

APPENDIX F

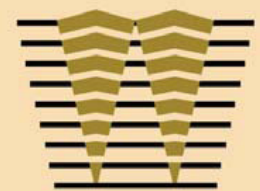
PARKING STUDY



Guasti Shared Parking Study & Parking Space Design

Architects • Engineers • Parking Planners

WATRY DESIGN, INC.





The Concept of Shared Parking

- Shared parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.
- The ability to share parking spaces is the result of two conditions:
 - Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses.
 - Relationships among the land uses that result in visiting multiple land uses on the same trip.



Shared Parking Study

- **A shared parking study determines the need for parking in mixed use / multi use development areas.**
 - **The analysis identifies variations and relationships in parking demand by time of day, day of week, and season generated by different land use types.**
 - **Parking demand is reduced because of the interrelationship of the activities present**



Shared Parking Methodology

- **Gather and review project data**
 - **Type and quantity of land uses**
 - **Local zoning standards and practices**
 - **Existing conditions, parking pricing, local users, and facilities**
 - **Local mode splits, transit, and transportation demand management programs**
 - **Physical relationship between uses**
 - **Parking management strategies acceptable to the various parties**



Shared Parking Methodology

- **Select Parking Ratios (spaces/unit land use)**
 - **Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses.**
 - **Relationships among the land uses that result in visiting multiple land uses on the same trip.**
 - **We recommend using the 85th percentile of peak hour observations in developing peak parking ratios**
 - **Designing a parking system so that every space is occupied at a regularly occurring peak hour will result in a conclusion by owners and users, if not the community at large, that the parking is inadequate.**

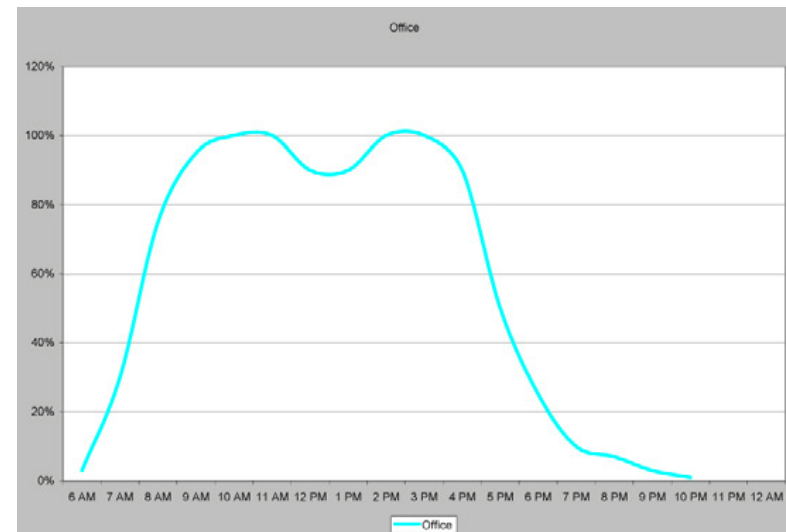
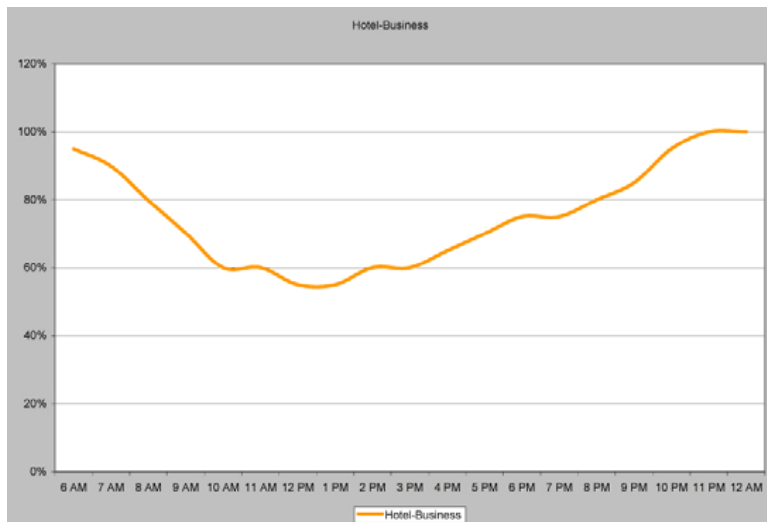
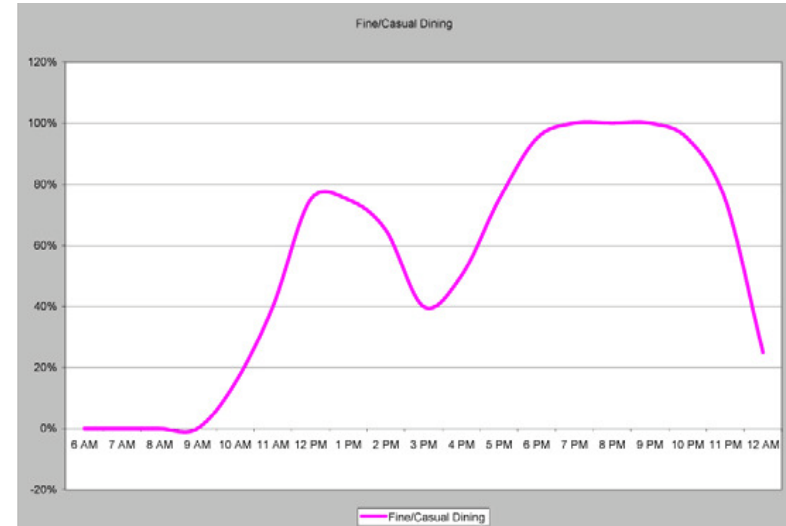
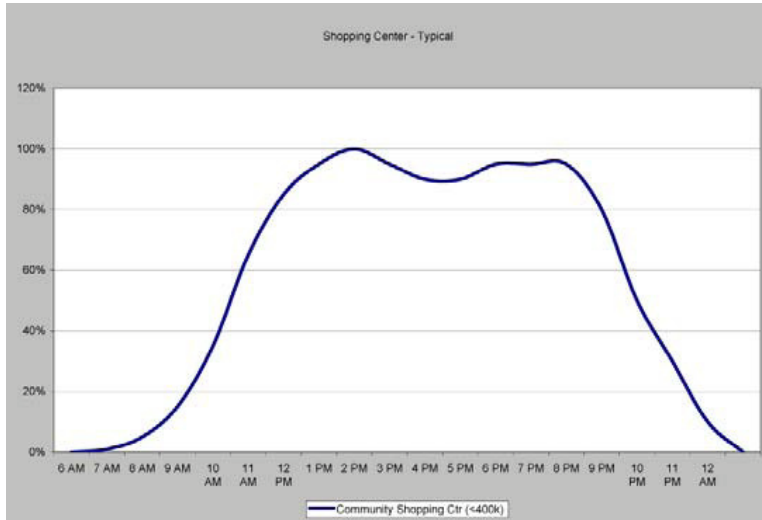


