58	157	109	109	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	1728	232	279	1899	103	150	64	145	121	121	153
Adj No. of Lanes	1	3	1	1	3	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	112	1740	530	312	2315	721	128	409	343	92	148	187
Arrive On Green	0.06	0.34	0.34	0.17	0.45	0.45	0.07	0.22	0.22	0.05	0.19	0.19
Sat Flow, veh/h	1810	5187	1581	1810	5187	1615	1810	1900	1592	1810	758	958
Grp Volume(v), veh/h	87	1728	232	279	1899	103	150	64	145	121	0	274
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1729	1615	1810	1900	1592	1810	0	1716
Q Serve(g_s), s	4.7	32.7	11.3	14.9	31.5	3.7	7.0	2.7	7.8	5.0	0.0	15.1
Cycle Q Clear(g_c), s	4.7	32.7	11.3	14.9	31.5	3.7	7.0	2.7	7.8	5.0	0.0	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	112	1740	530	312	2315	721	128	409	343	92	0	334
V/C Ratio(X)	0.78	0.99	0.44	0.89	0.82	0.14	1.17	0.16	0.42	1.32	0.00	0.82
Avail Cap(c_a), veh/h	220	1740	530	440	2351	732	128	694	581	92	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.6	32.6	25.5	39.9	23.8	16.1	45.8	31.4	33.4	46.8	0.0	38.0
Incr Delay (d2), s/veh	4.4	19.9	0.6	12.5	2.4	0.1	131.5	0.2	0.8	201.3	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	18.7	5.0	8.5	15.5	1.7	8.2	1.4	3.5	7.6	0.0	7.6
LnGrp Delay(d),s/veh	50.0	52.5	26.1	52.4	26.2	16.2	177.3	31.6	34.2	248.1	0.0	43.0
LnGrp LOS	D	D	C	D	C	B	F	C	C	F		D
Approach Vol, veh/h		2047			2281			359			395	
Approach Delay, s/veh		49.4			29.0			93.5			105.8	
Approach LOS		D			C			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	40.1	12.0	24.5	11.1	51.0	10.0	26.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	16.9	34.7	9.0	17.1	6.7	33.5	7.0	9.8				
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	10.5	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			47.8									
HCM 2010 LOS			D									

Timings
29: Sumner Av. & Limonite Av.

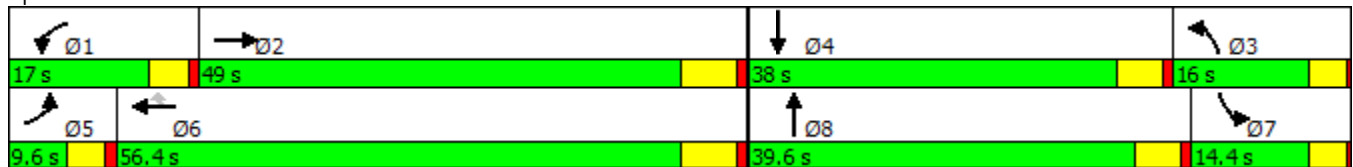


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔↔	↕↕	↔	↕↕
Traffic Volume (vph)	114	1640	489	1885	66	422	79	93	166
Future Volume (vph)	114	1640	489	1885	66	422	79	93	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	9.6	49.0	17.0	56.4	56.4	16.0	39.6	14.4	38.0
Total Split (%)	8.0%	40.8%	14.2%	47.0%	47.0%	13.3%	33.0%	12.0%	31.7%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	1640	541	489	1885	66	422	79	321	93	166	88
Future Volume (veh/h)	114	1640	541	489	1885	66	422	79	321	93	166	88
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	118	1691	552	504	1943	47	435	81	257	96	171	64
Adj No. of Lanes	2	3	0	2	3	1	2	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	1648	522	431	2568	799	536	354	315	122	286	103
Arrive On Green	0.05	0.42	0.42	0.12	0.50	0.50	0.15	0.20	0.20	0.07	0.11	0.11
Sat Flow, veh/h	3510	3902	1236	3510	5187	1614	3510	1805	1608	1810	2587	930
Grp Volume(v), veh/h	118	1493	750	504	1943	47	435	81	257	96	117	118
Grp Sat Flow(s),veh/h/ln	1755	1729	1680	1755	1729	1614	1755	1805	1608	1810	1805	1712
Q Serve(g_s), s	3.4	43.0	43.0	12.5	30.8	1.0	12.2	3.8	15.6	5.3	6.3	6.7
Cycle Q Clear(g_c), s	3.4	43.0	43.0	12.5	30.8	1.0	12.2	3.8	15.6	5.3	6.3	6.7
Prop In Lane	1.00		0.74	1.00		1.00	1.00		1.00	1.00		0.54
Lane Grp Cap(c), veh/h	176	1460	709	431	2568	799	536	354	315	122	199	189
V/C Ratio(X)	0.67	1.02	1.06	1.17	0.76	0.06	0.81	0.23	0.82	0.79	0.59	0.62
Avail Cap(c_a), veh/h	176	1460	709	431	2568	799	536	613	546	185	585	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	29.4	29.4	44.7	20.8	6.0	41.7	34.5	39.2	46.8	43.1	43.3
Incr Delay (d2), s/veh	7.8	29.3	50.0	98.5	1.3	0.0	8.5	0.2	3.9	5.9	2.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	26.2	29.6	11.9	14.9	0.7	6.6	1.9	7.3	2.9	3.2	3.3
LnGrp Delay(d),s/veh	55.4	58.7	79.4	143.2	22.1	6.1	50.2	34.7	43.1	52.7	45.1	45.7
LnGrp LOS	E	F	F	F	C	A	D	C	D	D	D	D
Approach Vol, veh/h		2361			2494			773			331	
Approach Delay, s/veh		65.1			46.3			46.2			47.5	
Approach LOS		E			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	49.0	19.6	16.3	9.6	56.4	10.9	24.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	12.5	43.0	12.0	33.0	5.1	50.4	10.4	34.6				
Max Q Clear Time (g_c+I1), s	14.5	45.0	14.2	8.7	5.4	32.8	7.3	17.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	17.2	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			53.8									
HCM 2010 LOS			D									

Timings
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑	↑	↑↑
Traffic Volume (vph)	1666	710	2213	913	517	0	509
Future Volume (vph)	1666	710	2213	913	517	0	509
Turn Type	NA	Free	NA	Free	Split	NA	Perm
Protected Phases	2		6		4	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	23.5		36.5		23.5	23.5	23.5
Total Split (s)	75.0		75.0		35.0	35.0	35.0
Total Split (%)	68.2%		68.2%		31.8%	31.8%	31.8%
Yellow Time (s)	4.5		4.5		4.5	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5		5.5		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Max		Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 11 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

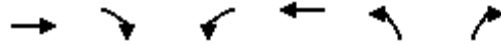
Colony Commerce Center East SP (JN 10522)

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑				↑	↑	↑↑
Traffic Volume (veh/h)	0	1666	710	0	2213	913	0	0	0	517	0	509
Future Volume (veh/h)	0	1666	710	0	2213	913	0	0	0	517	0	509
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1718	0	0	2281	0				533	0	438
Adj No. of Lanes	0	3	1	0	3	1				2	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	3754	1169	0	3754	1169				638	0	569
Arrive On Green	0.00	0.72	0.00	0.00	1.00	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	5358	1615	0	5358	1615				3619	0	3230
Grp Volume(v), veh/h	0	1718	0	0	2281	0				533	0	438
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1729	1615				1810	0	1615
Q Serve(g_s), s	0.0	15.0	0.0	0.0	0.0	0.0				15.7	0.0	14.2
Cycle Q Clear(g_c), s	0.0	15.0	0.0	0.0	0.0	0.0				15.7	0.0	14.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3754	1169	0	3754	1169				638	0	569
V/C Ratio(X)	0.00	0.46	0.00	0.00	0.61	0.00				0.84	0.00	0.77
Avail Cap(c_a), veh/h	0	3754	1169	0	3754	1169				971	0	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.40	0.00	0.00	0.42	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.3	0.0	0.0	0.0	0.0				43.8	0.0	43.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.0				2.4	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	0.0	0.0	0.1	0.0				8.1	0.0	6.4
LnGrp Delay(d),s/veh	0.0	6.4	0.0	0.0	0.3	0.0				46.1	0.0	44.1
LnGrp LOS		A			A					D		D
Approach Vol, veh/h		1718			2281						971	
Approach Delay, s/veh		6.4			0.3						45.2	
Approach LOS		A			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		85.1		24.9		85.1						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		69.5		29.5		69.5						
Max Q Clear Time (g_c+I1), s		17.0		17.7		2.0						
Green Ext Time (p_c), s		39.6		1.7		47.4						
Intersection Summary												
HCM 2010 Ctrl Delay				11.2								
HCM 2010 LOS				B								
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

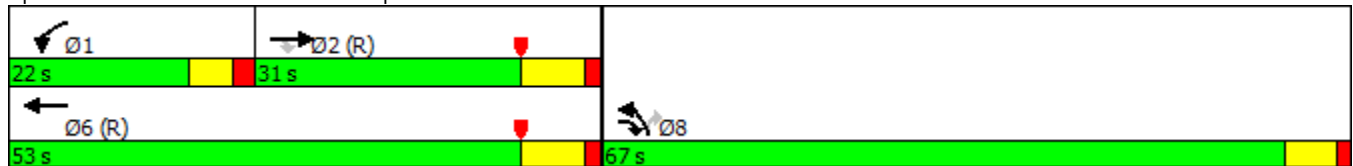


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Traffic Volume (vph)	768	1195	383	481	485	138
Future Volume (vph)	768	1195	383	481	485	138
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	67.0	22.0	53.0	67.0	67.0
Total Split (%)	25.8%	55.8%	18.3%	44.2%	55.8%	55.8%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 10/03/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	768	1195	383	481	485	138		
Future Volume (veh/h)	768	1195	383	481	485	138		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1700	1900	1700	1900		
Adj Flow Rate, veh/h	800	1119	399	501	505	94		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1024	1140	419	1975	1646	821		
Arrive On Green	0.20	0.20	0.13	0.38	0.51	0.51		
Sat Flow, veh/h	5358	1615	3141	5358	3238	1615		
Grp Volume(v), veh/h	800	1119	399	501	505	94		
Grp Sat Flow(s),veh/h/ln	1729	1615	1570	1729	1619	1615		
Q Serve(g_s), s	17.6	23.7	15.1	7.9	10.9	3.6		
Cycle Q Clear(g_c), s	17.6	23.7	15.1	7.9	10.9	3.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1024	1140	419	1975	1646	821		
V/C Ratio(X)	0.78	0.98	0.95	0.25	0.31	0.11		
Avail Cap(c_a), veh/h	1024	1140	419	1975	1646	821		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.54	0.54	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	45.7	8.7	51.6	25.5	17.2	15.4		
Incr Delay (d2), s/veh	3.3	15.7	32.0	0.3	0.5	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.7	41.9	8.4	3.9	5.0	1.7		
LnGrp Delay(d),s/veh	48.9	24.3	83.6	25.8	17.7	15.7		
LnGrp LOS	D	C	F	C	B	B		
Approach Vol, veh/h	1919			900	599			
Approach Delay, s/veh	34.6			51.4	17.4			
Approach LOS	C			D	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	31.0				53.0		67.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	16.0	23.7				45.7		61.0
Max Q Clear Time (g_c+I1), s	17.1	25.7				9.9		12.9
Green Ext Time (p_c), s	0.0	0.0				19.9		2.1
Intersection Summary								
HCM 2010 Ctrl Delay			36.0					
HCM 2010 LOS			D					
Notes								

APPENDIX 7.12:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	237	239	700	709	1900	1124
v/c Ratio	0.38	0.34	1.00	0.97	0.75	0.78
Control Delay	27.2	26.2	66.1	78.0	18.2	44.9
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	27.2	26.2	66.1	78.0	18.8	44.9
Queue Length 50th (ft)	134	133	~547	302	252	220
Queue Length 95th (ft)	209	204	#783	m#315	m252	262
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	632	710	703	731	2602	1523
Starvation Cap Reductn	0	0	0	0	300	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.34	1.00	0.97	0.83	0.74

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	562	397	1965	577	291	952
v/c Ratio	0.95	0.66	0.99	0.65	0.59	0.32
Control Delay	66.1	29.6	54.1	11.7	32.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.1	29.6	54.1	11.7	32.3	4.3
Queue Length 50th (ft)	418	183	~559	87	100	31
Queue Length 95th (ft)	#636	297	#679	217	m141	39
Internal Link Dist (ft)	1366		1202			410
Turn Bay Length (ft)						
Base Capacity (vph)	606	612	1993	881	496	2987
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.65	0.99	0.65	0.59	0.32

Intersection Summary

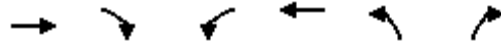
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	557	904	429	486	521	177
v/c Ratio	0.52	0.77	0.75	0.21	0.37	0.23
Control Delay	21.7	21.9	55.4	21.1	22.5	3.6
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0
Total Delay	21.7	22.8	55.4	21.1	22.5	3.6
Queue Length 50th (ft)	64	684	163	83	132	0
Queue Length 95th (ft)	m86	832	221	109	176	43
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	1067	1170	574	2277	1409	758
Starvation Cap Reductn	0	89	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.84	0.75	0.21	0.37	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2156	856	1599	1162	233	233	287
v/c Ratio	0.58	0.54	0.43	0.74	0.75	0.75	0.51
Control Delay	9.0	1.3	5.1	7.8	56.8	56.8	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	1.3	5.1	7.8	56.8	56.8	34.1
Queue Length 50th (ft)	237	0	103	228	165	165	82
Queue Length 95th (ft)	356	0	162	285	234	234	117
Internal Link Dist (ft)	2381		680			968	
Turn Bay Length (ft)					400		400
Base Capacity (vph)	3725	1595	3725	1580	475	475	830
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.54	0.43	0.74	0.49	0.49	0.35

Intersection Summary

Queues

14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	310	306	379	339	1086	2685
v/c Ratio	0.89	0.78	0.81	0.75	0.31	0.85
Control Delay	71.6	58.0	43.3	66.0	6.6	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	71.6	58.0	43.3	66.0	6.6	30.0
Queue Length 50th (ft)	244	233	189	135	31	503
Queue Length 95th (ft)	#412	#368	#340	178	113	606
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	357	401	474	626	3489	3150
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	126
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.76	0.80	0.54	0.31	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	256	497	1155	474	626	1962
v/c Ratio	0.45	0.89	0.67	0.56	0.89	0.64
Control Delay	34.8	51.7	37.8	5.8	48.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.9
Total Delay	34.8	51.7	37.8	5.8	48.8	12.7
Queue Length 50th (ft)	154	307	289	0	252	412
Queue Length 95th (ft)	221	437	357	83	m#320	469
Internal Link Dist (ft)	1366		1202			410
Turn Bay Length (ft)						
Base Capacity (vph)	651	631	1726	846	704	3066
Starvation Cap Reductn	0	0	0	0	0	897
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.79	0.67	0.56	0.89	0.90

Intersection Summary

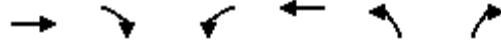
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	794	1179	399	498	519	130
v/c Ratio	0.78	0.95	0.96	0.25	0.33	0.16
Control Delay	51.6	29.3	86.4	25.9	18.0	3.1
Queue Delay	0.0	6.3	0.0	0.0	0.0	0.0
Total Delay	51.6	35.5	86.4	25.9	18.0	3.1
Queue Length 50th (ft)	215	656	160	95	117	0
Queue Length 95th (ft)	264	#1156	#259	124	155	34
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	1024	1242	417	1975	1594	811
Starvation Cap Reductn	0	54	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.99	0.96	0.25	0.33	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1706	687	2259	941	266	267	525
v/c Ratio	0.49	0.43	0.65	0.60	0.68	0.68	0.79
Control Delay	10.0	0.8	5.4	1.5	47.3	47.4	46.5
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	10.0	0.8	5.4	1.5	47.3	47.4	46.5
Queue Length 50th (ft)	198	0	118	0	180	181	189
Queue Length 95th (ft)	275	0	136	m0	255	257	239
Internal Link Dist (ft)	2381		680			968	
Turn Bay Length (ft)					400		400
Base Capacity (vph)	3485	1615	3485	1580	491	491	831
Starvation Cap Reductn	0	0	204	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.43	0.69	0.60	0.54	0.54	0.63

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.13:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS
WORKSHEETS WITH IMPROVEMENTS**

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Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	253	256	700	721	1904	1137
v/c Ratio	0.40	0.36	1.00	0.99	0.75	0.78
Control Delay	27.7	26.7	66.7	80.6	18.2	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0
Total Delay	27.7	26.7	66.7	80.6	18.7	45.1
Queue Length 50th (ft)	146	145	~547	307	252	223
Queue Length 95th (ft)	224	220	#783	m#323	m250	265
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	631	708	701	731	2602	1524
Starvation Cap Reductn	0	0	0	0	304	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.36	1.00	0.99	0.83	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



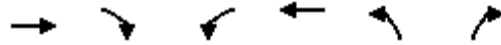
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	562	437	1981	587	291	996
v/c Ratio	0.95	0.74	0.99	0.66	0.59	0.33
Control Delay	66.1	34.9	56.0	12.0	32.2	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.1	34.9	56.0	12.0	32.2	4.6
Queue Length 50th (ft)	418	227	~573	91	97	33
Queue Length 95th (ft)	#636	355	#689	226	m139	46
Internal Link Dist (ft)	1366		1202			410
Turn Bay Length (ft)						
Base Capacity (vph)	606	604	1993	884	496	2987
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.72	0.99	0.66	0.59	0.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	559	924	429	492	521	177
v/c Ratio	0.52	0.79	0.75	0.22	0.37	0.23
Control Delay	21.6	22.8	55.4	21.2	22.5	3.6
Queue Delay	0.0	1.1	0.0	0.0	0.0	0.0
Total Delay	21.6	23.9	55.4	21.2	22.5	3.6
Queue Length 50th (ft)	63	703	163	84	132	0
Queue Length 95th (ft)	m86	853	221	110	176	43
Internal Link Dist (ft)	848			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	1067	1170	574	2277	1409	758
Starvation Cap Reductn	0	89	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.85	0.75	0.22	0.37	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

10/03/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2159	869	1656	1162	233	233	287
v/c Ratio	0.58	0.54	0.44	0.74	0.77	0.77	0.52
Control Delay	8.5	1.3	4.8	7.3	59.6	59.6	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	1.3	4.8	7.3	59.6	59.6	33.6
Queue Length 50th (ft)	236	0	105	209	165	165	78
Queue Length 95th (ft)	330	0	154	269	242	242	118
Internal Link Dist (ft)	2381		680			968	
Turn Bay Length (ft)					400		400
Base Capacity (vph)	3752	1595	3752	1580	397	397	710
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.54	0.44	0.74	0.59	0.59	0.40

Intersection Summary

Queues

14: Archibald Av. & SR-60 WB Ramps

10/03/2017



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	317	312	379	382	1100	2690
v/c Ratio	0.90	0.79	0.81	0.77	0.32	0.88
Control Delay	73.7	58.8	43.9	63.9	7.7	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1
Total Delay	73.7	58.8	43.9	63.9	7.7	33.0
Queue Length 50th (ft)	251	240	192	150	55	519
Queue Length 95th (ft)	#424	#378	#346	195	124	#668
Internal Link Dist (ft)		1312			410	836
Turn Bay Length (ft)			250			
Base Capacity (vph)	357	401	471	626	3482	3058
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	168
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.78	0.80	0.61	0.32	0.93

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	256	514	1211	508	626	1981
v/c Ratio	0.44	0.90	0.72	0.59	0.89	0.65
Control Delay	34.0	52.8	39.6	6.0	47.0	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	2.5
Total Delay	34.0	52.8	39.6	6.0	47.0	12.8
Queue Length 50th (ft)	151	318	313	0	251	424
Queue Length 95th (ft)	221	#491	379	87	m#303	471
Internal Link Dist (ft)	1366		1202			410
Turn Bay Length (ft)						
Base Capacity (vph)	651	631	1686	860	704	3026
Starvation Cap Reductn	0	0	0	0	0	881
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.81	0.72	0.59	0.89	0.92

Intersection Summary

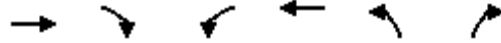
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	800	1245	399	501	519	130
v/c Ratio	0.78	1.00	0.96	0.25	0.33	0.16
Control Delay	51.9	41.1	86.4	25.9	18.0	3.1
Queue Delay	0.0	11.0	0.0	0.0	0.0	0.0
Total Delay	51.9	52.1	86.4	25.9	18.0	3.1
Queue Length 50th (ft)	217	-827	160	96	117	0
Queue Length 95th (ft)	267	#1268	#259	125	155	34
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	1024	1242	417	1975	1594	811
Starvation Cap Reductn	0	43	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.04	0.96	0.25	0.33	0.16

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1718	732	2281	941	266	267	525
v/c Ratio	0.49	0.45	0.65	0.60	0.69	0.70	0.80
Control Delay	9.7	0.9	5.3	1.5	48.6	48.7	47.8
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	9.7	0.9	5.4	1.5	48.6	48.7	47.8
Queue Length 50th (ft)	199	0	122	0	181	181	189
Queue Length 95th (ft)	262	0	140	m0	263	265	246
Internal Link Dist (ft)	2381		680			968	
Turn Bay Length (ft)					400		400
Base Capacity (vph)	3506	1615	3506	1580	459	459	780
Starvation Cap Reductn	0	0	212	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.45	0.69	0.60	0.58	0.58	0.67

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.14:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4265	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1171	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	16.7	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4406	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	5	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	967	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	13.8	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7288	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.995
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1990	Design LOS	
x f _p)	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.8	x f _p)	
D = v _p / S	31.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7175	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1969	Design LOS	
x f _p)	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	63.1	x f _p)	
D = v _p / S	31.2	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5866</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>10</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i> Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.952</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>4</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1674</i>	Design LOS	pc/h/ln
S	<i>67.4</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	mph
D = v _p / S	<i>24.8</i>	S	pc/mi/ln
LOS	<i>C</i>	D = v _p / S	mph
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4908	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			10
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.952	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1400	Design LOS	
x f _p)	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	69.5	x f _p)	
D = v _p / S	20.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6096	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.962	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1723	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	66.8	x f _p)	
D = v _p / S	25.8	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/17/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4986	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1100	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	70.0	x f _p)	
D = v _p / S	15.7	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4382	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1203	Design LOS	
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	17.2	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4865	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P _T
Peak-Hr Prop. of AADT, K			%RVs, P _R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
			Up/Down %
			0.92
			2
			0
			Level
			mi
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width		ft	
Rt-Side Lat. Clearance		ft	f _{LW}
Number of Lanes, N	4		f _{LC}
Total Ramp Density, TRD		ramps/mi	TRD Adjustment
FFS (measured)	70.0	mph	FFS
Base free-flow Speed, BFFS		mph	70.0
			mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1335	pc/h/ln	Design LOS
x f _p)			v _p = (V or DDHV) / (PHF x N x f _{HV})
S	69.8	mph	x f _p)
D = v _p / S	19.1	pc/mi/ln	S
LOS	C		D = v _p / S
			pc/mi/ln
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5750	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1570	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	68.4	x f _p)	
D = v _p / S	22.9	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5692	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	5	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1250 pc/h/ln	Design LOS	
S	70.0 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	17.9 pc/mi/ln	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6541	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.995
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1786	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	66.0	x f _p)	
D = v _p / S	27.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6854	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.995
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1872	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	64.8	x f _p)	
D = v _p / S	28.9	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>N of Cantu Galleano</i>
Date Performed	1/17/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	3131	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			16
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.926	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
919	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	70.0	S	mph
D = v _p / S	13.1	D = v _p / S	pc/mi/ln
LOS	B	Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>3018</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>15</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.930</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>4</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>882</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>70.0</i>	x f _p)	
D = v _p / S	<i>12.6</i>	S	mph
LOS	<i>B</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4376	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			11
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.948	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1673	Design LOS	pc/h/ln
S	67.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	24.8	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>1/17/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 Without Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4646	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1025	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	70.0	mph	S
D = v _p / S	14.6	pc/mi/ln	D = v _p / S
LOS	B		pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>Cantu to Limonite</i>
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	3075	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
844	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	70.0	mph	x f _p)
D = v _p / S	12.1	pc/mi/ln	S
LOS	B		mph
			D = v _p / S
			pc/mi/ln
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	1/17/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4480	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1236	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	17.7	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 7.15:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4279	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1180	Design LOS	pc/h/ln
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	mph
D = v _p / S	16.9	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4426	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	5	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	972	Design LOS	pc/h/ln
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	70.0	x f _p)	
D = v _p / S	13.9	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7332	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2012	Design LOS	pc/h/ln
S	62.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	32.3	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	7201	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1976	Design LOS	pc/h/ln
S	63.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	31.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5913</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>10</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.952</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>4</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1687</i>	Design LOS	
S	<i>67.2</i>	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>25.1</i>	S	mph
LOS	<i>C</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4908	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			10
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.952	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1400	Design LOS	pc/h/ln
S	69.5	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	20.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description Colony Commerce Center East Specific Plan (JN 10522)			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6103	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P _T 8
Peak-Hr Prop. of AADT, K			%RVs, P _R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width		ft	
Rt-Side Lat. Clearance		ft	f _{LW} mph
Number of Lanes, N	4		f _{LC} mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment mph
FFS (measured)	70.0	mph	FFS 70.0 mph
Base free-flow Speed, BFFS		mph	
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1725	pc/h/ln	
x f _p)			v _p = (V or DDHV) / (PHF x N x f _{HV})
S	66.8	mph	x f _p)
D = v _p / S	25.8	pc/mi/ln	S
LOS	C		D = v _p / S
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>AM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>5001</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>3</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i> Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.985</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>5</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i> mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	<i>1103</i> pc/h/ln	Design LOS	
S	<i>70.0</i> mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	<i>15.8</i> pc/mi/ln	S	mph
LOS	<i>B</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>Cantu to Limonite</i>
Date Performed	10/03/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	AM Peak Hour	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4382	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1203	Design LOS	pc/h/ln
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	17.2	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4889	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1342	Design LOS	pc/h/ln
S	69.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	19.2	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5794	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1590	Design LOS	pc/h/ln
S	68.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	mph
D = v _p / S	23.3	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	5720	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1256	Design LOS	
	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
S	70.0	S	mph
D = v _p / S	18.0	D = v _p / S	pc/mi/ln
LOS	B	Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	6561	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.995
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft	f _{LW}	mph
Rt-Side Lat. Clearance	ft	f _{LC}	mph
Number of Lanes, N	4	TRD Adjustment	mph
Total Ramp Density, TRD	ramps/mi	FFS	70.0
FFS (measured)	70.0	mph	mph
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1792	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	65.9	x f _p)	
D = v _p / S	27.2	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6878	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.995	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1878	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	64.7	x f _p)	
D = v _p / S	29.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	<i>RV</i>	Highway/Direction of Travel	<i>I-15 Southbound</i>
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	<i>3148</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>16</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i> Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	<i>0.926</i>
Speed Inputs		Calc Speed Adj and FFS	
Lane Width		ft	
Rt-Side Lat. Clearance		ft	f _{LW} mph
Number of Lanes, N	<i>4</i>		f _{LC} mph
Total Ramp Density, TRD		ramps/mi	TRD Adjustment mph
FFS (measured)	<i>70.0</i>	mph	FFS <i>70.0</i> mph
Base free-flow Speed, BFFS		mph	
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>924</i>	pc/h/ln	Design LOS
x f _p)			v _p = (V or DDHV) / (PHF x N x f _{HV})
S	<i>70.0</i>	mph	x f _p)
D = v _p / S	<i>13.2</i>	pc/mi/ln	S
LOS	<i>B</i>		D = v _p / S
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Southbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>Cantu to Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	3035	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			15
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.930	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	887	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	
S	70.0	x f _p)	
D = v _p / S	12.7	S	
LOS	B	D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	10/03/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4382	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P _T
Peak-Hr Prop. of AADT, K			%RVs, P _R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
			Up/Down %
			0.92
			11
			0
			Level
			mi
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.948
Speed Inputs		Calc Speed Adj and FFS	
Lane Width		ft	
Rt-Side Lat. Clearance		ft	f _{LW}
Number of Lanes, N	3		f _{LC}
Total Ramp Density, TRD		ramps/mi	TRD Adjustment
FFS (measured)	70.0	mph	FFS
Base free-flow Speed, BFFS		mph	70.0
			mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1675	pc/h/ln	Design LOS
x f _p)			v _p = (V or DDHV) / (PHF x N x f _{HV})
S	67.4	mph	x f _p)
D = v _p / S	24.9	pc/mi/ln	S
LOS	C		D = v _p / S
			pc/mi/ln
			Required Number of Lanes, N
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>N of Cantu Galleano</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4653	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.985	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1027	Design LOS	
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	14.7	S	mph
LOS	B	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	Urban Crossroads, Inc.	From/To	<i>Cantu to Limonite</i>
Date Performed	10/03/2017	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	PM Peak Hour	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	3082	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain: <i>Level</i>
			Grade % Length <i>mi</i>
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	846 pc/h/ln	Design LOS	
S	70.0 mph	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	
D = v _p / S	12.1 pc/mi/ln	S	
LOS	B	D = v _p / S	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	RV	Highway/Direction of Travel <i>I-15 Northbound</i>	
Agency or Company	<i>Urban Crossroads, Inc.</i>	From/To	<i>S of Limonite</i>
Date Performed	<i>10/03/2017</i>	Jurisdiction	<i>Caltrans</i>
Analysis Time Period	<i>PM Peak Hour</i>	Analysis Year	<i>2040 With Project W/ IMPROV</i>
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	<i>4507</i>	veh/h	Peak-Hour Factor, PHF <i>0.92</i>
AADT		veh/day	%Trucks and Buses, P _T <i>3</i>
Peak-Hr Prop. of AADT, K			%RVs, P _R <i>0</i>
Peak-Hr Direction Prop, D			General Terrain: <i>Level</i>
DDHV = AADT x K x D		veh/h	Grade % Length <i>mi</i> Up/Down %
Calculate Flow Adjustments			
f _p	<i>1.00</i>	E _R	<i>1.2</i>
E _T	<i>1.5</i>	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] <i>0.985</i>	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	<i>4</i>	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	<i>70.0</i>	FFS	<i>70.0</i>
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	<i>1243</i>	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	<i>70.0</i>	x f _p)	
D = v _p / S	<i>17.8</i>	S	mph
LOS	<i>B</i>	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

APPENDIX 7.16:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS RAMP JUNCTION ANALYSIS
WORKSHEETS WITH IMPROVEMENTS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1068 veh/h	Freeway Volume, V _F = 3338				V _D = veh/h				
	Ramp Volume, V _R = 927								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3338	0.92	Level	0	0	1.000	1.00	3628	
Ramp	927	0.92	Level	11	0	0.948	1.00	1063	
UpStream	1068	0.92	Level	9	0	0.957	1.00	1213	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.085 using Equation (Exhibit 13-6) V ₁₂ = 308 pc/h V ₃ or V _{av34} = 1660 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1451 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4691	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2514	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.9 (pc/mi/ln) LOS = B (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.302 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 61.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 67.9 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 64.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 5					Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1					<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D = 0					L _{down} = 1970 ft			
V _u = veh/h	Freeway Volume, V _F = 4406					V _D = 927 veh/h			
	Ramp Volume, V _R = 1068								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4406	0.92	Level	2	0	0.990	1.00	4837	
Ramp	1068	0.92	Level	9	0	0.957	1.00	1213	
UpStream									
DownStream	927	0.92	Level	11	0	0.948	1.00	1063	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2582 pc/h V ₃ or V _{av34} = 886 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4354	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3141	Exhibit 13-8	9600	No
					V _R	1213	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	2582	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 26.5 (pc/mi/ln) LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.407 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.9 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2060 ft V _D = 794 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200
	Freeway Volume, V _F	7288		Ramp Volume, V _R	907	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7288	0.92	Level	1	0	0.995	1.00	7961	
Ramp	907	0.92	Level	11	0	0.948	1.00	1040	
UpStream									
DownStream	794	0.92	Level	15	0	0.930	1.00	928	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4058 pc/h V ₃ or V _{av34} 1951 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7961	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6921	Exhibit 13-8	9600	No
					V _R	1040	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4058	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 37.4 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.392 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.0 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.1 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.2 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Freeway Volume, V _F	6381	L _{down} = ft						
V _u = 907 veh/h	Ramp Volume, V _R	794	V _D = veh/h						
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6381	0.92	Level	0	0	1.000	1.00	6936	
Ramp	794	0.92	Level	15	0	0.930	1.00	928	
UpStream	907	0.92	Level	11	0	0.948	1.00	1040	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.102 using Equation (Exhibit 13-6) V ₁₂ = 706 pc/h V ₃ or V _{av34} = 3115 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2774 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	7864	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3702	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.8 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.406 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 58.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.3 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 61.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5866	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1420			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Deceleration Lane Length L _D	150				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5866	0.92	Level	10	0	0.952	1.00	6695	
Ramp	1420	0.92	Level	8	0	0.962	1.00	1605	
UpStream									
DownStream	372	0.92	Level	7	0	0.966	1.00	418	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3824 pc/h V ₃ or V _{av34} 1435 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6695	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5090	Exhibit 13-8	9600	No
					V _R	1605	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3824	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.8 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.442 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	57.6 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	75.1 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.0 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 661 veh/h	Freeway Volume, V _F		4247		V _D = veh/h				
	Ramp Volume, V _R		1849						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4247	0.92	Level	9	0	0.957	1.00	4824	
Ramp	1849	0.92	Level	7	0	0.966	1.00	2080	
UpStream	661	0.92	Level	18	0	0.917	1.00	783	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1728.56 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 2877 pc/h V ₃ or V _{av34} = 1947 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2877 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6904	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4957	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 39.0 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.815 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 47.2 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.8 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 51.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 642 veh/h	Freeway Volume, V _F		3740		V _D = veh/h				
	Ramp Volume, V _R		1246						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3740	0.92	Level	2	0	0.990	1.00	4106	
Ramp	1246	0.92	Level	8	0	0.962	1.00	1409	
UpStream	642	0.92	Level	7	0	0.966	1.00	722	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2279 pc/h V ₃ or V _{av34} = 1827 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2346 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5515	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3755	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 34.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.488 (Exhibit 13-11) S _R = 56.3 mph (Exhibit 13-11) S ₀ = 65.5 mph (Exhibit 13-11) S = 59.0 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	3	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200	Freeway Volume, V _F	4865
					Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Volume, V _R	1283	Ramp Free-Flow Speed, S _{FR}	45.0
							Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2010 ft V _D = 800 veh/h			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	4865	0.92	Level	2	0	0.990	1.00	5341		
Ramp	1283	0.92	Level	6	0	0.971	1.00	1436		
UpStream										
DownStream	800	0.92	Level	11	0	0.948	1.00	917		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.560 using Equation (Exhibit 13-7) V ₁₂ = 3624 pc/h V ₃ or V _{av34} 1717 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	5341	Exhibit 13-8	7200	No	
					V _{FO} = V _F - V _R	3905	Exhibit 13-8	7200	No	
					V _R	1436	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3624	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 33.6 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.427 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 58.0 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.0 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 62.4 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 900 veh/h	Freeway Volume, V _F = 4792				V _D = veh/h				
	Ramp Volume, V _R = 958								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4792	0.92	Level	0	0	1.000	1.00	5209	
Ramp	958	0.92	Level	8	0	0.962	1.00	1083	
UpStream	900	0.92	Level	10	0	0.952	1.00	1027	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.082 using Equation (Exhibit 13-6) V ₁₂ = 429 pc/h V ₃ or V _{av34} = 2390 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2083 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6292	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3166	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.0 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.346 (Exhibit 13-11) S _R = 60.3 mph (Exhibit 13-11) S ₀ = 66.2 mph (Exhibit 13-11) S = 63.1 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1970 ft V _D = 958 veh/h	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	0
	Freeway Volume, V _F	5692		Ramp Volume, V _R	900	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5692	0.92	Level	2	0	0.990	1.00	6249	
Ramp	900	0.92	Level	10	0	0.952	1.00	1027	
UpStream									
DownStream	958	0.92	Level	8	0	0.962	1.00	1083	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2895 pc/h V ₃ or V _{av34} 1208 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5312	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4285	Exhibit 13-8	9600	No
					V _R	1027	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2895	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 29.1 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.390 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.1 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 76.0 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.7 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off						
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$L_{down} =$ 2060 ft						
$V_u =$ veh/h	Acceleration Lane Length, L_A		$V_D =$ 1019 veh/h						
	Deceleration Lane Length L_D	200							
	Freeway Volume, V_F	6541							
	Ramp Volume, V_R	706							
	Freeway Free-Flow Speed, S_{FF}	70.0							
	Ramp Free-Flow Speed, S_{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	6541	0.92	Level	1	0	0.995	1.00	7145	
Ramp	706	0.92	Level	10	0	0.952	1.00	806	
UpStream									
DownStream	1019	0.92	Level	7	0	0.966	1.00	1146	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)			
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	3570 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1787 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	7145	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	6339	Exhibit 13-8	9600	No
					V_R	806	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3570	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 33.2 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.371 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.6 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 73.7 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 65.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	4	Downstream Adj Ramp						
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On						
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	810	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = 2060 ft	Deceleration Lane Length L _D		L _{down} = ft						
V _u = 706 veh/h	Freeway Volume, V _F	5835	V _D = veh/h						
	Ramp Volume, V _R	1019							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5835	0.92	Level	0	0	1.000	1.00	6342	
Ramp	1019	0.92	Level	7	0	0.966	1.00	1146	
UpStream	706	0.92	Level	10	0	0.952	1.00	806	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.075 using Equation (Exhibit 13-6) V ₁₂ = 473 pc/h V ₃ or V _{av34} = 2934 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2536 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	7488	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3682	Exhibit 13-8	4600:All No		V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.6 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.403 (Exhibit 13-11) S _R = 58.7 mph (Exhibit 13-11) S ₀ = 64.9 mph (Exhibit 13-11) S = 61.7 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	3131	$L_{down} =$	1150 ft	Freeway Free-Flow Speed, S_{FF}	70.0
$L_{up} =$	Ramp Number of Lanes, N	1	$V_D =$	Ramp Volume, V_R	1026			Ramp Free-Flow Speed, S_{FR}	45.0
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0				
	Deceleration Lane Length L_D	150		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	3131	0.92	Level	16	0	0.926	1.00	3676	
Ramp	1026	0.92	Level	5	0	0.976	1.00	1143	
UpStream									
DownStream	710	0.92	Level	1	0	0.995	1.00	776	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)			
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.436 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	2247 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	714 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	3676	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	2533	Exhibit 13-8	9600	No
					V_R	1143	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2247	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	22.2 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	C (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.401 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.8 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	76.8 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	64.7 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1930 ft V _u = 1000 veh/h	Freeway Number of Lanes, N	3					Downstream Adj Ramp			
	Ramp Number of Lanes, N	1					<input type="checkbox"/> Yes <input type="checkbox"/> On			
	Acceleration Lane Length, L _A	675					<input checked="" type="checkbox"/> No <input type="checkbox"/> Off			
	Deceleration Lane Length L _D						L _{down} =	ft		
	Freeway Volume, V _F	2728					V _D =	veh/h		
	Ramp Volume, V _R	1648								
	Freeway Free-Flow Speed, S _{FF}	70.0								
Ramp Free-Flow Speed, S _{FR}	45.0									
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	2728	0.92	Level	15	0	0.930	1.00	3188		
Ramp	1648	0.92	Level	5	0	0.976	1.00	1836		
UpStream	1000	0.92	Level	6	0	0.971	1.00	1120		
DownStream										
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1326.24 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 1901 pc/h V ₃ or V _{av34} = 1287 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1901 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}	5024	Exhibit 13-8		No	V _F		Exhibit 13-8			
					V _{FO} = V _F - V _R		Exhibit 13-8			
					V _R		Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}	3737	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.5 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S =	0.424 (Exhibit 13-11)				D _s =	(Exhibit 13-12)				
S _R =	58.1 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)				
S ₀ =	67.2 mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)				
S =	60.2 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano							
Date Performed	1/17/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1260 ft V _u = 619 veh/h	Freeway Number of Lanes, N	3					Downstream Adj Ramp			
	Ramp Number of Lanes, N	2					<input type="checkbox"/> Yes <input type="checkbox"/> On			
	Acceleration Lane Length, L _A	0					<input checked="" type="checkbox"/> No <input type="checkbox"/> Off			
	Deceleration Lane Length L _D						L _{down} =	ft		
	Freeway Volume, V _F	3075					V _D =	veh/h		
	Ramp Volume, V _R	1571								
	Freeway Free-Flow Speed, S _{FF}	70.0								
Ramp Free-Flow Speed, S _{FR}	45.0									
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	3075	0.92	Level	2	0	0.990	1.00	3376		
Ramp	1571	0.92	Level	4	0	0.980	1.00	1742		
UpStream	619	0.92	Level	7	0	0.966	1.00	696		
DownStream										
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 1874 pc/h V ₃ or V _{av34} = 1502 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1929 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}	5118	Exhibit 13-8		No	V _F		Exhibit 13-8			
					V _{FO} = V _F - V _R		Exhibit 13-8			
					V _R		Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}	3671	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.3 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = 0.474 (Exhibit 13-11) S _R = 56.7 mph (Exhibit 13-11) S ₀ = 66.6 mph (Exhibit 13-11) S = 59.2 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	1/17/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 Without Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D		200		L _{down} = 2010 ft				
V _u = veh/h	Freeway Volume, V _F		4480		V _D = 712 veh/h				
	Ramp Volume, V _R		1498						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4480	0.92	Level	2	0	0.990	1.00	4918	
Ramp	1498	0.92	Level	5	0	0.976	1.00	1669	
UpStream									
DownStream	712	0.92	Level	7	0	0.966	1.00	801	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.560 using Equation (Exhibit 13-7) V ₁₂ = 3489 pc/h V ₃ or V _{av34} 1429 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4918	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	3249	Exhibit 13-8	7200	No
					V _R	1669	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3489	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.5 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.448 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 57.5 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 75.1 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 61.7 mph (Exhibit 13-13)				