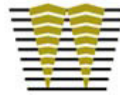
Shared Parking Methodology

- **Select factors and analyze activity patterns**
 - **Time of day**
 - **Monthly**

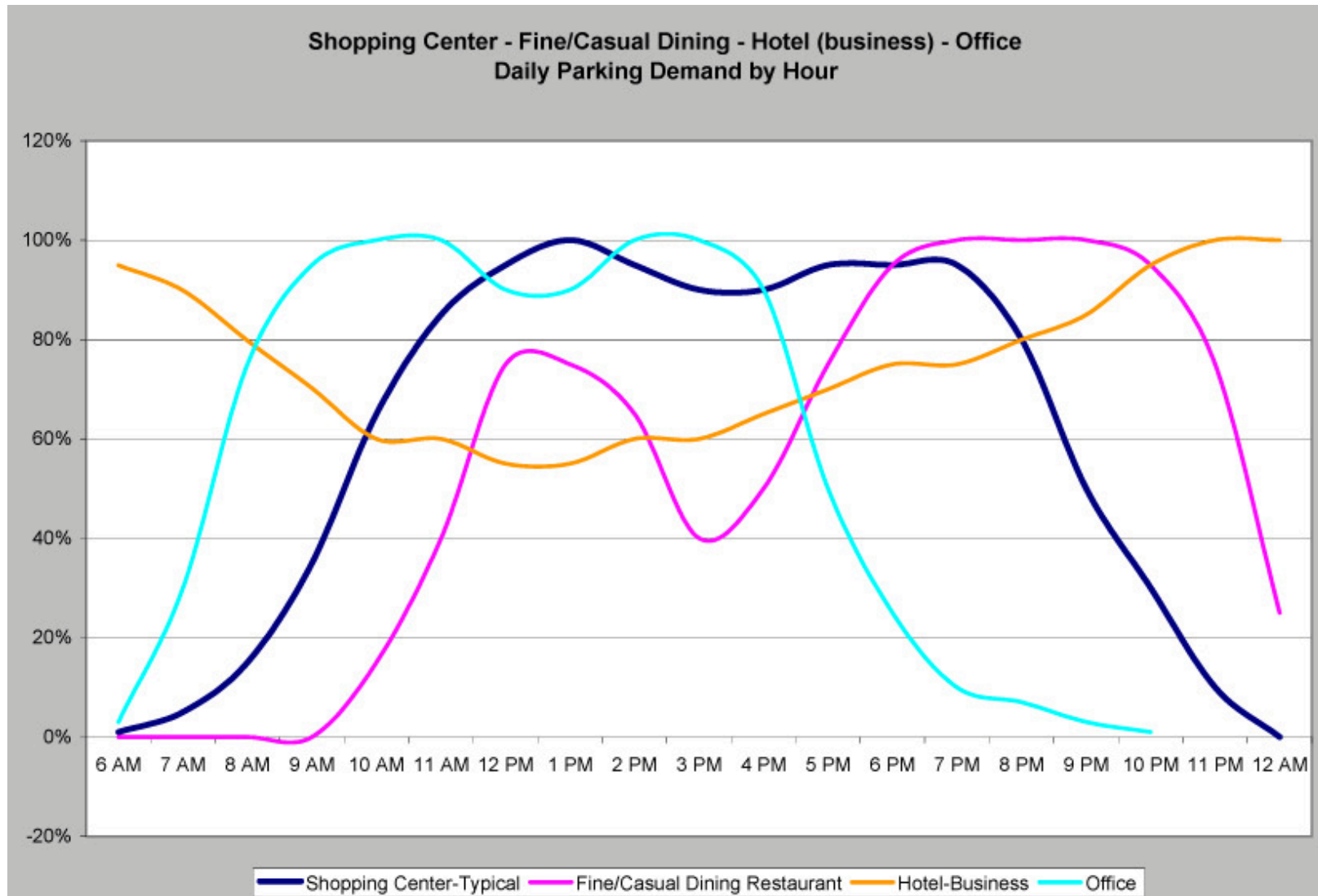


Shared Parking Methodology





Shared Parking Methodology





Shared Parking Methodology

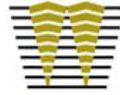
- **Develop scenarios for critical parking need periods**
- **Adjust ratios for modal split and persons per car for each scenario**
- **Apply noncaptive adjustments for each scenario**
- **Calculate required parking spaces for each scenario**
 - **This is automatically performed in the ULI shared parking model**