APPENDIX 7.17:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS RAMP JUNCTION ANALYSIS
WORKSHEETS WITH IMPROVEMENTS**

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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1081 veh/h	Freeway Volume, V _F = 3345				V _D = veh/h				
	Ramp Volume, V _R = 934								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3345	0.92	Level	0	0	1.000	1.00	3636	
Ramp	934	0.92	Level	12	0	0.943	1.00	1076	
UpStream	1081	0.92	Level	10	0	0.952	1.00	1234	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.083 using Equation (Exhibit 13-6) V ₁₂ = 303 pc/h V ₃ or V _{av34} = 1666 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1454 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	4712	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2530	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 20.0 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.302 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 61.5 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 67.9 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 64.3 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	4426	L _{down} =	1970 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1081			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	0		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4426	0.92	Level	2	0	0.990	1.00	4859	
Ramp	1081	0.92	Level	10	0	0.952	1.00	1234	
UpStream									
DownStream	934	0.92	Level	12	0	0.943	1.00	1076	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2603 pc/h V ₃ or V _{av34} 885 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	4374	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	3140	Exhibit 13-8	9600	No
					V _R	1234	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2603	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 26.6 (pc/mi/ln) LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.409 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.5 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.8 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D = 200				L _{down} = 2060 ft				
V _u = veh/h	Freeway Volume, V _F = 7332				V _D = 798 veh/h				
	Ramp Volume, V _R = 929								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	7332	0.92	Level	2	0	0.990	1.00	8049	
Ramp	929	0.92	Level	12	0	0.943	1.00	1070	
UpStream									
DownStream	798	0.92	Level	15	0	0.930	1.00	932	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 4113 pc/h V ₃ or V _{av34} = 1968 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	8049	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6979	Exhibit 13-8	9600	No
					V _R	1070	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	4113	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 37.8 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.394 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.0 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.0 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	65.1 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 929 veh/h	Freeway Volume, V _F = 6403				V _D = veh/h				
	Ramp Volume, V _R = 798								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6403	0.92	Level	0	0	1.000	1.00	6960	
Ramp	798	0.92	Level	15	0	0.930	1.00	932	
UpStream	929	0.92	Level	12	0	0.943	1.00	1070	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.101 using Equation (Exhibit 13-6) V ₁₂ = 705 pc/h V ₃ or V _{av34} = 3127 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2784 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7892	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3716	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.0 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.408 (Exhibit 13-11) S _R = 58.6 mph (Exhibit 13-11) S ₀ = 64.3 mph (Exhibit 13-11) S = 61.5 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N Ramp Number of Lanes, N Acceleration Lane Length, L _A Deceleration Lane Length L _D Freeway Volume, V _F Ramp Volume, V _R Freeway Free-Flow Speed, S _{FF} Ramp Free-Flow Speed, S _{FR}	4 1 150 5913 1467 70.0 45.0	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	L _{down} = 1150 ft V _D = 372 veh/h						
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	5913	0.92	Level	10	0	0.952	1.00	6749		
Ramp	1467	0.92	Level	9	0	0.957	1.00	1666		
UpStream										
DownStream	372	0.92	Level	7	0	0.966	1.00	418		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3882 pc/h V ₃ or V _{av34} 1433 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	6749	Exhibit 13-8	9600	No	
					V _{FO} = V _F - V _R	5083	Exhibit 13-8	9600	No	
					V _R	1666	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3882	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 36.3 (pc/mi/ln) LOS = E (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.448 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 57.5 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 75.1 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 63.8 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 661 veh/h	Freeway Volume, V _F		4247		V _D = veh/h				
	Ramp Volume, V _R		1856						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4247	0.92	Level	9	0	0.957	1.00	4824	
Ramp	1856	0.92	Level	7	0	0.966	1.00	2088	
UpStream	661	0.92	Level	18	0	0.917	1.00	783	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1730.27 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 2877 pc/h V ₃ or V _{av34} = 1947 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2877 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6912	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4965	Exhibit 13-8	4600:All	Yes	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 39.0 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.819 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 47.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.8 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 51.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET								
General Information				Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound					
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano					
Date Performed	10/03/2017	Jurisdiction	Caltrans					
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV					
Project Description Colony Commerce Center East Specific Plan (JN 10522)								
Inputs								
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp					
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	2	<input type="checkbox"/> Yes <input type="checkbox"/> On					
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off					
L _{up} = 1260 ft	Deceleration Lane Length L _D		L _{down} = ft					
V _u = 642 veh/h	Freeway Volume, V _F	3740	V _D = veh/h					
	Ramp Volume, V _R	1261						
	Freeway Free-Flow Speed, S _{FF}	70.0						
	Ramp Free-Flow Speed, S _{FR}	45.0						
Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3740	0.92	Level	2	0	0.990	1.00	4106
Ramp	1261	0.92	Level	8	0	0.962	1.00	1425
UpStream	642	0.92	Level	7	0	0.966	1.00	722
DownStream								
Merge Areas				Diverge Areas				
Estimation of v ₁₂				Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2279 pc/h V ₃ or V _{av34} = 1827 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2346 pc/h (Equation 13-16, 13-18, or 13-19)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}	5531	Exhibit 13-8	No	V _F		Exhibit 13-8		
				V _{FO} = V _F - V _R		Exhibit 13-8		
				V _R		Exhibit 13-10		
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}	3771	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)				Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 34.2 (pc/mi/ln) LOS = D (Exhibit 13-2)				$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination				Speed Determination				
M _S = 0.490 (Exhibit 13-11)				D _s = (Exhibit 13-12)				
S _R = 56.3 mph (Exhibit 13-11)				S _R = mph (Exhibit 13-12)				
S ₀ = 65.5 mph (Exhibit 13-11)				S ₀ = mph (Exhibit 13-12)				
S = 58.9 mph (Exhibit 13-13)				S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	AM Peak Hour	Analysis Year	2040 With Project W/ IMPROV							
Project Description: Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Freeway Number of Lanes, N	3	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A		Deceleration Lane Length L _D	200	Freeway Volume, V _F	4889
					Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Volume, V _R	1307	Ramp Free-Flow Speed, S _{FR}	45.0
							Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 2010 ft V _D = 800 veh/h			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	4889	0.92	Level	2	0	0.990	1.00	5367		
Ramp	1307	0.92	Level	7	0	0.966	1.00	1470		
UpStream										
DownStream	800	0.92	Level	11	0	0.948	1.00	917		
Merge Areas					Diverge Areas					
Estimation of v ₁₂					Estimation of v ₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.558 using Equation (Exhibit 13-7) V ₁₂ = 3645 pc/h V ₃ or V _{av34} 1722 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 13-8			V _F	5367	Exhibit 13-8	7200	No	
					V _{FO} = V _F - V _R	3897	Exhibit 13-8	7200	No	
					V _R	1470	Exhibit 13-10	2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?		
V _{R12}		Exhibit 13-8			V ₁₂	3645	Exhibit 13-8	4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 33.8 (pc/mi/ln) LOS = D (Exhibit 13-2)					
Speed Determination					Speed Determination					
M _S = (Exhibit 13-11)					D _S = 0.430 (Exhibit 13-12)					
S _R = mph (Exhibit 13-11)					S _R = 58.0 mph (Exhibit 13-12)					
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.0 mph (Exhibit 13-12)					
S = mph (Exhibit 13-13)					S = 62.3 mph (Exhibit 13-13)					

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 906 veh/h	Freeway Volume, V _F = 4814				V _D = veh/h				
	Ramp Volume, V _R = 980								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4814	0.92	Level	0	0	1.000	1.00	5233	
Ramp	980	0.92	Level	9	0	0.957	1.00	1113	
UpStream	906	0.92	Level	11	0	0.948	1.00	1039	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.079 using Equation (Exhibit 13-6) V ₁₂ = 412 pc/h V ₃ or V _{av34} = 2410 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2093 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6346	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3206	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.3 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.350 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.2 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.1 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.0 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET											
General Information					Site Information						
Analyst	RV	Freeway/Dir of Travel	SR-60 Westbound								
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald								
Date Performed	10/03/2017	Jurisdiction	Caltrans								
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV								
Project Description Colony Commerce Center East Specific Plan (JN 10522)											
Inputs											
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V_F	5720	$L_{down} =$	1970 ft	Freeway Free-Flow Speed, S_{FF}	70.0	$V_D =$	980 veh/h
$L_{up} =$	Ramp Number of Lanes, N	1		Ramp Volume, V_R	906			Ramp Free-Flow Speed, S_{FR}	45.0		
$V_u =$	Acceleration Lane Length, L_A			Freeway Free-Flow Speed, S_{FF}	70.0						
	Deceleration Lane Length L_D	0		Ramp Free-Flow Speed, S_{FR}	45.0						
Conversion to pc/h Under Base Conditions											
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$			
Freeway	5720	0.92	Level	2	0	0.990	1.00	6280			
Ramp	906	0.92	Level	11	0	0.948	1.00	1039			
UpStream											
DownStream	980	0.92	Level	9	0	0.957	1.00	1113			
Merge Areas					Diverge Areas						
Estimation of v_{12}					Estimation of v_{12}						
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)						
$L_{EQ} =$	using Equation (Exhibit 13-6)				$L_{EQ} =$	0.436 using Equation (Exhibit 13-7)					
$P_{FM} =$	pc/h				$P_{FD} =$	2913 pc/h					
$V_{12} =$	pc/h (Equation 13-14 or 13-17)				$V_{12} =$	1212 pc/h (Equation 13-14 or 13-17)					
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1212 pc/h (Equation 13-14 or 13-17)					
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks					Capacity Checks						
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?		
V_{FO}		Exhibit 13-8			V_F	5338	Exhibit 13-8		9600	No	
					$V_{FO} = V_F - V_R$	4299	Exhibit 13-8		9600	No	
					V_R	1039	Exhibit 13-10		2100	No	
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area						
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?		
V_{R12}		Exhibit 13-8			V_{12}	2913	Exhibit 13-8		4400:All	No	
Level of Service Determination (if not F)					Level of Service Determination (if not F)						
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$						
$D_R =$ (pc/mi/ln)					$D_R =$ 29.3 (pc/mi/ln)						
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)						
Speed Determination					Speed Determination						
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.392 (Exhibit 13-12)						
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.0 mph (Exhibit 13-12)						
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 76.0 mph (Exhibit 13-12)						
$S =$ mph (Exhibit 13-13)					$S =$ 65.7 mph (Exhibit 13-13)						

RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound							
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald							
Date Performed	10/03/2017	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV							
Project Description Colony Commerce Center East Specific Plan (JN 10522)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2060 ft	$V_D =$	1033 veh/h	
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200					
$V_u =$	veh/h	Freeway Volume, V_F		Ramp Volume, V_R	716					
		Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0					
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$		
Freeway	6561	0.92	Level	1	0	0.995	1.00	7167		
Ramp	716	0.92	Level	11	0	0.948	1.00	821		
UpStream										
DownStream	1033	0.92	Level	8	0	0.962	1.00	1168		
Merge Areas					Diverge Areas					
Estimation of v_{12}					Estimation of v_{12}					
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.436 using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3588 pc/h	V_3 or V_{av34}	1789 pc/h (Equation 13-14 or 13-17)		
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)							
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V_{FO}		Exhibit 13-8			V_F	7167	Exhibit 13-8		9600	No
					$V_{FO} = V_F - V_R$	6346	Exhibit 13-8		9600	No
					V_R	821	Exhibit 13-10		2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3588	Exhibit 13-8		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$					
$D_R =$	(pc/mi/ln)				$D_R =$	33.3 (pc/mi/ln)				
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)				
Speed Determination					Speed Determination					
$M_S =$	(Exhibit 13-11)				$D_S =$	0.372 (Exhibit 13-12)				
$S_R =$	mph (Exhibit 13-11)				$S_R =$	59.6 mph (Exhibit 13-12)				
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	73.7 mph (Exhibit 13-12)				
$S =$	mph (Exhibit 13-13)				$S =$	65.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 716 veh/h	Freeway Volume, V _F = 5845				V _D = veh/h				
	Ramp Volume, V _R = 1033								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5845	0.92	Level	0	0	1.000	1.00	6353	
Ramp	1033	0.92	Level	8	0	0.962	1.00	1168	
UpStream	716	0.92	Level	11	0	0.948	1.00	821	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.072 using Equation (Exhibit 13-6) V ₁₂ = 456 pc/h V ₃ or V _{av34} = 2948 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2541 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7521	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3709	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.8 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.407 (Exhibit 13-11) S _R = 58.6 mph (Exhibit 13-11) S ₀ = 64.9 mph (Exhibit 13-11) S = 61.6 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	3148	L _{down} =	1150 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	1026			Ramp Free-Flow Speed, S _{FR}	45.0
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	150		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3148	0.92	Level	16	0	0.926	1.00	3695	
Ramp	1026	0.92	Level	6	0	0.971	1.00	1149	
UpStream									
DownStream	710	0.92	Level	1	0	0.995	1.00	776	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2259 pc/h V ₃ or V _{av34} 718 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	3695	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	2546	Exhibit 13-8	9600	No
					V _R	1149	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2259	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 22.3 (pc/mi/ln) LOS = C (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.401 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	58.8 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	76.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.7 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		675		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1930 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 1020 veh/h	Freeway Volume, V _F		2725		V _D = veh/h				
	Ramp Volume, V _R		1657						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2725	0.92	Level	15	0	0.930	1.00	3184	
Ramp	1657	0.92	Level	6	0	0.971	1.00	1855	
UpStream	1020	0.92	Level	6	0	0.971	1.00	1142	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1329.45 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 1899 pc/h V ₃ or V _{av34} = 1285 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1899 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5039	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3754	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.7 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.427 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 58.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 67.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 60.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N	3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> On	Ramp Number of Lanes, N	2		<input type="checkbox"/> Yes	<input type="checkbox"/> On			
<input type="checkbox"/> No	<input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	0		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Off			
L _{up} =	1260 ft	Deceleration Lane Length L _D			L _{down} =	ft			
V _u =	619 veh/h	Freeway Volume, V _F	3082		V _D =	veh/h			
		Ramp Volume, V _R	1571						
		Freeway Free-Flow Speed, S _{FF}	70.0						
		Ramp Free-Flow Speed, S _{FR}	45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3082	0.92	Level	2	0	0.990	1.00	3383	
Ramp	1571	0.92	Level	5	0	0.976	1.00	1750	
UpStream	619	0.92	Level	7	0	0.966	1.00	696	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 1878 pc/h V ₃ or V _{av34} = 1505 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1933 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = V ₃ or V _{av34} = Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	5133	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3683	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.4 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.476 (Exhibit 13-11)				D _s =	(Exhibit 13-12)			
S _R =	56.7 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	66.6 mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	59.2 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	RV	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	10/03/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	2040 With Project W/ IMPROV						
Project Description: Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	720 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	200				
$V_u =$	veh/h	Freeway Volume, V_F		Freeway Free-Flow Speed, S_{FF}	70.0				
		Ramp Volume, V_R		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4507	0.92	Level	2	0	0.990	1.00	4948	
Ramp	1526	0.92	Level	5	0	0.976	1.00	1700	
UpStream									
DownStream	720	0.92	Level	7	0	0.966	1.00	810	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.558 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3513 pc/h	V_3 or V_{av34}	1435 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)						
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4948	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	3248	Exhibit 13-8	7200	No
					V_R	1700	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3513	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	32.7 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.451 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	57.4 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	75.1 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	61.6 mph (Exhibit 13-13)			

November 6, 2017

Ms. Konstanza Dobrev
EPD Solutions, Inc.
2030 Main Street, Suite 1200
Irvine, CA 92614

SUBJECT: COLONY COMMERCE CENTER EAST SPECIFIC PLAN FOCUSED TRAFFIC ASSESSMENT

Dear Ms. Konstanza Dobrev:

The following Focused Traffic Assessment letter has been prepared for the proposed Colony Commerce Center East Specific Plan development (“Project”), which is located on the southwest corner of Archibald Avenue and Merrill Avenue in the City of Ontario, to include an evaluation of Existing plus Project (E+P) traffic conditions for the proposed Project. The E+P analysis scenario has been evaluated for informational purposes only. As such, no mitigation measures have been identified for the purposes of this analysis.

PROJECT TRIP GENERATION

The Project trip generation utilized for the purposes of this assessment is consistent with that published in the Colony Commerce Center East Specific Plan Traffic Impact Analysis (referred to as Traffic Study), dated November 2, 2017. The Specific Plan contains three Planning Areas (PA). PA1 and PA2 of the Specific Plan are proposed to consist of up to 175,330-sf of manufacturing use (25 percent of the square footage for Buildings 1 through 8), 525,991-sf of warehousing use (75 percent of the square footage for Buildings 1 through 8), and 998,680-sf high-cube warehouse/distribution center use (Building 9). Similarly, PA3 would develop consist of up to 57,799-sf of manufacturing use (25 percent of the square footage), 173,396-sf of warehousing use (75 percent of the square footage). The proposed Project is anticipated to generate a net total of 4,782 passenger car equivalent (PCE) trip-ends per day, 454 PCE AM peak hour trips and 514 PCE PM peak hour trips. Project Buildout (PAs 1-3) has been assumed for the purposes of this assessment for E+P traffic conditions.

PROJECT TRIP DISTRIBUTION

Project trip distribution patterns utilized for the purposes of this assessment are consistent with those published in the Traffic Study.

PEAK HOUR INTERSECTION OPERATIONS

The intersection analysis results are summarized in Table 1, which indicates there are no additional study area intersections anticipated to operate at unacceptable LOS with the addition of Project Buildout traffic, in addition to those identified for Existing traffic conditions in the Traffic Study. The intersection operations analysis worksheets for E+P traffic conditions are included in Attachment A of this letter.

ROADWAY SEGMENT ANALYSIS

Table 2 provides a summary of the E+P conditions roadway segment capacity analysis based on the City of Ontario General Plan Roadway Segment Capacity Thresholds identified on Table 2-3 of the Traffic Study. As shown on Table 2, there are no additional roadway segments anticipated to operate at an unacceptable LOS under E+P traffic conditions, in addition to those identified under Existing (2017) traffic conditions in the Traffic Study.

OFF-RAMP QUEUES

Queuing analysis findings for E+P are presented in Table 3. As shown on Table 3, there are no movements anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project Buildout traffic, consistent with Existing traffic conditions in the Traffic Study. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Attachment B.

BASIC FREEWAY SEGMENT ANALYSIS

As shown on Table 4, no additional freeway segments analyzed for this assessment were found to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for E+P traffic conditions, in addition to those identified under Existing traffic conditions in the traffic Study. E+P basic freeway segment analysis worksheets are provided in Attachment C.

FREEWAY RAMP MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for E+P conditions and the results of this analysis are presented in Table 5. As shown in Table 5, there are no additional merge and diverge areas that currently operate at LOS E or LOS F for E+P in addition to those listed under Existing traffic conditions in the Traffic Study. E+P freeway ramp junction operations analysis worksheets are provided in Attachment D.

Ms. Konstanza Dobрева
EPD Solutions, Inc.
November 6, 2017
Page 3 of 3

If you have any questions, please contact me directly at (949) 336-5982.

Respectfully submitted,

URBAN CROSSROADS, INC.

A handwritten signature in cursive script that reads "Charlene So".

Charlene So, PE
Senior Associate

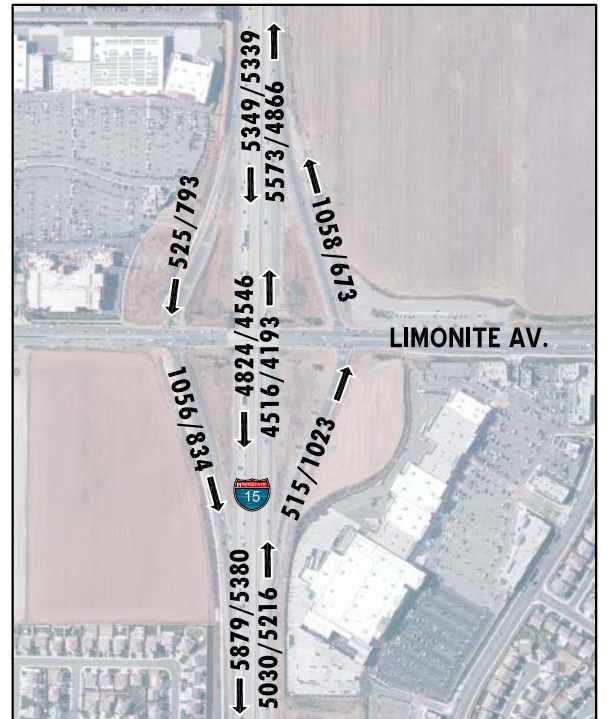
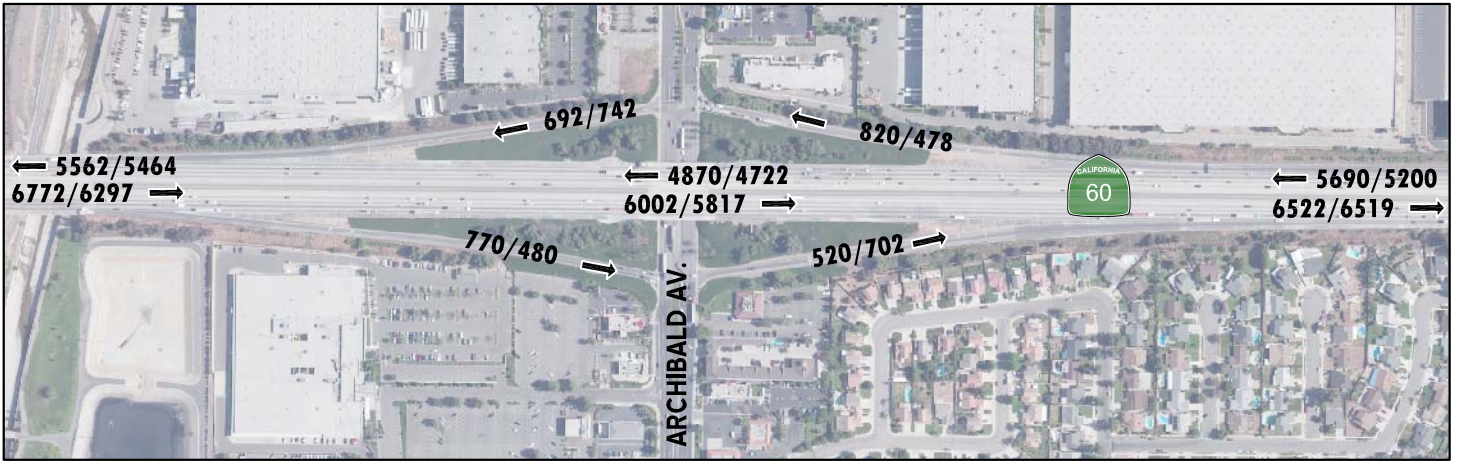
EXHIBIT 2: E+P TRAFFIC VOLUMES (IN PCE)

<p>1 Euclid Av. (SR-83) & E. Facility Dr./ Merrill Av.</p> <p>42(1) ← 963(894) ← 180(263) ← 197(117) ← 46(0) ← 173(129)</p> <p>8(5) → 6(20) → 4(11) → 19(2) → 968(971) → 135(194)</p>	<p>2 Euclid Av. (SR-83) & Kimball Av.</p> <p>313(83) ← 604(710) ← 146(271) ← 253(121) ← 637(232) ← 29(23)</p> <p>136(310) → 222(776) → 25(48) → 98(67) → 685(696) → 26(25)</p>	<p>3 Euclid Av. (SR-83) & Bickmore Av.</p> <p>75(55) ← 514(565) ← 38(125) ← 170(61) ← 368(25) ← 178(32)</p> <p>66(67) → 18(87) → 24(45) → 29(15) → 546(664) → 12(100)</p>	<p>4 Euclid Av. (SR-83) & Pine Av.</p> <p>14(14) ← 639(537) ← 56(56) ← 57(29) ← 160(72) ← 851(457)</p> <p>5(14) → 210(326) → 32(28) → 56(33) → 603(688) → 482(1035)</p>	<p>5 SR-71 NB Ramps & Butterfield Ranch Rd./ Euclid Av. (SR-83)</p> <p>956(780) ← 558(291)</p> <p>487(748) → 291(172) → 70(148) → 687(1096)</p>	<p>6 SR-71 SB Ramps/ Shady View Dr. & Butterfield Ranch Rd.</p> <p>35(152) ← 20(139) ← 259(703) ← 0(0) ← 207(196) ← 385(98)</p> <p>749(271) → 16(42) → 60(29) → 291(15)</p>	<p>7 Grove Av. & Merrill Av.</p> <p>100(41) ← 88(118) ← 200(103) ← 360(166)</p> <p>55(114) → 185(399)</p>	
<p>8 Flight Av. & Merrill Av.</p> <p>559(207) ← 55(40)</p> <p>239(586) → 74(68) → 133(57) → 70(76)</p>	<p>9 Hellman Av./ Vineyard Av. & Merrill Av.</p> <p>Future Intersection</p>		<p>10 Hellman Av. & Kimball Av.</p> <p>314(844) → 820(279)</p>	<p>11 Hellman Av. & Pine Av.</p> <p>17(26) ← 119(228) ← 129(532) ← 388(138) ← 967(493) ← 64(20)</p> <p>19(13) → 475(1186) → 290(387) → 429(135) → 312(101) → 42(31)</p>	<p>12 Dwy. 1 & Merrill Av.</p> <p>290(660) → 35(15) → 15(52)</p>	<p>13 Dwy. 2 & Merrill Av.</p> <p>597(217) ← 98(41)</p> <p>287(704) → 17(7) → 16(55) → 21(73)</p>	<p>14 Archibald Av. & SR-60 WB Ramps</p> <p>189(376) ← 424(1073) ← 488(185) ← 4(6) ← 345(351)</p> <p>566(416) → 1262(498)</p>
<p>15 Archibald Av. & SR-60 EB Ramps</p> <p>645(1151) ← 124(273)</p> <p>396(109) → 3(5) → 388(421) → 1433(805) → 398(488)</p>	<p>16 Archibald Av. & Walnut Av.</p> <p>17(18) ← 609(1223) ← 115(110) ← 234(64) ← 28(13) ← 125(26)</p> <p>37(17) → 10(7) → 22(30) → 65(63) → 1432(937) → 52(28)</p>	<p>17 Archibald Av. & Riverside Dr.</p> <p>193(188) ← 431(720) ← 173(264) ← 229(118) ← 445(390) ← 117(182)</p> <p>185(162) → 296(624) → 102(229) → 217(219) → 895(607) → 123(133)</p>	<p>18 Archibald Av. & Chino Av.</p> <p>36(21) ← 551(872) ← 85(86) ← 170(79) ← 76(15) ← 25(16)</p> <p>33(95) → 46(96) → 14(42) → 58(30) → 102(1787) → 40(30)</p>	<p>19 Archibald Av. & Schaefer Av.</p> <p>Future Intersection</p>	<p>20 Archibald Av. & Ontario Ranch Rd.</p> <p>48(40) ← 512(842) ← 36(37) ← 59(37) ← 249(153) ← 243(250)</p> <p>31(109) → 147(50) → 57(105) → 171(63) → 962(724) → 276(256)</p>	<p>21 Archibald Av. & Eucalytus Av.</p> <p>803(1157) ← 14(47) ← 50(22) ← 12(3)</p> <p>372(1029) → 28(32)</p>	
<p>22 Archibald Av. & Merrill Av.</p> <p>253(134) ← 489(993) ← 67(22) ← 65(47) ← 30(11) ← 105(53)</p> <p>192(364) → 11(31) → 106(382) → 412(114) → 1130(642) → 52(27)</p>	<p>23 Archibald Av. & Dwy. 3</p> <p>42(18) ← 635(1334)</p> <p>8(29) → 1594(783)</p>	<p>24 Archibald Av. & Dwy. 4/ Victoria Ln.</p> <p>40(17) ← 571(1325)</p> <p>25(88) → 12(42) → 92(39) → 1433(663)</p>	<p>25 Archibald Av. & Dwy. 5</p> <p>24(10) ← 613(1407)</p> <p>8(29) → 1560(852)</p>	<p>26 Archibald Av. & Limonite Av.</p> <p>420(764) ← 193(643) ← 766(245) ← 371(347)</p> <p>768(596) → 280(382) → 480(359) → 398(629) → 104(174)</p>	<p>27 Archibald Av. & Schleisman Rd.</p> <p>99(38) ← 687(319) ← 177(103)</p> <p>324(231) → 513(1075) → 123(464) → 344(221) → 709(457) → 161(103)</p>	<p>28 Harrison Av. & Limonite Av.</p> <p>54(27) ← 75(25) ← 22(12) ← 5(9) ← 953(527) ← 135(201)</p> <p>19(76) → 440(904) → 15(44) → 131(39) → 59(46) → 225(151)</p>	
<p>29 Sumner Av. & Limonite Av.</p> <p>72(67) ← 104(125) ← 94(70) ← 16(50) ← 765(592) ← 92(192)</p> <p>74(86) → 602(869) → 27(60) → 144(49) → 158(71) → 199(156)</p>	<p>30 Scholar Wy. & Limonite Av.</p> <p>43(15) ← 144(72) ← 29(26) ← 16(35) ← 702(824) ← 67(162)</p> <p>25(40) → 856(1017) → 67(48) → 95(34) → 109(26) → 162(140)</p>	<p>31 Hamner Av. & Ontario Ranch Rd./ Cantu Galleano Ranch Rd.</p> <p>34(32) ← 151(405) ← 130(250) ← 160(128) ← 527(293) ← 161(305)</p> <p>19(30) → 306(453) → 68(226) → 101(106) → 421(224) → 385(156)</p>	<p>32 Hamner Av. & Bellegrave Av.</p> <p>94(216) ← 243(625) ← 42(95) ← 91(57) ← 137(123) ← 113(225)</p> <p>345(92) → 153(90) → 16(22) → 12(6) → 471(336) → 169(203)</p>	<p>33 Hamner Av. & Limonite Av.</p> <p>118(161) ← 253(430) ← 253(224) ← 107(191) ← 514(718) ← 220(428)</p> <p>153(214) → 809(858) → 31(69) → 129(143) → 455(329) → 414(253)</p>	<p>34 I-15 SB Ramps & Cantu Galleano Ranch Rd.</p> <p>515(512) ← 366(482) ← 64(181) ← 409(246)</p> <p>566(523) → 160(156)</p>	<p>35 I-15 SB Ramps & Limonite Av.</p> <p>429(620) ← 2(0) ← 158(200) ← 617(1002) ← 668(429)</p> <p>1118(1243) → 457(457)</p>	
<p>36 I-15 NB Ramps & Cantu Galleano Ranch Rd.</p> <p>286(262) ← 380(291)</p> <p>404(483) → 528(522) → 188(164) → 160(120)</p>	<p>37 I-15 NB Ramps & Limonite Av.</p> <p>354(168) ← 1047(1020)</p> <p>743(528) → 532(915) → 236(410) → 2(1) → 325(652)</p>						

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 3: E+P FREEWAY MAINLINE VOLUMES (ACTUAL VEHICLES)



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
 NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



Table 1

Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control ²	Existing (2017)				E+P				Acceptable LOS
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	Euclid Av. (SR-83) / Merrill Av.	TS	26.4	40.5	C	C	28.9	43.4	C	D	D
2	Euclid Av. (SR-83) / Kimball Av.	TS	50.0	45.7	D	D	51.5	45.8	D	D	D
3	Euclid Av. (SR-83) / Bickmore Av.	TS	46.1	25.8	D	C	46.1	26.9	D	C	D
4	Euclid Av. (SR-83) / Pine Av.	TS	40.1	34.2	D	C	40.1	34.5	D	C	D
5	SR-71 NB Ramps / Euclid Av. (SR-83)	TS	15.4	32.4	B	C	20.0	38.7	C	D	D
6	SR-71 SB Ramps / Euclid Av. (SR-83)	TS	53.5	34.2	D	C	53.5	36.2	D	D	D
7	Grove Av. / Merrill Av.	AWS	19.5	14.7	C	B	22.5	16.3	C	C	D
8	Flight Av. / Merrill Av.	CSS	27.9	19.0	D	C	31.0	20.8	D	C	D
9	Vineyard Av./Hellman Av. / Merrill Av.		Future Intersection				Future Intersection				D
10	Hellman Av. / Kimball Av.	AWS	98.6	56.2	F	F	>100.0	59.2	F	F	D
11	Hellman Av. / Pine Av.	TS	23.3	31.9	C	C	23.9	32.0	C	C	D
12	Driveway 1 / Merrill Av.	CSS	Future Intersection				10.2	14.7	B	B	D
13	Driveway 2 / Merrill Av.	TS	Future Intersection				11.8	11.8	B	B	D
14	Archibald Av. / SR-60 WB Ramps	TS	24.3	32.6	C	C	26.3	36.5	C	D	D
15	Archibald Av. / SR-60 EB Ramps	TS	25.0	28.5	C	C	25.1	28.6	C	C	D
16	Archibald Av. / Walnut Av.	TS	17.4	11.4	B	B	17.4	11.6	B	B	E
17	Archibald Av. / Riverside Dr.	TS	40.5	44.9	D	D	41.0	46.4	D	D	E
18	Archibald Av. / Chino Av.	TS	14.4	15.4	B	B	14.5	15.6	B	B	E
19	Archibald Av. / Schaefer Av.		Future Intersection				Future Intersection				E
20	Archibald Av. / Ontario Ranch Rd.	TS	23.3	21.1	C	C	25.3	22.0	C	C	E
21	Archibald Av. / Eucalyptus Av.	TS	7.1	5.9	A	A	7.3	6.6	A	A	E
22	Archibald Av. / Merrill Av.	TS	32.9	38.6	C	D	40.9	70.5	D	E	E
23	Archibald Av. / Driveway 3	CSS	Future Intersection				10.7	15.7	B	C	D
24	Archibald Av. / Driveway 4/Victoria Ln.	TS	Future Intersection				20.7	17.3	C	B	D
25	Archibald Av. / Driveway 5	CSS	Future Intersection				10.5	16.3	B	C	D
26	Archibald Av. / Limonite Av.	TS	40.1	65.5	D	E	51.0	81.8	D	F	D
27	Archibald Av. / Schleisman Rd.	TS	38.1	29.8	D	C	38.2	30.0	D	C	D
28	Harrison Av. / Limonite Av.	TS	20.3	18.7	C	B	20.7	18.9	C	B	D
29	Sumner Av. / Limonite Av.	TS	17.5	16.3	B	B	17.6	16.4	B	B	D
30	Scholar Way / Limonite Av.	TS	16.6	15.3	B	B	16.7	15.4	B	B	D
31	Hamner Av. / Ontario Ranch Rd.	TS	76.4	59.4	E	E	87.0	69.1	F	E	D
32	Hamner Av. / Bellegrave Av.	TS	29.5	44.5	C	D	29.6	44.7	C	D	D
33	Hamner Av. / Limonite Av.	TS	32.9	33.8	C	C	33.1	34.2	C	C	D
34	I-15 SB Ramps / Cantu Galleano Ranch Rd.	TS	12.9	8.6	B	A	13.3	9.0	B	A	D
35	I-15 SB Ramps / Limonite Av.	TS	29.3	30.0	C	C	29.3	30.0	C	C	D
36	I-15 NB Ramps / Cantu Galleano Ranch Rd.	TS	15.4	15.2	B	B	16.0	15.4	B	B	D
37	I-15 NB Ramps / Limonite Av.	TS	24.8	25.1	C	C	25.6	25.2	C	C	D

BOLD = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
¹ Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

Table 2

Roadway Segment Capacity Analysis for E+P Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	E+P	V/C ²	LOS ³	Acceptable LOS
1	Merrill Avenue	East of Euclid Av. (SR-83)	2U	14,000	8,407	0.60	B	9,017	0.64	B	D
2		Between Grove Av. and Vineyard Av.	2U	14,000	7,466	0.53	A	8,236	0.59	A	D
3		West of Driveway 2	2U	14,000	10,754	0.77	C	11,814	0.84	D	D
4	Archibald Avenue	North of Ontario Ranch Rd.	4D	35,900	21,177	0.59	A	22,399	0.62	B	D
5		Between Eucalyptus Av. and Merrill Av.	4D	35,900	20,073	0.56	A	22,225	0.62	B	D
6		North of the County Line	2D	17,950	27,064	1.51	F	28,579	1.59	F	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Ontario's General I Plan.