Guasti Shared Parking Study



Appendix F Parking Study Watry Design



Guasti Shared Parking Study

- Parking Ratios
 - ULI vs the City of Ontario

Land Uses Comparison Summary		ULI	Ontario	ULI	Ontario	* See Note
		Ratio	Ratio	Ratio	Ratio	Unit
Retail						
Retail				4.00		/ksf GLA
Community Shopping Center (up to 400 ksf)		3.20				/ksf GLA
Employee		0.80				/ksf GLA
Regional Shopping Center (400 to 600 ksf)			2.9 to 3.2			/ksf GLA
Employee						/ksf GLA
Super Regional Shopping Center (greater than 600 ksf)			3.60			/ksf GLA
Employee			0.90			/ksf GLA
Restaurant						
Fine/Casual Dining Restaurant		17.00	10.00			/ksf GLA
Employee		3.00				/ksf GLA
Family Restaurant		12.75	10.00			/ksf GLA
Employee		2.75				/ksf GLA
Fast Food Restaurant		12.75	13.33			/ksf GLA
Employee		2.25				/ksf GLA
Entertainment and Recreation						
Nightclub		17.50				/ksf GLA
Employee		1.50				/ksf GLA
Cinplex		0.26	0.33			/seat
Employee		0.01				/seat
Performing Arts Theater		0.33	0.33			/seat
Employee		0.07				/seat
Arts		0.30	0.33			/seat
Employee		0.03				/seat
Pro Football Stadium		0.30	0.33			/seat
Employee		0.01				/seat
Pro Baseball Stadium		0.34	0.33			/seat
Employee		0.01				/seat
Health Club		6.80	5.00			/ksf GLA
Employee		0.40				/ksf GLA
Convention Center		5.50			A	/ksf GLA
Employee		0.50				/ksf GLA
Hotels						
Hotel			1.00		B	/room
Hotel Business		1.00				/room
Hotel Leisure		1.00				/room
Restaurant/Lounge		10.00				/ksf GLA
Conference Ctr/Banquet (20 to 50 sq ft/guest room)		30.00				/ksf GLA
Convention Space (>50 sq ft/guest room)		20.00				/ksf GLA
Employee		0.25				/room
Residential						
Studio Unit				1.50		/unit
1 Bedroom Unit				1.75		/unit
2 Bedroom Unit				2.00		/unit
3 Bedroom Unit				2.50		/unit
Residential - Rented, Shared Spaces		1.50				/unit
Residential - Owned, Shared Spaces		1.70				/unit
Guest (general)		0.00				/unit
Guest (3-50 units)				0.25		/unit
Guest (51-100 units)				0.20		/unit
Guest (>100 units)				0.17		/unit
Offices						
Office				4.00		/ksf GLA
Office (<25,000 sq ft)		3.50				/ksf GLA
Visitor		0.30				/ksf GLA
Office (25,000 to 100,000 sq ft)		3.15 to 3.5				/ksf GLA
Visitor		0.25 to 0.30				/ksf GLA
Office 100 to 500 ksf		2.6 to 3.15				/ksf GLA
Visitor		0.20 to 0.25				/ksf GLA
Office greater than 500 ksf		2.50				/ksf GLA
Visitor		0.20				/ksf GLA
Data Processing Office		5.75				/ksf GLA
Visitor		0.25				/ksf GLA
Medical/Dental Office		3.00	5.70			/ksf GLA
Employee		1.50				/ksf GLA
Bank (Branch) with Drive-in		3.00	5.55		C	/ksf GLA
Employee		1.60				/ksf GLA

NOTES *

A. City of Ontario requires a parking study to determine the parking demand generated by the Convention Center use.

B. City of Ontario requires 1 space per room/suite or 1 space per 2 beds, whichever is greater for Hotel use.

C. City of Ontario lists 5.55 as their ratio for 'Banks, credit unions, and other depository' - does not specify whether 'Branch' or with or without Drive-in.



Guasti Shared Parking Study

- Project Data

Guasti Program: Phase 1

City Required Land Use	Sq. Ft.	Rooms	Seats	Ratio	Demand
Retail	60,000			4.00 /ksf	240
Office	450,000			4.00 /ksf	1,800
Restaurant*	110,000			10.00 /ksf	1,100
Fast Food*	5,000			13.33 /ksf	67
Hotel #1 (North)	257,000	250		1.00 /room	250
Hotel #2 (Villa Hotel)	82,835	100		1.00 /room	100
Hotel #3 (West)	102,940	150		1.00 /room	150
Health Club	40,000			5.00 /ksf	200
Cinema	25,000		1,000	0.33 /seat	330
Total	1,132,475	500	1,000		4,237

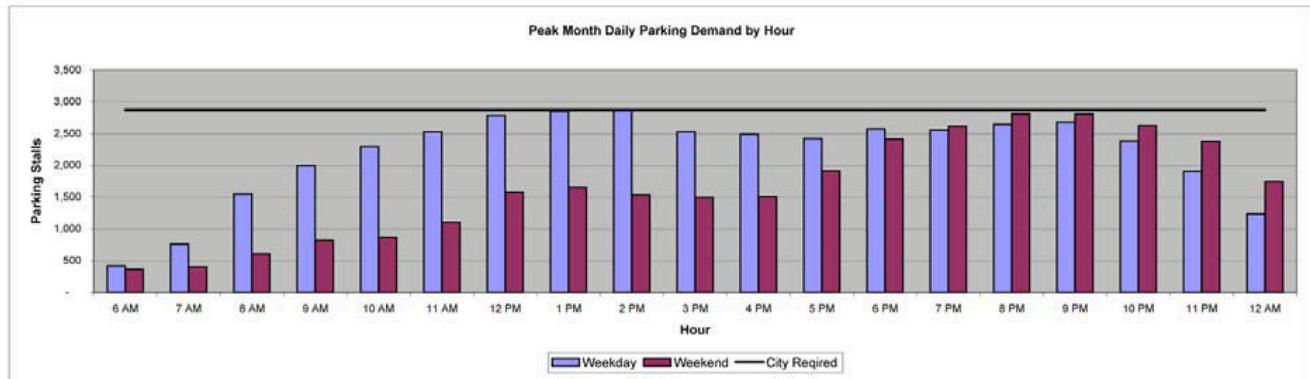
Shared Parking Reduction (x%)	-32.2%
Parking Provided	2,874

* Assumed for current study purposes that square footage includes any outdoor dining areas.

Peak Hour Weekday = 2 PM 2,874 stalls
 Peak Hour Weekend = 8 PM 2,810 stalls
 Peak Hour Difference = 64 stalls

DRAFT

ULI Demand Land Use	Sq. Ft.	Aux. Sq.Ft.	Rooms	Seats	Ratio	Demand
Community Shopping Center (<400 ksf)	60,000				3.20 /ksf	192
Employee					0.80 /ksf	48
Office 100 to 500 ksf	450,000				2.67 /ksf	1,201
Visitor					0.21 /ksf	93
Fine/Casual Dining Restaurant	70,000				17.00 /ksf	1,190
Employee					3.00 /ksf	210
Fast Food*	5,000				12.75 /ksf	64
Employee					2.25 /ksf	11
Hotel-Business #1 (North)	257,000		250		1.00 /room	250
Restaurant/Lounge*		600			10.00 /ksf	6
Conference Ctr/ Banquet		10,000			30.00 /ksf	300
Convention Space					20.00 /ksf	0
Employee					0.25 /room	63
Hotel-Business #2 (Villa Hotel)	82,835		100		1.00 /room	100
Restaurant/Lounge*		11,755			10.00 /ksf	118
Conference Ctr/ Banquet		7,100			30.00 /ksf	213
Convention Space					20.00 /ksf	0
Employee					0.25 /room	25
Hotel-Business #3 (West)	102,940		150		1.00 /room	150
Restaurant/Lounge*		3,000			10.00 /ksf	30
Conference Ctr/ Banquet		1,800			30.00 /ksf	54
Convention Space					20.00 /ksf	0
Employee					0.25 /room	37
Health Club	40,000				6.60 /ksf	264
Employee					0.40 /ksf	16
Nightclub	40,000				17.50 /ksf	700
Employee					1.50 /ksf	60
Cinema	25,000			1,000	0.26 /seat	260
Employee					0.01 /seat	10
Sub-Total	1,132,475	34,255	500	1,000		5,665
ULI Shared Parking Reduction						-49%
Grand-Total						2,874



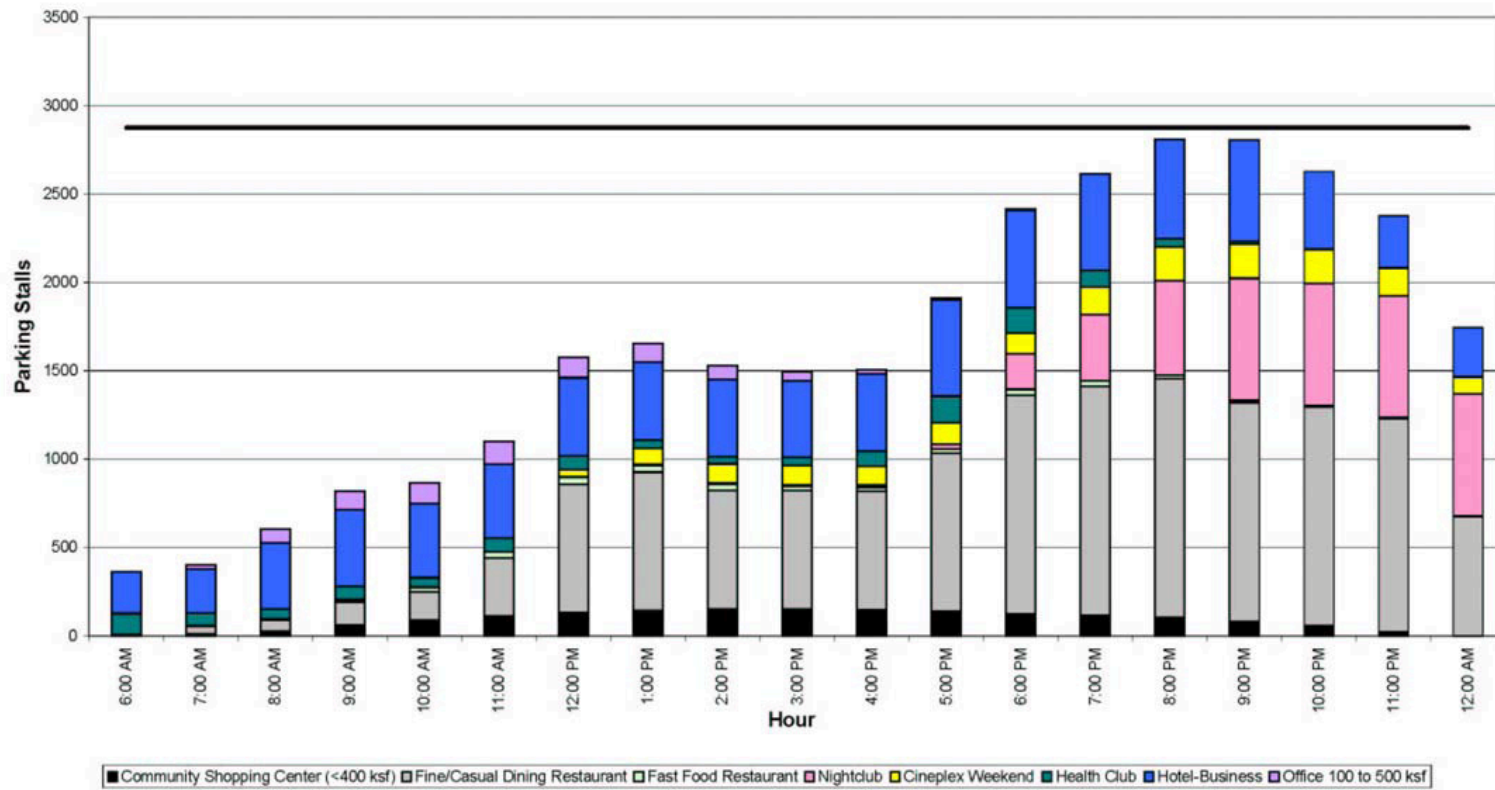


Guasti Shared Parking Study

Guasti Phase I

4/17/2007

May - Weekend Peak Month Daily Parking Demand by Hour



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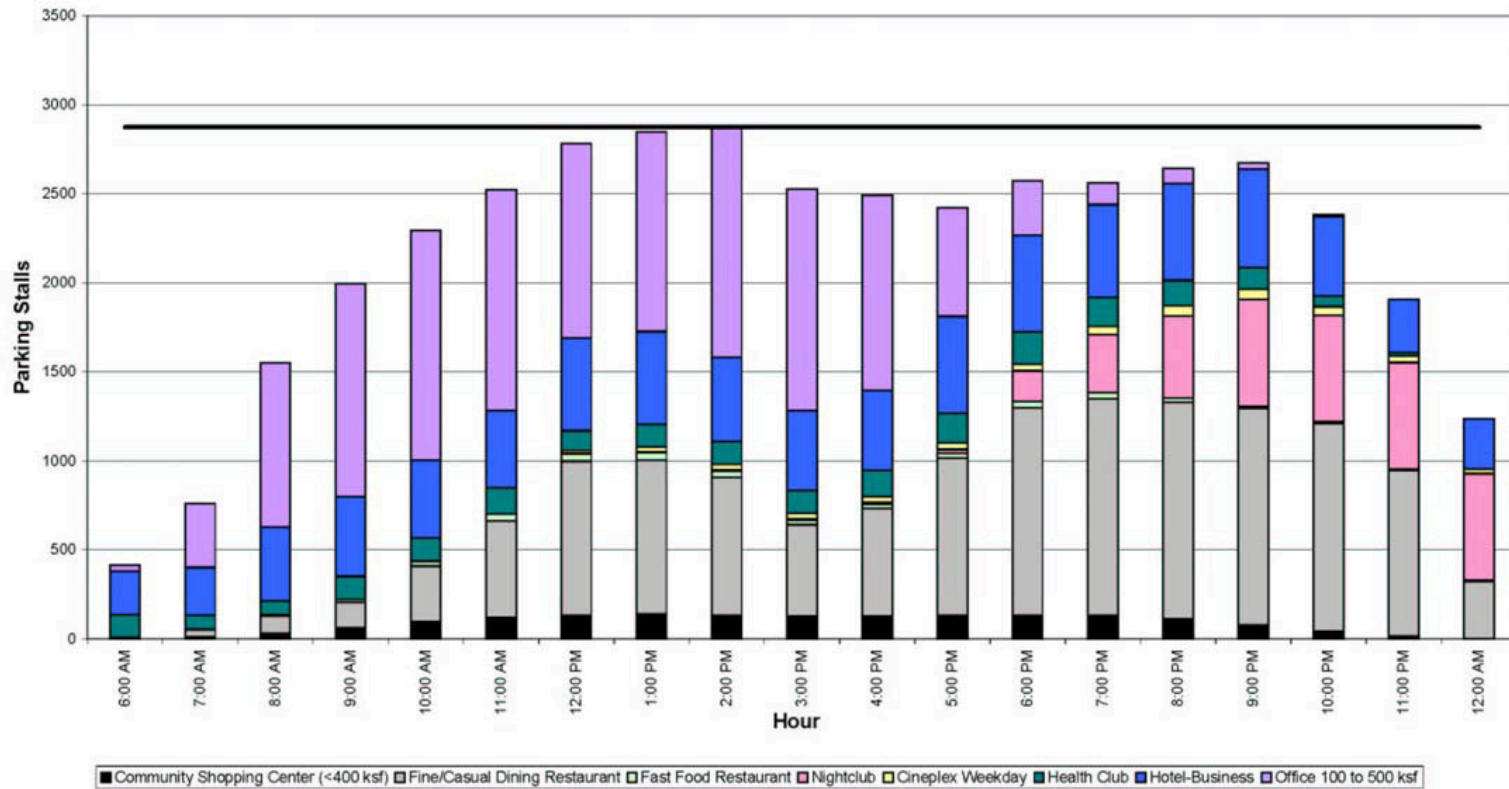


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