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Table 3

Peak Hour Freeway Off-Ramp Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2017)				E+P			
			95th Percentile Queue (Feet) ³		Acceptable? ¹		95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
SR-71 NB Ramps / Euclid Avenue (SR-83)	NBL	1,745	38	48	Yes	Yes	38	49	Yes	Yes
	NBR	420	150 ²	992 ²	Yes	Yes ³	259 ²	1,059 ²	Yes	Yes ³
SR-71 SB Ramps / Euclid Avenue (SR-83)	SBL	1,100	129	468 ²	Yes	Yes	129	468 ²	Yes	Yes
	SBL/T	1,560	128	458 ²	Yes	Yes	128	458 ²	Yes	Yes
	SBR	255	0	43	Yes	Yes	0	43	Yes	Yes
Archibald Avenue/ SR-60 WB Ramps	WBL/T	1,389	331 ²	357 ²	Yes	Yes	375 ²	378 ²	Yes	Yes
	WBR	250	522 ²	52	Yes ³	Yes	522 ²	52	Yes ³	Yes
Archibald Avenue/ SR-60 EB Ramps	EBL/T	1,268	322	89	Yes	Yes	322	89	Yes	Yes
	EBR	350	157	298 ²	Yes	Yes	206	344 ²	Yes	Yes
I-15 SB Ramps / Cantu Galleano Ranch Rd.	SBL	1,440	61	62	Yes	Yes	55	67	Yes	Yes
	SBR	460	154	109	Yes	Yes	174	131	Yes	Yes
I-15 NB Ramps / Cantu Galleano Ranch Rd.	NBL	1,680	80 ²	59	Yes	Yes	80 ²	59	Yes	Yes
	NBL/R	580	0	0	Yes	Yes	0	0	Yes	Yes
	NBR	440	45	39	Yes	Yes	45	39	Yes	Yes
I-15 SB Ramps / Limonite Avenue	SBL	400	182	191	Yes	Yes	182	191	Yes	Yes
	SBL/T/R	400	95	256	Yes	Yes	95	262	Yes	Yes
	SBR	1,200	74	232	Yes	Yes	74	238	Yes	Yes
I-15 NB Ramps / Limonite Avenue	NBL	450	225 ²	350	Yes	Yes	272 ²	369	Yes	Yes
	NBL/T/R	1,235	90	252	Yes	Yes	135	257	Yes	Yes
	NBR	400	65	237	Yes	Yes	67	240	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

Table 4

Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction ¹	Mainline Segment	Lanes ²	Existing (2017)				E+P			
				Density ³		LOS ⁴		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM	AM	PM
SR-71	SB	South of Euclid Av. (SR-83)	2	39.4	27.3	E	D	39.5	27.6	E	D
	NB	South of Euclid Av. (SR-83)	3	24.3	24.9	C	C	24.6	24.9	C	C
SR-60	WB	West of Archibald Av.	4	22.4	21.7	C	C	22.5	21.9	C	C
		East of Archibald Av.	5	18.0	16.3	B	B	18.0	16.4	B	B
	EB	West of Archibald Av.	4	29.4	26.3	D	D	29.9	26.4	D	D
		East of Archibald Av.	4	28.1	27.6	D	D	28.3	27.7	D	D
I-15	SB	North of Cantu Galleano Ranch Rd.	4	24.5	24.6	C	C	24.8	24.7	C	C
		Cantu Galleano Ranch Rd. to Limonite Av.	3	32.1	32.0	D	D	32.1	32.0	D	D
		South of Limonite Av.	3	37.4	32.2	E	D	37.8	32.4	E	D
	NB	North of Cantu Galleano Ranch Rd.	5	19.1	16.7	C	B	19.1	16.8	C	B
		Cantu Galleano Ranch Rd. to Limonite Av.	3	32.7	27.0	D	D	32.7	27.0	D	D
		South of Limonite Av.	3	27.8	29.7	D	D	28.0	29.7	D	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

Table 5

Freeway Ramp Junction Merge/Diverge Analysis for E+P Conditions

Freeway ¹	Direction ¹	Ramp or Segment	Lanes on Freeway ²	Existing (2017)						E+P	
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴	Density ³	LOS ⁴
SR-71	NB	Loop On-Ramp at Euclid Av. (SR-83) (Upstream)	2	33.0	D	29.7	D	33.1	D	29.9	D
	SB	Loop On-Ramp at Euclid Av. (SR-83) (Downstream)	2	33.0	D	29.7	D	33.1	D	29.9	D
SR-60	NB	Off-Ramp at Euclid Av. (SR-83)	3	32.3	D	33.9	D	32.6	D	33.9	D
	WB	On-Ramp at Archibald Av.	4	23.2	C	22.7	C	23.3	C	23.1	C
		Off-Ramp at Archibald Av.	5	28.7	D	25.0	C	28.9	D	25.2	C
I-15	EB	Off-Ramp at Archibald Av.	4	35.1	E	31.3	D	35.4	E	31.4	D
		On-Ramp at Archibald Av.	4	25.8	C	26.2	C	25.9	C	26.4	C
	SB	Off-Ramp at Cantu Galleano Ranch Rd.	4	31.8	D	32.8	D	32.2	D	32.9	D
I-15	NB	On-Ramp at Limonite Av.	3	35.1	E	31.7	D	35.2	E	32.0	D
	SB	On-Ramp at Cantu Galleano Ranch Rd.	3	37.8	E	33.7	D	37.9	E	34.1	D
		Off-Ramp at Limonite Av.	3	32.5	D	34.5	D	32.6	D	34.5	D

* **BOLD** = Unacceptable Level of Service

¹ NB = Northbound; SB = Southbound, EB = Eastbound; WB = Westbound

² Number of lanes are in the specified direction and is based on existing conditions

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

ATTACHMENT A
HCM PEAK HOUR INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	8	6	173	46	19	968	135	180	963
Future Volume (vph)	8	6	173	46	19	968	135	180	963
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.5	29.5	14.5	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.8%	32.8%	16.1%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

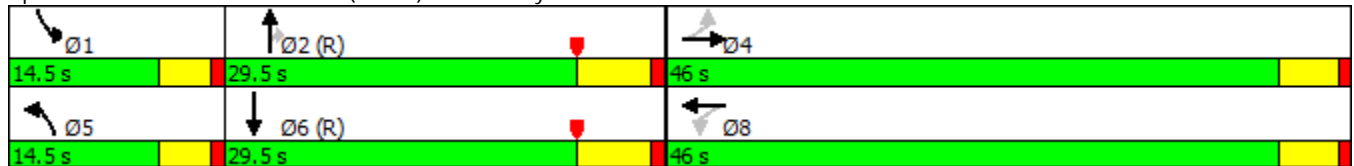
Actuated Cycle Length: 90

Offset: 33 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow




















Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	6	4	173	46	197	19	968	135	180	963	42
Future Volume (veh/h)	8	6	4	173	46	197	19	968	135	180	963	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	8	6	3	180	48	159	20	1008	115	188	1003	41
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	209	149	64	252	60	177	71	1474	659	180	1669	68
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.04	0.43	0.43	0.11	0.50	0.50
Sat Flow, veh/h	526	520	224	676	211	618	1619	3420	1530	1619	3349	137
Grp Volume(v), veh/h	17	0	0	387	0	0	20	1008	115	188	512	532
Grp Sat Flow(s),veh/h/ln	1271	0	0	1505	0	0	1619	1710	1530	1619	1710	1776
Q Serve(g_s), s	0.0	0.0	0.0	21.4	0.0	0.0	1.1	21.4	4.2	10.0	19.3	19.3
Cycle Q Clear(g_c), s	0.6	0.0	0.0	22.2	0.0	0.0	1.1	21.4	4.2	10.0	19.3	19.3
Prop In Lane	0.47		0.18	0.47		0.41	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	422	0	0	489	0	0	71	1474	659	180	852	885
V/C Ratio(X)	0.04	0.00	0.00	0.79	0.00	0.00	0.28	0.68	0.17	1.05	0.60	0.60
Avail Cap(c_a), veh/h	662	0	0	743	0	0	180	1474	659	180	852	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.48	0.48	0.48	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	30.9	0.0	0.0	41.7	20.7	15.8	40.0	16.2	16.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	0.0	0.4	1.3	0.3	79.5	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.5	0.0	0.0	0.5	10.3	1.8	8.4	9.8	10.2
LnGrp Delay(d),s/veh	23.2	0.0	0.0	32.5	0.0	0.0	42.1	21.9	16.0	119.5	19.3	19.2
LnGrp LOS	C			C			D	C	B	F	B	B
Approach Vol, veh/h		17			387			1143			1232	
Approach Delay, s/veh		23.2			32.5			21.7			34.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	44.8		30.7	8.4	50.8		30.7				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.0	23.5		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.0	23.4		2.6	3.1	21.3		24.2				
Green Ext Time (p_c), s	0.0	0.1		1.5	0.0	1.9		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			28.9									
HCM 2010 LOS			C									

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

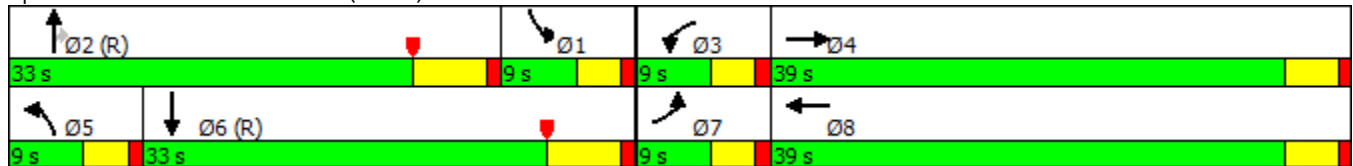


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	136	222	29	637	98	685	26	146	604
Future Volume (vph)	136	222	29	637	98	685	26	146	604
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 82 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

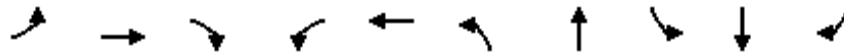
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	222	25	29	637	253	98	685	26	146	604	313
Future Volume (veh/h)	136	222	25	29	637	253	98	685	26	146	604	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	139	227	24	30	650	236	100	699	19	149	616	281
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	1046	110	47	759	275	90	834	373	266	852	389
Arrive On Green	0.06	0.33	0.33	0.03	0.31	0.31	0.06	0.24	0.24	0.16	0.37	0.37
Sat Flow, veh/h	1619	3125	327	1619	2460	893	1619	3420	1530	1619	2274	1037
Grp Volume(v), veh/h	139	123	128	30	452	434	100	699	19	149	463	434
Grp Sat Flow(s),veh/h/ln	1619	1710	1742	1619	1710	1642	1619	1710	1530	1619	1710	1601
Q Serve(g_s), s	5.0	4.6	4.7	1.6	22.3	22.4	5.0	17.5	0.7	7.6	20.9	20.9
Cycle Q Clear(g_c), s	5.0	4.6	4.7	1.6	22.3	22.4	5.0	17.5	0.7	7.6	20.9	20.9
Prop In Lane	1.00		0.19	1.00		0.54	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	90	573	583	47	528	507	90	834	373	266	641	600
V/C Ratio(X)	1.55	0.22	0.22	0.63	0.86	0.86	1.11	0.84	0.05	0.56	0.72	0.72
Avail Cap(c_a), veh/h	90	656	668	90	656	630	90	1026	459	266	641	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	0.73	0.73	0.73
Uniform Delay (d), s/veh	42.5	21.5	21.5	43.2	29.2	29.2	42.5	32.3	17.3	34.6	24.1	24.1
Incr Delay (d2), s/veh	292.9	0.2	0.2	5.1	7.8	8.1	119.8	8.3	0.2	1.2	5.1	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	2.2	2.3	0.8	11.7	11.3	5.2	9.2	0.3	3.5	10.7	10.1
LnGrp Delay(d),s/veh	335.4	21.6	21.7	48.3	37.0	37.3	162.3	40.7	17.5	35.8	29.3	29.6
LnGrp LOS	F	C	C	D	D	D	F	D	B	D	C	C
Approach Vol, veh/h		390			916			818			1046	
Approach Delay, s/veh		133.5			37.5			55.0			30.3	
Approach LOS		F			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.8	27.9	6.6	34.6	9.0	39.7	9.0	32.3				
Change Period (Y+Rc), s	6.0	* 6	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	* 27	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	9.6	19.5	3.6	6.7	7.0	22.9	7.0	24.4				
Green Ext Time (p_c), s	0.0	2.5	0.0	4.7	0.0	2.0	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			51.5									
HCM 2010 LOS			D									
Notes												

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

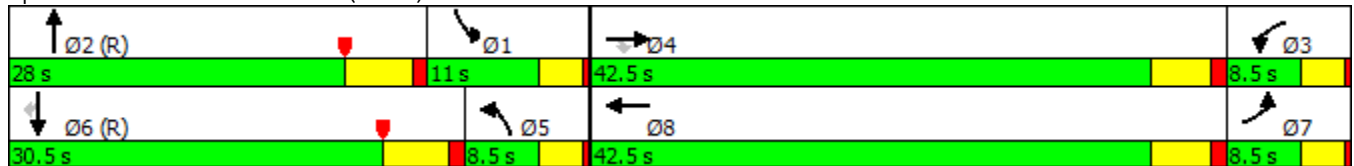


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	66	18	24	178	368	29	546	38	514	75
Future Volume (vph)	66	18	24	178	368	29	546	38	514	75
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



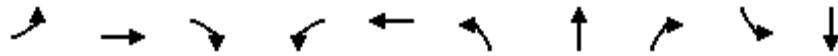
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	18	24	178	368	170	29	546	12	38	514	75
Future Volume (veh/h)	66	18	24	178	368	170	29	546	12	38	514	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	19	24	189	391	168	31	581	12	40	547	71
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	87	108	92	561	422	181	327	688	14	321	672	301
Arrive On Green	0.05	0.06	0.06	0.35	0.35	0.35	0.07	0.07	0.07	0.07	0.06	0.06
Sat Flow, veh/h	1619	1800	1522	1619	1196	514	1619	3427	71	1619	3420	1530
Grp Volume(v), veh/h	70	19	24	189	0	559	31	290	303	40	547	71
Grp Sat Flow(s),veh/h/ln	1619	1800	1522	1619	0	1709	1619	1710	1788	1619	1710	1530
Q Serve(g_s), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	15.1	15.1	2.1	14.2	4.0
Cycle Q Clear(g_c), s	3.8	0.9	1.4	7.8	0.0	28.3	1.6	15.1	15.1	2.1	14.2	4.0
Prop In Lane	1.00		1.00	1.00		0.30	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	87	108	92	561	0	603	327	343	359	321	672	301
V/C Ratio(X)	0.81	0.18	0.26	0.34	0.00	0.93	0.09	0.84	0.84	0.12	0.81	0.24
Avail Cap(c_a), veh/h	90	750	634	561	0	712	327	428	447	321	950	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.69	0.69	0.69	0.43	0.43	0.43
Uniform Delay (d), s/veh	42.1	40.2	40.4	21.8	0.0	28.0	34.3	40.6	40.6	34.7	40.5	35.7
Incr Delay (d2), s/veh	35.9	0.3	0.6	0.1	0.0	15.5	0.0	16.0	15.5	0.0	4.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.5	0.6	3.5	0.0	15.9	0.7	8.7	9.0	0.9	7.2	1.7
LnGrp Delay(d),s/veh	78.1	40.5	40.9	21.9	0.0	43.5	34.3	56.6	56.1	34.7	45.2	36.4
LnGrp LOS	E	D	D	C		D	C	E	E	C	D	D
Approach Vol, veh/h		113			748			624			658	
Approach Delay, s/veh		63.9			38.0			55.3			43.6	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.3	23.6	34.7	10.4	21.7	23.2	8.3	36.8				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	4.1	17.1	9.8	3.4	3.6	16.2	5.8	30.3				
Green Ext Time (p_c), s	0.0	1.0	0.0	0.1	0.0	1.5	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			46.1									
HCM 2010 LOS			D									
Notes												

Timings
4: Euclid Av. (SR-83) & Pine Av.

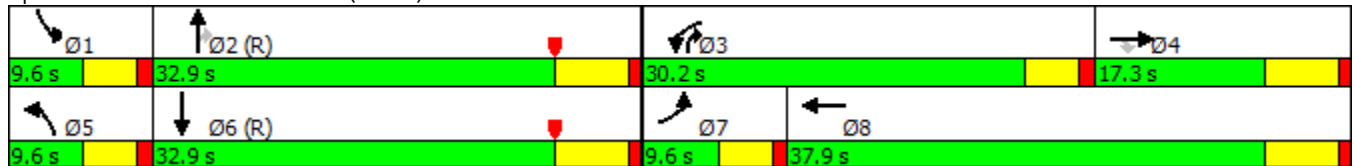


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	5	210	32	851	160	56	603	482	56	639
Future Volume (vph)	5	210	32	851	160	56	603	482	56	639
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	17.3	17.3	30.2	37.9	9.6	32.9	30.2	9.6	32.9
Total Split (%)	10.7%	19.2%	19.2%	33.6%	42.1%	10.7%	36.6%	33.6%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 77 (86%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



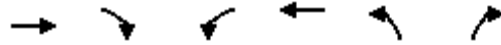
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	210	32	851	160	57	56	603	482	56	639	14
Future Volume (veh/h)	5	210	32	851	160	57	56	603	482	56	639	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	212	0	860	162	43	57	609	309	57	645	9
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	228	194	841	553	147	70	1068	902	70	1078	15
Arrive On Green	0.01	0.13	0.00	0.28	0.40	0.40	0.04	0.31	0.31	0.09	0.62	0.62
Sat Flow, veh/h	1619	1800	1530	2956	1368	363	1619	3420	1496	1619	3452	48
Grp Volume(v), veh/h	5	212	0	860	0	205	57	609	309	57	319	335
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1731	1619	1710	1496	1619	1710	1790
Q Serve(g_s), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	13.4	9.4	3.1	10.1	10.1
Cycle Q Clear(g_c), s	0.3	10.5	0.0	25.6	0.0	7.2	3.1	13.4	9.4	3.1	10.1	10.1
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	11	228	194	841	0	700	70	1068	902	70	534	559
V/C Ratio(X)	0.47	0.93	0.00	1.02	0.00	0.29	0.81	0.57	0.34	0.82	0.60	0.60
Avail Cap(c_a), veh/h	90	228	194	841	0	700	90	1068	902	90	534	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.65	0.65	0.65	0.90	0.90	0.90
Uniform Delay (d), s/veh	44.6	38.9	0.0	32.2	0.0	18.1	42.7	25.9	9.2	40.8	13.5	13.5
Incr Delay (d2), s/veh	11.7	41.1	0.0	36.9	0.0	0.3	19.1	1.4	0.7	25.7	4.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	0.0	14.7	0.0	3.5	1.8	6.6	4.1	1.9	5.3	5.5
LnGrp Delay(d),s/veh	56.2	80.0	0.0	69.1	0.0	18.4	61.8	27.3	9.9	66.5	18.0	17.8
LnGrp LOS	E	E		F		B	E	C	A	E	B	B
Approach Vol, veh/h		217			1065			975			711	
Approach Delay, s/veh		79.4			59.4			23.8			21.8	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	34.0	30.2	17.3	8.5	34.0	5.2	42.3				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	4.6	5.9				
Max Green Setting (Gmax), s	5.0	27.0	25.6	11.4	5.0	27.0	5.0	32.0				
Max Q Clear Time (g_c+I1), s	5.1	15.4	27.6	12.5	5.1	12.1	2.3	9.2				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	4.5	0.0	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			40.1									
HCM 2010 LOS			D									

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

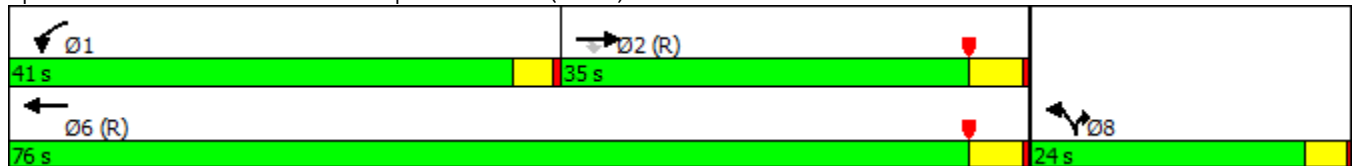


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	487	291	558	956	70	687
Future Volume (vph)	487	291	558	956	70	687
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	35.0	35.0	41.0	76.0	24.0	24.0
Total Split (%)	35.0%	35.0%	41.0%	76.0%	24.0%	24.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 64 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated







Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

11/06/2017

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	487	291	558	956	70	687		
Future Volume (veh/h)	487	291	558	956	70	687		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	507	0	581	996	73	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1644	736	607	2975	166	76		
Arrive On Green	0.32	0.00	0.35	0.87	0.05	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	507	0	581	996	73	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	11.2	0.0	33.1	5.3	2.1	0.0		
Cycle Q Clear(g_c), s	11.2	0.0	33.1	5.3	2.1	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1644	736	607	2975	166	76		
V/C Ratio(X)	0.31	0.00	0.96	0.33	0.44	0.00		
Avail Cap(c_a), veh/h	1644	736	643	2975	682	314		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.51	0.51	1.00	0.00		
Uniform Delay (d), s/veh	21.4	0.0	31.5	1.2	46.1	0.0		
Incr Delay (d2), s/veh	0.5	0.0	15.4	0.2	1.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.4	0.0	18.2	2.4	1.0	0.0		
LnGrp Delay(d),s/veh	21.9	0.0	46.9	1.3	48.0	0.0		
LnGrp LOS	C		D	A	D			
Approach Vol, veh/h	507			1577	73			
Approach Delay, s/veh	21.9			18.1	48.0			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	38.9	52.6				91.5		8.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	37.5	30.5				71.5		20.5
Max Q Clear Time (g_c+I1), s	35.1	13.2				7.3		4.1
Green Ext Time (p_c), s	0.3	7.6				10.6		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			20.0					
HCM 2010 LOS			C					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

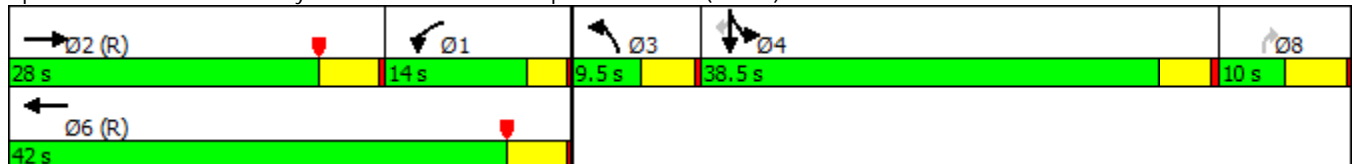


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	749	385	207	60	291	259	20	35
Future Volume (vph)	749	385	207	60	291	259	20	35
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	28.0	14.0	42.0	9.5	10.0	38.5	38.5	38.5
Total Split (%)	28.0%	14.0%	42.0%	9.5%	10.0%	38.5%	38.5%	38.5%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Future Volume (veh/h)	0	749	16	385	207	0	60	0	291	259	20	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	823	18	423	227	0	66	0	320	301	0	38
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	787	17	820	2690	0	0	0	0	384	0	178
Arrive On Green	0.00	0.23	0.23	0.85	1.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
Sat Flow, veh/h	0	3510	75	1619	3510	0		0		3238	0	1506
Grp Volume(v), veh/h	0	411	430	423	227	0		0.0		301	0	38
Grp Sat Flow(s),veh/h/ln	0	1710	1785	1619	1710	0				1619	0	1506
Q Serve(g_s), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Cycle Q Clear(g_c), s	0.0	23.0	23.0	7.1	0.0	0.0				9.0	0.0	2.3
Prop In Lane	0.00		0.04	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	393	410	820	2690	0				384	0	178
V/C Ratio(X)	0.00	1.05	1.05	0.52	0.08	0.00				0.78	0.00	0.21
Avail Cap(c_a), veh/h	0	393	410	820	2690	0				1101	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.5	38.5	4.4	0.0	0.0				42.8	0.0	39.9
Incr Delay (d2), s/veh	0.0	58.0	57.1	0.3	0.1	0.0				2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.1	17.8	3.0	0.0	0.0				4.2	0.0	1.0
LnGrp Delay(d),s/veh	0.0	96.5	95.6	4.6	0.1	0.0				45.5	0.0	40.3
LnGrp LOS		F	F	A	A					D		D
Approach Vol, veh/h		841			650						339	
Approach Delay, s/veh		96.0			3.0						44.9	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	55.7	28.0		16.3		83.7						
Change Period (Y+Rc), s	5.0	* 5		4.5		5.0						
Max Green Setting (Gmax), s	10.5	* 23		34.0		37.0						
Max Q Clear Time (g_c+I1), s	9.1	25.0		11.0		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.8		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay				53.5								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	22.5
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	55	185	0	360	200	0	88	100
Future Vol, veh/h	0	55	185	0	360	200	0	88	100
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	64	215	0	419	233	0	102	116
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	12.5	30.2	12.2
HCM LOS	B	D	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	0%	47%
Vol Thru, %	77%	64%	0%
Vol Right, %	0%	36%	53%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	240	560	188
LT Vol	55	0	88
Through Vol	185	360	0
RT Vol	0	200	100
Lane Flow Rate	279	651	219
Geometry Grp	1	1	1
Degree of Util (X)	0.423	0.864	0.357
Departure Headway (Hd)	5.462	4.774	5.887
Convergence, Y/N	Yes	Yes	Yes
Cap	659	762	610
Service Time	3.502	2.804	3.934
HCM Lane V/C Ratio	0.423	0.854	0.359
HCM Control Delay	12.5	30.2	12.2
HCM Lane LOS	B	D	B
HCM 95th-tile Q	2.1	10.5	1.6

Intersection

Int Delay, s/veh 5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	239	74	55	559	133	70
Future Vol, veh/h	239	74	55	559	133	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	263	81	60	614	146	77

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	263
Stage 1	-	-	263
Stage 2	-	-	735
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1313
Stage 1	-	-	786
Stage 2	-	-	478
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1313
Mov Cap-2 Maneuver	-	-	275
Stage 1	-	-	786
Stage 2	-	-	456

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	31
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	354	-	-	1313	-
HCM Lane V/C Ratio	0.63	-	-	0.046	-
HCM Control Delay (s)	31	-	-	7.9	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.1	-	-	0.1	-

Intersection

Intersection Delay, s/veh 105.1

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↑						↑						
Traffic Vol, veh/h	0	0	14	314	0	3	4	0	0	820	0	10	0	0	0	0
Future Vol, veh/h	0	0	14	314	0	3	4	0	0	820	0	10	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	15	338	0	3	4	0	0	882	0	11	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	14.6	140.8
HCM LOS	B	F

Lane	NBLn1	EBLn1
Vol Left, %	99%	0%
Vol Thru, %	0%	4%
Vol Right, %	1%	96%
Sign Control	Stop	Stop
Traffic Vol by Lane	830	328
LT Vol	820	0
Through Vol	0	14
RT Vol	10	314
Lane Flow Rate	892	353
Geometry Grp	1	1
Degree of Util (X)	1.247	0.511
Departure Headway (Hd)	5.032	5.764
Convergence, Y/N	Yes	Yes
Cap	723	631
Service Time	3.097	3.764
HCM Lane V/C Ratio	1.234	0.559
HCM Control Delay	140.8	14.6
HCM Lane LOS	F	B
HCM 95th-tile Q	32.1	2.9

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

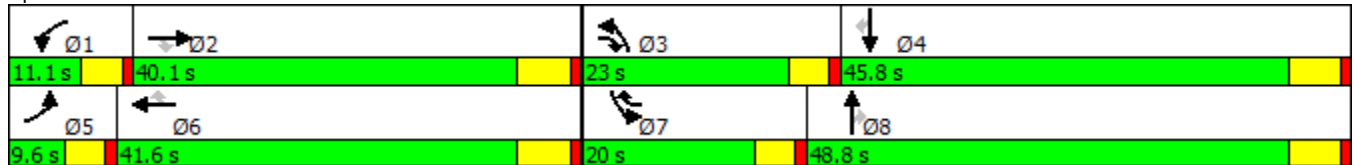


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	19	475	290	64	967	388	429	312	42	129	119	17
Future Volume (vph)	19	475	290	64	967	388	429	312	42	129	119	17
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	40.1	23.0	11.1	41.6	20.0	23.0	48.8	48.8	20.0	45.8	45.8
Total Split (%)	8.0%	33.4%	19.2%	9.3%	34.7%	16.7%	19.2%	40.7%	40.7%	16.7%	38.2%	38.2%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
 11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	475	290	64	967	388	429	312	42	129	119	17
Future Volume (veh/h)	19	475	290	64	967	388	429	312	42	129	119	17
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	21	516	303	70	1051	389	466	339	36	140	129	17
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	1310	859	146	1399	733	542	815	360	206	427	191
Arrive On Green	0.02	0.38	0.38	0.05	0.41	0.41	0.18	0.24	0.24	0.07	0.12	0.12
Sat Flow, veh/h	2956	3420	1509	2956	3420	1530	2956	3420	1510	2956	3420	1530
Grp Volume(v), veh/h	21	516	303	70	1051	389	466	339	36	140	129	17
Grp Sat Flow(s),veh/h/ln	1478	1710	1509	1478	1710	1530	1478	1710	1510	1478	1710	1530
Q Serve(g_s), s	0.6	8.8	8.7	1.8	21.0	14.2	12.2	6.7	1.5	3.7	2.7	0.8
Cycle Q Clear(g_c), s	0.6	8.8	8.7	1.8	21.0	14.2	12.2	6.7	1.5	3.7	2.7	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	1310	859	146	1399	733	542	815	360	206	427	191
V/C Ratio(X)	0.30	0.39	0.35	0.48	0.75	0.53	0.86	0.42	0.10	0.68	0.30	0.09
Avail Cap(c_a), veh/h	184	1464	926	240	1528	790	679	1835	810	568	1707	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	18.0	9.4	37.1	20.2	14.6	31.7	25.8	23.8	36.4	31.9	31.0
Incr Delay (d2), s/veh	0.9	0.2	0.2	0.9	2.0	0.6	7.7	0.3	0.1	1.5	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.2	3.7	0.8	10.2	6.0	5.6	3.2	0.6	1.6	1.3	0.3
LnGrp Delay(d),s/veh	39.4	18.2	9.7	38.0	22.1	15.2	39.4	26.1	23.9	37.9	32.3	31.2
LnGrp LOS	D	B	A	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		840			1510			841			286	
Approach Delay, s/veh		15.6			21.1			33.4			35.0	
Approach LOS		B			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	36.5	19.3	15.8	6.5	38.6	10.2	24.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.5	34.3	18.4	40.0	5.0	35.8	15.4	43.0				
Max Q Clear Time (g_c+I1), s	3.8	10.8	14.2	4.7	2.6	23.0	5.7	8.7				
Green Ext Time (p_c), s	0.0	15.4	0.4	3.4	0.0	9.8	0.1	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	290	35	0	613	0	15
Future Vol, veh/h	290	35	0	613	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	315	38	0	666	0	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	334
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	712
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	712
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	712	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-
HCM Control Delay (s)	10.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Timings
13: Driveway 2 & Merrill Av.

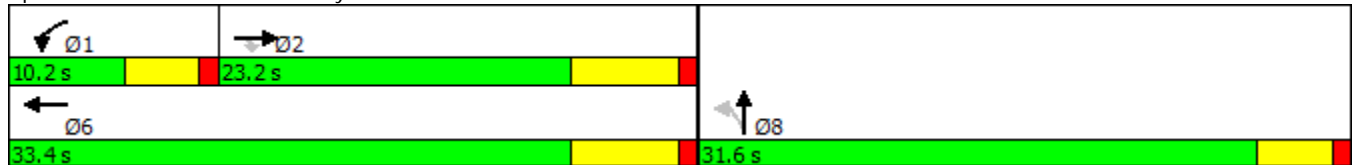


Lane Group	EBT	EBR	WBL	WBT	NBT
Lane Configurations	↑↑	↑	↙	↑	↔
Traffic Volume (vph)	287	17	98	597	0
Future Volume (vph)	287	17	98	597	0
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	2		1	6	8
Permitted Phases		2			
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.2	23.2	9.6	16.2	31.6
Total Split (s)	23.2	23.2	10.2	33.4	31.6
Total Split (%)	35.7%	35.7%	15.7%	51.4%	48.6%
Yellow Time (s)	5.2	5.2	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	4.6
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 46
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated













Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
 13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Traffic Volume (veh/h)	0	287	17	98	597	0	16	0	21	0	0	0
Future Volume (veh/h)	0	287	17	98	597	0	16	0	21	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	1800	1800			
Adj Flow Rate, veh/h	0	312	18	107	649	0	17	0	23			
Adj No. of Lanes	0	2	1	1	1	0	0	1	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	911	407	142	848	0	173	0	234			
Arrive On Green	0.00	0.27	0.27	0.09	0.47	0.00	0.25	0.00	0.25			
Sat Flow, veh/h	0	3510	1530	1619	1800	0	681	0	922			
Grp Volume(v), veh/h	0	312	18	107	649	0	40	0	0			
Grp Sat Flow(s),veh/h/ln	0	1710	1530	1619	1800	0	1603	0	0			
Q Serve(g_s), s	0.0	2.9	0.3	2.5	11.7	0.0	0.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	2.9	0.3	2.5	11.7	0.0	0.8	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.42		0.57			
Lane Grp Cap(c), veh/h	0	911	407	142	848	0	408	0	0			
V/C Ratio(X)	0.00	0.34	0.04	0.75	0.77	0.00	0.10	0.00	0.00			
Avail Cap(c_a), veh/h	0	1479	662	231	1245	0	1101	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	11.6	10.7	17.5	8.6	0.0	11.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.0	1.7	0.0	0.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.1	1.2	6.2	0.0	0.3	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	11.9	10.8	20.6	10.3	0.0	11.3	0.0	0.0			
LnGrp LOS		B	B	C	B		B					
Approach Vol, veh/h		330			756			40				
Approach Delay, s/veh		11.8			11.8			11.3				
Approach LOS		B			B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	8.0	16.7				24.7		14.6				
Change Period (Y+Rc), s	4.6	6.2				6.2		4.6				
Max Green Setting (Gmax), s	5.6	17.0				27.2		27.0				
Max Q Clear Time (g_c+I1), s	4.5	4.9				13.7		2.8				
Green Ext Time (p_c), s	0.0	4.5				4.8		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	4	488	566	1262	424
Future Volume (vph)	4	488	566	1262	424
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	345	4	488	566	1262	0	0	424	189
Future Volume (veh/h)	0	0	0	345	4	488	566	1262	0	0	424	189
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				383	4	366	629	1402	0	0	471	130
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				434	5	391	633	3014	0	0	778	202
Arrive On Green				0.26	0.26	0.26	0.78	1.00	0.00	0.00	0.16	0.16
Sat Flow, veh/h				1697	18	1530	1619	5076	0	0	5180	1280
Grp Volume(v), veh/h				387	0	366	629	1402	0	0	442	159
Grp Sat Flow(s),veh/h/ln				1715	0	1530	1619	1638	0	0	1548	1564
Q Serve(g_s), s				19.5	0.0	21.1	34.1	0.0	0.0	0.0	8.0	8.6
Cycle Q Clear(g_c), s				19.5	0.0	21.1	34.1	0.0	0.0	0.0	8.0	8.6
Prop In Lane				0.99		1.00	1.00		0.00	0.00		0.82
Lane Grp Cap(c), veh/h				438	0	391	633	3014	0	0	733	247
V/C Ratio(X)				0.88	0.00	0.94	0.99	0.47	0.00	0.00	0.60	0.64
Avail Cap(c_a), veh/h				438	0	391	633	3014	0	0	1404	473
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.2	0.0	32.8	9.7	0.0	0.0	0.0	35.3	35.5
Incr Delay (d2), s/veh				19.7	0.0	30.5	23.3	0.3	0.0	0.0	3.7	12.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.6	0.0	19.2	18.1	0.1	0.0	0.0	3.6	4.5
LnGrp Delay(d),s/veh				51.9	0.0	63.3	33.0	0.3	0.0	0.0	38.9	47.8
LnGrp LOS				D		E	C	A			D	D
Approach Vol, veh/h					753			2031			601	
Approach Delay, s/veh					57.4			10.4			41.3	
Approach LOS					E			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.0		29.0	41.0	20.0						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		23.1	36.1	10.6						
Green Ext Time (p_c), s		14.2		0.0	0.0	3.2						
Intersection Summary												
HCM 2010 Ctrl Delay				26.3								
HCM 2010 LOS				C								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	3	388	1433	124	645
Future Volume (vph)	3	388	1433	124	645
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

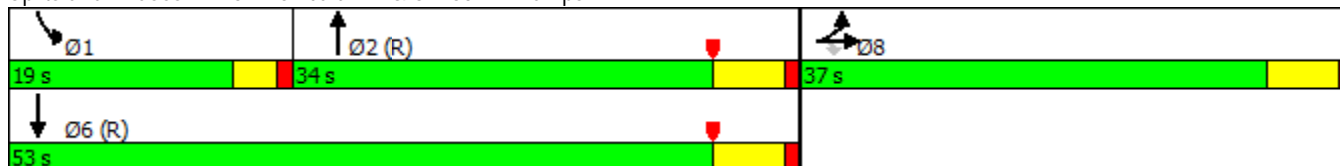
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

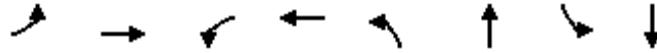
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	3	388	0	0	0	0	1433	398	124	645	0
Future Volume (veh/h)	396	3	388	0	0	0	0	1433	398	124	645	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	426	3	207				0	1541	310	133	694	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	483	3	427				0	2306	464	163	2888	0
Arrive On Green	0.28	0.28	0.28				0.00	0.44	0.44	0.03	0.19	0.00
Sat Flow, veh/h	1703	12	1508				0	5463	1048	1619	5076	0
Grp Volume(v), veh/h	429	0	207				0	1373	478	133	694	0
Grp Sat Flow(s),veh/h/ln	1715	0	1508				0	1548	1615	1619	1638	0
Q Serve(g_s), s	21.5	0.0	10.3				0.0	21.1	21.1	7.3	10.7	0.0
Cycle Q Clear(g_c), s	21.5	0.0	10.3				0.0	21.1	21.1	7.3	10.7	0.0
Prop In Lane	0.99		1.00				0.00		0.65	1.00		0.00
Lane Grp Cap(c), veh/h	486	0	427				0	2055	715	163	2888	0
V/C Ratio(X)	0.88	0.00	0.48				0.00	0.67	0.67	0.81	0.24	0.00
Avail Cap(c_a), veh/h	594	0	523				0	2055	715	270	2888	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.50	0.50	0.76	0.76	0.00
Uniform Delay (d), s/veh	30.8	0.0	26.8				0.0	19.9	19.9	42.7	19.3	0.0
Incr Delay (d2), s/veh	12.7	0.0	0.9				0.0	0.9	2.5	2.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	4.4				0.0	9.1	9.8	3.4	4.9	0.0
LnGrp Delay(d),s/veh	43.5	0.0	27.6				0.0	20.7	22.4	45.5	19.4	0.0
LnGrp LOS	D		C					C	C	D	B	
Approach Vol, veh/h		636						1851			827	
Approach Delay, s/veh		38.3						21.2			23.6	
Approach LOS		D						C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	13.1	45.6				58.7		31.3				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	9.3	23.1				12.7		23.5				
Green Ext Time (p_c), s	0.1	4.6				22.8		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷↷↷	↶	↷↷↷
Traffic Volume (vph)	37	10	125	28	65	1432	115	609
Future Volume (vph)	37	10	125	28	65	1432	115	609
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	14.2	33.4	12.0	31.2
Total Split (%)	43.3%	43.3%	43.3%	43.3%	17.8%	41.8%	15.0%	39.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 65.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



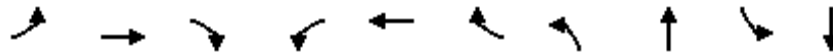
HCM 2010 Signalized Intersection Summary
 16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	10	22	125	28	234	65	1432	52	115	609	17
Future Volume (veh/h)	37	10	22	125	28	234	65	1432	52	115	609	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	42	11	16	140	31	126	73	1609	57	129	684	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	270	140	203	384	65	266	96	2073	73	160	2287	60
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.43	0.43	0.10	0.46	0.46
Sat Flow, veh/h	1180	657	956	1308	308	1252	1619	4873	173	1619	4922	129
Grp Volume(v), veh/h	42	0	27	140	0	157	73	1082	584	129	455	247
Grp Sat Flow(s),veh/h/ln	1180	0	1614	1308	0	1560	1619	1638	1770	1619	1638	1775
Q Serve(g_s), s	1.9	0.0	0.8	5.6	0.0	5.2	2.6	16.6	16.6	4.6	5.0	5.1
Cycle Q Clear(g_c), s	7.0	0.0	0.8	6.4	0.0	5.2	2.6	16.6	16.6	4.6	5.0	5.1
Prop In Lane	1.00		0.59	1.00		0.80	1.00		0.10	1.00		0.07
Lane Grp Cap(c), veh/h	270	0	343	384	0	332	96	1393	753	160	1522	825
V/C Ratio(X)	0.16	0.00	0.08	0.36	0.00	0.47	0.76	0.78	0.78	0.81	0.30	0.30
Avail Cap(c_a), veh/h	625	0	828	777	0	800	266	1524	823	205	1522	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	18.4	21.0	0.0	20.2	27.1	14.4	14.4	25.8	9.7	9.7
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.6	0.0	1.0	4.5	2.4	4.3	13.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	2.1	0.0	2.3	1.3	7.8	8.9	2.6	2.3	2.5
LnGrp Delay(d),s/veh	23.5	0.0	18.5	21.6	0.0	21.2	31.6	16.8	18.8	38.9	9.8	9.9
LnGrp LOS	C		B	C		C	C	B	B	D	A	A
Approach Vol, veh/h		69			297			1739			831	
Approach Delay, s/veh		21.6			21.4			18.1			14.4	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	31.1		17.0	8.1	33.4		17.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	27.2		30.0	9.6	25.0		30.0				
Max Q Clear Time (g_c+I1), s	6.6	18.6		9.0	4.6	7.1		8.4				
Green Ext Time (p_c), s	0.0	6.3		1.7	0.0	13.1		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			17.4									
HCM 2010 LOS			B									

Timings
17: Archibald Av. & Riverside Dr.