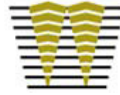
Guasti Phase I

4/17/2007

May - Weekday Peak Month Daily Parking Demand by Hour



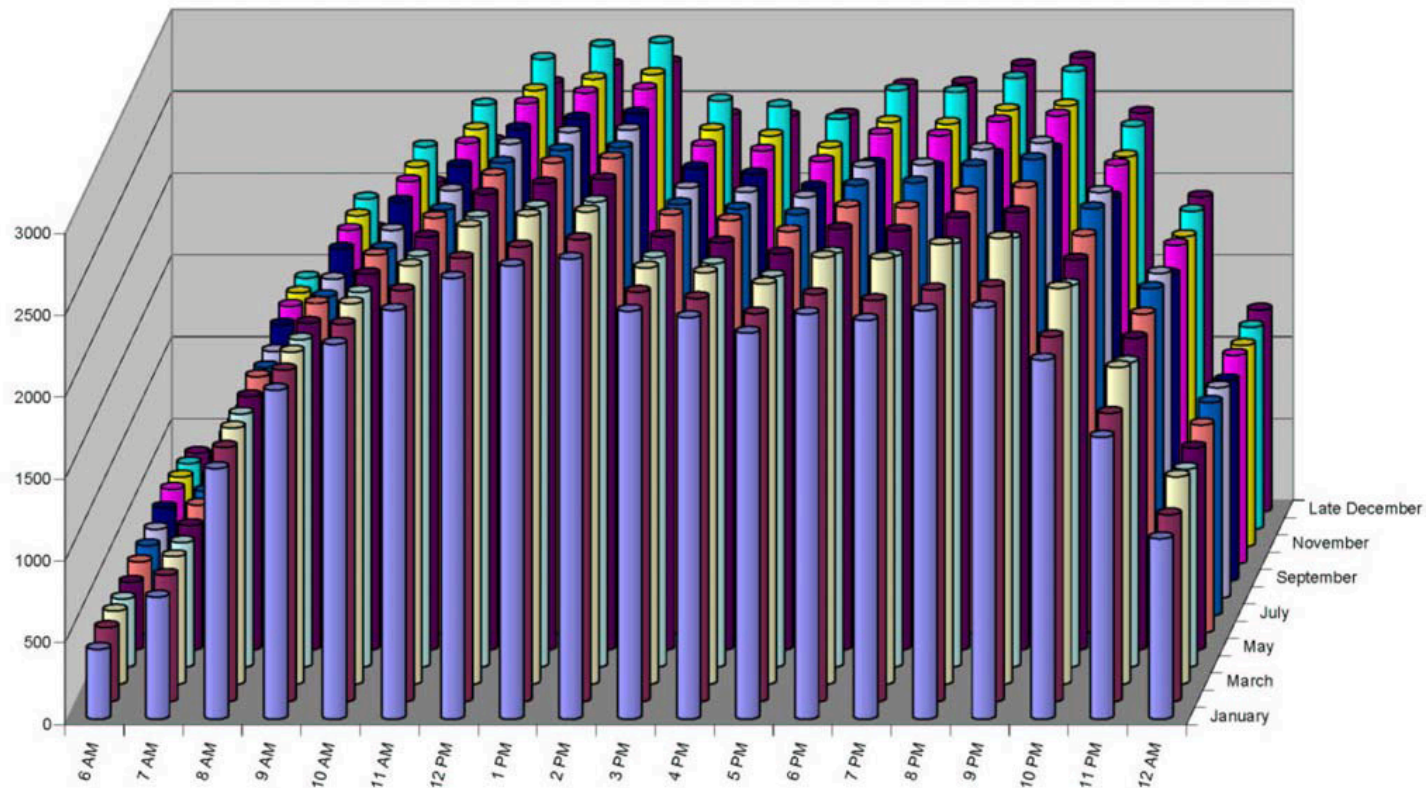
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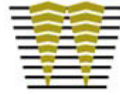
Guasti Shared Parking Study

4/17/2007

Weekday Comparison by Month and by Hour



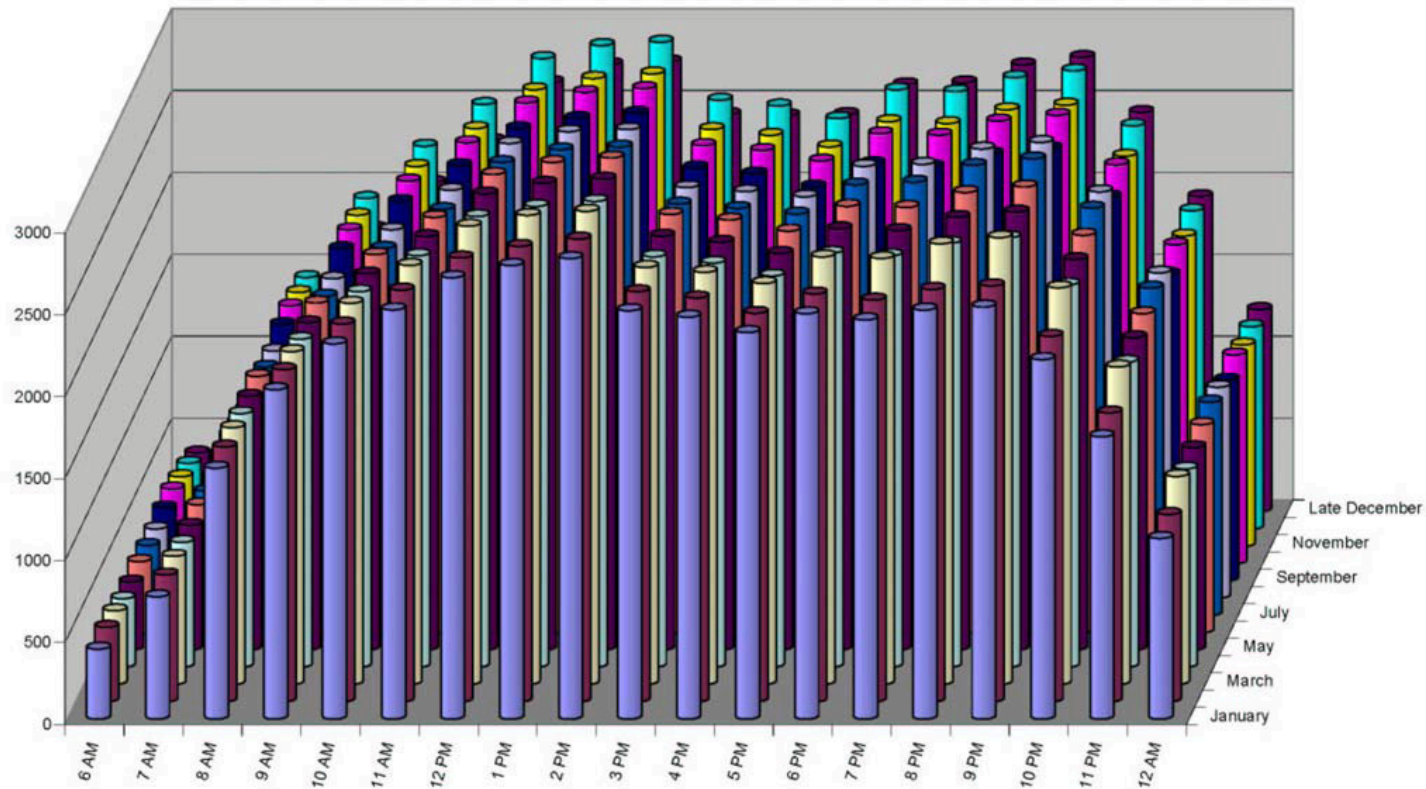
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Guasti Shared Parking Study

4/17/2007

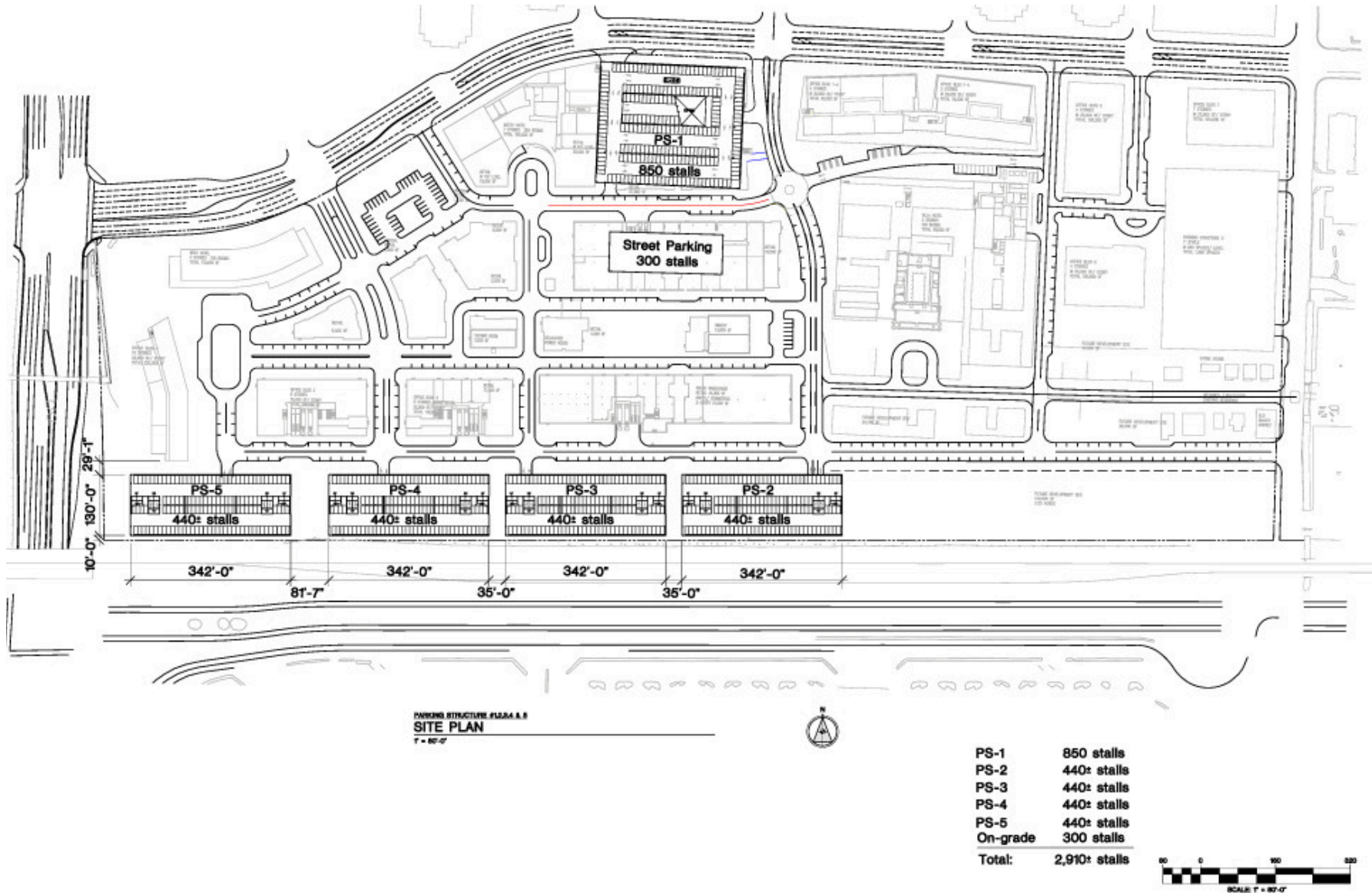
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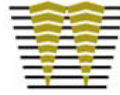