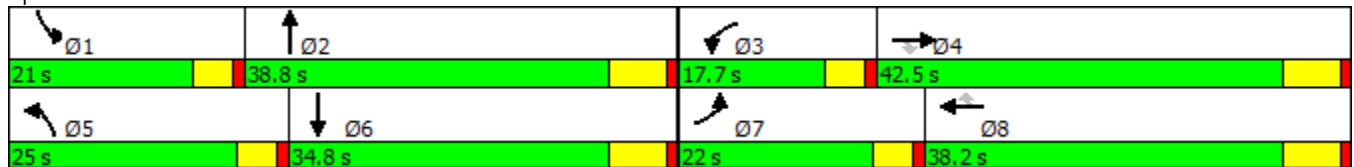


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↓	↘	↑↑↓
Traffic Volume (vph)	185	296	102	117	445	229	217	895	173	431
Future Volume (vph)	185	296	102	117	445	229	217	895	173	431
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.0	42.5	42.5	17.7	38.2	38.2	25.0	38.8	21.0	34.8
Total Split (%)	18.3%	35.4%	35.4%	14.8%	31.8%	31.8%	20.8%	32.3%	17.5%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	296	102	117	445	229	217	895	123	173	431	193
Future Volume (veh/h)	185	296	102	117	445	229	217	895	123	173	431	193
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	206	329	80	130	494	161	241	994	127	192	479	141
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	903	398	156	738	323	270	1280	163	220	986	281
Arrive On Green	0.14	0.26	0.26	0.10	0.22	0.22	0.17	0.29	0.29	0.14	0.26	0.26
Sat Flow, veh/h	1619	3420	1509	1619	3420	1495	1619	4412	562	1619	3797	1083
Grp Volume(v), veh/h	206	329	80	130	494	161	241	738	383	192	411	209
Grp Sat Flow(s),veh/h/ln	1619	1710	1509	1619	1710	1495	1619	1638	1698	1619	1638	1604
Q Serve(g_s), s	12.6	7.9	4.2	8.0	13.4	9.6	14.8	20.9	21.0	11.8	10.8	11.2
Cycle Q Clear(g_c), s	12.6	7.9	4.2	8.0	13.4	9.6	14.8	20.9	21.0	11.8	10.8	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.68
Lane Grp Cap(c), veh/h	234	903	398	156	738	323	270	951	493	220	851	417
V/C Ratio(X)	0.88	0.36	0.20	0.83	0.67	0.50	0.89	0.78	0.78	0.87	0.48	0.50
Avail Cap(c_a), veh/h	278	1226	541	209	1081	472	326	1054	547	262	925	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	30.4	29.0	45.0	36.4	34.9	41.3	32.9	33.0	42.9	31.7	31.9
Incr Delay (d2), s/veh	21.1	0.2	0.2	14.5	1.1	1.2	20.5	3.4	6.4	20.8	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.8	1.8	4.2	6.4	4.1	8.2	9.9	10.7	6.6	4.9	5.1
LnGrp Delay(d),s/veh	63.5	30.6	29.2	59.5	37.5	36.1	61.8	36.3	39.4	63.7	32.2	32.8
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		615			785			1362			812	
Approach Delay, s/veh		41.4			40.8			41.7			39.8	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	35.6	14.4	32.9	21.5	32.5	19.3	28.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	16.4	32.6	13.1	36.3	20.4	28.6	17.4	32.0				
Max Q Clear Time (g_c+I1), s	13.8	23.0	10.0	9.9	16.8	13.2	14.6	15.4				
Green Ext Time (p_c), s	0.1	6.4	0.0	6.0	0.1	9.0	0.1	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			41.0									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

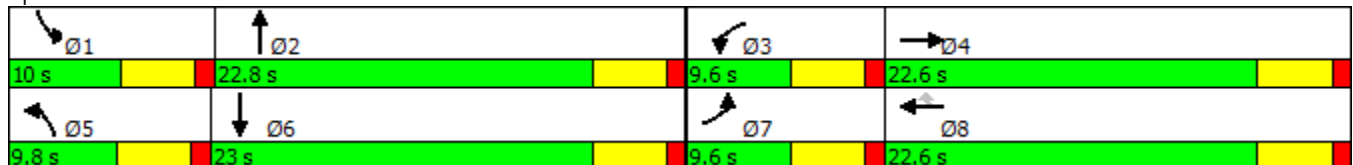


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↷	↶	↷↷↷	↶	↷↷
Traffic Volume (vph)	33	46	25	76	170	58	1021	85	551
Future Volume (vph)	33	46	25	76	170	58	1021	85	551
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.6	22.6	9.6	22.6	22.6	9.8	22.8	10.0	23.0
Total Split (%)	14.8%	34.8%	14.8%	34.8%	34.8%	15.1%	35.1%	15.4%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 49.8
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
 18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

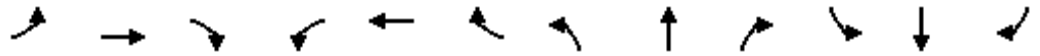
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	46	14	25	76	170	58	1021	40	85	551	36
Future Volume (veh/h)	33	46	14	25	76	170	58	1021	40	85	551	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	36	51	6	27	84	63	64	1122	40	93	605	35
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	182	21	52	192	163	100	1750	62	125	1231	71
Arrive On Green	0.04	0.12	0.12	0.03	0.11	0.11	0.06	0.36	0.36	0.08	0.37	0.37
Sat Flow, veh/h	1619	1581	186	1619	1800	1530	1619	4872	174	1619	3286	190
Grp Volume(v), veh/h	36	0	57	27	84	63	64	754	408	93	314	326
Grp Sat Flow(s),veh/h/ln	1619	0	1767	1619	1800	1530	1619	1638	1769	1619	1710	1766
Q Serve(g_s), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.5	8.5	2.5	6.2	6.2
Cycle Q Clear(g_c), s	1.0	0.0	1.3	0.7	1.9	1.7	1.7	8.5	8.5	2.5	6.2	6.2
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.10	1.00		0.11
Lane Grp Cap(c), veh/h	65	0	203	52	192	163	100	1177	636	125	641	662
V/C Ratio(X)	0.55	0.00	0.28	0.52	0.44	0.39	0.64	0.64	0.64	0.75	0.49	0.49
Avail Cap(c_a), veh/h	183	0	720	183	734	624	191	1350	729	198	713	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	0.0	17.9	21.0	18.5	18.4	20.2	11.8	11.8	20.0	10.6	10.6
Incr Delay (d2), s/veh	7.0	0.0	0.7	7.9	1.6	1.5	6.7	0.8	1.5	8.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.7	0.4	1.0	0.8	1.0	3.9	4.4	1.4	3.0	3.1
LnGrp Delay(d),s/veh	27.8	0.0	18.6	29.0	20.1	19.9	27.0	12.6	13.3	28.5	11.2	11.2
LnGrp LOS	C		B	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		93			174			1226			733	
Approach Delay, s/veh		22.2			21.4			13.6			13.4	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	20.5	6.0	9.7	7.3	21.1	6.4	9.3				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.4	18.2	5.0	18.0	5.2	18.4	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.5	10.5	2.7	3.3	3.7	8.2	3.0	3.9				
Green Ext Time (p_c), s	0.0	5.4	0.0	0.7	0.0	6.7	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			14.5									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

11/06/2017

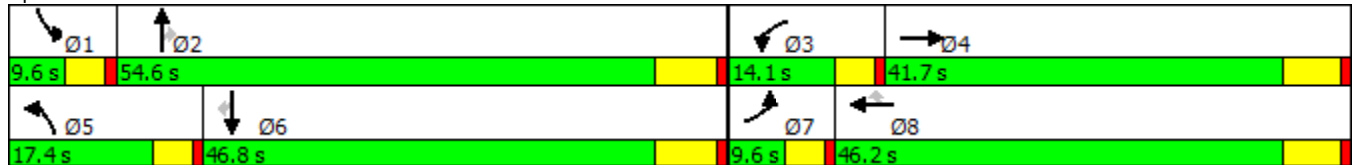


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	31	147	57	243	249	59	171	962	276	36	512	48
Future Volume (vph)	31	147	57	243	249	59	171	962	276	36	512	48
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	9.6	41.7		14.1	46.2	46.2	17.4	54.6	54.6	9.6	46.8	46.8
Total Split (%)	8.0%	34.8%		11.8%	38.5%	38.5%	14.5%	45.5%	45.5%	8.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	147	57	243	249	59	171	962	276	36	512	48
Future Volume (veh/h)	31	147	57	243	249	59	171	962	276	36	512	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	156	0	259	265	15	182	1023	0	38	545	32
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	457	205	332	383	326	217	1452	650	59	1119	500
Arrive On Green	0.03	0.13	0.00	0.11	0.21	0.21	0.13	0.42	0.00	0.04	0.33	0.33
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	33	156	0	259	265	15	182	1023	0	38	545	32
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	0.8	3.1	0.0	6.4	10.2	0.6	8.2	18.4	0.0	1.7	9.5	1.1
Cycle Q Clear(g_c), s	0.8	3.1	0.0	6.4	10.2	0.6	8.2	18.4	0.0	1.7	9.5	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	457	205	332	383	326	217	1452	650	59	1119	500
V/C Ratio(X)	0.34	0.34	0.00	0.78	0.69	0.05	0.84	0.70	0.00	0.64	0.49	0.06
Avail Cap(c_a), veh/h	198	1624	726	376	963	818	277	2200	984	108	1843	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	29.4	0.0	32.3	27.2	23.4	31.6	17.7	0.0	35.5	20.1	17.3
Incr Delay (d2), s/veh	0.7	0.4	0.0	7.7	2.2	0.1	13.4	0.6	0.0	4.3	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	0.0	2.9	5.2	0.3	4.4	8.8	0.0	0.8	4.5	0.5
LnGrp Delay(d),s/veh	36.1	29.8	0.0	40.0	29.4	23.5	45.0	18.3	0.0	39.8	20.5	17.3
LnGrp LOS	D	C		D	C	C	D	B		D	C	B
Approach Vol, veh/h		189			539			1205			615	
Approach Delay, s/veh		30.9			34.3			22.3			21.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	38.3	13.0	16.2	14.6	31.0	7.1	22.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	48.1	9.5	35.5	12.8	40.3	5.0	40.0				
Max Q Clear Time (g_c+I1), s	3.7	20.4	8.4	5.1	10.2	11.5	2.8	12.2				
Green Ext Time (p_c), s	0.0	11.4	0.1	2.3	0.1	11.6	0.0	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			25.3									
HCM 2010 LOS			C									

Timings
 21: Archibald Av. & Eucalyptus Av.



Lane Group	WBT	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	0	1372	14	803
Future Volume (vph)	0	1372	14	803
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	39.4	41.0	9.6	50.6
Total Split (%)	43.8%	45.6%	10.7%	56.2%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 66.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	12	0	50	0	1372	28	14	803	0
Future Volume (veh/h)	0	0	0	12	0	50	0	1372	28	14	803	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				12	0	22	0	1414	28	14	828	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				42	0	77	0	1998	40	29	2366	0
Arrive On Green				0.08	0.00	0.08	0.00	0.58	0.58	0.02	0.69	0.00
Sat Flow, veh/h				561	0	1029	0	3520	68	1619	3510	0
Grp Volume(v), veh/h				34	0	0	0	704	738	14	828	0
Grp Sat Flow(s),veh/h/ln				1590	0	0	0	1710	1788	1619	1710	0
Q Serve(g_s), s				1.0	0.0	0.0	0.0	14.7	14.7	0.4	4.9	0.0
Cycle Q Clear(g_c), s				1.0	0.0	0.0	0.0	14.7	14.7	0.4	4.9	0.0
Prop In Lane				0.35		0.65	0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h				120	0	0	0	996	1042	29	2366	0
V/C Ratio(X)				0.28	0.00	0.00	0.00	0.71	0.71	0.49	0.35	0.00
Avail Cap(c_a), veh/h				1083	0	0	0	1175	1228	161	3003	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.9	0.0	0.0	0.0	7.4	7.4	24.4	3.1	0.0
Incr Delay (d2), s/veh				1.3	0.0	0.0	0.0	1.6	1.5	4.7	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.0	0.0	7.3	7.6	0.2	2.3	0.0
LnGrp Delay(d),s/veh				23.2	0.0	0.0	0.0	9.0	9.0	29.2	3.2	0.0
LnGrp LOS				C				A	A	C	A	
Approach Vol, veh/h					34			1442			842	
Approach Delay, s/veh					23.2			9.0			3.7	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.5	35.8				41.2		9.0				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	34.5				44.1		34.2				
Max Q Clear Time (g_c+I1), s	2.4	16.7				6.9		3.0				
Green Ext Time (p_c), s	0.0	12.5				20.1		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay					7.3							
HCM 2010 LOS					A							

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

11/06/2017

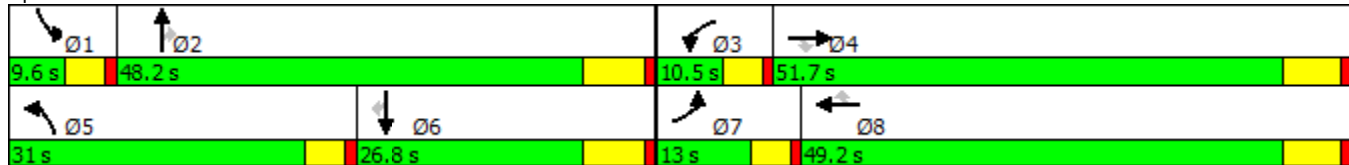


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↖
Traffic Volume (vph)	192	11	106	105	30	65	412	1130	52	67	489	253
Future Volume (vph)	192	11	106	105	30	65	412	1130	52	67	489	253
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	13.0	51.7	51.7	10.5	49.2	49.2	31.0	48.2	48.2	9.6	26.8	26.8
Total Split (%)	10.8%	43.1%	43.1%	8.8%	41.0%	41.0%	25.8%	40.2%	40.2%	8.0%	22.3%	22.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	11	106	105	30	65	412	1130	52	67	489	253
Future Volume (veh/h)	192	11	106	105	30	65	412	1130	52	67	489	253
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	198	11	57	108	31	4	425	1165	38	69	504	204
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	166	273	232	117	218	185	458	1573	704	143	771	345
Arrive On Green	0.10	0.15	0.15	0.07	0.12	0.12	0.28	0.46	0.46	0.05	0.23	0.23
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	198	11	57	108	31	4	425	1165	38	69	504	204
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	8.4	0.4	2.7	5.4	1.3	0.2	20.9	22.8	1.1	1.9	11.0	9.7
Cycle Q Clear(g_c), s	8.4	0.4	2.7	5.4	1.3	0.2	20.9	22.8	1.1	1.9	11.0	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	273	232	117	218	185	458	1573	704	143	771	345
V/C Ratio(X)	1.19	0.04	0.25	0.92	0.14	0.02	0.93	0.74	0.05	0.48	0.65	0.59
Avail Cap(c_a), veh/h	166	1001	851	117	946	804	522	1743	780	181	849	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	29.6	30.6	37.7	32.1	31.7	28.5	18.1	12.2	37.9	28.8	28.3
Incr Delay (d2), s/veh	130.4	0.1	0.5	59.4	0.3	0.0	20.4	1.5	0.0	0.9	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.2	1.2	4.3	0.6	0.1	11.9	11.0	0.5	0.8	5.3	4.3
LnGrp Delay(d),s/veh	167.1	29.7	31.1	97.1	32.4	31.7	48.9	19.6	12.3	38.9	30.4	30.4
LnGrp LOS	F	C	C	F	C	C	D	B	B	D	C	C
Approach Vol, veh/h		266			143			1628			777	
Approach Delay, s/veh		132.3			81.2			27.1			31.1	
Approach LOS		F			F			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	44.1	10.5	18.6	27.7	24.9	13.0	16.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	41.7	5.9	45.5	26.4	20.3	8.4	43.0				
Max Q Clear Time (g_c+I1), s	3.9	24.8	7.4	4.7	22.9	13.0	10.4	3.3				
Green Ext Time (p_c), s	0.0	10.4	0.0	0.4	0.3	5.5	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			40.9									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	8	0	1594	635	42
Future Vol, veh/h	0	8	0	1594	635	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	9	0	1733	690	46

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	368	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	635	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	635	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	635	-	-
HCM Lane V/C Ratio	-	0.014	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Timings
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

11/06/2017

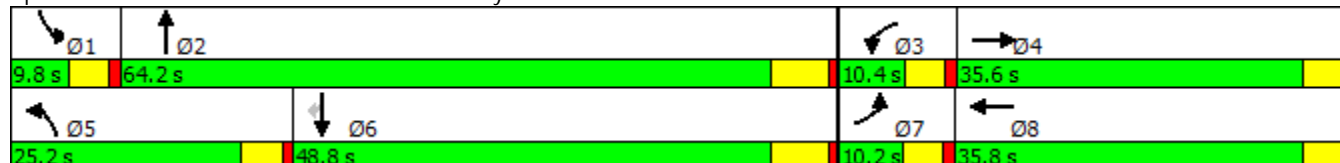


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	25	0	54	0	92	1433	33	571	40
Future Volume (vph)	25	0	54	0	92	1433	33	571	40
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.6	9.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	10.2	35.6	10.4	35.8	25.2	64.2	9.8	48.8	48.8
Total Split (%)	8.5%	29.7%	8.7%	29.8%	21.0%	53.5%	8.2%	40.7%	40.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4



HCM 2010 Signalized Intersection Summary
 24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	12	54	0	136	92	1433	35	33	571	40
Future Volume (veh/h)	25	0	12	54	0	136	92	1433	35	33	571	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	27	0	13	59	0	148	100	1558	38	36	621	43
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	45	0	178	73	0	204	126	1944	47	55	1797	804
Arrive On Green	0.03	0.00	0.12	0.04	0.00	0.13	0.08	0.57	0.57	0.03	0.53	0.53
Sat Flow, veh/h	1619	0	1530	1619	0	1530	1619	3412	83	1619	3420	1530
Grp Volume(v), veh/h	27	0	13	59	0	148	100	779	817	36	621	43
Grp Sat Flow(s),veh/h/ln	1619	0	1530	1619	0	1530	1619	1710	1785	1619	1710	1530
Q Serve(g_s), s	1.4	0.0	0.6	3.1	0.0	7.9	5.2	30.6	30.8	1.9	8.9	1.2
Cycle Q Clear(g_c), s	1.4	0.0	0.6	3.1	0.0	7.9	5.2	30.6	30.8	1.9	8.9	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	45	0	178	73	0	204	126	974	1017	55	1797	804
V/C Ratio(X)	0.60	0.00	0.07	0.81	0.00	0.72	0.79	0.80	0.80	0.66	0.35	0.05
Avail Cap(c_a), veh/h	107	0	558	110	0	562	392	1167	1218	99	1797	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	33.5	40.2	0.0	35.3	38.5	14.5	14.5	40.6	11.7	9.8
Incr Delay (d2), s/veh	12.2	0.0	0.2	22.7	0.0	4.8	10.5	3.4	3.3	12.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.3	1.8	0.0	3.6	2.7	15.2	15.9	1.0	4.3	0.5
LnGrp Delay(d),s/veh	53.1	0.0	33.6	62.9	0.0	40.2	49.0	17.9	17.8	53.4	11.8	9.9
LnGrp LOS	D		C	E		D	D	B	B	D	B	A
Approach Vol, veh/h		40			207			1696			700	
Approach Delay, s/veh		46.8			46.6			19.7			13.8	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	54.6	8.4	14.5	11.2	50.9	7.0	15.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	4.6	4.6	6.2	4.6	4.6				
Max Green Setting (Gmax), s	5.2	58.0	5.8	31.0	20.6	42.6	5.6	31.2				
Max Q Clear Time (g_c+I1), s	3.9	32.8	5.1	2.6	7.2	10.9	3.4	9.9				
Green Ext Time (p_c), s	0.0	15.6	0.0	1.1	0.2	18.9	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.7									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	↑
Traffic Vol, veh/h	0	8	0	1560	613	24
Future Vol, veh/h	0	8	0	1560	613	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	9	0	1696	666	26

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	333	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	669	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	669	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	669	-	-
HCM Lane V/C Ratio	-	0.013	-	-
HCM Control Delay (s)	-	10.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017















Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	371	766	768	280	193	420
Future Volume (vph)	371	766	768	280	193	420
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	371	766	768	280	193	420		
Future Volume (veh/h)	371	766	768	280	193	420		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	386	733	800	292	201	438		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	507	661	855	1163	234	1186		
Arrive On Green	0.28	0.28	0.45	0.45	0.13	0.62		
Sat Flow, veh/h	1810	1615	1900	1581	1810	1900		
Grp Volume(v), veh/h	386	733	800	292	201	438		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1581	1810	1900		
Q Serve(g_s), s	21.6	31.0	44.3	6.8	12.0	12.5		
Cycle Q Clear(g_c), s	21.6	31.0	44.3	6.8	12.0	12.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	507	661	855	1163	234	1186		
V/C Ratio(X)	0.76	1.11	0.94	0.25	0.86	0.37		
Avail Cap(c_a), veh/h	507	661	882	1186	359	1350		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	36.5	32.7	29.0	5.0	47.2	10.2		
Incr Delay (d2), s/veh	6.1	68.7	16.8	0.1	12.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.7	32.7	27.1	6.0	6.8	6.5		
LnGrp Delay(d),s/veh	42.5	101.4	45.8	5.1	59.3	10.2		
LnGrp LOS	D	F	D	A	E	B		
Approach Vol, veh/h	1119		1092			639		
Approach Delay, s/veh	81.1		34.9			25.7		
Approach LOS	F		C			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.3	55.1				74.4		36.3
Change Period (Y+Rc), s	5.0	5.3				* 5.3		5.3
Max Green Setting (Gmax), s	22.0	51.4				* 79		31.0
Max Q Clear Time (g_c+I1), s	14.0	46.3				14.5		33.0
Green Ext Time (p_c), s	0.3	3.5				12.7		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			51.0					
HCM 2010 LOS			D					
Notes								

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

11/06/2017

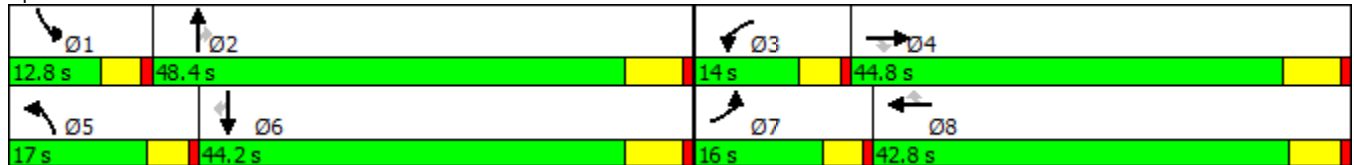


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	324	513	123	177	687	99	344	709	161	104	398	480
Future Volume (vph)	324	513	123	177	687	99	344	709	161	104	398	480
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	16.0	44.8	44.8	14.0	42.8	42.8	17.0	48.4	48.4	12.8	44.2	44.2
Total Split (%)	13.3%	37.3%	37.3%	11.7%	35.7%	35.7%	14.2%	40.3%	40.3%	10.7%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 27: Archibald Av. & Schleisman Rd.



HCM 2010 Signalized Intersection Summary
27: Archibald Av. & Schleisman Rd.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	513	123	177	687	99	344	709	161	104	398	480
Future Volume (veh/h)	324	513	123	177	687	99	344	709	161	104	398	480
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	364	576	87	199	772	80	387	797	124	117	447	369
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	390	1486	453	265	1301	397	424	1956	600	178	1593	489
Arrive On Green	0.11	0.29	0.29	0.08	0.25	0.25	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	3510	5187	1582	3510	5187	1585	3510	5187	1590	3510	5187	1593
Grp Volume(v), veh/h	364	576	87	199	772	80	387	797	124	117	447	369
Grp Sat Flow(s),veh/h/ln	1755	1729	1582	1755	1729	1585	1755	1729	1590	1755	1729	1593
Q Serve(g_s), s	10.6	9.2	4.3	5.7	13.5	4.1	11.2	11.6	5.4	3.4	6.7	21.4
Cycle Q Clear(g_c), s	10.6	9.2	4.3	5.7	13.5	4.1	11.2	11.6	5.4	3.4	6.7	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	1486	453	265	1301	397	424	1956	600	178	1593	489
V/C Ratio(X)	0.93	0.39	0.19	0.75	0.59	0.20	0.91	0.41	0.21	0.66	0.28	0.75
Avail Cap(c_a), veh/h	390	1950	595	321	1869	571	424	2131	653	280	1919	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	29.4	27.7	46.5	33.9	30.4	44.6	23.5	21.6	47.9	27.0	32.1
Incr Delay (d2), s/veh	29.1	0.2	0.2	5.9	0.4	0.2	23.4	0.1	0.2	1.5	0.1	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	4.4	1.9	3.0	6.5	1.8	6.8	5.6	2.4	1.7	3.2	10.1
LnGrp Delay(d),s/veh	74.3	29.6	27.9	52.4	34.3	30.6	68.1	23.7	21.8	49.4	27.1	36.6
LnGrp LOS	E	C	C	D	C	C	E	C	C	D	C	D
Approach Vol, veh/h		1027			1051			1308			933	
Approach Delay, s/veh		45.3			37.4			36.6			33.6	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	44.9	12.3	35.6	17.0	37.7	16.0	32.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	8.2	42.2	9.4	38.6	12.4	38.0	11.4	* 37				
Max Q Clear Time (g_c+I1), s	5.4	13.6	7.7	11.2	13.2	23.4	12.6	15.5				
Green Ext Time (p_c), s	0.0	11.3	0.1	10.5	0.0	8.0	0.0	9.5				
Intersection Summary												
HCM 2010 Ctrl Delay			38.2									
HCM 2010 LOS			D									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

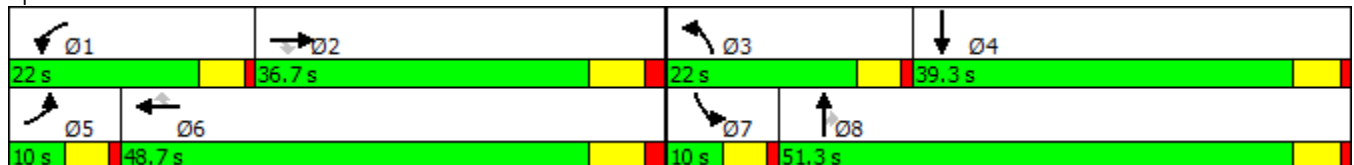


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	19	440	15	135	953	5	131	59	225	22	75
Future Volume (vph)	19	440	15	135	953	5	131	59	225	22	75
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	10.0	36.7	36.7	22.0	48.7	48.7	22.0	51.3	51.3	10.0	39.3
Total Split (%)	8.3%	30.6%	30.6%	18.3%	40.6%	40.6%	18.3%	42.8%	42.8%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 76.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	440	15	135	953	5	131	59	225	22	75	54
Future Volume (veh/h)	19	440	15	135	953	5	131	59	225	22	75	54
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	478	14	147	1036	5	142	64	211	24	82	38
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	1787	556	186	1528	669	181	374	317	49	151	70
Arrive On Green	0.02	0.34	0.34	0.10	0.42	0.42	0.10	0.20	0.20	0.03	0.12	0.12
Sat Flow, veh/h	1810	5187	1615	1810	3610	1581	1810	1900	1613	1810	1222	566
Grp Volume(v), veh/h	21	478	14	147	1036	5	142	64	211	24	0	120
Grp Sat Flow(s),veh/h/ln	1810	1729	1615	1810	1805	1581	1810	1900	1613	1810	0	1788
Q Serve(g_s), s	0.8	4.5	0.4	5.4	15.7	0.1	5.2	1.9	8.2	0.9	0.0	4.3
Cycle Q Clear(g_c), s	0.8	4.5	0.4	5.4	15.7	0.1	5.2	1.9	8.2	0.9	0.0	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	44	1787	556	186	1528	669	181	374	317	49	0	221
V/C Ratio(X)	0.48	0.27	0.03	0.79	0.68	0.01	0.79	0.17	0.66	0.49	0.00	0.54
Avail Cap(c_a), veh/h	133	2272	708	454	2221	973	454	1289	1094	133	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	16.0	14.7	29.7	15.8	11.3	29.8	22.6	25.2	32.5	0.0	27.9
Incr Delay (d2), s/veh	3.0	0.1	0.0	2.8	0.5	0.0	2.9	0.2	2.4	2.9	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.1	0.2	2.8	7.9	0.1	2.7	1.0	3.9	0.5	0.0	2.2
LnGrp Delay(d),s/veh	35.7	16.1	14.7	32.5	16.3	11.3	32.7	22.8	27.6	35.4	0.0	29.9
LnGrp LOS	D	B	B	C	B	B	C	C	C	D		C
Approach Vol, veh/h		513			1188			417			144	
Approach Delay, s/veh		16.9			18.3			28.6			30.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.4	11.8	13.7	6.6	35.7	6.8	18.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	17.0	29.7	17.0	34.0	5.0	41.7	5.0	46.0				
Max Q Clear Time (g_c+I1), s	7.4	6.5	7.2	6.3	2.8	17.7	2.9	10.2				
Green Ext Time (p_c), s	0.1	10.8	0.1	1.6	0.0	11.0	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			20.7									
HCM 2010 LOS			C									

Timings
29: Sumner Av. & Limonite Av.

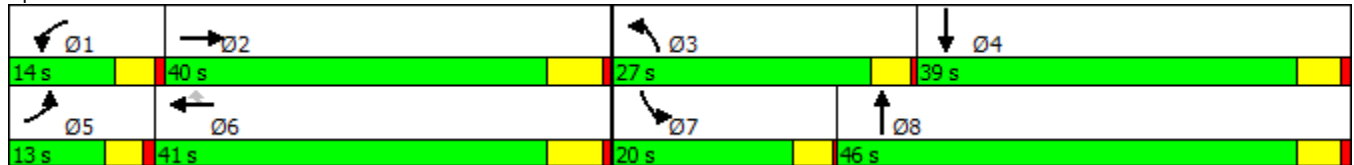


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖↖	↗↗	↖↖	↗↗	↖	↖	↗↗	↖	↗↗
Traffic Volume (vph)	74	602	92	765	16	144	158	94	104
Future Volume (vph)	74	602	92	765	16	144	158	94	104
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	13.0	40.0	14.0	41.0	41.0	27.0	46.0	20.0	39.0
Total Split (%)	10.8%	33.3%	11.7%	34.2%	34.2%	22.5%	38.3%	16.7%	32.5%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 64.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	602	27	92	765	16	144	158	199	94	104	72
Future Volume (veh/h)	74	602	27	92	765	16	144	158	199	94	104	72
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	647	21	99	823	11	155	170	140	101	112	50
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	1794	58	200	1831	570	199	320	246	131	315	133
Arrive On Green	0.05	0.35	0.35	0.06	0.35	0.35	0.11	0.17	0.17	0.07	0.13	0.13
Sat Flow, veh/h	3510	5162	167	3510	5187	1615	1810	1930	1484	1810	2463	1040
Grp Volume(v), veh/h	80	433	235	99	823	11	155	158	152	101	80	82
Grp Sat Flow(s),veh/h/ln	1755	1729	1871	1755	1729	1615	1810	1805	1609	1810	1805	1697
Q Serve(g_s), s	1.2	5.1	5.1	1.5	6.7	0.2	4.6	4.4	4.7	3.0	2.2	2.4
Cycle Q Clear(g_c), s	1.2	5.1	5.1	1.5	6.7	0.2	4.6	4.4	4.7	3.0	2.2	2.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.92	1.00		0.61
Lane Grp Cap(c), veh/h	181	1202	650	200	1831	570	199	299	267	131	231	217
V/C Ratio(X)	0.44	0.36	0.36	0.50	0.45	0.02	0.78	0.53	0.57	0.77	0.35	0.38
Avail Cap(c_a), veh/h	547	2154	1165	611	3326	1035	762	1356	1208	530	1124	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	13.3	13.3	25.0	13.6	11.5	23.6	20.8	21.0	24.9	21.7	21.8
Incr Delay (d2), s/veh	0.6	0.2	0.3	0.7	0.2	0.0	2.5	1.1	1.4	3.6	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.4	2.7	0.7	3.2	0.1	2.4	2.2	2.2	1.6	1.1	1.2
LnGrp Delay(d),s/veh	25.8	13.5	13.6	25.7	13.8	11.5	26.1	21.9	22.4	28.5	22.4	22.6
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		748			933			465			263	
Approach Delay, s/veh		14.8			15.0			23.5			24.8	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	25.0	10.0	12.0	7.3	25.3	7.9	14.1				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	9.5	34.0	23.0	34.0	8.5	35.0	16.0	41.0				
Max Q Clear Time (g_c+I1), s	3.5	7.1	6.6	4.4	3.2	8.7	5.0	6.7				
Green Ext Time (p_c), s	0.0	10.7	0.1	2.1	0.0	10.6	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

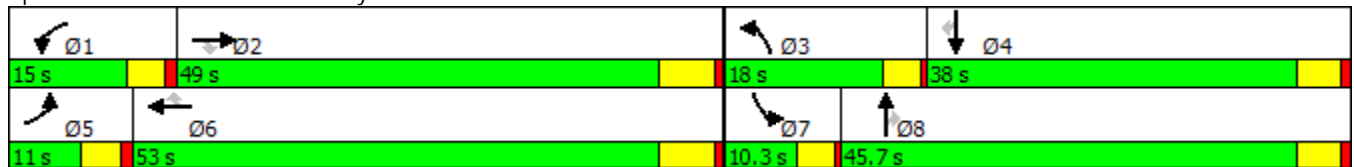


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗↗	↘	↙	↗↗	↘	↙	↗	↘	↙	↗↗	↘
Traffic Volume (vph)	25	856	67	67	702	16	95	109	162	29	144	43
Future Volume (vph)	25	856	67	67	702	16	95	109	162	29	144	43
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.0	49.0	49.0	15.0	53.0	53.0	18.0	45.7	45.7	10.3	38.0	38.0
Total Split (%)	9.2%	40.8%	40.8%	12.5%	44.2%	44.2%	15.0%	38.1%	38.1%	8.6%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 72.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

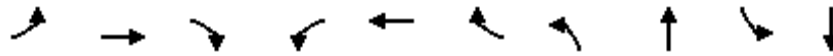
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	856	67	67	702	16	95	109	162	29	144	43
Future Volume (veh/h)	25	856	67	67	702	16	95	109	162	29	144	43
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	930	64	73	763	17	103	118	136	32	157	45
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	1603	717	94	1703	762	133	316	268	49	433	183
Arrive On Green	0.02	0.44	0.44	0.05	0.47	0.47	0.07	0.17	0.17	0.03	0.12	0.12
Sat Flow, veh/h	1810	3610	1615	1810	3610	1615	1810	1900	1612	1810	3610	1523
Grp Volume(v), veh/h	27	930	64	73	763	17	103	118	136	32	157	45
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1805	1615	1810	1900	1612	1810	1805	1523
Q Serve(g_s), s	0.9	12.1	1.4	2.5	8.9	0.4	3.5	3.5	4.8	1.1	2.5	1.7
Cycle Q Clear(g_c), s	0.9	12.1	1.4	2.5	8.9	0.4	3.5	3.5	4.8	1.1	2.5	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	1603	717	94	1703	762	133	316	268	49	433	183
V/C Ratio(X)	0.62	0.58	0.09	0.78	0.45	0.02	0.77	0.37	0.51	0.65	0.36	0.25
Avail Cap(c_a), veh/h	187	2472	1106	303	2702	1209	403	1232	1045	182	1897	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	13.1	10.1	29.4	11.1	8.9	28.6	23.3	23.8	30.2	25.4	25.1
Incr Delay (d2), s/veh	5.3	0.3	0.1	5.1	0.2	0.0	3.5	0.5	1.1	5.2	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.0	0.6	1.4	4.4	0.2	1.9	1.9	2.2	0.6	1.3	0.7
LnGrp Delay(d),s/veh	35.7	13.4	10.2	34.5	11.3	8.9	32.1	23.8	24.9	35.5	25.8	25.6
LnGrp LOS	D	B	B	C	B	A	C	C	C	D	C	C
Approach Vol, veh/h		1021			853			357			234	
Approach Delay, s/veh		13.8			13.2			26.6			27.1	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	33.9	8.6	12.5	6.0	35.6	5.7	15.4				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	10.5	43.0	14.0	33.0	6.5	47.0	6.3	40.7				
Max Q Clear Time (g_c+I1), s	4.5	14.1	5.5	4.5	2.9	10.9	3.1	6.8				
Green Ext Time (p_c), s	0.0	13.8	0.0	1.6	0.0	15.1	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

11/06/2017

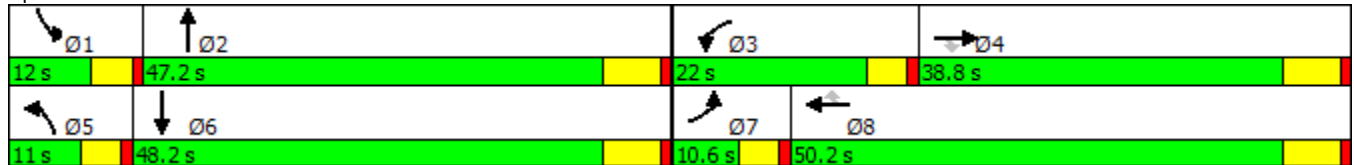


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	19	306	68	161	527	160	101	421	130	151
Future Volume (vph)	19	306	68	161	527	160	101	421	130	151
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	10.6	38.8	38.8	22.0	50.2	50.2	11.0	47.2	12.0	48.2
Total Split (%)	8.8%	32.3%	32.3%	18.3%	41.8%	41.8%	9.2%	39.3%	10.0%	40.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	306	68	161	527	160	101	421	385	130	151	34
Future Volume (veh/h)	19	306	68	161	527	160	101	421	385	130	151	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	326	46	171	561	117	107	448	364	138	161	27
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	38	467	397	201	639	543	106	366	297	123	612	103
Arrive On Green	0.02	0.25	0.25	0.11	0.34	0.34	0.06	0.38	0.38	0.07	0.39	0.39
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	971	789	1810	1587	266
Grp Volume(v), veh/h	20	326	46	171	561	117	107	0	812	138	0	188
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1761	1810	0	1853
Q Serve(g_s), s	1.2	17.0	2.4	10.1	30.3	5.6	6.4	0.0	41.0	7.4	0.0	7.6
Cycle Q Clear(g_c), s	1.2	17.0	2.4	10.1	30.3	5.6	6.4	0.0	41.0	7.4	0.0	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.14
Lane Grp Cap(c), veh/h	38	467	397	201	639	543	106	0	663	123	0	715
V/C Ratio(X)	0.53	0.70	0.12	0.85	0.88	0.22	1.01	0.00	1.22	1.12	0.00	0.26
Avail Cap(c_a), veh/h	100	569	484	289	768	653	106	0	663	123	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.8	37.4	31.9	47.5	34.0	25.9	51.2	0.0	33.9	50.7	0.0	22.8
Incr Delay (d2), s/veh	4.2	2.9	0.1	10.7	10.0	0.2	88.8	0.0	114.1	117.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	9.3	1.1	5.6	17.7	2.5	5.8	0.0	40.7	7.7	0.0	3.9
LnGrp Delay(d),s/veh	57.0	40.3	32.0	58.2	44.0	26.1	140.0	0.0	148.0	168.3	0.0	23.0
LnGrp LOS	E	D	C	E	D	C	F		F	F		C
Approach Vol, veh/h		392			849			919			326	
Approach Delay, s/veh		40.2			44.4			147.1			84.6	
Approach LOS		D			D			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	47.2	16.7	32.9	11.0	48.2	6.9	42.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	41.0	17.4	32.6	6.4	42.0	6.0	44.0				
Max Q Clear Time (g_c+I1), s	9.4	43.0	12.1	19.0	8.4	9.6	3.2	32.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.6	0.0	7.6	0.0	4.3				
Intersection Summary												
HCM 2010 Ctrl Delay			87.0									
HCM 2010 LOS			F									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	345	153	16	113	137	91	12	471	169	42	243
Future Volume (vph)	345	153	16	113	137	91	12	471	169	42	243
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	19.0	19.0	19.0	9.6	45.8	45.8	10.0	46.2
Total Split (%)	37.7%	37.7%	37.7%	15.8%	15.8%	15.8%	8.0%	38.2%	38.2%	8.3%	38.5%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.