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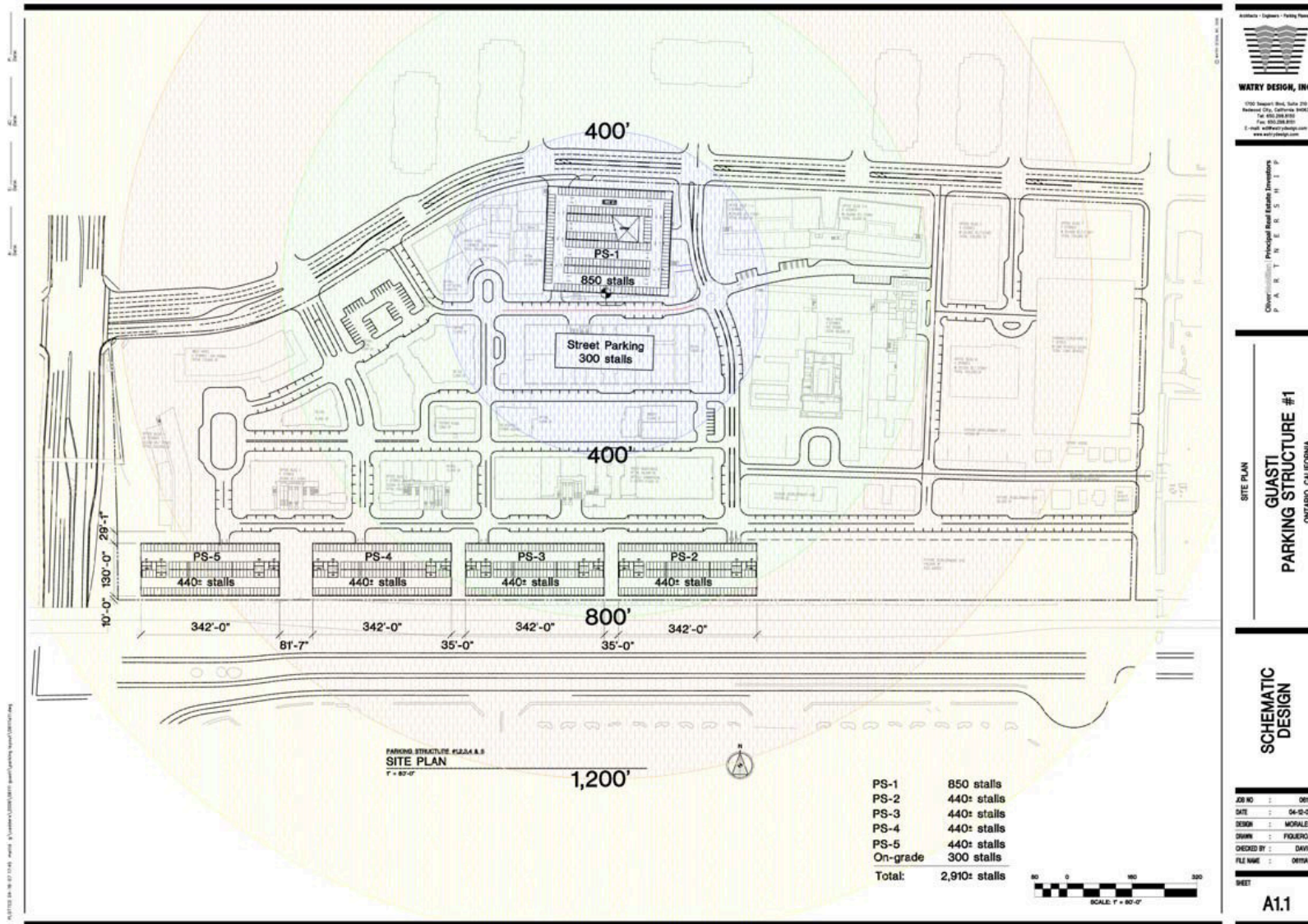