Ø1	Ø2	Ø4	Ø8
10 s	45.8 s	45.2 s	19 s
Ø5	Ø6		
9.6 s	46.2 s		

HCM 2010 Signalized Intersection Summary
 32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	345	153	16	113	137	91	12	471	169	42	243	94
Future Volume (veh/h)	345	153	16	113	137	91	12	471	169	42	243	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	363	161	12	119	144	24	13	496	138	44	256	87
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	431	860	376	218	229	194	28	614	522	70	470	160
Arrive On Green	0.24	0.24	0.24	0.12	0.12	0.12	0.02	0.32	0.32	0.04	0.35	0.35
Sat Flow, veh/h	1810	3610	1578	1810	1900	1615	1810	1900	1615	1810	1357	461
Grp Volume(v), veh/h	363	161	12	119	144	24	13	496	138	44	0	343
Grp Sat Flow(s),veh/h/ln	1810	1805	1578	1810	1900	1615	1810	1900	1615	1810	0	1818
Q Serve(g_s), s	15.9	2.9	0.5	5.1	6.0	1.1	0.6	19.8	5.2	2.0	0.0	12.6
Cycle Q Clear(g_c), s	15.9	2.9	0.5	5.1	6.0	1.1	0.6	19.8	5.2	2.0	0.0	12.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	431	860	376	218	229	194	28	614	522	70	0	629
V/C Ratio(X)	0.84	0.19	0.03	0.55	0.63	0.12	0.46	0.81	0.26	0.63	0.00	0.55
Avail Cap(c_a), veh/h	851	1697	742	279	293	249	109	907	771	118	0	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	25.2	24.3	34.3	34.7	32.6	40.5	25.7	20.8	39.3	0.0	21.9
Incr Delay (d2), s/veh	4.5	0.1	0.0	2.1	2.8	0.3	4.3	3.4	0.3	3.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	1.5	0.2	2.7	3.3	0.5	0.3	10.9	2.4	1.1	0.0	6.4
LnGrp Delay(d),s/veh	34.6	25.3	24.3	36.5	37.6	32.9	44.8	29.1	21.0	42.8	0.0	22.6
LnGrp LOS	C	C	C	D	D	C	D	C	C	D		C
Approach Vol, veh/h		536			287			647			387	
Approach Delay, s/veh		31.6			36.7			27.7			24.9	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	33.0		26.0	5.9	34.9		16.2				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	5.4	39.6		39.0	5.0	40.0		12.8				
Max Q Clear Time (g_c+I1), s	4.0	21.8		17.9	2.6	14.6		8.0				
Green Ext Time (p_c), s	0.0	4.9		1.9	0.0	5.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			29.6									
HCM 2010 LOS			C									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

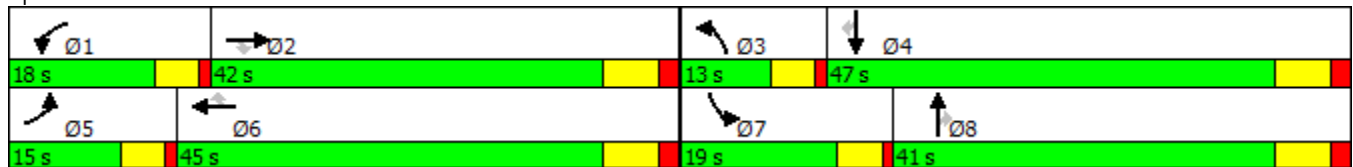


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	153	809	31	220	514	107	129	455	414	253	253	118
Future Volume (vph)	153	809	31	220	514	107	129	455	414	253	253	118
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	15.0	42.0	42.0	18.0	45.0	45.0	13.0	41.0	41.0	19.0	47.0	47.0
Total Split (%)	12.5%	35.0%	35.0%	15.0%	37.5%	37.5%	10.8%	34.2%	34.2%	15.8%	39.2%	39.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

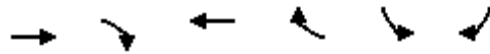
Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	809	31	220	514	107	129	455	414	253	253	118
Future Volume (veh/h)	153	809	31	220	514	107	129	455	414	253	253	118
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	158	834	26	227	530	72	133	469	309	261	261	69
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	1538	478	297	1144	510	197	1466	448	331	1158	517
Arrive On Green	0.06	0.30	0.30	0.08	0.32	0.32	0.06	0.28	0.28	0.09	0.32	0.32
Sat Flow, veh/h	3510	5187	1612	3510	3610	1610	3510	5187	1586	3510	3610	1610
Grp Volume(v), veh/h	158	834	26	227	530	72	133	469	309	261	261	69
Grp Sat Flow(s),veh/h/ln	1755	1729	1612	1755	1805	1610	1755	1729	1586	1755	1805	1610
Q Serve(g_s), s	4.4	13.4	1.1	6.3	11.7	3.2	3.7	7.1	17.2	7.2	5.2	3.0
Cycle Q Clear(g_c), s	4.4	13.4	1.1	6.3	11.7	3.2	3.7	7.1	17.2	7.2	5.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	1538	478	297	1144	510	197	1466	448	331	1158	517
V/C Ratio(X)	0.70	0.54	0.05	0.77	0.46	0.14	0.67	0.32	0.69	0.79	0.23	0.13
Avail Cap(c_a), veh/h	354	1831	569	460	1384	617	283	1779	544	496	1457	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	29.2	24.9	44.4	27.1	24.2	45.9	28.0	31.7	43.9	24.6	23.9
Incr Delay (d2), s/veh	1.5	0.6	0.1	1.6	0.6	0.3	1.5	0.3	4.6	2.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.4	0.5	3.1	5.9	1.5	1.8	3.4	8.1	3.6	2.6	1.4
LnGrp Delay(d),s/veh	47.0	29.9	25.0	46.0	27.7	24.5	47.4	28.3	36.3	46.5	24.9	24.1
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1018			829			911			591	
Approach Delay, s/veh		32.4			32.4			33.8			34.3	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	36.4	10.6	38.8	11.3	38.4	14.3	35.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	13.0	35.0	8.0	40.0	10.0	38.0	14.0	34.0				
Max Q Clear Time (g_c+I1), s	8.3	15.4	5.7	7.2	6.4	13.7	9.2	19.2				
Green Ext Time (p_c), s	0.1	14.0	0.0	13.5	0.1	16.4	0.1	8.6				
Intersection Summary												
HCM 2010 Ctrl Delay			33.1									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

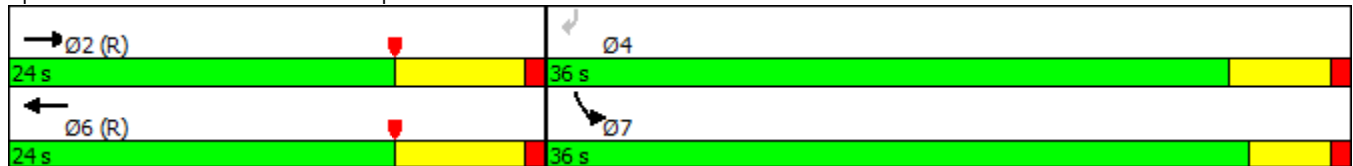


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	566	160	409	64	366	515
Future Volume (vph)	566	160	409	64	366	515
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	24.0		24.0		36.0	36.0
Total Split (%)	40.0%		40.0%		60.0%	60.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Min		None	Min













Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated

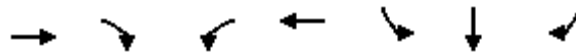
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	566	160	0	409	64	0	0	0	366	0	515
Future Volume (veh/h)	0	566	160	0	409	64	0	0	0	366	0	515
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	596	0	0	431	0				385	0	398
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2628	818	0	1829	818				1065	0	490
Arrive On Green	0.00	0.51	0.00	0.00	0.51	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	596	0	0	431	0				385	0	398
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	3.8	0.0	0.0	4.0	0.0				5.1	0.0	13.7
Cycle Q Clear(g_c), s	0.0	3.8	0.0	0.0	4.0	0.0				5.1	0.0	13.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2628	818	0	1829	818				1065	0	490
V/C Ratio(X)	0.00	0.23	0.00	0.00	0.24	0.00				0.36	0.00	0.81
Avail Cap(c_a), veh/h	0	2628	818	0	1829	818				1837	0	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.37	0.00	0.00	0.95	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	8.3	0.0				16.3	0.0	19.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.3	0.0				0.2	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	0.0	0.0	2.0	0.0				2.5	0.0	6.5
LnGrp Delay(d),s/veh	0.0	8.3	0.0	0.0	8.6	0.0				16.6	0.0	22.6
LnGrp LOS		A			A					B		C
Approach Vol, veh/h		596			431						783	
Approach Delay, s/veh		8.3			8.6						19.6	
Approach LOS		A			A						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		37.2		22.8		37.2						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		17.2		31.4		17.2						
Max Q Clear Time (g_c+I1), s		5.8		15.7		6.0						
Green Ext Time (p_c), s		4.6		2.5		4.6						
Intersection Summary												
HCM 2010 Ctrl Delay			13.3									
HCM 2010 LOS			B									

Timings
35: I-15 SB Ramps & Limonite Av.

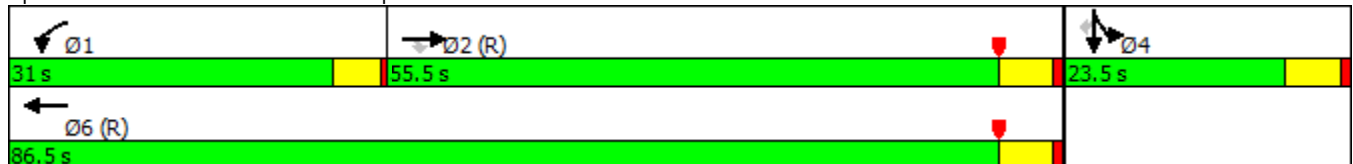


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↕	↑
Traffic Volume (vph)	1118	457	668	617	158	2	429
Future Volume (vph)	1118	457	668	617	158	2	429
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.5	55.5	31.0	86.5	23.5	23.5	23.5
Total Split (%)	50.5%	50.5%	28.2%	78.6%	21.4%	21.4%	21.4%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 59 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

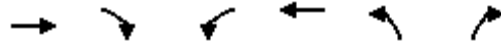
Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1118	457	668	617	0	0	0	0	158	2	429
Future Volume (veh/h)	0	1118	457	668	617	0	0	0	0	158	2	429
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1229	501	734	678	0				117	0	435
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1739	768	791	2699	0				276	0	492
Arrive On Green	0.00	0.48	0.48	0.30	0.99	0.00				0.15	0.00	0.15
Sat Flow, veh/h	0	3705	1595	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1229	501	734	678	0				117	0	435
Grp Sat Flow(s),veh/h/ln	0	1805	1595	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	29.4	26.1	22.3	0.2	0.0				6.4	0.0	14.5
Cycle Q Clear(g_c), s	0.0	29.4	26.1	22.3	0.2	0.0				6.4	0.0	14.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1739	768	791	2699	0				276	0	492
V/C Ratio(X)	0.00	0.71	0.65	0.93	0.25	0.00				0.42	0.00	0.88
Avail Cap(c_a), veh/h	0	1739	768	846	2699	0				296	0	529
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.58	0.58	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.4	21.5	37.7	0.1	0.0				42.3	0.0	45.7
Incr Delay (d2), s/veh	0.0	1.8	3.1	9.9	0.1	0.0				0.4	0.0	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	12.1	11.9	0.1	0.0				3.2	0.0	7.5
LnGrp Delay(d),s/veh	0.0	24.2	24.7	47.5	0.2	0.0				42.6	0.0	60.4
LnGrp LOS		C	C	D	A					D		E
Approach Vol, veh/h		1730			1412						552	
Approach Delay, s/veh		24.3			24.8						56.6	
Approach LOS		C			C						E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.3	58.5		22.3		87.7						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	26.5	50.0		18.0		81.0						
Max Q Clear Time (g_c+I1), s	24.3	31.4		16.5		2.2						
Green Ext Time (p_c), s	0.5	9.7		0.2		14.2						
Intersection Summary												
HCM 2010 Ctrl Delay			29.3									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	404	528	380	286	188	160
Future Volume (vph)	404	528	380	286	188	160
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	33.0	12.0	15.0	48.0	12.0	12.0
Total Split (%)	55.0%	20.0%	25.0%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 11/06/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	404	528	380	286	188	160		
Future Volume (veh/h)	404	528	380	286	188	160		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	434	463	409	308	202	83		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2222	853	527	3519	362	161		
Arrive On Green	0.72	0.72	0.15	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	434	463	409	308	202	83		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	1.7	7.8	6.7	1.2	3.2	2.9		
Cycle Q Clear(g_c), s	1.7	7.8	6.7	1.2	3.2	2.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2222	853	527	3519	362	161		
V/C Ratio(X)	0.20	0.54	0.78	0.09	0.56	0.51		
Avail Cap(c_a), veh/h	2222	853	527	3519	362	161		
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.1	4.2	24.5	3.3	25.7	25.6		
Incr Delay (d2), s/veh	0.2	2.4	10.7	0.0	6.1	11.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	4.4	4.0	0.6	1.9	1.8		
LnGrp Delay(d),s/veh	5.3	6.6	35.3	3.3	31.8	36.8		
LnGrp LOS	A	A	D	A	C	D		
Approach Vol, veh/h	897			717	285			
Approach Delay, s/veh	6.0			21.5	33.3			
Approach LOS	A			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	33.0				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	9.0	25.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	8.7	9.8				3.2		5.2
Green Ext Time (p_c), s	0.0	5.6				7.1		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			16.0					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	743	532	1047	354	236	2	325
Future Volume (vph)	743	532	1047	354	236	2	325
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	36.0	86.0	50.0	50.0	24.0	24.0	24.0
Total Split (%)	32.7%	78.2%	45.5%	45.5%	21.8%	21.8%	21.8%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	743	532	0	0	1047	354	236	2	325	0	0	0
Future Volume (veh/h)	743	532	0	0	1047	354	236	2	325	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	826	591	0	0	1163	333	300	0	81			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	895	2866	0	0	1798	793	384	0	172			
Arrive On Green	0.43	1.00	0.00	0.00	0.50	0.50	0.11	0.00	0.11			
Sat Flow, veh/h	3510	3705	0	0	3705	1593	3619	0	1615			
Grp Volume(v), veh/h	826	591	0	0	1163	333	300	0	81			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1593	1810	0	1615			
Q Serve(g_s), s	24.5	0.0	0.0	0.0	26.2	14.6	8.9	0.0	5.2			
Cycle Q Clear(g_c), s	24.5	0.0	0.0	0.0	26.2	14.6	8.9	0.0	5.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	895	2866	0	0	1798	793	384	0	172			
V/C Ratio(X)	0.92	0.21	0.00	0.00	0.65	0.42	0.78	0.00	0.47			
Avail Cap(c_a), veh/h	1005	2866	0	0	1798	793	609	0	272			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.6	0.0	0.0	0.0	20.5	17.5	47.9	0.0	46.3			
Incr Delay (d2), s/veh	9.2	0.1	0.0	0.0	1.8	1.6	3.5	0.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.8	0.0	0.0	0.0	13.5	6.7	4.6	0.0	2.4			
LnGrp Delay(d),s/veh	39.7	0.1	0.0	0.0	22.3	19.2	51.4	0.0	48.3			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1417			1496			381				
Approach Delay, s/veh		23.2			21.6			50.7				
Approach LOS		C			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		92.8			32.5	60.3		17.2				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		80.5			31.5	44.5		18.5				
Max Q Clear Time (g_c+I1), s		2.0			26.5	28.2		10.9				
Green Ext Time (p_c), s		11.4			1.6	7.9		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				25.6								
HCM 2010 LOS				C								
Notes												

Timings

1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

11/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	5	20	129	0	2	971	194	263	894
Future Volume (vph)	5	20	129	0	2	971	194	263	894
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	29.0	29.0	15.0	29.5
Total Split (%)	51.1%	51.1%	51.1%	51.1%	16.1%	32.2%	32.2%	16.7%	32.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90

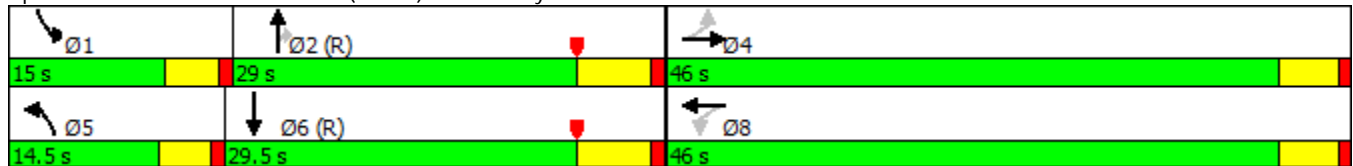
Actuated Cycle Length: 90

Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow





















Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 1: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	20	11	129	0	117	2	971	194	263	894	1
Future Volume (veh/h)	5	20	11	129	0	117	2	971	194	263	894	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	5	22	4	139	0	98	2	1044	180	283	961	1
Adj No. of Lanes	0	1	0	0	1	0	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	254	42	219	6	114	9	1793	785	189	2228	2
Arrive On Green	0.19	0.19	0.19	0.19	0.00	0.19	0.01	0.52	0.52	0.12	0.64	0.64
Sat Flow, veh/h	143	1362	223	833	33	610	1619	3420	1497	1619	3506	4
Grp Volume(v), veh/h	31	0	0	237	0	0	2	1044	180	283	469	493
Grp Sat Flow(s),veh/h/ln	1728	0	0	1476	0	0	1619	1710	1497	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	12.6	0.0	0.0	0.1	18.8	5.9	10.5	12.4	12.4
Cycle Q Clear(g_c), s	1.3	0.0	0.0	14.0	0.0	0.0	0.1	18.8	5.9	10.5	12.4	12.4
Prop In Lane	0.16		0.13	0.59		0.41	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	369	0	0	339	0	0	9	1793	785	189	1087	1144
V/C Ratio(X)	0.08	0.00	0.00	0.70	0.00	0.00	0.23	0.58	0.23	1.50	0.43	0.43
Avail Cap(c_a), veh/h	816	0	0	730	0	0	180	1793	785	189	1087	1144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	0.0	0.0	35.3	0.0	0.0	44.6	14.7	11.6	39.8	8.2	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.0	2.6	0.7	0.4	249.9	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	5.8	0.0	0.0	0.1	9.0	2.5	17.8	6.1	6.4
LnGrp Delay(d),s/veh	30.3	0.0	0.0	36.3	0.0	0.0	47.1	15.4	11.9	289.7	9.5	9.4
LnGrp LOS	C			D			D	B	B	F	A	A
Approach Vol, veh/h		31			237			1226			1245	
Approach Delay, s/veh		30.3			36.3			14.9			73.1	
Approach LOS		C			D			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	53.2		21.8	5.0	63.2		21.8				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	10.5	23.0		41.0	10.0	23.5		41.0				
Max Q Clear Time (g_c+I1), s	12.5	20.8		3.3	2.1	14.4		16.0				
Green Ext Time (p_c), s	0.0	1.9		0.9	0.0	7.0		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				43.4								
HCM 2010 LOS				D								

Timings
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

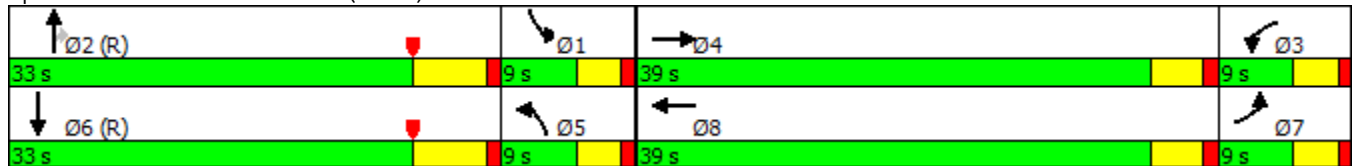


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	310	776	23	232	67	696	25	271	710
Future Volume (vph)	310	776	23	232	67	696	25	271	710
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (s)	9.0	39.0	9.0	39.0	9.0	33.0	33.0	9.0	33.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	10.0%	36.7%	36.7%	10.0%	36.7%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.0	5.0	5.0	3.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.5	4.0	4.5	4.0	6.0	6.0	4.0	6.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 22 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated























Splits and Phases: 2: Euclid Av. (SR-83) & Kimball Av.



HCM 2010 Signalized Intersection Summary
2: Euclid Av. (SR-83) & Kimball Av.

Colony Commerce Center East SP (JN 10522)

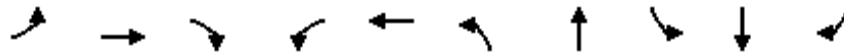
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	776	48	23	232	121	67	696	25	271	710	83
Future Volume (veh/h)	310	776	48	23	232	121	67	696	25	271	710	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	323	808	46	24	242	92	70	725	11	282	740	68
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	302	969	55	39	322	119	338	826	370	380	845	78
Arrive On Green	0.19	0.29	0.29	0.02	0.13	0.13	0.42	0.48	0.48	0.23	0.27	0.27
Sat Flow, veh/h	1619	3290	187	1619	2446	905	1619	3420	1530	1619	3164	291
Grp Volume(v), veh/h	323	420	434	24	167	167	70	725	11	282	400	408
Grp Sat Flow(s),veh/h/ln	1619	1710	1767	1619	1710	1640	1619	1710	1530	1619	1710	1744
Q Serve(g_s), s	16.8	20.7	20.7	1.3	8.5	8.8	2.5	17.1	0.3	14.5	20.1	20.2
Cycle Q Clear(g_c), s	16.8	20.7	20.7	1.3	8.5	8.8	2.5	17.1	0.3	14.5	20.1	20.2
Prop In Lane	1.00		0.11	1.00		0.55	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	302	503	520	39	225	216	338	826	370	380	457	466
V/C Ratio(X)	1.07	0.83	0.83	0.62	0.74	0.77	0.21	0.88	0.03	0.74	0.88	0.88
Avail Cap(c_a), veh/h	302	656	677	90	656	629	338	1026	459	380	513	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81	0.88	0.88	0.88
Uniform Delay (d), s/veh	36.6	29.7	29.7	43.5	37.6	37.8	21.4	22.1	17.7	31.9	31.5	31.6
Incr Delay (d2), s/veh	71.1	7.2	7.0	5.9	1.8	2.2	0.1	10.6	0.1	6.1	18.4	18.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	10.7	11.0	0.7	4.1	4.1	1.1	9.1	0.2	7.1	11.8	12.0
LnGrp Delay(d),s/veh	107.7	36.9	36.7	49.4	39.4	40.0	21.5	32.7	17.8	38.0	49.9	49.7
LnGrp LOS	F	D	D	D	D	D	C	C	B	D	D	D
Approach Vol, veh/h		1177			358			806			1090	
Approach Delay, s/veh		56.2			40.4			31.5			46.8	
Approach LOS		E			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.1	27.7	6.2	31.0	22.8	30.0	20.8	16.4				
Change Period (Y+Rc), s	4.0	6.0	4.0	4.5	4.0	6.0	4.0	4.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	34.5	5.0	27.0	5.0	34.5				
Max Q Clear Time (g_c+I1), s	16.5	19.1	3.3	22.7	4.5	22.2	18.8	10.8				
Green Ext Time (p_c), s	0.0	2.6	0.0	3.8	0.0	1.9	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			45.8									
HCM 2010 LOS			D									

Timings
3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

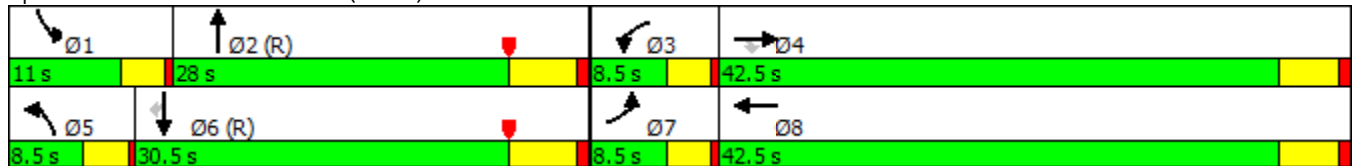


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	67	87	45	32	25	15	664	125	565	55
Future Volume (vph)	67	87	45	32	25	15	664	125	565	55
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	26.5	8.5	30.5	30.5
Total Split (s)	8.5	42.5	42.5	8.5	42.5	8.5	28.0	11.0	30.5	30.5
Total Split (%)	9.4%	47.2%	47.2%	9.4%	47.2%	9.4%	31.1%	12.2%	33.9%	33.9%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.5	3.0	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	0.5	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	3.5	5.5	3.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 71 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Bickmore Av.



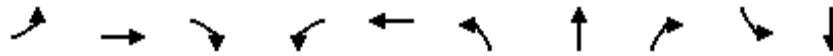
HCM 2010 Signalized Intersection Summary
 3: Euclid Av. (SR-83) & Bickmore Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	87	45	32	25	61	15	664	100	125	565	55
Future Volume (veh/h)	67	87	45	32	25	61	15	664	100	125	565	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	74	97	31	36	28	56	17	738	101	139	628	61
Adj No. of Lanes	1	1	1	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	184	157	53	43	86	31	1769	242	135	2226	975
Arrive On Green	0.06	0.10	0.10	0.03	0.08	0.08	0.02	0.59	0.59	0.03	0.21	0.21
Sat Flow, veh/h	1619	1800	1530	1619	537	1074	1619	3015	412	1619	3420	1499
Grp Volume(v), veh/h	74	97	31	36	0	84	17	418	421	139	628	61
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	0	1611	1619	1710	1717	1619	1710	1499
Q Serve(g_s), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	12.0	12.1	7.5	13.8	2.9
Cycle Q Clear(g_c), s	4.1	4.6	1.7	2.0	0.0	4.6	0.9	12.0	12.1	7.5	13.8	2.9
Prop In Lane	1.00		1.00	1.00		0.67	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	90	184	157	53	0	129	31	1003	1008	135	2226	975
V/C Ratio(X)	0.82	0.53	0.20	0.67	0.00	0.65	0.55	0.42	0.42	1.03	0.28	0.06
Avail Cap(c_a), veh/h	90	750	637	90	0	671	90	1003	1008	135	2226	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.60	0.60	0.60	0.57	0.57	0.57
Uniform Delay (d), s/veh	42.1	38.3	37.0	43.0	0.0	40.2	43.7	10.2	10.2	43.8	17.8	13.5
Incr Delay (d2), s/veh	41.2	0.9	0.2	5.4	0.0	2.1	3.3	0.8	0.8	66.6	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.3	0.7	1.0	0.0	2.1	0.4	5.8	5.8	5.9	6.6	1.2
LnGrp Delay(d),s/veh	83.3	39.2	37.2	48.4	0.0	42.3	47.1	10.9	10.9	110.8	17.9	13.5
LnGrp LOS	F	D	D	D		D	D	B	B	F	B	B
Approach Vol, veh/h		202			120			856			828	
Approach Delay, s/veh		55.0			44.1			11.7			33.2	
Approach LOS		E			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	58.3	6.5	14.2	5.2	64.1	8.5	12.2				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.0	3.5	5.5	3.5	5.0				
Max Green Setting (Gmax), s	7.5	22.5	5.0	37.5	5.0	25.0	5.0	37.5				
Max Q Clear Time (g_c+I1), s	9.5	14.1	4.0	6.6	2.9	15.8	6.1	6.6				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.6	0.0	3.8	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			26.9									
HCM 2010 LOS			C									

Timings
4: Euclid Av. (SR-83) & Pine Av.

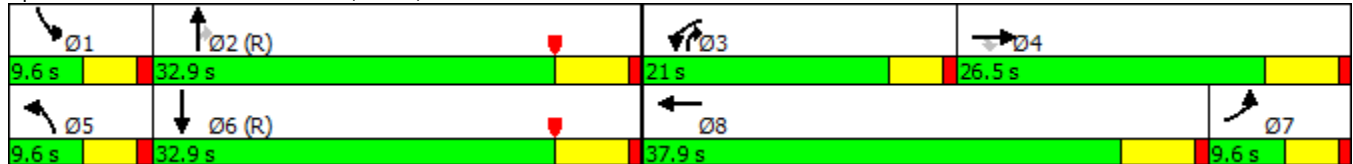


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	326	28	457	72	33	688	1035	56	537
Future Volume (vph)	14	326	28	457	72	33	688	1035	56	537
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	5	2	3	1	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	10.9	10.9	9.6	37.9	9.6	32.9	9.6	9.6	32.9
Total Split (s)	9.6	26.5	26.5	21.0	37.9	9.6	32.9	21.0	9.6	32.9
Total Split (%)	10.7%	29.4%	29.4%	23.3%	42.1%	10.7%	36.6%	23.3%	10.7%	36.6%
Yellow Time (s)	3.6	4.9	4.9	3.6	4.9	3.6	4.9	3.6	3.6	4.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.9	5.9	4.6	5.9	4.6	5.9	4.6	4.6	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Pine Av.



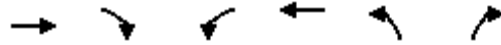
HCM 2010 Signalized Intersection Summary
4: Euclid Av. (SR-83) & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	326	28	457	72	29	33	688	1035	56	537	14
Future Volume (veh/h)	14	326	28	457	72	29	33	688	1035	56	537	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	336	0	471	74	24	34	709	634	58	554	10
Adj No. of Lanes	1	1	1	2	1	0	1	2	1	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	468	377	320	528	110	36	52	1144	785	72	1192	22
Arrive On Green	0.29	0.21	0.00	0.18	0.08	0.08	0.03	0.33	0.33	0.03	0.23	0.23
Sat Flow, veh/h	1619	1800	1530	2956	1303	423	1619	3420	1530	1619	3435	62
Grp Volume(v), veh/h	14	336	0	471	0	98	34	709	634	58	276	288
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1478	0	1725	1619	1710	1530	1619	1710	1787
Q Serve(g_s), s	0.6	16.3	0.0	14.0	0.0	5.0	1.9	15.7	30.1	3.2	12.5	12.5
Cycle Q Clear(g_c), s	0.6	16.3	0.0	14.0	0.0	5.0	1.9	15.7	30.1	3.2	12.5	12.5
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	468	377	320	528	0	145	52	1144	785	72	593	620
V/C Ratio(X)	0.03	0.89	0.00	0.89	0.00	0.68	0.66	0.62	0.81	0.81	0.46	0.46
Avail Cap(c_a), veh/h	468	412	350	539	0	613	90	1144	785	90	593	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.09	0.09	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	22.9	34.6	0.0	36.1	0.0	40.0	43.1	25.1	18.2	43.3	27.3	27.3
Incr Delay (d2), s/veh	0.0	20.6	0.0	16.3	0.0	7.6	0.5	0.2	0.9	27.1	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	10.3	0.0	6.9	0.0	2.7	0.8	7.4	13.2	2.0	6.3	6.6
LnGrp Delay(d),s/veh	22.9	55.2	0.0	52.4	0.0	47.6	43.6	25.4	19.1	70.4	29.9	29.8
LnGrp LOS	C	E		D		D	D	C	B	E	C	C
Approach Vol, veh/h		350			569			1377			622	
Approach Delay, s/veh		53.9			51.6			22.9			33.6	
Approach LOS		D			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	36.0	20.7	24.7	7.5	37.1	31.9	13.5				
Change Period (Y+Rc), s	4.6	5.9	4.6	5.9	4.6	5.9	5.9	* 5.9				
Max Green Setting (Gmax), s	5.0	27.0	16.4	20.6	5.0	27.0	5.0	* 32				
Max Q Clear Time (g_c+I1), s	5.2	32.1	16.0	18.3	3.9	14.5	2.6	7.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.5	0.0	5.0	0.6	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			34.5									
HCM 2010 LOS			C									
Notes												

Timings
5: SR-71 NB Ramps & Euclid Av. (SR-83)

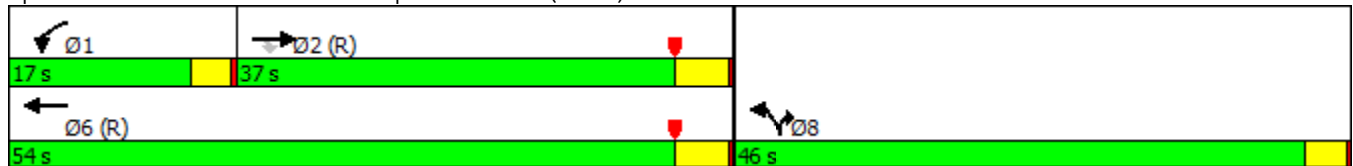


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↙	↑↑	↘↘	↙
Traffic Volume (vph)	748	172	291	780	148	1096
Future Volume (vph)	748	172	291	780	148	1096
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	8	8
Permitted Phases		2				
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.5	32.5	8.5	9.5	8.5	8.5
Total Split (s)	37.0	37.0	17.0	54.0	46.0	46.0
Total Split (%)	37.0%	37.0%	17.0%	54.0%	46.0%	46.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	3.5	4.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	Min	C-Max	Min	Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

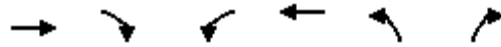
Splits and Phases: 5: SR-71 NB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

11/06/2017



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	748	172	291	780	148	1096		
Future Volume (veh/h)	748	172	291	780	148	1096		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800		
Adj Flow Rate, veh/h	771	0	300	804	153	0		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2326	1041	231	2908	232	107		
Arrive On Green	0.46	0.00	0.14	0.85	0.07	0.00		
Sat Flow, veh/h	3510	1530	1714	3510	3326	1530		
Grp Volume(v), veh/h	771	0	300	804	153	0		
Grp Sat Flow(s),veh/h/ln	1710	1530	1714	1710	1663	1530		
Q Serve(g_s), s	14.5	0.0	13.5	4.6	4.5	0.0		
Cycle Q Clear(g_c), s	14.5	0.0	13.5	4.6	4.5	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2326	1041	231	2908	232	107		
V/C Ratio(X)	0.33	0.00	1.30	0.28	0.66	0.00		
Avail Cap(c_a), veh/h	2326	1041	231	2908	1413	650		
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.77	0.77	1.00	0.00		
Uniform Delay (d), s/veh	12.6	0.0	43.3	1.5	45.4	0.0		
Incr Delay (d2), s/veh	0.4	0.0	155.8	0.2	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.0	0.0	16.4	2.2	2.2	0.0		
LnGrp Delay(d),s/veh	13.0	0.0	199.0	1.6	48.5	0.0		
LnGrp LOS	B		F	A	D			
Approach Vol, veh/h	771			1104	153			
Approach Delay, s/veh	13.0			55.3	48.5			
Approach LOS	B			E	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.0	72.5				89.5		10.5
Change Period (Y+Rc), s	3.5	4.5				4.5		3.5
Max Green Setting (Gmax), s	13.5	32.5				49.5		42.5
Max Q Clear Time (g_c+I1), s	15.5	16.5				6.6		6.5
Green Ext Time (p_c), s	0.0	7.6				10.8		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			38.7					
HCM 2010 LOS			D					

Timings

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)

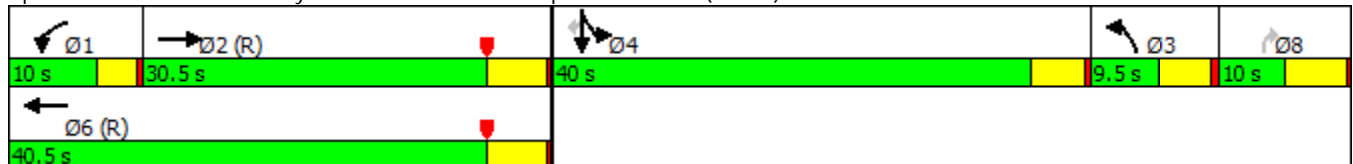


Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	271	98	196	29	15	703	139	152
Future Volume (vph)	271	98	196	29	15	703	139	152
Turn Type	NA	Prot	NA	Prot	Perm	Split	NA	Perm
Protected Phases	2	1	6	3		4	4	
Permitted Phases					8			4
Detector Phase	2	1	6	3	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	8.5	29.0	9.5	10.0	38.5	38.5	38.5
Total Split (s)	30.5	10.0	40.5	9.5	10.0	40.0	40.0	40.0
Total Split (%)	30.5%	10.0%	40.5%	9.5%	10.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.5	3.0	4.5	4.0	4.5	4.0	4.0	4.0
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	3.5	5.0	4.5	5.0	4.5	4.5	4.5
Lead/Lag	Lag	Lead		Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes	Yes
Recall Mode	C-Min	None	C-Max	None	Min	Min	Min	Min





















Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 54 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated

Splits and Phases: 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83) 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Future Volume (veh/h)	0	271	42	98	196	0	29	0	15	703	139	152
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	0	1800	1700	1800	1800
Adj Flow Rate, veh/h	0	301	47	109	218	0	32	0	17	891	0	169
Adj No. of Lanes	0	2	0	1	2	0	1	0	1	2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	1488	230	105	2055	0	0	0	0	985	0	465
Arrive On Green	0.00	0.50	0.50	0.13	1.00	0.00	0.00	0.00	0.00	0.30	0.00	0.30
Sat Flow, veh/h	0	3060	459	1619	3510	0		0		3238	0	1530
Grp Volume(v), veh/h	0	172	176	109	218	0		0.0		891	0	169
Grp Sat Flow(s),veh/h/ln	0	1710	1719	1619	1710	0				1619	0	1530
Q Serve(g_s), s	0.0	5.6	5.7	6.5	0.0	0.0				26.4	0.0	8.6
Cycle Q Clear(g_c), s	0.0	5.6	5.7	6.5	0.0	0.0				26.4	0.0	8.6
Prop In Lane	0.00		0.27	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	856	861	105	2055	0				985	0	465
V/C Ratio(X)	0.00	0.20	0.20	1.04	0.11	0.00				0.90	0.00	0.36
Avail Cap(c_a), veh/h	0	856	861	105	2055	0				1150	0	543
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.9	13.9	43.5	0.0	0.0				33.4	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.5	0.5	97.7	0.1	0.0				8.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	2.8	5.7	0.0	0.0				13.0	0.0	3.7
LnGrp Delay(d),s/veh	0.0	14.4	14.4	141.8	0.1	0.0				42.3	0.0	27.6
LnGrp LOS		B	B	F	A					D		C
Approach Vol, veh/h		348			327						1060	
Approach Delay, s/veh		14.4			47.3						40.0	
Approach LOS		B			D						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.0	55.1		34.9		65.1						
Change Period (Y+Rc), s	3.5	5.0		4.5		5.0						
Max Green Setting (Gmax), s	6.5	25.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	8.5	7.7		28.4		2.0						
Green Ext Time (p_c), s	0.0	1.8		2.0		2.0						
Intersection Summary												
HCM 2010 Ctrl Delay				36.2								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↖		↗			↘	
Traffic Vol, veh/h	0	114	399	0	166	103	0	118	41
Future Vol, veh/h	0	114	399	0	166	103	0	118	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	434	0	180	112	0	128	45
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	20.5	11.2	11.3
HCM LOS	C	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	0%	74%
Vol Thru, %	78%	62%	0%
Vol Right, %	0%	38%	26%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	513	269	159
LT Vol	114	0	118
Through Vol	399	166	0
RT Vol	0	103	41
Lane Flow Rate	558	292	173
Geometry Grp	1	1	1
Degree of Util (X)	0.741	0.401	0.284
Departure Headway (Hd)	4.887	4.934	5.908
Convergence, Y/N	Yes	Yes	Yes
Cap	747	734	610
Service Time	2.887	2.934	3.921
HCM Lane V/C Ratio	0.747	0.398	0.284
HCM Control Delay	20.5	11.2	11.3
HCM Lane LOS	C	B	B
HCM 95th-tile Q	6.7	1.9	1.2

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	586	68	40	207	57	76
Future Vol, veh/h	586	68	40	207	57	76
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	630	73	43	223	61	82

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	632
Stage 1	-	-	632
Stage 2	-	-	309
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	960
Stage 1	-	-	534
Stage 2	-	-	749
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	960
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	533
Stage 2	-	-	715

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	369	-	-	960	-
HCM Lane V/C Ratio	0.388	-	-	0.045	-
HCM Control Delay (s)	20.8	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Intersection

Intersection Delay, s/veh59.2

Intersection LOS F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations				↑						↓						
Traffic Vol, veh/h	0	0	6	844	0	11	15	0	0	279	0	4	0	0	0	0
Future Vol, veh/h	0	0	6	844	0	11	15	0	0	279	0	4	0	0	0	0
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	6	908	0	12	16	0	0	300	0	4	0	0	0	0
Number of Lanes	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

Approach	EB	NB
Opposing Approach		
Opposing Lanes	0	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	73.8	15.4
HCM LOS	F	C

Lane	NBLn1	EBLn1
Vol Left, %	99%	0%
Vol Thru, %	0%	1%
Vol Right, %	1%	99%
Sign Control	Stop	Stop
Traffic Vol by Lane	283	850
LT Vol	279	0
Through Vol	0	6
RT Vol	4	844
Lane Flow Rate	304	914
Geometry Grp	1	1
Degree of Util (X)	0.508	1.078
Departure Headway (Hd)	6.211	4.245
Convergence, Y/N	Yes	Yes
Cap	584	850
Service Time	4.211	2.297
HCM Lane V/C Ratio	0.521	1.075
HCM Control Delay	15.4	73.8
HCM Lane LOS	C	F
HCM 95th-tile Q	2.9	22.9

Timings
11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

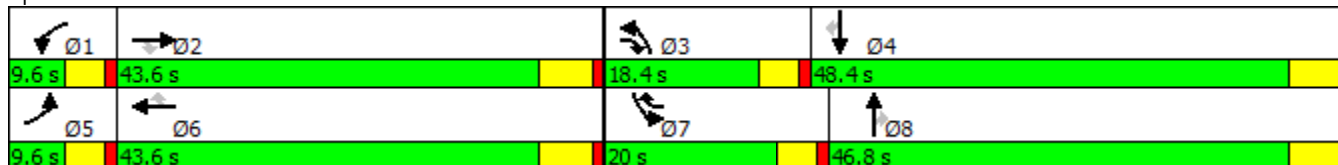


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	13	1186	387	20	493	138	135	101	31	532	228	26
Future Volume (vph)	13	1186	387	20	493	138	135	101	31	532	228	26
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.8	9.6	9.6	38.8	9.6	9.6	46.8	46.8	9.6	45.8	45.8
Total Split (s)	9.6	43.6	18.4	9.6	43.6	20.0	18.4	46.8	46.8	20.0	48.4	48.4
Total Split (%)	8.0%	36.3%	15.3%	8.0%	36.3%	16.7%	15.3%	39.0%	39.0%	16.7%	40.3%	40.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 11: Hellman Av. & Pine Av.



HCM 2010 Signalized Intersection Summary
 11: Hellman Av. & Pine Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1186	387	20	493	138	135	101	31	532	228	26
Future Volume (veh/h)	13	1186	387	20	493	138	135	101	31	532	228	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	13	1223	370	21	508	137	139	104	24	548	235	26
Adj No. of Lanes	2	2	1	2	2	1	2	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	1456	756	68	1482	942	202	420	188	539	809	362
Arrive On Green	0.02	0.43	0.43	0.02	0.43	0.43	0.07	0.12	0.12	0.18	0.24	0.24
Sat Flow, veh/h	2956	3420	1530	2956	3420	1530	2956	3420	1530	2956	3420	1528
Grp Volume(v), veh/h	13	1223	370	21	508	137	139	104	24	548	235	26
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1710	1530	1478	1710	1530	1478	1710	1528
Q Serve(g_s), s	0.4	27.0	13.6	0.6	8.4	3.2	3.9	2.3	1.2	15.4	4.8	1.1
Cycle Q Clear(g_c), s	0.4	27.0	13.6	0.6	8.4	3.2	3.9	2.3	1.2	15.4	4.8	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	1456	756	68	1482	942	202	420	188	539	809	362
V/C Ratio(X)	0.28	0.84	0.49	0.31	0.34	0.15	0.69	0.25	0.13	1.02	0.29	0.07
Avail Cap(c_a), veh/h	175	1530	789	175	1530	963	483	1660	742	539	1724	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	21.7	14.3	40.6	15.9	6.9	38.5	33.5	33.0	34.5	26.4	25.0
Incr Delay (d2), s/veh	1.2	4.2	0.5	0.9	0.1	0.1	1.6	0.3	0.3	43.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	13.6	5.8	0.3	4.0	1.4	1.6	1.1	0.5	9.4	2.3	0.5
LnGrp Delay(d),s/veh	42.4	25.9	14.7	41.6	16.1	6.9	40.0	33.8	33.3	77.6	26.6	25.1
LnGrp LOS	D	C	B	D	B	A	D	C	C	F	C	C
Approach Vol, veh/h		1606			666			267			809	
Approach Delay, s/veh		23.5			15.0			37.0			61.1	
Approach LOS		C			B			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	41.8	10.4	25.8	5.9	42.4	20.0	16.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	37.8	13.8	42.6	5.0	37.8	15.4	41.0				
Max Q Clear Time (g_c+I1), s	2.6	29.0	5.9	6.8	2.4	10.4	17.4	4.3				
Green Ext Time (p_c), s	0.0	7.0	0.1	2.2	0.0	16.3	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	660	15	0	272	0	52
Future Vol, veh/h	660	15	0	272	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	717	16	0	296	0	57

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	726
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.3
Pot Cap-1 Maneuver	-	0	428
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	428
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	428	-	-	-
HCM Lane V/C Ratio	0.132	-	-	-
HCM Control Delay (s)	14.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Timings
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBT	EBR	WBL	WBT	NBT
Lane Configurations	↑↑	↑	↑	↑	↕
Traffic Volume (vph)	704	7	41	217	0
Future Volume (vph)	704	7	41	217	0
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	2		1	6	8
Permitted Phases		2			
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	23.2	23.2	9.6	16.2	31.6
Total Split (s)	23.8	23.8	9.6	33.4	31.6
Total Split (%)	36.6%	36.6%	14.8%	51.4%	48.6%
Yellow Time (s)	5.2	5.2	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	4.6
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	Min

Intersection Summary

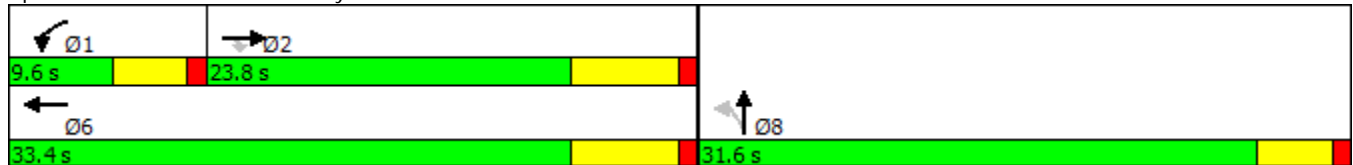
Cycle Length: 65

Actuated Cycle Length: 43.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated













Splits and Phases: 13: Driveway 2 & Merrill Av.



HCM 2010 Signalized Intersection Summary
13: Driveway 2 & Merrill Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Traffic Volume (veh/h)	0	704	7	41	217	0	55	0	73	0	0	0
Future Volume (veh/h)	0	704	7	41	217	0	55	0	73	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1800	1800	1700	1800	0	1700	1800	1800			
Adj Flow Rate, veh/h	0	765	8	45	236	0	60	0	79			
Adj No. of Lanes	0	2	1	1	1	0	0	1	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	1123	502	79	882	0	170	0	224			
Arrive On Green	0.00	0.33	0.33	0.05	0.49	0.00	0.25	0.00	0.25			
Sat Flow, veh/h	0	3510	1530	1619	1800	0	693	0	912			
Grp Volume(v), veh/h	0	765	8	45	236	0	139	0	0			
Grp Sat Flow(s),veh/h/ln	0	1710	1530	1619	1800	0	1604	0	0			
Q Serve(g_s), s	0.0	7.9	0.1	1.1	3.1	0.0	2.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	7.9	0.1	1.1	3.1	0.0	2.9	0.0	0.0			
Prop In Lane	0.00		1.00	1.00		0.00	0.43		0.57			
Lane Grp Cap(c), veh/h	0	1123	502	79	882	0	393	0	0			
V/C Ratio(X)	0.00	0.68	0.02	0.57	0.27	0.00	0.35	0.00	0.00			
Avail Cap(c_a), veh/h	0	1476	660	198	1200	0	1062	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	11.9	9.2	19.0	6.1	0.0	12.7	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.8	0.0	2.4	0.2	0.0	0.5	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.1	0.5	1.5	0.0	1.3	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	12.7	9.3	21.3	6.3	0.0	13.3	0.0	0.0			
LnGrp LOS		B	A	C	A		B					
Approach Vol, veh/h		773			281			139				
Approach Delay, s/veh		12.7			8.7			13.3				
Approach LOS		B			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.6	19.6				26.2		14.6				
Change Period (Y+Rc), s	4.6	6.2				6.2		4.6				
Max Green Setting (Gmax), s	5.0	17.6				27.2		27.0				
Max Q Clear Time (g_c+I1), s	3.1	9.9				5.1		4.9				
Green Ext Time (p_c), s	0.0	3.5				6.1		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								

Timings
14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Configurations	↔	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	6	185	416	498	1073
Future Volume (vph)	6	185	416	498	1073
Turn Type	NA	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	20.0	14.2
Minimum Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (s)	29.0	29.0	28.0	61.0	33.0
Total Split (%)	32.2%	32.2%	31.1%	67.8%	36.7%
Yellow Time (s)	5.0	5.0	3.0	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8
Lead/Lag			Lag		Lead
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 39 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated



















Splits and Phases: 14: Archibald Av. & SR-60 WB Ramps



HCM 2010 Signalized Intersection Summary
 14: Archibald Av. & SR-60 WB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	351	6	185	416	498	0	0	1073	376
Future Volume (veh/h)	0	0	0	351	6	185	416	498	0	0	1073	376
Number				7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	1700	1800	0	0	1800	1800
Adj Flow Rate, veh/h				382	7	85	452	541	0	0	1166	269
Adj No. of Lanes				0	1	1	1	3	0	0	4	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				418	8	380	446	3051	0	0	1426	327
Arrive On Green				0.25	0.25	0.25	0.55	1.00	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1685	31	1530	1619	5076	0	0	5326	1162
Grp Volume(v), veh/h				389	0	85	452	541	0	0	1066	369
Grp Sat Flow(s),veh/h/ln				1716	0	1530	1619	1638	0	0	1548	1592
Q Serve(g_s), s				19.8	0.0	4.0	24.8	0.0	0.0	0.0	19.3	19.5
Cycle Q Clear(g_c), s				19.8	0.0	4.0	24.8	0.0	0.0	0.0	19.3	19.5
Prop In Lane				0.98		1.00	1.00		0.00	0.00		0.73
Lane Grp Cap(c), veh/h				426	0	380	446	3051	0	0	1305	447
V/C Ratio(X)				0.91	0.00	0.22	1.01	0.18	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				438	0	391	446	3051	0	0	1404	481
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.9	0.0	26.9	20.2	0.0	0.0	0.0	30.2	30.3
Incr Delay (d2), s/veh				24.3	0.0	0.6	37.4	0.1	0.0	0.0	5.8	15.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.3	0.0	3.8	15.3	0.0	0.0	0.0	8.9	10.6
LnGrp Delay(d),s/veh				57.2	0.0	27.6	57.7	0.1	0.0	0.0	36.0	46.0
LnGrp LOS				E		C	F	A			D	D
Approach Vol, veh/h					474			993			1435	
Approach Delay, s/veh					51.9			26.3			38.5	
Approach LOS					D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		61.7		28.3	30.6	31.1						
Change Period (Y+Rc), s		5.8		6.0	5.8	* 5.8						
Max Green Setting (Gmax), s		55.2		23.0	24.0	* 27						
Max Q Clear Time (g_c+I1), s		2.0		21.8	26.8	21.5						
Green Ext Time (p_c), s		3.9		0.5	0.0	3.8						
Intersection Summary												
HCM 2010 Ctrl Delay				36.5								
HCM 2010 LOS				D								
Notes												

Timings
15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Configurations	↔	↗	↑↑↑	↖	↑↑↑
Traffic Volume (vph)	5	421	805	273	1151
Future Volume (vph)	5	421	805	273	1151
Turn Type	NA	Perm	NA	Prot	NA
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	18.2	5.0	20.0
Minimum Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (s)	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.0	5.8
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

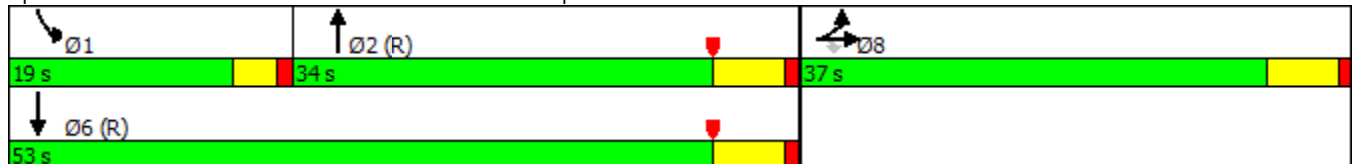
Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated



















Splits and Phases: 15: Archibald Av. & SR-60 EB Ramps



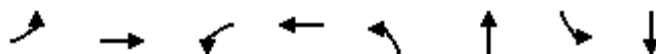
HCM 2010 Signalized Intersection Summary
 15: Archibald Av. & SR-60 EB Ramps

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	5	421	0	0	0	0	805	488	273	1151	0
Future Volume (veh/h)	109	5	421	0	0	0	0	805	488	273	1151	0
Number	3	8	18				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800				0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h	117	5	252				0	866	354	294	1238	0
Adj No. of Lanes	0	1	1				0	4	0	1	3	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	321	14	298				0	2160	696	270	3323	0
Arrive On Green	0.19	0.19	0.19				0.00	0.47	0.47	0.06	0.22	0.00
Sat Flow, veh/h	1647	70	1530				0	4896	1496	1619	5076	0
Grp Volume(v), veh/h	122	0	252				0	866	354	294	1238	0
Grp Sat Flow(s),veh/h/ln	1718	0	1530				0	1548	1496	1619	1638	0
Q Serve(g_s), s	5.5	0.0	14.3				0.0	11.0	14.9	15.0	19.2	0.0
Cycle Q Clear(g_c), s	5.5	0.0	14.3				0.0	11.0	14.9	15.0	19.2	0.0
Prop In Lane	0.96		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	335	0	298				0	2160	696	270	3323	0
V/C Ratio(X)	0.36	0.00	0.85				0.00	0.40	0.51	1.09	0.37	0.00
Avail Cap(c_a), veh/h	595	0	530				0	2160	696	270	3323	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.85	0.85	0.43	0.43	0.00
Uniform Delay (d), s/veh	31.4	0.0	34.9				0.0	15.8	16.9	42.5	18.8	0.0
Incr Delay (d2), s/veh	0.7	0.0	6.5				0.0	0.5	2.3	62.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	6.6				0.0	4.8	6.5	11.4	8.8	0.0
LnGrp Delay(d),s/veh	32.1	0.0	41.4				0.0	16.3	19.1	105.1	18.9	0.0
LnGrp LOS	C		D					B	B	F	B	
Approach Vol, veh/h		374						1220			1532	
Approach Delay, s/veh		38.4						17.1			35.5	
Approach LOS		D						B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.0	47.7				66.7		23.3				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	15.0	28.2				47.2		31.2				
Max Q Clear Time (g_c+I1), s	17.0	16.9				21.2		16.3				
Green Ext Time (p_c), s	0.0	9.3				18.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			28.6									
HCM 2010 LOS			C									

Timings
16: Archibald Av. & Walnut Av.

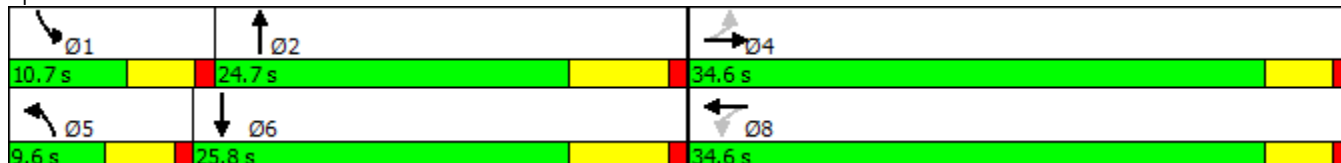


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	→	↖	←	↖	↑↑↑	↗	↑↑↑
Traffic Volume (vph)	17	7	26	13	63	937	110	1223
Future Volume (vph)	17	7	26	13	63	937	110	1223
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.6	34.6	34.6	34.6	9.6	24.2	9.6	25.2
Total Split (s)	34.6	34.6	34.6	34.6	9.6	24.7	10.7	25.8
Total Split (%)	49.4%	49.4%	49.4%	49.4%	13.7%	35.3%	15.3%	36.9%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 48.1
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 16: Archibald Av. & Walnut Av.



HCM 2010 Signalized Intersection Summary
16: Archibald Av. & Walnut Av.

Colony Commerce Center East SP (JN 10522)

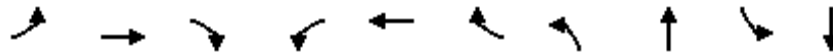
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	7	30	26	13	64	63	937	28	110	1223	18
Future Volume (veh/h)	17	7	30	26	13	64	63	937	28	110	1223	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	7	5	27	14	13	66	986	29	116	1287	18
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	361	157	112	376	138	128	103	1927	57	142	2085	29
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.06	0.39	0.39	0.09	0.42	0.42
Sat Flow, veh/h	1318	978	699	1345	858	797	1619	4902	144	1619	4994	70
Grp Volume(v), veh/h	18	0	12	27	0	27	66	659	356	116	844	461
Grp Sat Flow(s),veh/h/ln	1318	0	1677	1345	0	1655	1619	1638	1770	1619	1638	1788
Q Serve(g_s), s	0.5	0.0	0.3	0.7	0.0	0.6	1.7	6.6	6.6	3.0	8.7	8.7
Cycle Q Clear(g_c), s	1.1	0.0	0.3	1.0	0.0	0.6	1.7	6.6	6.6	3.0	8.7	8.7
Prop In Lane	1.00		0.42	1.00		0.48	1.00		0.08	1.00		0.04
Lane Grp Cap(c), veh/h	361	0	269	376	0	266	103	1288	696	142	1368	746
V/C Ratio(X)	0.05	0.00	0.04	0.07	0.00	0.10	0.64	0.51	0.51	0.82	0.62	0.62
Avail Cap(c_a), veh/h	1070	0	1171	1099	0	1155	188	1411	762	230	1495	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	0.0	15.2	15.7	0.0	15.4	19.6	9.9	9.9	19.3	9.8	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	0.2	2.5	0.3	0.6	4.7	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.3	0.8	3.0	3.3	1.5	4.0	4.5
LnGrp Delay(d),s/veh	15.9	0.0	15.3	15.7	0.0	15.6	22.1	10.2	10.5	23.9	10.5	11.0
LnGrp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h		30			54			1081			1421	
Approach Delay, s/veh		15.7			15.7			11.0			11.8	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	23.1		11.5	7.3	24.1		11.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.1	18.5		30.0	5.0	19.6		30.0				
Max Q Clear Time (g_c+I1), s	5.0	8.6		3.1	3.7	10.7		3.0				
Green Ext Time (p_c), s	0.0	7.9		0.3	0.0	7.2		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				11.6								
HCM 2010 LOS				B								

Timings
17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

11/06/2017

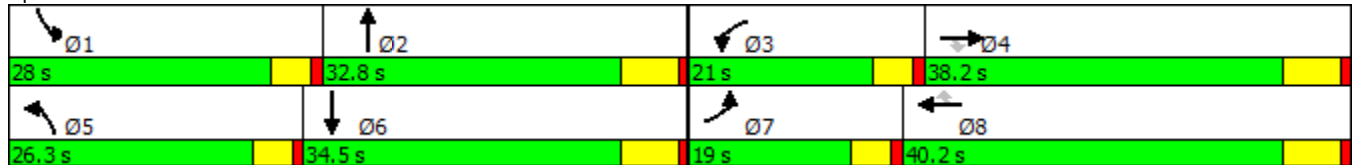


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑	↘	↑↑↑
Traffic Volume (vph)	162	624	229	182	390	118	219	607	264	720
Future Volume (vph)	162	624	229	182	390	118	219	607	264	720
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	19.0	38.2	38.2	21.0	40.2	40.2	26.3	32.8	28.0	34.5
Total Split (%)	15.8%	31.8%	31.8%	17.5%	33.5%	33.5%	21.9%	27.3%	23.3%	28.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 110
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 17: Archibald Av. & Riverside Dr.



HCM 2010 Signalized Intersection Summary
 17: Archibald Av. & Riverside Dr.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	624	229	182	390	118	219	607	133	264	720	188
Future Volume (veh/h)	162	624	229	182	390	118	219	607	133	264	720	188
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	172	664	172	194	415	70	233	646	124	281	766	128
Adj No. of Lanes	1	2	1	1	2	1	1	3	0	1	3	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	198	870	380	220	917	409	260	918	174	307	1061	176
Arrive On Green	0.12	0.25	0.25	0.14	0.27	0.27	0.16	0.22	0.22	0.19	0.25	0.25
Sat Flow, veh/h	1619	3420	1493	1619	3420	1525	1619	4145	784	1619	4234	701
Grp Volume(v), veh/h	172	664	172	194	415	70	233	509	261	281	591	303
Grp Sat Flow(s),veh/h/ln	1619	1710	1493	1619	1710	1525	1619	1638	1653	1619	1638	1659
Q Serve(g_s), s	11.4	19.5	10.6	12.8	11.0	3.8	15.4	15.6	15.9	18.5	18.0	18.2
Cycle Q Clear(g_c), s	11.4	19.5	10.6	12.8	11.0	3.8	15.4	15.6	15.9	18.5	18.0	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.42
Lane Grp Cap(c), veh/h	198	870	380	220	917	409	260	725	366	307	821	415
V/C Ratio(X)	0.87	0.76	0.45	0.88	0.45	0.17	0.90	0.70	0.71	0.92	0.72	0.73
Avail Cap(c_a), veh/h	214	1006	439	244	1069	476	323	801	404	348	852	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	37.5	34.2	46.1	33.2	30.5	44.8	39.0	39.2	43.2	37.3	37.4
Incr Delay (d2), s/veh	26.5	3.0	0.8	25.5	0.3	0.2	20.4	2.4	5.3	24.7	2.9	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	9.6	4.4	7.3	5.2	1.6	8.3	7.3	7.8	10.4	8.5	9.0
LnGrp Delay(d),s/veh	73.4	40.6	35.0	71.7	33.5	30.7	65.1	41.5	44.5	68.0	40.2	43.3
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1008			679			1003			1175	
Approach Delay, s/veh		45.2			44.1			47.8			47.6	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	30.3	19.4	33.9	22.1	33.5	17.9	35.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	23.4	26.6	16.4	32.0	21.7	28.3	14.4	34.0				
Max Q Clear Time (g_c+I1), s	20.5	17.9	14.8	21.5	17.4	20.2	13.4	13.0				
Green Ext Time (p_c), s	0.1	5.7	0.0	5.2	0.1	5.4	0.0	7.5				
Intersection Summary												
HCM 2010 Ctrl Delay			46.4									
HCM 2010 LOS			D									

Timings
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↘	↘	↗	↗	↘	↗↗↘	↘	↗↗
Traffic Volume (vph)	95	96	16	15	79	30	787	86	872
Future Volume (vph)	95	96	16	15	79	30	787	86	872
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	9.8	22.8	9.6	22.6	22.6	9.6	23.0	9.6	23.0
Total Split (%)	15.1%	35.1%	14.8%	34.8%	34.8%	14.8%	35.4%	14.8%	35.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

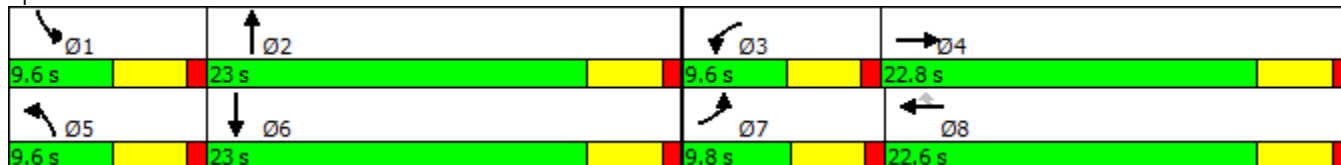
Cycle Length: 65

Actuated Cycle Length: 47.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated






















Splits and Phases: 18: Archibald Av. & Chino Av.



HCM 2010 Signalized Intersection Summary
18: Archibald Av. & Chino Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

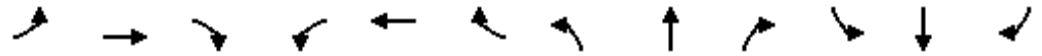
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	96	42	16	15	79	30	787	30	86	872	21
Future Volume (veh/h)	95	96	42	16	15	79	30	787	30	86	872	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	97	98	40	16	15	20	31	803	26	88	890	21
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	127	194	79	33	183	155	58	1621	52	121	1265	30
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.04	0.33	0.33	0.07	0.37	0.37
Sat Flow, veh/h	1619	1216	496	1619	1800	1530	1619	4886	158	1619	3415	81
Grp Volume(v), veh/h	97	0	138	16	15	20	31	538	291	88	446	465
Grp Sat Flow(s),veh/h/ln	1619	0	1712	1619	1800	1530	1619	1638	1768	1619	1710	1785
Q Serve(g_s), s	2.6	0.0	3.3	0.4	0.3	0.5	0.8	5.8	5.9	2.4	9.9	9.9
Cycle Q Clear(g_c), s	2.6	0.0	3.3	0.4	0.3	0.5	0.8	5.8	5.9	2.4	9.9	9.9
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.09	1.00		0.05
Lane Grp Cap(c), veh/h	127	0	274	33	183	155	58	1087	586	121	634	661
V/C Ratio(X)	0.76	0.00	0.50	0.49	0.08	0.13	0.54	0.49	0.50	0.73	0.70	0.70
Avail Cap(c_a), veh/h	189	0	701	182	728	619	182	1355	731	182	707	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	17.1	21.6	18.1	18.2	21.1	11.9	11.9	20.1	11.9	11.9
Incr Delay (d2), s/veh	9.8	0.0	1.4	10.9	0.2	0.4	7.5	0.4	0.7	8.1	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.6	0.3	0.2	0.2	0.5	2.7	2.9	1.3	5.1	5.3
LnGrp Delay(d),s/veh	29.9	0.0	18.5	32.5	18.3	18.6	28.5	12.2	12.5	28.3	14.7	14.6
LnGrp LOS	C		B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		235			51			860			999	
Approach Delay, s/veh		23.2			22.9			12.9			15.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	19.4	5.5	11.7	6.2	21.1	8.1	9.1				
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6				
Max Green Setting (Gmax), s	5.0	18.4	5.0	18.2	5.0	18.4	5.2	18.0				
Max Q Clear Time (g_c+I1), s	4.4	7.9	2.4	5.3	2.8	11.9	4.6	2.5				
Green Ext Time (p_c), s	0.0	6.6	0.0	0.6	0.0	4.6	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

Timings

Colony Commerce Center East SP (JN 10522)

20: Archibald Av. & Edison Av./Ontario Ranch Rd.

11/06/2017

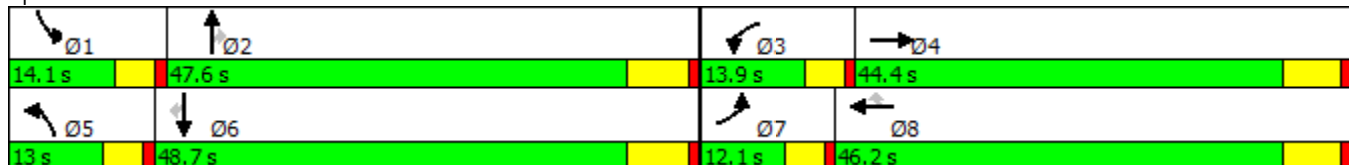


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	109	50	105	250	153	37	63	724	256	37	842	40
Future Volume (vph)	109	50	105	250	153	37	63	724	256	37	842	40
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5	39.5	9.6	46.5	46.5
Total Split (s)	12.1	44.4		13.9	46.2	46.2	13.0	47.6	47.6	14.1	48.7	48.7
Total Split (%)	10.1%	37.0%		11.6%	38.5%	38.5%	10.8%	39.7%	39.7%	11.8%	40.6%	40.6%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min

























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 75.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 20: Archibald Av. & Edison Av./Ontario Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	50	105	250	153	37	63	724	256	37	842	40
Future Volume (veh/h)	109	50	105	250	153	37	63	724	256	37	842	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	110	51	0	253	155	17	64	731	0	37	851	31
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	185	482	216	330	342	291	82	1373	614	59	1325	593
Arrive On Green	0.06	0.14	0.00	0.11	0.19	0.19	0.05	0.40	0.00	0.04	0.39	0.39
Sat Flow, veh/h	2956	3420	1530	2956	1800	1530	1619	3420	1530	1619	3420	1530
Grp Volume(v), veh/h	110	51	0	253	155	17	64	731	0	37	851	31
Grp Sat Flow(s),veh/h/ln	1478	1710	1530	1478	1800	1530	1619	1710	1530	1619	1710	1530
Q Serve(g_s), s	2.6	0.9	0.0	5.9	5.4	0.6	2.8	11.5	0.0	1.6	14.4	0.9
Cycle Q Clear(g_c), s	2.6	0.9	0.0	5.9	5.4	0.6	2.8	11.5	0.0	1.6	14.4	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	482	216	330	342	291	82	1373	614	59	1325	593
V/C Ratio(X)	0.60	0.11	0.00	0.77	0.45	0.06	0.78	0.53	0.00	0.63	0.64	0.05
Avail Cap(c_a), veh/h	313	1846	826	388	1017	865	192	1986	888	217	2039	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	26.5	0.0	30.5	25.4	23.5	33.2	16.1	0.0	33.6	17.7	13.6
Incr Delay (d2), s/veh	1.1	0.1	0.0	6.1	0.9	0.1	6.0	0.3	0.0	4.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.0	2.7	2.8	0.3	1.4	5.4	0.0	0.8	6.8	0.4
LnGrp Delay(d),s/veh	33.5	26.6	0.0	36.6	26.3	23.6	39.2	16.5	0.0	37.6	18.2	13.6
LnGrp LOS	C	C		D	C	C	D	B		D	B	B
Approach Vol, veh/h		161			425			795			919	
Approach Delay, s/veh		31.3			32.3			18.3			18.8	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	34.9	12.5	16.2	8.2	33.9	9.0	19.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.5	41.1	9.3	38.2	8.4	42.2	7.5	40.0				
Max Q Clear Time (g_c+I1), s	3.6	13.5	7.9	2.9	4.8	16.4	4.6	7.4				
Green Ext Time (p_c), s	0.0	11.4	0.1	1.1	0.0	11.1	0.0	1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			22.0									
HCM 2010 LOS			C									

Timings
21: Archibald Av. & Eucalyptus Av.

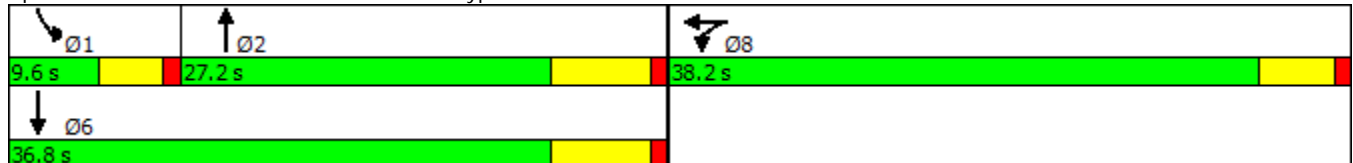


Lane Group	WBT	NBT	SBL	SBT
Lane Configurations	↕	↕	↗	↕
Traffic Volume (vph)	0	1029	47	1157
Future Volume (vph)	0	1029	47	1157
Turn Type	NA	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	38.2	23.5	9.6	16.5
Total Split (s)	38.2	27.2	9.6	36.8
Total Split (%)	50.9%	36.3%	12.8%	49.1%
Yellow Time (s)	4.2	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	6.5	4.6	6.5
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min

Intersection Summary

Cycle Length: 75
 Actuated Cycle Length: 52.8
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 21: Archibald Av. & Eucalyptus Av.



HCM 2010 Signalized Intersection Summary
 21: Archibald Av. & Eucalyptus Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	3	0	22	0	1029	32	47	1157	0
Future Volume (veh/h)	0	0	0	3	0	22	0	1029	32	47	1157	0
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1700	1800	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				3	0	10	0	1118	33	51	1258	0
Adj No. of Lanes				0	1	0	0	2	0	1	2	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				12	0	41	0	1672	49	88	2276	0
Arrive On Green				0.03	0.00	0.03	0.00	0.49	0.49	0.05	0.67	0.00
Sat Flow, veh/h				362	0	1207	0	3482	100	1619	3510	0
Grp Volume(v), veh/h				13	0	0	0	563	588	51	1258	0
Grp Sat Flow(s),veh/h/ln				1569	0	0	0	1710	1782	1619	1710	0
Q Serve(g_s), s				0.3	0.0	0.0	0.0	9.7	9.7	1.2	7.6	0.0
Cycle Q Clear(g_c), s				0.3	0.0	0.0	0.0	9.7	9.7	1.2	7.6	0.0
Prop In Lane				0.23		0.77	0.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h				53	0	0	0	843	878	88	2276	0
V/C Ratio(X)				0.25	0.00	0.00	0.00	0.67	0.67	0.58	0.55	0.00
Avail Cap(c_a), veh/h				1331	0	0	0	910	949	208	2664	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				18.3	0.0	0.0	0.0	7.5	7.5	18.0	3.4	0.0
Incr Delay (d2), s/veh				2.4	0.0	0.0	0.0	1.7	1.7	2.2	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.0	0.0	4.9	5.1	0.6	3.6	0.0
LnGrp Delay(d),s/veh				20.7	0.0	0.0	0.0	9.2	9.1	20.2	3.7	0.0
LnGrp LOS				C				A	A	C	A	
Approach Vol, veh/h					13			1151			1309	
Approach Delay, s/veh					20.7			9.1			4.3	
Approach LOS					C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.7	25.7				32.4		6.5				
Change Period (Y+Rc), s	4.6	6.5				6.5		5.2				
Max Green Setting (Gmax), s	5.0	20.7				30.3		33.0				
Max Q Clear Time (g_c+I1), s	3.2	11.7				9.6		2.3				
Green Ext Time (p_c), s	0.0	7.5				14.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				6.6								
HCM 2010 LOS				A								

Timings

Colony Commerce Center East SP (JN 10522)

22: Archibald Av. & Merrill Av.

11/06/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	364	31	382	53	11	47	114	642	27	22	993	134
Future Volume (vph)	364	31	382	53	11	47	114	642	27	22	993	134
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	16.4	54.9	54.9	10.7	49.2	49.2	11.0	44.8	44.8	9.6	43.4	43.4
Total Split (%)	13.7%	45.8%	45.8%	8.9%	41.0%	41.0%	9.2%	37.3%	37.3%	8.0%	36.2%	36.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

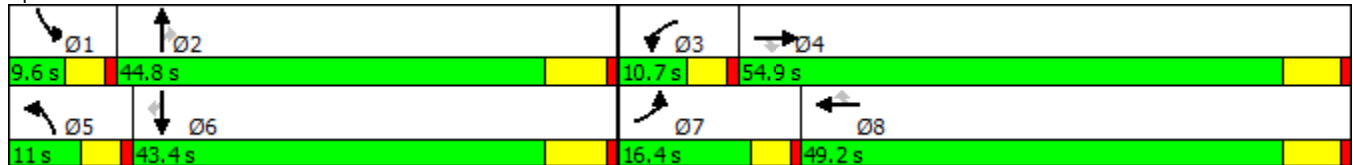
Cycle Length: 120

Actuated Cycle Length: 91.4

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

























Splits and Phases: 22: Archibald Av. & Merrill Av.



HCM 2010 Signalized Intersection Summary
 22: Archibald Av. & Merrill Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	364	31	382	53	11	47	114	642	27	22	993	134
Future Volume (veh/h)	364	31	382	53	11	47	114	642	27	22	993	134
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	379	32	233	55	11	7	119	669	14	23	1034	129
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	398	338	70	218	186	126	1521	680	73	1340	600
Arrive On Green	0.14	0.22	0.22	0.04	0.12	0.12	0.08	0.44	0.44	0.02	0.39	0.39
Sat Flow, veh/h	1619	1800	1530	1619	1800	1530	1619	3420	1530	2956	3420	1530
Grp Volume(v), veh/h	379	32	233	55	11	7	119	669	14	23	1034	129
Grp Sat Flow(s),veh/h/ln	1619	1800	1530	1619	1800	1530	1619	1710	1530	1478	1710	1530
Q Serve(g_s), s	11.8	1.2	11.5	2.8	0.4	0.3	6.0	11.1	0.4	0.6	21.7	4.6
Cycle Q Clear(g_c), s	11.8	1.2	11.5	2.8	0.4	0.3	6.0	11.1	0.4	0.6	21.7	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	398	338	70	218	186	126	1521	680	73	1340	600
V/C Ratio(X)	1.63	0.08	0.69	0.78	0.05	0.04	0.95	0.44	0.02	0.31	0.77	0.22
Avail Cap(c_a), veh/h	232	1064	904	120	940	799	126	1590	711	179	1532	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	25.4	29.5	39.0	32.0	31.9	37.8	15.8	12.8	39.5	21.8	16.6
Incr Delay (d2), s/veh	304.2	0.1	2.5	6.9	0.1	0.1	62.9	0.2	0.0	0.9	2.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.8	0.6	5.1	1.4	0.2	0.1	4.9	5.2	0.2	0.3	10.6	2.0
LnGrp Delay(d),s/veh	339.5	25.5	32.0	45.9	32.1	32.0	100.8	16.0	12.8	40.4	24.0	16.8
LnGrp LOS	F	C	C	D	C	C	F	B	B	D	C	B
Approach Vol, veh/h		644			73			802			1186	
Approach Delay, s/veh		212.6			42.5			28.5			23.5	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	43.1	8.2	24.4	11.0	38.8	16.4	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	38.3	6.1	48.7	6.4	36.9	11.8	43.0				
Max Q Clear Time (g_c+I1), s	2.6	13.1	4.8	13.5	8.0	23.7	13.8	2.4				
Green Ext Time (p_c), s	0.0	12.9	0.0	1.0	0.0	8.6	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			70.5									
HCM 2010 LOS			E									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑↑	↑↑	
Traffic Vol, veh/h	0	29	0	783	1334	18
Future Vol, veh/h	0	29	0	783	1334	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	32	0	851	1450	20

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	735	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	367	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	367	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	367	-	-
HCM Lane V/C Ratio	-	0.086	-	-
HCM Control Delay (s)	-	15.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Timings
24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	88	0	50	0	39	663	22	1325	17
Future Volume (vph)	88	0	50	0	39	663	22	1325	17
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.6	9.6	35.6	9.6	28.2	9.6	28.2	28.2
Total Split (s)	15.4	36.4	14.6	35.6	10.1	58.1	10.9	58.9	58.9
Total Split (%)	12.8%	30.3%	12.2%	29.7%	8.4%	48.4%	9.1%	49.1%	49.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 24: Archibald Av. & Driveway 4

10.9 s	58.1 s	14.6 s	36.4 s
10.1 s	58.9 s	15.4 s	35.6 s

HCM 2010 Signalized Intersection Summary
 24: Archibald Av. & Driveway 4

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	0	42	50	0	32	39	663	150	22	1325	17
Future Volume (veh/h)	88	0	42	50	0	32	39	663	150	22	1325	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	96	0	46	54	0	35	42	721	163	24	1440	18
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	0	185	70	0	138	61	1564	354	42	1889	845
Arrive On Green	0.07	0.00	0.12	0.04	0.00	0.09	0.04	0.56	0.56	0.03	0.55	0.55
Sat Flow, veh/h	1619	0	1530	1619	0	1530	1619	2773	627	1619	3420	1530
Grp Volume(v), veh/h	96	0	46	54	0	35	42	445	439	24	1440	18
Grp Sat Flow(s),veh/h/ln	1619	0	1530	1619	0	1530	1619	1710	1689	1619	1710	1530
Q Serve(g_s), s	4.7	0.0	2.2	2.7	0.0	1.7	2.1	12.4	12.5	1.2	26.5	0.4
Cycle Q Clear(g_c), s	4.7	0.0	2.2	2.7	0.0	1.7	2.1	12.4	12.5	1.2	26.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	120	0	185	70	0	138	61	965	953	42	1889	845
V/C Ratio(X)	0.80	0.00	0.25	0.77	0.00	0.25	0.69	0.46	0.46	0.58	0.76	0.02
Avail Cap(c_a), veh/h	215	0	598	199	0	583	110	1092	1078	125	2217	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	32.4	38.5	0.0	34.5	38.6	10.4	10.4	39.2	14.1	8.2
Incr Delay (d2), s/veh	11.4	0.0	0.7	16.0	0.0	1.0	12.9	0.3	0.3	11.9	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.0	1.5	0.0	0.8	1.2	5.9	5.8	0.7	12.8	0.2
LnGrp Delay(d),s/veh	48.5	0.0	33.1	54.5	0.0	35.4	51.5	10.8	10.8	51.1	15.4	8.3
LnGrp LOS	D		C	D		D	D	B	B	D	B	A
Approach Vol, veh/h		142			89			926			1482	
Approach Delay, s/veh		43.5			47.0			12.6			15.9	
Approach LOS		D			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	52.1	8.1	14.4	7.7	51.1	10.6	11.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	4.6	4.6	6.2	4.6	4.6				
Max Green Setting (Gmax), s	6.3	51.9	10.0	31.8	5.5	52.7	10.8	31.0				
Max Q Clear Time (g_c+I1), s	3.2	14.5	4.7	4.2	4.1	28.5	6.7	3.7				
Green Ext Time (p_c), s	0.0	21.6	0.0	0.4	0.0	16.4	0.1	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖↖	↖↖	↗
Traffic Vol, veh/h	0	29	0	852	1407	10
Future Vol, veh/h	0	29	0	852	1407	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	32	0	926	1529	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	765	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.9	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.3	- -
Pot Cap-1 Maneuver	0	350	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	350	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	350	-	-
HCM Lane V/C Ratio	-	0.09	-	-
HCM Control Delay (s)	-	16.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Timings
26: Archibald Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

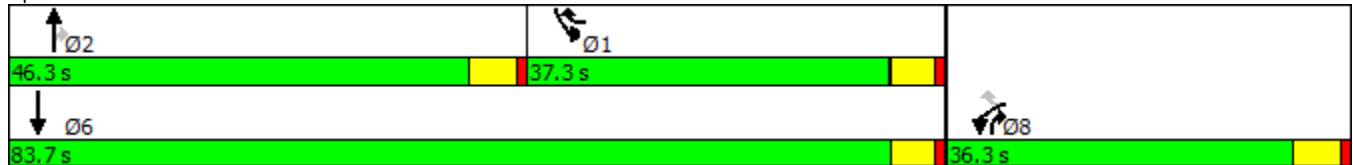














Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↑	↷	↶	↑
Traffic Volume (vph)	347	245	596	382	643	764
Future Volume (vph)	347	245	596	382	643	764
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.3	46.3	36.3	37.3	83.7
Total Split (%)	30.3%	31.1%	38.6%	30.3%	31.1%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.6
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Archibald Av. & Limonite Av.



								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	347	245	596	382	643	764		
Future Volume (veh/h)	347	245	596	382	643	764		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	390	233	670	429	722	858		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	419	825	674	946	505	1291		
Arrive On Green	0.23	0.23	0.35	0.35	0.28	0.68		
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900		
Grp Volume(v), veh/h	390	233	670	429	722	858		
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900		
Q Serve(g_s), s	24.4	0.0	40.7	17.3	32.3	30.5		
Cycle Q Clear(g_c), s	24.4	0.0	40.7	17.3	32.3	30.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	419	825	674	946	505	1291		
V/C Ratio(X)	0.93	0.28	0.99	0.45	1.43	0.66		
Avail Cap(c_a), veh/h	485	884	674	946	505	1293		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.6	16.2	37.2	13.5	41.7	10.8		
Incr Delay (d2), s/veh	21.9	0.1	33.3	0.4	204.1	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.8	4.2	27.4	12.1	44.7	16.1		
LnGrp Delay(d),s/veh	65.4	16.3	70.5	13.9	245.8	11.9		
LnGrp LOS	E	B	E	B	F	B		
Approach Vol, veh/h	623		1099			1580		
Approach Delay, s/veh	47.0		48.4			118.8		
Approach LOS	D		D			F		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	37.3	46.3				83.6		32.1
Change Period (Y+Rc), s	5.0	5.3				5.0		5.3
Max Green Setting (Gmax), s	32.3	41.0				78.7		31.0
Max Q Clear Time (g_c+I1), s	34.3	42.7				32.5		26.4
Green Ext Time (p_c), s	0.0	0.0				7.5		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			81.8					
HCM 2010 LOS			F					

Timings

Colony Commerce Center East SP (JN 10522)

27: Archibald Av. & Schleisman Rd.

11/06/2017

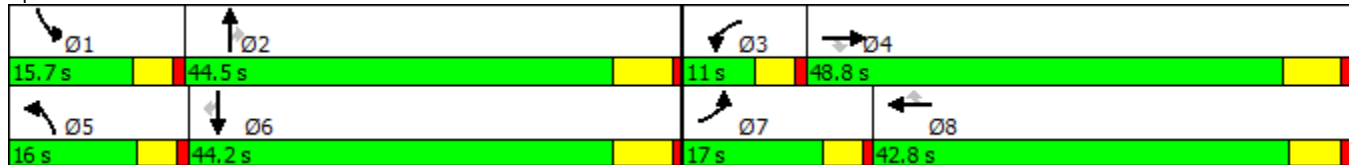


























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	231	1075	464	103	319	38	221	457	103	174	629	359
Future Volume (vph)	231	1075	464	103	319	38	221	457	103	174	629	359
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.2	43.2	9.6	42.8	42.8	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	48.8	48.8	11.0	42.8	42.8	16.0	44.5	44.5	15.7	44.2	44.2
Total Split (%)	14.2%	40.7%	40.7%	9.2%	35.7%	35.7%	13.3%	37.1%	37.1%	13.1%	36.8%	36.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Archibald Av. & Schleisman Rd.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	1075	464	103	319	38	221	457	103	174	629	359
Future Volume (veh/h)	231	1075	464	103	319	38	221	457	103	174	629	359
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	246	1144	407	110	339	35	235	486	75	185	669	245
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	320	1888	575	176	1674	515	308	1470	448	258	1395	424
Arrive On Green	0.09	0.36	0.36	0.05	0.32	0.32	0.09	0.28	0.28	0.07	0.27	0.27
Sat Flow, veh/h	3510	5187	1579	3510	5187	1595	3510	5187	1580	3510	5187	1578
Grp Volume(v), veh/h	246	1144	407	110	339	35	235	486	75	185	669	245
Grp Sat Flow(s),veh/h/ln	1755	1729	1579	1755	1729	1595	1755	1729	1580	1755	1729	1578
Q Serve(g_s), s	6.5	17.0	20.8	2.9	4.5	1.4	6.2	7.0	3.4	4.9	10.2	12.7
Cycle Q Clear(g_c), s	6.5	17.0	20.8	2.9	4.5	1.4	6.2	7.0	3.4	4.9	10.2	12.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1888	575	176	1674	515	308	1470	448	258	1395	424
V/C Ratio(X)	0.77	0.61	0.71	0.63	0.20	0.07	0.76	0.33	0.17	0.72	0.48	0.58
Avail Cap(c_a), veh/h	462	2345	714	238	2036	626	425	2108	642	413	2091	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	24.5	25.7	43.9	23.1	22.1	42.0	26.7	25.4	42.7	28.9	29.8
Incr Delay (d2), s/veh	2.5	0.3	2.4	1.4	0.1	0.1	3.2	0.1	0.2	1.4	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.1	9.4	1.4	2.1	0.6	3.1	3.3	1.5	2.4	4.9	5.7
LnGrp Delay(d),s/veh	44.4	24.8	28.1	45.3	23.2	22.2	45.3	26.8	25.6	44.1	29.2	31.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1797			484			796			1099	
Approach Delay, s/veh		28.2			28.1			32.2			32.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	32.9	9.3	40.5	12.9	31.5	13.2	36.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	* 6.2				
Max Green Setting (Gmax), s	11.1	38.3	6.4	42.6	11.4	38.0	12.4	* 37				
Max Q Clear Time (g_c+I1), s	6.9	9.0	4.9	22.8	8.2	14.7	8.5	6.5				
Green Ext Time (p_c), s	0.1	9.6	0.0	11.1	0.1	8.8	0.2	14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			30.0									
HCM 2010 LOS			C									
Notes												

Timings
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

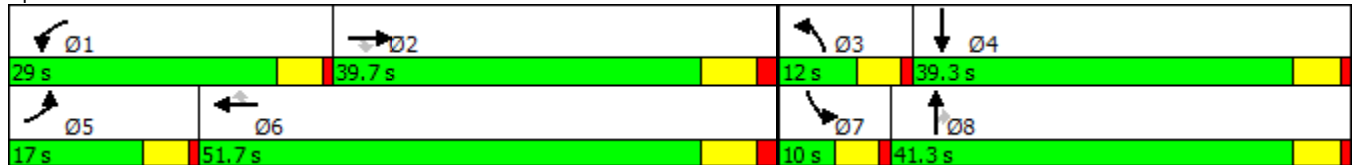


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗	↙	↑↑	↗	↙	↑	↗	↙	↗
Traffic Volume (vph)	76	904	44	201	527	9	39	46	151	12	25
Future Volume (vph)	76	904	44	201	527	9	39	46	151	12	25
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Minimum Split (s)	10.0	29.0	29.0	10.0	29.0	29.0	10.0	39.3	39.3	10.0	39.3
Total Split (s)	17.0	39.7	39.7	29.0	51.7	51.7	12.0	41.3	41.3	10.0	39.3
Total Split (%)	14.2%	33.1%	33.1%	24.2%	43.1%	43.1%	10.0%	34.4%	34.4%	8.3%	32.8%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	4.3	4.3	4.0	4.3
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.3	5.3	5.0	5.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 28: Harrison Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
28: Harrison Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	904	44	201	527	9	39	46	151	12	25	27
Future Volume (veh/h)	76	904	44	201	527	9	39	46	151	12	25	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	84	1004	48	223	586	10	43	51	139	13	28	23
Adj No. of Lanes	1	3	1	1	2	1	1	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	110	1838	560	272	1602	717	76	246	206	29	100	82
Arrive On Green	0.06	0.35	0.35	0.15	0.44	0.44	0.04	0.13	0.13	0.02	0.10	0.10
Sat Flow, veh/h	1810	5187	1581	1810	3610	1615	1810	1900	1590	1810	959	788
Grp Volume(v), veh/h	84	1004	48	223	586	10	43	51	139	13	0	51
Grp Sat Flow(s),veh/h/ln	1810	1729	1581	1810	1805	1615	1810	1900	1590	1810	0	1748
Q Serve(g_s), s	2.9	9.9	1.3	7.6	6.9	0.2	1.5	1.5	5.3	0.5	0.0	1.7
Cycle Q Clear(g_c), s	2.9	9.9	1.3	7.6	6.9	0.2	1.5	1.5	5.3	0.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	110	1838	560	272	1602	717	76	246	206	29	0	181
V/C Ratio(X)	0.76	0.55	0.09	0.82	0.37	0.01	0.57	0.21	0.68	0.45	0.00	0.28
Avail Cap(c_a), veh/h	341	2662	811	681	2532	1133	199	1073	898	142	0	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	16.5	13.7	26.2	11.8	9.9	30.0	24.8	26.5	31.1	0.0	26.4
Incr Delay (d2), s/veh	4.1	0.3	0.1	2.4	0.1	0.0	2.5	0.4	3.8	3.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.7	0.6	4.0	3.4	0.1	0.8	0.8	2.6	0.3	0.0	0.9
LnGrp Delay(d),s/veh	33.6	16.7	13.8	28.6	11.9	9.9	32.4	25.2	30.3	35.0	0.0	27.2
LnGrp LOS	C	B	B	C	B	A	C	C	C	C		C
Approach Vol, veh/h		1136			819			233			64	
Approach Delay, s/veh		17.8			16.4			29.6			28.8	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	29.6	7.7	11.9	8.9	35.3	6.0	13.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	5.3	5.0	7.0	5.0	5.3				
Max Green Setting (Gmax), s	24.0	32.7	7.0	34.0	12.0	44.7	5.0	36.0				
Max Q Clear Time (g_c+I1), s	9.6	11.9	3.5	3.7	4.9	8.9	2.5	7.3				
Green Ext Time (p_c), s	0.1	10.7	0.0	0.9	0.0	13.7	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			18.9									
HCM 2010 LOS			B									

Timings
29: Sumner Av. & Limonite Av.

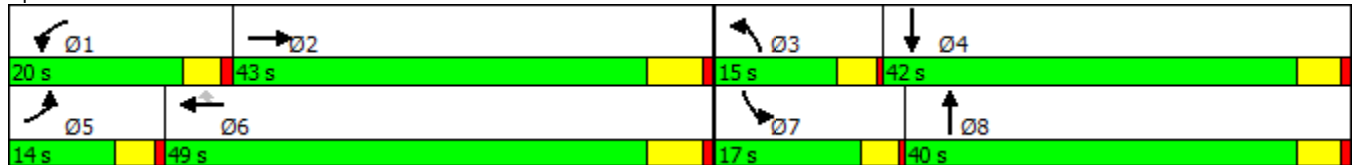


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↶↶	↶↶↷	↶↶	↶↶↶	↷	↶	↶↷	↶	↶↷
Traffic Volume (vph)	86	869	192	592	50	49	71	70	125
Future Volume (vph)	86	869	192	592	50	49	71	70	125
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0
Minimum Split (s)	9.5	32.0	9.5	29.0	29.0	9.5	38.0	9.5	38.0
Total Split (s)	14.0	43.0	20.0	49.0	49.0	15.0	40.0	17.0	42.0
Total Split (%)	11.7%	35.8%	16.7%	40.8%	40.8%	12.5%	33.3%	14.2%	35.0%
Yellow Time (s)	3.5	5.0	3.5	5.0	5.0	3.5	4.0	3.5	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.5	1.0	0.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	6.0	6.0	4.0	5.0	4.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 65.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 29: Sumner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 29: Sumner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	869	60	192	592	50	49	71	156	70	125	67
Future Volume (veh/h)	86	869	60	192	592	50	49	71	156	70	125	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	896	56	198	610	31	51	73	87	72	129	42
Adj No. of Lanes	2	3	0	2	3	1	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1897	118	312	2153	670	71	235	208	92	381	119
Arrive On Green	0.05	0.38	0.38	0.09	0.42	0.42	0.04	0.13	0.13	0.05	0.14	0.14
Sat Flow, veh/h	3510	4991	311	3510	5187	1614	1810	1805	1604	1810	2695	842
Grp Volume(v), veh/h	89	620	332	198	610	31	51	73	87	72	85	86
Grp Sat Flow(s),veh/h/ln	1755	1729	1845	1755	1729	1614	1810	1805	1604	1810	1805	1732
Q Serve(g_s), s	1.4	7.5	7.6	3.0	4.3	0.6	1.6	2.0	2.8	2.2	2.3	2.5
Cycle Q Clear(g_c), s	1.4	7.5	7.6	3.0	4.3	0.6	1.6	2.0	2.8	2.2	2.3	2.5
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	189	1314	701	312	2153	670	71	235	208	92	256	245
V/C Ratio(X)	0.47	0.47	0.47	0.63	0.28	0.05	0.72	0.31	0.42	0.78	0.33	0.35
Avail Cap(c_a), veh/h	599	2299	1226	978	4008	1247	358	1135	1009	423	1200	1151
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	13.0	13.0	24.5	10.8	9.7	26.4	22.0	22.3	26.1	21.5	21.6
Incr Delay (d2), s/veh	0.7	0.3	0.5	0.8	0.1	0.0	5.0	0.6	1.0	5.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	3.9	1.5	2.0	0.3	0.9	1.1	1.3	1.2	1.2	1.2
LnGrp Delay(d),s/veh	26.2	13.3	13.5	25.3	10.9	9.7	31.4	22.5	23.3	31.5	22.1	22.2
LnGrp LOS	C	B	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1041			839			211			243	
Approach Delay, s/veh		14.5			14.2			25.0			24.9	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	27.1	6.2	12.9	7.5	29.1	6.8	12.2				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	15.5	37.0	11.0	37.0	9.5	43.0	13.0	35.0				
Max Q Clear Time (g_c+I1), s	5.0	9.6	3.6	4.5	3.4	6.3	4.2	4.8				
Green Ext Time (p_c), s	0.2	11.5	0.0	1.4	0.0	12.7	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.4								
HCM 2010 LOS				B								

Timings
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

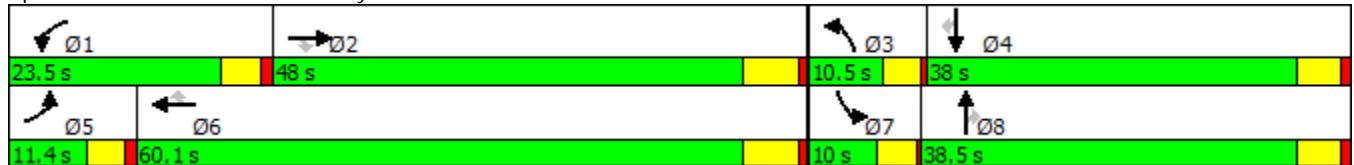


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖	↖	↗	↖	↖	↗↗	↖
Traffic Volume (vph)	40	1017	48	162	824	35	34	26	140	26	72	15
Future Volume (vph)	40	1017	48	162	824	35	34	26	140	26	72	15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Minimum Split (s)	9.5	32.0	32.0	9.5	29.0	29.0	9.5	38.0	38.0	9.5	38.0	38.0
Total Split (s)	11.4	48.0	48.0	23.5	60.1	60.1	10.5	38.5	38.5	10.0	38.0	38.0
Total Split (%)	9.5%	40.0%	40.0%	19.6%	50.1%	50.1%	8.8%	32.1%	32.1%	8.3%	31.7%	31.7%
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.5	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 30: Scholar Wy. & Limonite Av.



HCM 2010 Signalized Intersection Summary
30: Scholar Wy. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

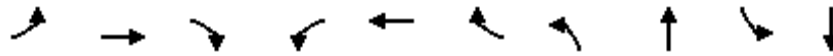
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1017	48	162	824	35	34	26	140	26	72	15
Future Volume (veh/h)	40	1017	48	162	824	35	34	26	140	26	72	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	1038	47	165	841	36	35	27	95	27	73	12
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	58	1681	741	207	1979	865	52	196	166	43	355	156
Arrive On Green	0.03	0.47	0.47	0.11	0.55	0.55	0.03	0.10	0.10	0.02	0.10	0.10
Sat Flow, veh/h	1810	3610	1592	1810	3610	1577	1810	1900	1610	1810	3610	1587
Grp Volume(v), veh/h	41	1038	47	165	841	36	35	27	95	27	73	12
Grp Sat Flow(s),veh/h/ln	1810	1805	1592	1810	1805	1577	1810	1900	1610	1810	1805	1587
Q Serve(g_s), s	1.5	14.4	1.1	5.9	9.1	0.7	1.3	0.9	3.7	1.0	1.2	0.5
Cycle Q Clear(g_c), s	1.5	14.4	1.1	5.9	9.1	0.7	1.3	0.9	3.7	1.0	1.2	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	1681	741	207	1979	865	52	196	166	43	355	156
V/C Ratio(X)	0.71	0.62	0.06	0.80	0.42	0.04	0.68	0.14	0.57	0.63	0.21	0.08
Avail Cap(c_a), veh/h	188	2277	1004	516	2933	1282	177	956	810	163	1789	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	13.3	9.8	28.7	8.9	7.0	32.0	27.1	28.4	32.2	27.6	27.3
Incr Delay (d2), s/veh	5.8	0.4	0.0	2.6	0.1	0.0	5.6	0.2	2.3	5.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	7.2	0.5	3.1	4.5	0.3	0.7	0.5	1.8	0.6	0.6	0.2
LnGrp Delay(d),s/veh	37.7	13.7	9.8	31.4	9.0	7.0	37.6	27.4	30.7	37.8	27.8	27.4
LnGrp LOS	D	B	A	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		1126			1042			157			112	
Approach Delay, s/veh		14.4			12.5			31.7			30.2	
Approach LOS		B			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	37.0	5.9	11.5	6.6	42.5	5.6	11.9				
Change Period (Y+Rc), s	4.5	6.0	4.0	5.0	4.5	6.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	42.0	6.5	33.0	6.9	54.1	6.0	33.5				
Max Q Clear Time (g_c+I1), s	7.9	16.4	3.3	3.2	3.5	11.1	3.0	5.7				
Green Ext Time (p_c), s	0.1	14.6	0.0	0.7	0.0	18.9	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

Timings

31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

11/06/2017

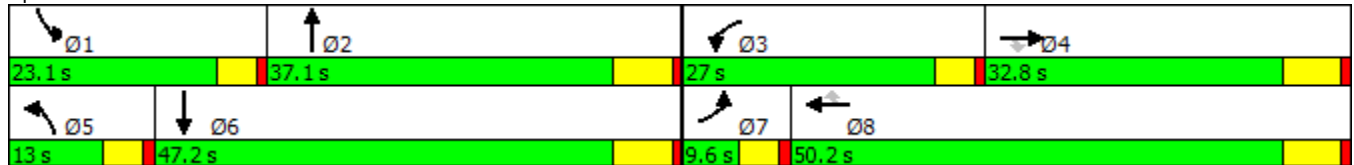


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	453	226	305	293	128	106	224	250	405
Future Volume (vph)	30	453	226	305	293	128	106	224	250	405
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	35.2	9.6	46.2
Total Split (s)	9.6	32.8	32.8	27.0	50.2	50.2	13.0	37.1	23.1	47.2
Total Split (%)	8.0%	27.3%	27.3%	22.5%	41.8%	41.8%	10.8%	30.9%	19.3%	39.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min























Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.3
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 31: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	453	226	305	293	128	106	224	156	250	405	32
Future Volume (veh/h)	30	453	226	305	293	128	106	224	156	250	405	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	477	102	321	308	66	112	236	155	263	426	29
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	429	356	344	737	627	129	262	172	284	581	40
Arrive On Green	0.03	0.23	0.23	0.19	0.39	0.39	0.07	0.24	0.24	0.16	0.33	0.33
Sat Flow, veh/h	1810	1900	1580	1810	1900	1615	1810	1072	704	1810	1759	120
Grp Volume(v), veh/h	32	477	102	321	308	66	112	0	391	263	0	455
Grp Sat Flow(s),veh/h/ln	1810	1900	1580	1810	1900	1615	1810	0	1776	1810	0	1878
Q Serve(g_s), s	2.1	26.6	6.3	20.6	14.0	3.1	7.2	0.0	25.2	16.9	0.0	25.3
Cycle Q Clear(g_c), s	2.1	26.6	6.3	20.6	14.0	3.1	7.2	0.0	25.2	16.9	0.0	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.06
Lane Grp Cap(c), veh/h	50	429	356	344	737	627	129	0	434	284	0	620
V/C Ratio(X)	0.64	1.11	0.29	0.93	0.42	0.11	0.87	0.00	0.90	0.93	0.00	0.73
Avail Cap(c_a), veh/h	77	429	356	344	737	627	129	0	465	284	0	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	45.7	37.8	47.0	26.4	23.0	54.2	0.0	43.2	49.0	0.0	34.9
Incr Delay (d2), s/veh	5.0	77.9	0.4	31.6	0.4	0.1	41.3	0.0	19.6	34.1	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	23.2	2.8	13.4	7.3	1.4	5.1	0.0	14.7	11.2	0.0	13.7
LnGrp Delay(d),s/veh	61.8	123.6	38.2	78.6	26.7	23.1	95.6	0.0	62.7	83.1	0.0	39.0
LnGrp LOS	E	F	D	E	C	C	F		E	F		D
Approach Vol, veh/h		611			695			503			718	
Approach Delay, s/veh		106.1			50.3			70.0			55.1	
Approach LOS		F			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.1	35.0	27.0	32.8	13.0	45.1	7.8	52.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	18.5	30.9	22.4	26.6	8.4	41.0	5.0	44.0				
Max Q Clear Time (g_c+I1), s	18.9	27.2	22.6	28.6	9.2	27.3	4.1	16.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	4.0	0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			69.1									
HCM 2010 LOS			E									

Timings
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

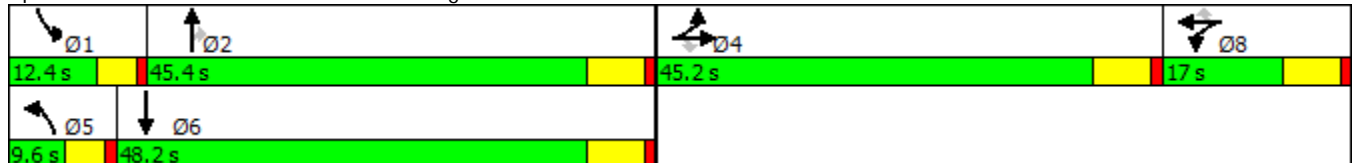


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	92	90	22	225	123	57	6	336	203	95	625
Future Volume (vph)	92	90	22	225	123	57	6	336	203	95	625
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	4	4		8	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	45.2	45.2	45.2	16.2	16.2	16.2	9.6	43.2	43.2	9.6	45.2
Total Split (s)	45.2	45.2	45.2	17.0	17.0	17.0	9.6	45.4	45.4	12.4	48.2
Total Split (%)	37.7%	37.7%	37.7%	14.2%	14.2%	14.2%	8.0%	37.8%	37.8%	10.3%	40.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 32: Hamner Av. & Bellegrave Av.



HCM 2010 Signalized Intersection Summary
32: Hamner Av. & Bellegrave Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	90	22	225	123	57	6	336	203	95	625	216
Future Volume (veh/h)	92	90	22	225	123	57	6	336	203	95	625	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	94	12	234	128	19	6	350	165	99	651	211
Adj No. of Lanes	1	2	1	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	414	185	226	237	201	14	803	683	127	667	216
Arrive On Green	0.11	0.11	0.11	0.12	0.12	0.12	0.01	0.42	0.42	0.07	0.49	0.49
Sat Flow, veh/h	1810	3610	1615	1810	1900	1615	1810	1900	1615	1810	1375	446
Grp Volume(v), veh/h	96	94	12	234	128	19	6	350	165	99	0	862
Grp Sat Flow(s),veh/h/ln	1810	1805	1615	1810	1900	1615	1810	1900	1615	1810	0	1821
Q Serve(g_s), s	4.3	2.0	0.6	10.8	5.5	0.9	0.3	11.3	5.7	4.7	0.0	40.1
Cycle Q Clear(g_c), s	4.3	2.0	0.6	10.8	5.5	0.9	0.3	11.3	5.7	4.7	0.0	40.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	207	414	185	226	237	201	14	803	683	127	0	883
V/C Ratio(X)	0.46	0.23	0.06	1.04	0.54	0.09	0.43	0.44	0.24	0.78	0.00	0.98
Avail Cap(c_a), veh/h	815	1626	727	226	237	201	104	860	731	163	0	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	34.9	34.2	37.9	35.6	33.6	42.8	17.7	16.1	39.6	0.0	21.8
Incr Delay (d2), s/veh	1.6	0.3	0.1	69.9	2.5	0.2	7.5	0.4	0.2	12.6	0.0	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.0	0.3	9.7	3.0	0.4	0.2	6.0	2.6	2.8	0.0	25.9
LnGrp Delay(d),s/veh	37.5	35.1	34.3	107.8	38.0	33.8	50.2	18.1	16.2	52.2	0.0	46.3
LnGrp LOS	D	D	C	F	D	C	D	B	B	D		D
Approach Vol, veh/h		202			381			521			961	
Approach Delay, s/veh		36.2			80.7			17.9			46.9	
Approach LOS		D			F			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	42.8		16.1	5.3	48.2		17.0				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		6.2				
Max Green Setting (Gmax), s	7.8	39.2		39.0	5.0	42.0		10.8				
Max Q Clear Time (g_c+I1), s	6.7	13.3		6.3	2.3	42.1		12.8				
Green Ext Time (p_c), s	0.0	9.4		0.8	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.7									
HCM 2010 LOS			D									

Timings
33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

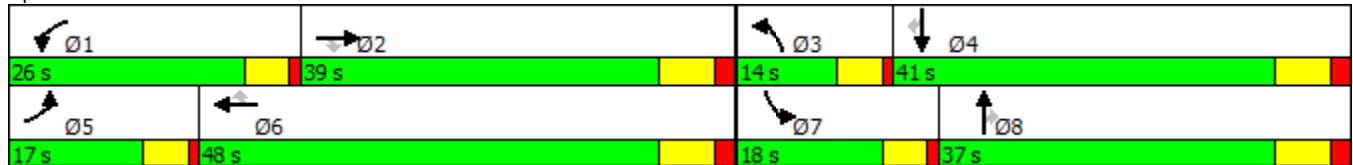


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	214	858	69	428	718	191	143	329	253	224	430	161
Future Volume (vph)	214	858	69	428	718	191	143	329	253	224	430	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	15.0	5.0	6.0	6.0	5.0	6.0	6.0
Minimum Split (s)	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0	10.0	37.0	37.0
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	14.0	37.0	37.0	18.0	41.0	41.0
Total Split (%)	14.2%	32.5%	32.5%	21.7%	40.0%	40.0%	11.7%	30.8%	30.8%	15.0%	34.2%	34.2%
Yellow Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.8
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 33: Hamner Av. & Limonite Av.



HCM 2010 Signalized Intersection Summary
 33: Hamner Av. & Limonite Av.

Colony Commerce Center East SP (JN 10522)

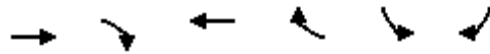
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	858	69	428	718	191	143	329	253	224	430	161
Future Volume (veh/h)	214	858	69	428	718	191	143	329	253	224	430	161
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	218	876	51	437	733	126	146	336	181	229	439	123
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	287	1552	472	509	1310	584	211	1194	361	298	920	411
Arrive On Green	0.08	0.30	0.30	0.15	0.36	0.36	0.06	0.23	0.23	0.08	0.25	0.25
Sat Flow, veh/h	3510	5187	1577	3510	3610	1611	3510	5187	1570	3510	3610	1611
Grp Volume(v), veh/h	218	876	51	437	733	126	146	336	181	229	439	123
Grp Sat Flow(s),veh/h/ln	1755	1729	1577	1755	1805	1611	1755	1729	1570	1755	1805	1611
Q Serve(g_s), s	6.1	14.2	2.3	12.1	16.2	5.4	4.1	5.3	10.0	6.4	10.3	6.1
Cycle Q Clear(g_c), s	6.1	14.2	2.3	12.1	16.2	5.4	4.1	5.3	10.0	6.4	10.3	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	1552	472	509	1310	584	211	1194	361	298	920	411
V/C Ratio(X)	0.76	0.56	0.11	0.86	0.56	0.22	0.69	0.28	0.50	0.77	0.48	0.30
Avail Cap(c_a), veh/h	422	1664	506	739	1483	662	317	1560	472	457	1230	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	29.5	25.3	41.6	25.4	22.0	46.0	31.6	33.4	44.7	31.5	30.0
Incr Delay (d2), s/veh	2.2	0.7	0.2	4.9	0.8	0.4	1.5	0.3	2.3	1.6	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.9	1.0	6.2	8.2	2.5	2.0	2.6	4.5	3.2	5.2	2.8
LnGrp Delay(d),s/veh	47.0	30.2	25.5	46.6	26.2	22.4	47.5	31.9	35.7	46.3	32.4	30.8
LnGrp LOS	D	C	C	D	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1145			1296			663			791	
Approach Delay, s/veh		33.2			32.7			36.4			36.2	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	36.9	11.0	32.4	13.1	43.2	13.5	30.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	5.0	7.0				
Max Green Setting (Gmax), s	21.0	32.0	9.0	34.0	12.0	41.0	13.0	30.0				
Max Q Clear Time (g_c+I1), s	14.1	16.2	6.1	12.3	8.1	18.2	8.4	12.0				
Green Ext Time (p_c), s	0.4	13.2	0.0	10.8	0.1	18.0	0.1	9.7				
Intersection Summary												
HCM 2010 Ctrl Delay			34.2									
HCM 2010 LOS			C									

Timings

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

11/06/2017



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑↑	↑
Traffic Volume (vph)	523	156	246	181	482	512
Future Volume (vph)	523	156	246	181	482	512
Turn Type	NA	Free	NA	Free	Prot	Perm
Protected Phases	2		6		7	
Permitted Phases		Free		Free		4
Detector Phase	2		6		7	4
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5
Total Split (s)	21.0		21.0		39.0	39.0
Total Split (%)	35.0%		35.0%		65.0%	65.0%
Yellow Time (s)	5.8		5.8		3.6	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		Min		None	Min

Intersection Summary

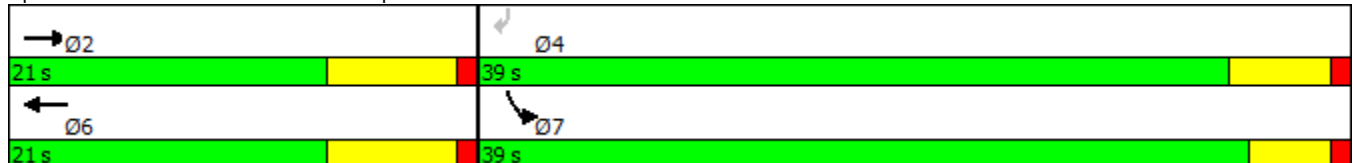
Cycle Length: 60

Actuated Cycle Length: 36.9













Natural Cycle: 40

Control Type: Actuated-Uncoordinated

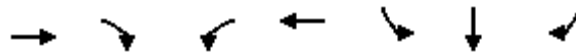
Splits and Phases: 34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 34: I-15 SB Ramps & Cantu Galleano Ranch Rd. 11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑↑		↑
Traffic Volume (veh/h)	0	523	156	0	246	181	0	0	0	482	0	512
Future Volume (veh/h)	0	523	156	0	246	181	0	0	0	482	0	512
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	0	1900
Adj Flow Rate, veh/h	0	568	0	0	267	0				524	0	411
Adj No. of Lanes	0	3	1	0	2	1				2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1346	419	0	936	419				1341	0	617
Arrive On Green	0.00	0.26	0.00	0.00	0.26	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	5358	1615	0	3705	1615				3510	0	1615
Grp Volume(v), veh/h	0	568	0	0	267	0				524	0	411
Grp Sat Flow(s),veh/h/ln	0	1729	1615	0	1805	1615				1755	0	1615
Q Serve(g_s), s	0.0	2.9	0.0	0.0	1.9	0.0				3.4	0.0	6.7
Cycle Q Clear(g_c), s	0.0	2.9	0.0	0.0	1.9	0.0				3.4	0.0	6.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1346	419	0	936	419				1341	0	617
V/C Ratio(X)	0.00	0.42	0.00	0.00	0.29	0.00				0.39	0.00	0.67
Avail Cap(c_a), veh/h	0	2317	721	0	1613	721				3799	0	1748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	0.0	0.0	9.4	0.0				7.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0				0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	0.0	0.0	0.9	0.0				1.6	0.0	3.2
LnGrp Delay(d),s/veh	0.0	10.0	0.0	0.0	9.6	0.0				7.3	0.0	9.4
LnGrp LOS		B			A					A		A
Approach Vol, veh/h		568			267						935	
Approach Delay, s/veh		10.0			9.6						8.2	
Approach LOS		B			A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		16.7		15.0						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		14.2		34.4		14.2						
Max Q Clear Time (g_c+I1), s		4.9		8.7		3.9						
Green Ext Time (p_c), s		3.4		3.4		3.6						
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									

Timings
35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔	↑
Traffic Volume (vph)	1243	457	429	1002	200	0	620
Future Volume (vph)	1243	457	429	1002	200	0	620
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.0	36.5	23.5	23.5	23.5
Total Split (s)	55.0	55.0	23.0	78.0	32.0	32.0	32.0
Total Split (%)	50.0%	50.0%	20.9%	70.9%	29.1%	29.1%	29.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	0.5	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min	Min

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 50 (45%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated













Splits and Phases: 35: I-15 SB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 35: I-15 SB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

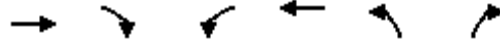
11/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1243	457	429	1002	0	0	0	0	200	0	620
Future Volume (veh/h)	0	1243	457	429	1002	0	0	0	0	200	0	620
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1281	471	442	1033	0				137	0	626
Adj No. of Lanes	0	2	1	2	2	0				1	0	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1805	808	509	2476	0				387	0	691
Arrive On Green	0.00	0.50	0.50	0.10	0.46	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1615	3510	3705	0				1810	0	3230
Grp Volume(v), veh/h	0	1281	471	442	1033	0				137	0	626
Grp Sat Flow(s),veh/h/ln	0	1805	1615	1755	1805	0				1810	0	1615
Q Serve(g_s), s	0.0	30.2	22.6	13.7	21.0	0.0				7.1	0.0	20.8
Cycle Q Clear(g_c), s	0.0	30.2	22.6	13.7	21.0	0.0				7.1	0.0	20.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1805	808	509	2476	0				387	0	691
V/C Ratio(X)	0.00	0.71	0.58	0.87	0.42	0.00				0.35	0.00	0.91
Avail Cap(c_a), veh/h	0	1805	808	590	2476	0				436	0	778
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	0.61	0.61	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.3	19.4	48.6	15.0	0.0				36.8	0.0	42.1
Incr Delay (d2), s/veh	0.0	1.9	2.4	6.9	0.3	0.0				0.2	0.0	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.4	10.6	7.1	10.6	0.0				3.6	0.0	10.5
LnGrp Delay(d),s/veh	0.0	23.2	21.8	55.5	15.3	0.0				37.0	0.0	54.5
LnGrp LOS		C	C	E	B					D		D
Approach Vol, veh/h		1752			1475						763	
Approach Delay, s/veh		22.8			27.4						51.4	
Approach LOS		C			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.4	60.5		29.0		81.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	18.5	49.5		26.5		72.5						
Max Q Clear Time (g_c+I1), s	15.7	32.2		22.8		23.0						
Green Ext Time (p_c), s	0.3	11.1		0.8		18.4						
Intersection Summary												
HCM 2010 Ctrl Delay			30.0									
HCM 2010 LOS			C									
Notes												

Timings

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.

11/06/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑
Traffic Volume (vph)	483	522	291	262	164	120
Future Volume (vph)	483	522	291	262	164	120
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	34.0	12.0	14.0	48.0	12.0	12.0
Total Split (%)	56.7%	20.0%	23.3%	80.0%	20.0%	20.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 2010 Signalized Intersection Summary Colony Commerce Center East SP (JN 10522)
 36: I-15 NB Ramps & Cantu Galleano Ranch Rd. 11/06/2017

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↑	↑	↘↙	↑↑↑	↘↙	↑		
Traffic Volume (veh/h)	483	522	291	262	164	120		
Future Volume (veh/h)	483	522	291	262	164	120		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	503	418	303	273	171	75		
Adj No. of Lanes	3	1	2	3	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	2389	905	413	3519	362	161		
Arrive On Green	0.46	0.46	0.12	0.68	0.10	0.10		
Sat Flow, veh/h	5358	1615	3510	5358	3619	1615		
Grp Volume(v), veh/h	503	418	303	273	171	75		
Grp Sat Flow(s),veh/h/ln	1729	1615	1755	1729	1810	1615		
Q Serve(g_s), s	3.5	9.2	5.0	1.1	2.7	2.6		
Cycle Q Clear(g_c), s	3.5	9.2	5.0	1.1	2.7	2.6		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2389	905	413	3519	362	161		
V/C Ratio(X)	0.21	0.46	0.73	0.08	0.47	0.46		
Avail Cap(c_a), veh/h	2389	905	468	3519	362	161		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.7	7.8	25.6	3.3	25.5	25.5		
Incr Delay (d2), s/veh	0.2	1.6	5.1	0.0	4.4	9.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	5.4	2.7	0.5	1.5	1.6		
LnGrp Delay(d),s/veh	9.9	9.4	30.7	3.3	29.9	34.8		
LnGrp LOS	A	A	C	A	C	C		
Approach Vol, veh/h	921			576	246			
Approach Delay, s/veh	9.6			17.7	31.4			
Approach LOS	A			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.1	34.9				48.0		12.0
Change Period (Y+Rc), s	6.0	7.3				7.3		6.0
Max Green Setting (Gmax), s	8.0	26.7				40.7		6.0
Max Q Clear Time (g_c+I1), s	7.0	11.2				3.1		4.7
Green Ext Time (p_c), s	0.1	5.6				7.1		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			15.4					
HCM 2010 LOS			B					
Notes								

Timings
37: I-15 NB Ramps & Limonite Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	528	915	1020	168	410	1	652
Future Volume (vph)	528	915	1020	168	410	1	652
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	34.5	34.5	10.5	10.5	10.5
Total Split (s)	26.0	72.0	46.0	46.0	38.0	38.0	38.0
Total Split (%)	23.6%	65.5%	41.8%	41.8%	34.5%	34.5%	34.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated




















Splits and Phases: 37: I-15 NB Ramps & Limonite Av.



HCM 2010 Signalized Intersection Summary
 37: I-15 NB Ramps & Limonite Av.

Colony Commerce Center East SP (JN 10522)

11/06/2017

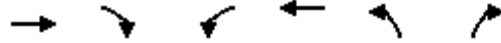
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	528	915	0	0	1020	168	410	1	652	0	0	0
Future Volume (veh/h)	528	915	0	0	1020	168	410	1	652	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	533	924	0	0	1030	141	549	0	283			
Adj No. of Lanes	2	2	0	0	2	1	2	0	1			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	594	2495	0	0	1737	767	756	0	337			
Arrive On Green	0.34	1.00	0.00	0.00	0.48	0.48	0.21	0.00	0.21			
Sat Flow, veh/h	3510	3705	0	0	3705	1594	3619	0	1613			
Grp Volume(v), veh/h	533	924	0	0	1030	141	549	0	283			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1594	1810	0	1613			
Q Serve(g_s), s	15.9	0.0	0.0	0.0	22.8	5.5	15.6	0.0	18.5			
Cycle Q Clear(g_c), s	15.9	0.0	0.0	0.0	22.8	5.5	15.6	0.0	18.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	594	2495	0	0	1737	767	756	0	337			
V/C Ratio(X)	0.90	0.37	0.00	0.00	0.59	0.18	0.73	0.00	0.84			
Avail Cap(c_a), veh/h	686	2495	0	0	1737	767	1069	0	476			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.5	0.0	0.0	0.0	20.7	16.2	40.6	0.0	41.8			
Incr Delay (d2), s/veh	9.8	0.3	0.0	0.0	1.5	0.5	1.5	0.0	9.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.4	0.1	0.0	0.0	11.7	2.5	7.9	0.0	9.1			
LnGrp Delay(d),s/veh	45.3	0.3	0.0	0.0	22.2	16.8	42.1	0.0	50.8			
LnGrp LOS	D	A			C	B	D		D			
Approach Vol, veh/h		1457			1171			832				
Approach Delay, s/veh		16.8			21.6			45.0				
Approach LOS		B			C			D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		81.5			23.1	58.4		28.5				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.5				
Max Green Setting (Gmax), s		66.5			21.5	40.5		32.5				
Max Q Clear Time (g_c+I1), s		2.0			17.9	24.8		20.5				
Green Ext Time (p_c), s		12.4			0.7	8.2		2.5				
Intersection Summary												
HCM 2010 Ctrl Delay				25.2								
HCM 2010 LOS				C								
Notes												

ATTACHMENT B
PEAK HOUR FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)

Colony Commerce Center East SP (JN 10522)

11/06/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	507	303	581	996	73	716
v/c Ratio	0.39	0.40	0.94	0.38	0.15	0.92
Control Delay	27.6	8.1	54.8	4.6	35.7	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	8.1	54.8	4.6	35.7	22.8
Queue Length 50th (ft)	171	64	332	90	21	34
Queue Length 95th (ft)	m230	m133	#556	147	38	#259
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1290	766	648	2653	679	835
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.40	0.90	0.38	0.11	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	841	423	227	66	320	154	153	38
v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.57	0.53	0.09
Control Delay	31.3	713.9	13.3	109.6	20.9	44.3	42.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	713.9	13.3	109.6	20.9	44.3	42.3	0.4
Queue Length 50th (ft)	217	-460	32	43	0	98	97	0
Queue Length 95th (ft)	#438	#648	60	#121	#133	129	128	0
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	1279	169	1761	80	404	521	557	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	2.50	0.13	0.82	0.79	0.30	0.27	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	387	542	629	1402	681
v/c Ratio	0.88	1.16	0.99	0.47	0.60
Control Delay	55.8	120.0	59.8	17.8	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	120.0	59.8	17.8	29.9
Queue Length 50th (ft)	212	~321	281	217	85
Queue Length 95th (ft)	#375	#522	m#569	305	110
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	468	637	3013	1861
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	1.16	0.99	0.47	0.37

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	429	417	1969	133	694
v/c Ratio	0.83	0.71	0.81	0.66	0.25
Control Delay	43.5	21.1	28.3	41.9	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	21.1	28.3	41.9	21.0
Queue Length 50th (ft)	219	107	284	82	131
Queue Length 95th (ft)	322	206	#416	m120	m163
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	594	649	2439	269	2801
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.64	0.81	0.49	0.25

Intersection Summary

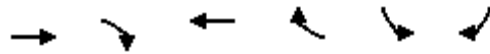
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	596	168	431	67	385	542
v/c Ratio	0.26	0.10	0.27	0.04	0.29	0.80
Control Delay	12.9	0.1	11.2	0.0	12.6	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	0.1	11.2	0.0	12.6	20.8
Queue Length 50th (ft)	48	0	52	0	47	121
Queue Length 95th (ft)	90	0	115	m0	55	174
Internal Link Dist (ft)	1944		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2254	1615	1568	1615	1832	895
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.27	0.04	0.21	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



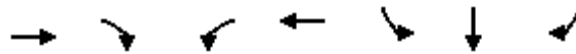
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	434	568	409	308	257	117
v/c Ratio	0.20	0.54	0.78	0.09	0.67	0.46
Control Delay	8.8	10.1	37.0	3.4	30.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	10.1	37.0	3.4	30.9	12.8
Queue Length 50th (ft)	27	80	74	10	38	0
Queue Length 95th (ft)	35	102	#135	17	#80	45
Internal Link Dist (ft)	848		1857		1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2221	1059	525	3518	386	252
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.54	0.78	0.09	0.67	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1229	502	734	678	157	245	245
v/c Ratio	0.68	0.49	0.90	0.24	0.71	0.63	0.60
Control Delay	24.5	4.8	36.4	2.6	63.4	15.2	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	4.8	36.4	2.6	63.4	15.2	11.8
Queue Length 50th (ft)	352	21	175	18	113	13	0
Queue Length 95th (ft)	453	93	#342	63	182	95	74
Internal Link Dist (ft)	2381			680	968		
Turn Bay Length (ft)				200	400		
Base Capacity (vph)	1795	1016	853	2785	280	432	455
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.49	0.86	0.24	0.56	0.57	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

37: I-15 NB Ramps & Limonite Av.

11/06/2017

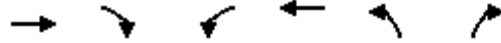


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	826	591	1163	393	217	206	202
v/c Ratio	0.88	0.22	0.74	0.43	0.82	0.60	0.50
Control Delay	32.0	3.1	30.3	3.9	68.8	23.6	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	3.1	30.3	3.9	68.8	23.6	10.2
Queue Length 50th (ft)	269	53	373	2	154	50	0
Queue Length 95th (ft)	267	32	461	60	#272	135	67
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	1002	2688	1570	912	288	364	426
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.22	0.74	0.43	0.75	0.57	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
5: SR-71 NB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	771	177	300	804	153	1130
v/c Ratio	0.69	0.29	1.30	0.48	0.11	1.33
Control Delay	36.3	10.9	201.3	17.9	17.6	175.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	10.9	201.3	17.9	17.6	175.7
Queue Length 50th (ft)	281	46	~246	171	29	~806
Queue Length 95th (ft)	m338	m64	#412	222	49	#1059
Internal Link Dist (ft)	703			8289	1936	
Turn Bay Length (ft)			300			420
Base Capacity (vph)	1111	616	230	1692	1409	852
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.29	1.30	0.48	0.11	1.33

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Shady View Dr./SR-71 SB Ramps & Euclid Av. (SR-83)



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	348	109	218	32	17	461	474	169
v/c Ratio	0.35	0.76	0.15	0.37	0.08	0.90	0.86	0.27
Control Delay	29.0	70.0	12.0	58.6	0.7	54.4	47.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	70.0	12.0	58.6	0.7	54.4	47.8	4.8
Queue Length 50th (ft)	92	-67	41	20	0	282	284	0
Queue Length 95th (ft)	134	#179	58	51	0	#468	#458	43
Internal Link Dist (ft)	1125		336				1515	
Turn Bay Length (ft)		200				1000		255
Base Capacity (vph)	986	144	1420	86	226	544	587	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.76	0.15	0.37	0.08	0.85	0.81	0.26

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
14: Archibald Av. & SR-60 WB Ramps



Lane Group	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	389	201	452	541	1575
v/c Ratio	0.90	0.38	1.04	0.18	0.84
Control Delay	58.9	6.3	104.8	22.0	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	6.3	104.8	22.0	32.5
Queue Length 50th (ft)	213	0	~292	104	228
Queue Length 95th (ft)	#378	52	#482	141	275
Internal Link Dist (ft)	1312			410	836
Turn Bay Length (ft)		250			
Base Capacity (vph)	438	540	433	3034	1871
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.37	1.04	0.18	0.84

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
15: Archibald Av. & SR-60 EB Ramps



Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	122	453	1391	294	1238
v/c Ratio	0.24	0.88	0.86dr	0.87	0.44
Control Delay	23.6	43.2	25.9	44.8	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	43.2	25.9	44.8	19.3
Queue Length 50th (ft)	50	195	177	183	242
Queue Length 95th (ft)	89	#344	218	m#263	m286
Internal Link Dist (ft)	1366		1202		410
Turn Bay Length (ft)					
Base Capacity (vph)	595	583	1955	339	2808
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.78	0.71	0.87	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

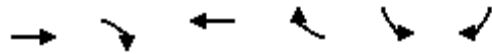
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Queues

Colony Commerce Center East SP (JN 10522)

34: I-15 SB Ramps & Cantu Galleano Ranch Rd.

11/06/2017

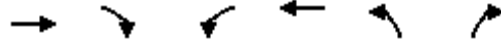


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	568	170	267	197	524	557
v/c Ratio	0.40	0.11	0.27	0.12	0.37	0.73
Control Delay	12.9	0.1	12.7	0.2	8.3	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	0.1	12.7	0.2	8.3	11.5
Queue Length 50th (ft)	31	0	20	0	34	43
Queue Length 95th (ft)	77	0	58	0	67	131
Internal Link Dist (ft)	1946		848			
Turn Bay Length (ft)					620	470
Base Capacity (vph)	2110	1615	1468	1615	3131	1453
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.11	0.18	0.12	0.17	0.38

Intersection Summary

Queues

36: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	503	544	303	273	204	92
v/c Ratio	0.22	0.50	0.66	0.08	0.55	0.40
Control Delay	10.5	6.3	32.4	3.3	27.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	6.3	32.4	3.3	27.7	12.6
Queue Length 50th (ft)	38	69	54	9	31	0
Queue Length 95th (ft)	57	126	#91	16	59	39
Internal Link Dist (ft)	848			1850	1896	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2315	1095	466	3518	373	229
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.50	0.65	0.08	0.55	0.40

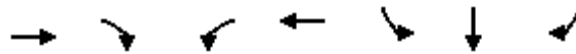
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

35: I-15 SB Ramps & Limonite Av.

11/06/2017



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1281	471	442	1033	185	334	326
v/c Ratio	0.68	0.44	0.82	0.40	0.59	0.87	0.83
Control Delay	23.5	3.5	49.1	1.6	47.7	48.0	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	3.5	49.1	1.6	47.7	48.0	42.2
Queue Length 50th (ft)	356	5	115	3	125	151	136
Queue Length 95th (ft)	486	63	187	27	191	262	238
Internal Link Dist (ft)	2381			680		968	
Turn Bay Length (ft)				200		400	
Base Capacity (vph)	1884	1061	588	2588	413	460	473
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.44	0.75	0.40	0.45	0.73	0.69

Intersection Summary

Queues

37: I-15 NB Ramps & Limonite Av.

11/06/2017



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	533	924	1030	170	373	352	349
v/c Ratio	0.83	0.40	0.70	0.23	0.82	0.71	0.69
Control Delay	41.0	20.0	31.0	4.4	53.4	29.0	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	20.0	31.0	4.4	53.4	29.0	27.8
Queue Length 50th (ft)	195	321	334	0	250	140	131
Queue Length 95th (ft)	259	378	416	44	369	257	240
Internal Link Dist (ft)		680	1069			1143	
Turn Bay Length (ft)	235				450		400
Base Capacity (vph)	687	2294	1480	754	506	537	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.40	0.70	0.23	0.74	0.66	0.64

Intersection Summary

ATTACHMENT C
BASIC FREEWAY ANALYSIS WORKSHEETS

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	4089	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	2256	Design LOS	
S	57.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	39.5	S	mph
LOS	E	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4241	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			16
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.926
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1660	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.5	x f _p)	
S	mph	S	mph
D = v _p / S	24.6	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5562	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1542	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	68.6	x f _p)	
D = v _p / S	22.5	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5690	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			4
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.980
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1262	Design LOS	
S	70.0	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	18.0	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6772	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1914	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.1	x f _p)	
S	mph	S	mph
D = v _p / S	29.9	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6522	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			8
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.962
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1843	Design LOS	
S	65.2	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	28.3	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5939	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1670	Design LOS	
S	67.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	24.8	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5349	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
x f _p)	2006	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.5	x f _p)	pc/h/ln
D = v _p / S	32.1	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5879	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
2205	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	58.3	x f _p)	
mph		S	
D = v _p / S	37.8	mph	
pc/mi/ln		D = v _p / S	
LOS	E	pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6082	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	5	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1335	Design LOS	
S	69.8	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	19.1	S	mph
LOS	C	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5030	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			1
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	1832	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	65.4	x f _p)	
D = v _p / S	28.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	
<input type="checkbox"/> Planning Data			
Flow Inputs			
Volume, V	3302	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			%RVs, P _R
DDHV = AADT x K x D		veh/h	General Terrain: Level
			Grade % Length mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)] 0.990	
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	2	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1813	Design LOS	
S	65.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.6	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-71 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Euclid
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4371	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			12
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.943
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1679	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.3	x f _p)	
D = v _p / S	24.9	S	
LOS	C	D = v _p / S	
		pc/mi/ln	
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Westbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5464	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			3
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.985
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1507	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	68.9	x f _p)	
S	mph	S	mph
D = v _p / S	21.9	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	West of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6297	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1754	Design LOS	
S	66.4	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	26.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	SR-60 Eastbound
Agency or Company	Urban Crossroads, Inc.	From/To	East of Archibald Av.
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	6519	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			5
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.976
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1816	Design LOS	
S	65.6	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.7	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	N of Cantu Galleano
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5956	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			6
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.971
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	4	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1667	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	67.5	x f _p)	
S	mph	S	mph
D = v _p / S	24.7	D = v _p / S	pc/mi/ln
pc/mi/ln		Required Number of Lanes, N	
LOS	C		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5339	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})	2002	Design LOS	
x f _p)		v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.5	x f _p)	
D = v _p / S	32.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5380	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			7
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.966
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
x f _p)	2017	v _p = (V or DDHV) / (PHF x N x f _{HV})	pc/h/ln
S	62.3	x f _p)	pc/h/ln
D = v _p / S	32.4	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	Cantu to Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	4866	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	1781	Design LOS	
S	66.1	v _p = (V or DDHV) / (PHF x N x f _{HV} x f _p)	pc/h/ln
D = v _p / S	27.0	S	mph
LOS	D	D = v _p / S	pc/mi/ln
		Required Number of Lanes, N	
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET			
General Information		Site Information	
Analyst	CHS	Highway/Direction of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	From/To	S of Limonite
Date Performed	11/6/2017	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P
Project Description <i>Colony Commerce Center East Specific Plan (JN 10522)</i>			
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data
Flow Inputs			
Volume, V	5216	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	0.92
Peak-Hr Prop. of AADT, K			%Trucks and Buses, P _T
Peak-Hr Direction Prop, D			2
DDHV = AADT x K x D		veh/h	%RVs, P _R
			0
			General Terrain:
			Level
			Grade % Length
			mi
			Up/Down %
Calculate Flow Adjustments			
f _p	1.00	E _R	1.2
E _T	1.5	f _{HV} = 1/[1+P _T (E _T - 1) + P _R (E _R - 1)]	0.990
Speed Inputs		Calc Speed Adj and FFS	
Lane Width	ft		
Rt-Side Lat. Clearance	ft	f _{LW}	mph
Number of Lanes, N	3	f _{LC}	mph
Total Ramp Density, TRD	ramps/mi	TRD Adjustment	mph
FFS (measured)	70.0	FFS	70.0
Base free-flow Speed, BFFS	mph		mph
LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
v _p = (V or DDHV) / (PHF x N x f _{HV})		Design LOS	
1909	pc/h/ln	v _p = (V or DDHV) / (PHF x N x f _{HV})	
x f _p)		pc/h/ln	
S	64.2	x f _p)	
S	mph	S	mph
D = v _p / S	29.7	D = v _p / S	pc/mi/ln
D	pc/mi/ln	Required Number of Lanes, N	
LOS	D		
Glossary		Factor Location	
N - Number of lanes	S - Speed	E _R - Exhibits 11-10, 11-12	f _{LW} - Exhibit 11-8
V - Hourly volume	D - Density	E _T - Exhibits 11-10, 11-11, 11-13	f _{LC} - Exhibit 11-9
v _p - Flow rate	FFS - Free-flow speed	f _p - Page 11-18	TRD - Page 11-11
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v _p - Exhibits 11-2, 11-3	
DDHV - Directional design hour volume			

ATTACHMENT D
FREEWAY RAMP JUNCTION ANALYSIS WORKSHEETS

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-71 Southbound-Upstream					
Agency or Company	Urban Crossroads, Inc.		Junction	Loop On-ramp at Euclid					
Date Performed	11/6/2017		Jurisdiction	Caltrans					
Analysis Time Period	AM Peak Hour		Analysis Year	E+P					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2		Downstream Adj Ramp		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1		<input type="checkbox"/> Yes <input type="checkbox"/> On		
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A			475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = 1460 ft		Deceleration Lane Length L _D					L _{down} = ft		
V _u = 269 veh/h		Freeway Volume, V _F			3194		V _D = veh/h		
		Ramp Volume, V _R			374				
		Freeway Free-Flow Speed, S _{FF}			70.0				
		Ramp Free-Flow Speed, S _{FR}			25.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	374	0.92	Level	16	0	0.926	1.00	439	
UpStream	269	0.92	Level	11	0	0.948	1.00	308	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 1.000 using Equation (Exhibit 13-6) V ₁₂ = 3506 pc/h V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3945	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3945	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.499 (Exhibit 13-11)				D _S =	(Exhibit 13-12)			
S _R =	56.0 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	N/A mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	56.0 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		2		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A		475		<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D				L _{down} = 1200 ft				
V _u = veh/h	Freeway Volume, V _F		3194		V _D = 521 veh/h				
	Ramp Volume, V _R		374						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		25.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	3194	0.92	Level	2	0	0.990	1.00	3506	
Ramp	374	0.92	Level	16	0	0.926	1.00	439	
UpStream									
DownStream	521	0.92	Level	1	0	0.995	1.00	569	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 1.000 using Equation (Exhibit 13-6) V ₁₂ = 3506 pc/h V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3945	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3945	Exhibit 13-8		No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.499 (Exhibit 13-11)				D _S =	(Exhibit 13-12)			
S _R =	56.0 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	N/A mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	56.0 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off						
$L_{up} =$ ft	Ramp Number of Lanes, N	1	$L_{down} =$ 1500 ft						
$V_u =$ veh/h	Acceleration Lane Length, L_A		$V_D =$ 813 veh/h						
	Deceleration Lane Length L_D	0							
	Freeway Volume, V_F	4241							
	Ramp Volume, V_R	673							
	Freeway Free-Flow Speed, S_{FF}	70.0							
	Ramp Free-Flow Speed, S_{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4241	0.92	Level	16	0	0.926	1.00	4979	
Ramp	673	0.92	Level	11	0	0.948	1.00	772	
UpStream									
DownStream	813	0.92	Level	4	0	0.980	1.00	901	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$	(Equation 13-6 or 13-7)			$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 13-12 or 13-13)		
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.600	using Equation (Exhibit 13-7)		
$V_{12} =$	pc/h				$V_{12} =$	3296 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1683 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4979	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4207	Exhibit 13-8	7200	No
					V_R	772	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8			V_{12}	3296	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$ (pc/mi/ln)					$D_R =$ 32.6 (pc/mi/ln)				
LOS = (Exhibit 13-2)					LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
$M_S =$ (Exhibit 13-11)					$D_S =$ 0.367 (Exhibit 13-12)				
$S_R =$ mph (Exhibit 13-11)					$S_R =$ 59.7 mph (Exhibit 13-12)				
$S_0 =$ mph (Exhibit 13-11)					$S_0 =$ 74.1 mph (Exhibit 13-12)				
$S =$ mph (Exhibit 13-13)					$S =$ 63.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-60 Westbound					
Agency or Company	Urban Crossroads, Inc.		Junction	On-Ramp at Archibald					
Date Performed	11/6/2017		Jurisdiction	Caltrans					
Analysis Time Period	AM Peak Hour		Analysis Year	E+P					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Freeway Number of Lanes, N		4		Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
	Ramp Number of Lanes, N		1		L _{down} =		ft		
Acceleration Lane Length, L _A		750		Freeway Volume, V _F		4870		V _D =	
Deceleration Lane Length L _D				Ramp Volume, V _R		692		veh/h	
L _{up} = 1970 ft		Freeway Free-Flow Speed, S _{FF}		70.0					
V _u = 820 veh/h		Ramp Free-Flow Speed, S _{FR}		45.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4870	0.92	Level	3	0	0.985	1.00	5373	
Ramp	692	0.92	Level	8	0	0.962	1.00	782	
UpStream	820	0.92	Level	8	0	0.962	1.00	927	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.120 using Equation (Exhibit 13-6) V ₁₂ = 645 pc/h V ₃ or V _{av34} = 2364 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2149 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6155	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2931	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.3 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.327 (Exhibit 13-11) S _R = 60.9 mph (Exhibit 13-11) S ₀ = 66.0 mph (Exhibit 13-11) S = 63.4 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5690	L _{down} =	1970 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	820				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	0							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5690	0.92	Level	4	0	0.980	1.00	6308	
Ramp	820	0.92	Level	9	0	0.957	1.00	931	
UpStream									
DownStream	692	0.92	Level	7	0	0.966	1.00	778	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 2863 pc/h V ₃ or V _{av34} 1249 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5362	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	4431	Exhibit 13-8	9600	No
					V _R	931	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	2863	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 28.9 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.382 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	59.3 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	75.8 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	66.0 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N				4	Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N				1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A					<input type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft	Deceleration Lane Length L _D				200	L _{down} = 2060 ft			
V _u = veh/h	Freeway Volume, V _F				6772	V _D = 520 veh/h			
	Ramp Volume, V _R				770				
	Freeway Free-Flow Speed, S _{FF}				70.0				
	Ramp Free-Flow Speed, S _{FR}				45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6772	0.92	Level	8	0	0.962	1.00	7655	
Ramp	770	0.92	Level	10	0	0.952	1.00	879	
UpStream									
DownStream	520	0.92	Level	13	0	0.939	1.00	602	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3833 pc/h V ₃ or V _{av34} 1911 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7655	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	6776	Exhibit 13-8	9600	No
					V _R	879	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3833	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 35.4 (pc/mi/ln) LOS = E (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.377 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.4 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 73.2 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.6 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 770 veh/h	Freeway Volume, V _F = 6002				V _D = veh/h				
	Ramp Volume, V _R = 520								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6002	0.92	Level	7	0	0.966	1.00	6752	
Ramp	520	0.92	Level	13	0	0.939	1.00	602	
UpStream	770	0.92	Level	10	0	0.952	1.00	879	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = 0.143 using Equation (Exhibit 13-6) V ₁₂ = 962 pc/h V ₃ or V _{av34} = 2895 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2700 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	7354	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3302	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.9 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.354 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.1 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 64.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 62.4 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D		150		L _{down} = 1150 ft				
V _u = veh/h	Freeway Volume, V _F		5939		V _D = 35 veh/h				
	Ramp Volume, V _R		759						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5939	0.92	Level	7	0	0.966	1.00	6681	
Ramp	759	0.92	Level	13	0	0.939	1.00	879	
UpStream									
DownStream	35	0.92	Level	54	0	0.787	1.00	48	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3409 pc/h V ₃ or V _{av34} 1636 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6681	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5802	Exhibit 13-8	9600	No
					V _R	879	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3409	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.2 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.377 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.4 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.3 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.9 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information				Site Information					
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound	Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite	Date Performed	11/6/2017
Date Performed	11/6/2017	Jurisdiction	Caltrans	Analysis Time Period	AM Peak Hour	Analysis Year	E+P	Project Description Colony Commerce Center East Specific Plan (JN 10522)	
Inputs									
Upstream Adj Ramp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Freeway Number of Lanes, N	3	Ramp Number of Lanes, N	1	Acceleration Lane Length, L _A	675	Downstream Adj Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
L _{up} =	1930 ft	Freeway Volume, V _F	4824	Ramp Volume, V _R	1056	Deceleration Lane Length L _D		L _{down} =	ft
V _u =	525 veh/h	Freeway Free-Flow Speed, S _{FF}	70.0	Ramp Free-Flow Speed, S _{FR}	45.0	V _D =	veh/h		
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4824	0.92	Level	6	0	0.971	1.00	5401	
Ramp	1056	0.92	Level	10	0	0.952	1.00	1205	
UpStream	525	0.92	Level	17	0	0.922	1.00	619	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1664.78 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3221 pc/h V ₃ or V _{av34} = 2180 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3221 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?		
V _{FO}	6606	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?		
V _{R12}	4426	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 35.2 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.586 (Exhibit 13-11)				D _s =	(Exhibit 13-12)			
S _R =	53.6 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	64.0 mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	56.6 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description					Colony Commerce Center East Specific Plan (JN 10522)				
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		3		Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		2		<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A		0		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1260 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 307 veh/h	Freeway Volume, V _F		5266		V _D = veh/h				
	Ramp Volume, V _R		816						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5266	0.92	Level	1	0	0.995	1.00	5753	
Ramp	816	0.92	Level	10	0	0.952	1.00	931	
UpStream	307	0.92	Level	11	0	0.948	1.00	352	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 3193 pc/h V ₃ or V _{av34} = 2560 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3287 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6684	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	4218	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 37.9 (pc/mi/ln) LOS = E (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.586 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 53.6 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 62.5 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 56.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	AM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	5030	L _{down} =	2010 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	511	1058 veh/h			
V _u =	Acceleration Lane Length, L _A			Freeway Free-Flow Speed, S _{FF}	70.0				
	Deceleration Lane Length L _D	200		Ramp Free-Flow Speed, S _{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5030	0.92	Level	1	0	0.995	1.00	5495	
Ramp	511	0.92	Level	11	0	0.948	1.00	586	
UpStream									
DownStream	1058	0.92	Level	7	0	0.966	1.00	1190	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.596 using Equation (Exhibit 13-7) V ₁₂ = 3510 pc/h V ₃ or V _{av34} 1985 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	5495	Exhibit 13-8	7200	No
					V _{FO} = V _F - V _R	4909	Exhibit 13-8	7200	No
					V _R	586	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 13-8			V ₁₂	3510	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.6 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.351 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	60.2 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	72.9 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	64.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS		Freeway/Dir of Travel	SR-71 Southbound-Upstream					
Agency or Company	Urban Crossroads, Inc.		Junction	Loop On-ramp at Euclid					
Date Performed	11/6/2017		Jurisdiction	Caltrans					
Analysis Time Period	PM Peak Hour		Analysis Year	E+P					
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2		Downstream Adj Ramp		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1		<input type="checkbox"/> Yes <input type="checkbox"/> On		
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off		Acceleration Lane Length, L _A			475		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		
L _{up} = 1460 ft		Deceleration Lane Length L _D					L _{down} = ft		
V _u = 971 veh/h		Freeway Volume, V _F			2648		V _D = veh/h		
		Ramp Volume, V _R			590				
		Freeway Free-Flow Speed, S _{FF}			70.0				
		Ramp Free-Flow Speed, S _{FR}			25.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	590	0.92	Level	7	0	0.966	1.00	664	
UpStream	971	0.92	Level	4	0	0.980	1.00	1077	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
L _{EQ} =					L _{EQ} =				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3557	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3557	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A					D _R = 4.252 + 0.0086 V ₁₂ - 0.009 L _D				
D _R = 29.9 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.434 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 57.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Southbound-Downstream						
Agency or Company	Urban Crossroads, Inc.	Junction	Loop On-ramp at Euclid						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	2	Downstream Adj Ramp						
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On						
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A	475	<input type="checkbox"/> No <input type="checkbox"/> Off						
L _{up} = ft	Deceleration Lane Length L _D		L _{down} = 1200 ft						
V _u = veh/h	Freeway Volume, V _F	2648	V _D = 66 veh/h						
	Ramp Volume, V _R	590							
	Freeway Free-Flow Speed, S _{FF}	70.0							
	Ramp Free-Flow Speed, S _{FR}	25.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	2648	0.92	Level	1	0	0.995	1.00	2893	
Ramp	590	0.92	Level	7	0	0.966	1.00	664	
UpStream									
DownStream	66	0.92	Level	8	0	0.962	1.00	75	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
L _{EQ} =					L _{EQ} =				
P _{FM} = 1.000 using Equation (Exhibit 13-6)					P _{FD} = using Equation (Exhibit 13-7)				
V ₁₂ = 2893 pc/h					V ₁₂ = pc/h				
V ₃ or V _{av34} = 0 pc/h (Equation 13-14 or 13-17)					V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17)				
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	3557	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	3557	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A					D _R = 4.252 + 0.0086 V ₁₂ - 0.009 L _D				
D _R = 29.9 (pc/mi/ln)					D _R = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.434 (Exhibit 13-11)					D _S = (Exhibit 13-12)				
S _R = 57.8 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = N/A mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 57.8 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-71 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Euclid						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1500 ft	$V_D =$	459 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	4371	Ramp Volume, V_R	1165
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Freeway Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4371	0.92	Level	12	0	0.943	1.00	5036	
Ramp	1165	0.92	Level	8	0	0.962	1.00	1317	
UpStream									
DownStream	459	0.92	Level	2	0	0.990	1.00	504	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.574 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	3450 pc/h	V_3 or V_{av34}	1586 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)		If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5036	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	3719	Exhibit 13-8	7200	No
					V_R	1317	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3450	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	33.9 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.417 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.3 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	74.5 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	62.6 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 750				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 1970 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 478 veh/h	Freeway Volume, V _F = 4722				V _D = veh/h				
	Ramp Volume, V _R = 742								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4722	0.92	Level	3	0	0.985	1.00	5210	
Ramp	742	0.92	Level	5	0	0.976	1.00	827	
UpStream	478	0.92	Level	9	0	0.957	1.00	543	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.114 using Equation (Exhibit 13-6) V ₁₂ = 596 pc/h V ₃ or V _{av34} = 2307 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2084 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}	6037	Exhibit 13-8		No	V _F		Exhibit 13-8		
					V _{FO} = V _F - V _R		Exhibit 13-8		
					V _R		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}	2911	Exhibit 13-8	4600:All	No	V ₁₂		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.1 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.325 (Exhibit 13-11)					D _s = (Exhibit 13-12)				
S _R = 60.9 mph (Exhibit 13-11)					S _R = mph (Exhibit 13-12)				
S ₀ = 66.2 mph (Exhibit 13-11)					S ₀ = mph (Exhibit 13-12)				
S = 63.5 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Westbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	5	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	1970 ft	$V_D =$	742 veh/h
$L_{up} =$	ft	Acceleration Lane Length, L_A		Deceleration Lane Length L_D	0	Freeway Volume, V_F	5200	Ramp Volume, V_R	478
$V_u =$	veh/h	Freeway Free-Flow Speed, S_{FF}		Ramp Free-Flow Speed, S_{FR}	45.0	Freeway Free-Flow Speed, S_{FF}	70.0	Ramp Free-Flow Speed, S_{FR}	45.0
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5200	0.92	Level	3	0	0.985	1.00	5737	
Ramp	478	0.92	Level	9	0	0.957	1.00	543	
UpStream									
DownStream	742	0.92	Level	5	0	0.976	1.00	827	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)	$P_{FM} =$	using Equation (Exhibit 13-6)		$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)	$P_{FD} =$	0.436 using Equation (Exhibit 13-7)	
$V_{12} =$	pc/h	V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)		$V_{12} =$	2433 pc/h	V_3 or V_{av34}	1222 pc/h (Equation 13-14 or 13-17)	
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)		If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)	
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	4877	Exhibit 13-8	9600	No
					$V_{FO} = V_F - V_R$	4334	Exhibit 13-8	9600	No
					V_R	543	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	2433	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	25.2 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	C (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.347 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	60.3 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	75.9 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	67.2 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	4	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Freeway Volume, V _F	6297	L _{down} =	2060 ft	Freeway Free-Flow Speed, S _{FF}	70.0
L _{up} =	Ramp Number of Lanes, N	1	V _D =	Ramp Volume, V _R	480				
V _u =	Acceleration Lane Length, L _A								
	Deceleration Lane Length L _D	200							
	Ramp Free-Flow Speed, S _{FR}	45.0							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	6297	0.92	Level	5	0	0.976	1.00	7016	
Ramp	480	0.92	Level	8	0	0.962	1.00	543	
UpStream									
DownStream	702	0.92	Level	6	0	0.971	1.00	786	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3365 pc/h V ₃ or V _{av34} 1825 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	7016	Exhibit 13-8		9600 No
					V _{FO} = V _F - V _R	6473	Exhibit 13-8		9600 No
					V _R	543	Exhibit 13-10		2100 No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3365	Exhibit 13-8		4400:All No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 31.4 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 13-11)				D _S =	0.347 (Exhibit 13-12)			
S _R =	mph (Exhibit 13-11)				S _R =	60.3 mph (Exhibit 13-12)			
S ₀ =	mph (Exhibit 13-11)				S ₀ =	73.6 mph (Exhibit 13-12)			
S =	mph (Exhibit 13-13)				S =	66.5 mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	SR-60 Eastbound						
Agency or Company	Urban Crossroads, Inc.	Junction	On-Ramp at Archibald						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N = 4				Downstream Adj Ramp				
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N = 1				<input type="checkbox"/> Yes <input type="checkbox"/> On				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A = 810				<input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = 2060 ft	Deceleration Lane Length L _D				L _{down} = ft				
V _u = 480 veh/h	Freeway Volume, V _F = 5817				V _D = veh/h				
	Ramp Volume, V _R = 702								
	Freeway Free-Flow Speed, S _{FF} = 70.0								
	Ramp Free-Flow Speed, S _{FR} = 45.0								
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5817	0.92	Level	5	0	0.976	1.00	6481	
Ramp	702	0.92	Level	6	0	0.971	1.00	786	
UpStream	480	0.92	Level	8	0	0.962	1.00	543	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.120 using Equation (Exhibit 13-6) V ₁₂ = 775 pc/h V ₃ or V _{av34} = 2853 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2592 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	7267	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3378	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.4 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = 0.362 (Exhibit 13-11) S _R = 59.9 mph (Exhibit 13-11) S ₀ = 64.8 mph (Exhibit 13-11) S = 62.4 mph (Exhibit 13-13)					D _s = (Exhibit 13-12) S _R = mph (Exhibit 13-12) S ₀ = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Cantu Galleano						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N		4		Downstream Adj Ramp				
<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N		1		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On				
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Acceleration Lane Length, L _A				<input type="checkbox"/> No <input type="checkbox"/> Off				
L _{up} = ft	Deceleration Lane Length L _D		150		L _{down} = 1150 ft				
V _u = veh/h	Freeway Volume, V _F		5956		V _D = 172 veh/h				
	Ramp Volume, V _R		933						
	Freeway Free-Flow Speed, S _{FF}		70.0						
	Ramp Free-Flow Speed, S _{FR}		45.0						
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	5956	0.92	Level	6	0	0.971	1.00	6668	
Ramp	933	0.92	Level	5	0	0.976	1.00	1039	
UpStream									
DownStream	172	0.92	Level	5	0	0.976	1.00	192	
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 13-6 or 13-7) P _{FM} = using Equation (Exhibit 13-6) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = 0.436 using Equation (Exhibit 13-7) V ₁₂ = 3493 pc/h V ₃ or V _{av34} 1587 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 13-8			V _F	6668	Exhibit 13-8	9600	No
					V _{FO} = V _F - V _R	5629	Exhibit 13-8	9600	No
					V _R	1039	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 13-8			V ₁₂	3493	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D _R = 32.9 (pc/mi/ln) LOS = D (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S = (Exhibit 13-11)					D _S = 0.392 (Exhibit 13-12)				
S _R = mph (Exhibit 13-11)					S _R = 59.0 mph (Exhibit 13-12)				
S ₀ = mph (Exhibit 13-11)					S ₀ = 74.5 mph (Exhibit 13-12)				
S = mph (Exhibit 13-13)					S = 65.5 mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information				Site Information					
Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound	Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Limonite	Date Performed	11/6/2017
Analysis Time Period	PM Peak Hour	Analysis Year	E+P	Freeway/Dir of Travel	I-15 Southbound	Junction	On-ramp at Limonite	Date Performed	11/6/2017
Project Description	Colony Commerce Center East Specific Plan (JN 10522)								
Inputs									
Upstream Adj Ramp	Freeway Number of Lanes, N	3	Downstream Adj Ramp	Freeway Volume, V _F	4546	Downstream Adj Ramp	Freeway Free-Flow Speed, S _{FF}	70.0	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Number of Lanes, N	1	<input type="checkbox"/> Yes <input type="checkbox"/> On	Ramp Volume, V _R	834	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Ramp Free-Flow Speed, S _{FR}	45.0	
<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Acceleration Lane Length, L _A	675	<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	L _{up} =	1930 ft	L _{down} =		ft	
	Deceleration Lane Length L _D			V _u =	793 veh/h	V _D =		veh/h	
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4546	0.92	Level	7	0	0.966	1.00	5114	
Ramp	834	0.92	Level	8	0	0.962	1.00	943	
UpStream	793	0.92	Level	6	0	0.971	1.00	888	
DownStream									
Merge Areas				Diverge Areas					
Estimation of v₁₂				Estimation of v₁₂					
$V_{12} = V_F (P_{FM})$ L _{EQ} = 1547.30 (Equation 13-6 or 13-7) P _{FM} = 0.596 using Equation (Exhibit 13-6) V ₁₂ = 3050 pc/h V ₃ or V _{av34} = 2064 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3050 pc/h (Equation 13-16, 13-18, or 13-19)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 13-12 or 13-13) P _{FD} = using Equation (Exhibit 13-7) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)					
Capacity Checks				Capacity Checks					
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?		
V _{FO}	6057	Exhibit 13-8	No	V _F		Exhibit 13-8			
				V _{FO} = V _F - V _R		Exhibit 13-8			
				V _R		Exhibit 13-10			
Flow Entering Merge Influence Area				Flow Entering Diverge Influence Area					
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?		
V _{R12}	3993	Exhibit 13-8	4600:All	No	V ₁₂	Exhibit 13-8			
Level of Service Determination (if not F)				Level of Service Determination (if not F)					
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 32.0 (pc/mi/ln) LOS = D (Exhibit 13-2)				$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)					
Speed Determination				Speed Determination					
M _S =	0.472 (Exhibit 13-11)			D _s =	(Exhibit 13-12)				
S _R =	56.8 mph (Exhibit 13-11)			S _R =	mph (Exhibit 13-12)				
S ₀ =	64.4 mph (Exhibit 13-11)			S ₀ =	mph (Exhibit 13-12)				
S =	59.2 mph (Exhibit 13-13)			S =	mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information				Site Information					
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound	Agency or Company	Urban Crossroads, Inc.	Junction	On-ramp at Cantu Galleano	Date Performed	11/6/2017
Analysis Time Period	PM Peak Hour	Analysis Year	E+P	Date Performed	11/6/2017	Jurisdiction	Caltrans	Analysis Year	E+P
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On	Freeway Number of Lanes, N	3	Downstream Adj Ramp	<input type="checkbox"/> Yes <input type="checkbox"/> On	Freeway Volume, V _F	4624	L _{down} =	ft
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Off	Ramp Number of Lanes, N	2		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Ramp Volume, V _R	732	V _D =	veh/h
L _{up} =	1260 ft	Acceleration Lane Length, L _A	0			Freeway Free-Flow Speed, S _{FF}	70.0		
V _u =	242 veh/h	Deceleration Lane Length L _D				Ramp Free-Flow Speed, S _{FR}	45.0		
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4624	0.92	Level	1	0	0.995	1.00	5051	
Ramp	732	0.92	Level	8	0	0.962	1.00	827	
UpStream	242	0.92	Level	12	0	0.943	1.00	279	
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L _{EQ} = P _{FM} = 0.555 using Equation (Exhibit 13-6) V ₁₂ = 2803 pc/h V ₃ or V _{av34} = 2248 pc/h (Equation 13-14 or 13-17) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2886 pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L _{EQ} = P _{FD} = V ₁₂ = V ₃ or V _{av34} = Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V _{FO}	5878	Exhibit 13-8	No		V _F	Exhibit 13-8			
					V _{FO} = V _F - V _R	Exhibit 13-8			
					V _R	Exhibit 13-10			
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V _{R12}	3713	Exhibit 13-8	4600:All		No	V ₁₂	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 34.1 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M _S =	0.481 (Exhibit 13-11)				D _s =	(Exhibit 13-12)			
S _R =	56.5 mph (Exhibit 13-11)				S _R =	mph (Exhibit 13-12)			
S ₀ =	64.0 mph (Exhibit 13-11)				S ₀ =	mph (Exhibit 13-12)			
S =	59.1 mph (Exhibit 13-13)				S =	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound						
Agency or Company	Urban Crossroads, Inc.	Junction	Off-ramp at Limonite						
Date Performed	11/6/2017	Jurisdiction	Caltrans						
Analysis Time Period	PM Peak Hour	Analysis Year	E+P						
Project Description Colony Commerce Center East Specific Plan (JN 10522)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off	Freeway Number of Lanes, N	3	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off	Ramp Number of Lanes, N	1	$L_{down} =$	2010 ft	$V_D =$	673 veh/h
$L_{up} =$	Acceleration Lane Length, L_A			Deceleration Lane Length L_D	200				
$V_u =$	Freeway Volume, V_F	5216		Freeway Free-Flow Speed, S_{FF}	70.0				
	Ramp Volume, V_R	1021		Ramp Free-Flow Speed, S_{FR}	45.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	5216	0.92	Level	2	0	0.990	1.00	5726	
Ramp	1021	0.92	Level	6	0	0.971	1.00	1143	
UpStream									
DownStream	673	0.92	Level	6	0	0.971	1.00	753	
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)				$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)			
$P_{FM} =$	using Equation (Exhibit 13-6)				$P_{FD} =$	0.564 using Equation (Exhibit 13-7)			
$V_{12} =$	pc/h				$V_{12} =$	3729 pc/h			
V_3 or V_{av34}	pc/h (Equation 13-14 or 13-17)				V_3 or V_{av34}	1997 pc/h (Equation 13-14 or 13-17)			
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)				If Yes, $V_{12a} =$	pc/h (Equation 13-16, 13-18, or 13-19)			
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8			V_F	5726	Exhibit 13-8	7200	No
					$V_{FO} = V_F - V_R$	4583	Exhibit 13-8	7200	No
					V_R	1143	Exhibit 13-10	2100	No
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 13-8			V_{12}	3729	Exhibit 13-8	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
$D_R =$	(pc/mi/ln)				$D_R =$	34.5 (pc/mi/ln)			
LOS =	(Exhibit 13-2)				LOS =	D (Exhibit 13-2)			
Speed Determination					Speed Determination				
$M_S =$	(Exhibit 13-11)				$D_S =$	0.401 (Exhibit 13-12)			
$S_R =$	mph (Exhibit 13-11)				$S_R =$	58.8 mph (Exhibit 13-12)			
$S_0 =$	mph (Exhibit 13-11)				$S_0 =$	72.9 mph (Exhibit 13-12)			
$S =$	mph (Exhibit 13-13)				$S =$	63.0 mph (Exhibit 13-13)			