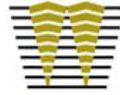
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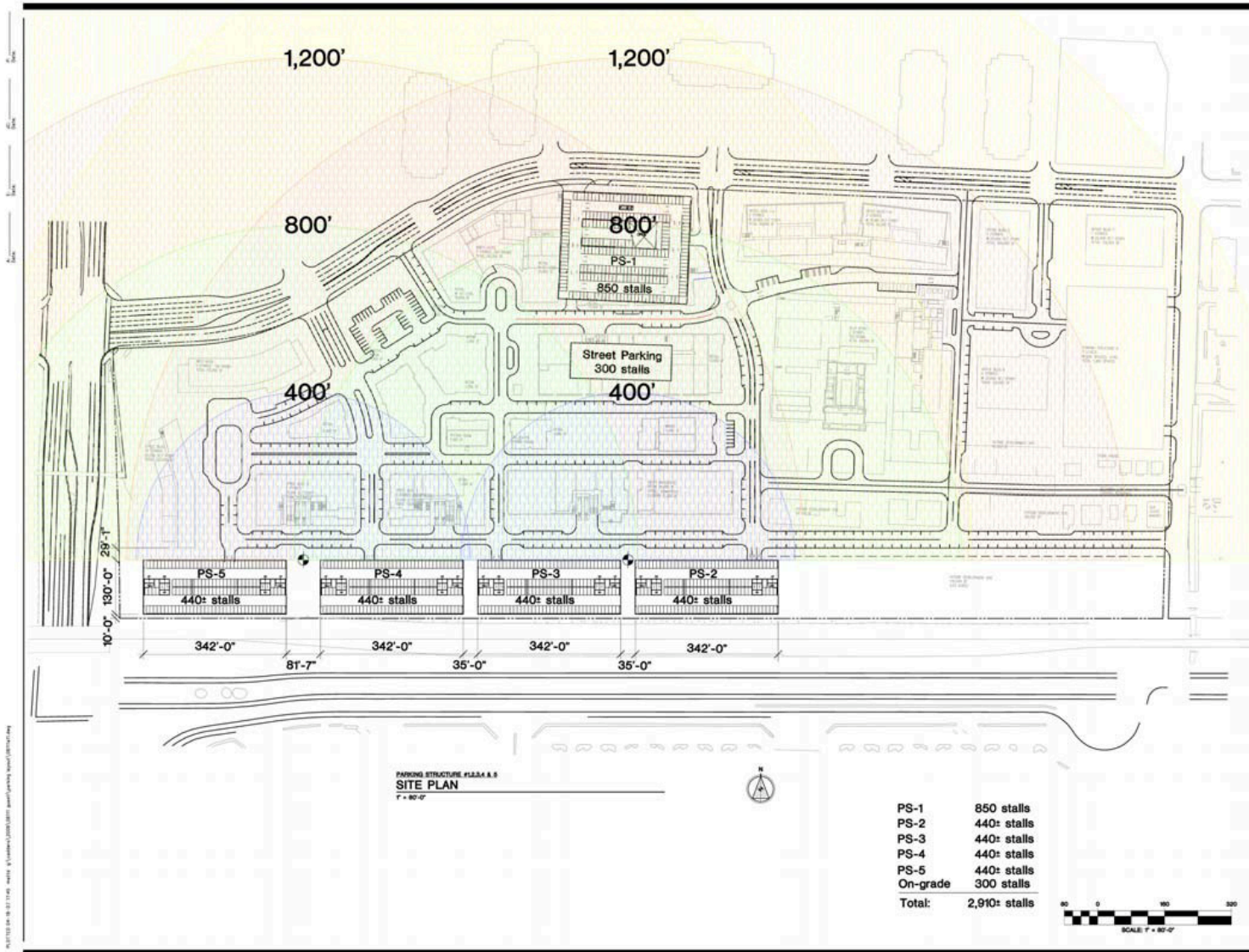


Guasti Shared Parking Study





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Architects • Engineers • Parking Planners

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Chartered in the State of California
P. A. B. T. N. C. S. D. P.

SITE PLAN
**GUASTI
PARKING STRUCTURE #1**
ONTARIO, CALIFORNIA

**SCHEMATIC
DESIGN**

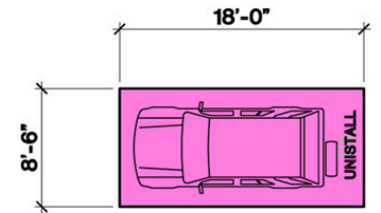
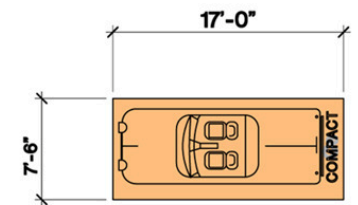
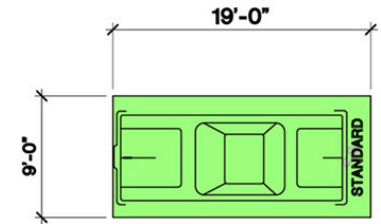
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DATE : 04-12-07
DESIGN : MORALES
DRAWN : FIOQUERA
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Guasti Parking Space Design

- History of Parking Space Design
 - Standard parking space size was set in 1970 by the Highway Research Board
 - After the “oil crisis” in the 70’s vehicles were “downsized” due to energy concerns
 - Compact stalls
 - In the 80’s fuel efficiency improved and vehicles and parking spaces grew larger
 - In the 90’s consumer preference shifted to pick-up trucks, vans and SUV’s
 - Development of unistalls





Guasti Parking Space Design

- **History of Parking Space Design, (continued)**
 - **At the turn of the millennium, the significant trend was to sport wagons.**
 - **Confirms unistall philosophy**
 - **Gas price increases have further accelerated the trend away from large SUV's, pick-ups and vans.**
 - **Current article in Parking magazine by Mary Smith compares yearly parking stall sizes to vehicle manufacturer sizes**
 - **Illustrates the fact that car sizes have stabalized**



Guasti Parking Space Design

CITY OF ONTARIO PARKING REQUIREMENTS

171.00 SQ. FT. 234.00 SQ. FT. 171.00 SQ. FT.

576.00 TOTAL SQ. FT.

678.00 SQ. FT./2 STALLS = 288.00 SQ. FT./STALL

9'-0" x 19'-0" STANDARD
1/8" = 1'-0"

144.00 SQ. FT. 221.00 SQ. FT. 144.00 SQ. FT.

593.00 TOTAL SQ. FT.

610.00 SQ. FT./2 STALLS = 255.00 SQ. FT./STALL

8'-6" x 17'-0" COMPACT
1/8" = 1'-0"

- 25% COMPACT RATIO ALLOWED
- LANDSCAPING 15% OF TOTAL AREA EXCLUDING ANY PERIMETER LANDSCAPING OR SETBACK WHICH MAY BE REQUIRED BY THE BASE ZONING DISTRICT) ISLANDS REQUIRED EVERY 10 STALLS W/ 50% LANDSCAPING CANOPY
- BUMPER GUARDS OR WHEEL STOPS ARE REQUIRED WHERE NECESSARY TO PROTECT A STRUCTURE OR PARKED VEHICLES.
- OFF-STREET PARKING FACILITIES SERVING A NON-RESIDENTIAL USE AND INTENDED FOR USE DURING THE HOURS OF DARKNESS SHALL BE ILLUMINATED IN A MANNER AS REQUIRED BY THE POLICE DEPARTMENT.
- CITY REQUIRES APPROVAL OF ENTRY/EXIT LOCATIONS.

CITY REGULATIONS, 400 STALL STRUCTURE

STANDARD / COMPACT CONCEPT

400 STALLS = 25% COMPACT = 100 COMPACT STALLS

400 STALLS - 100 COMPACT STALLS = 300 STANDARD STALLS

100 STALLS = 255.00 SQ. FT./STALL = 25,500 SQ. FT.

300 STALLS = 288.00 SQ. FT./STALL = 86,400 SQ. FT.

TOTAL SQ. FT. = 111,900 SQ. FT.

111,900 SQ. FT./400 STALLS = 279.75 SQ.FT./STALL

ACCESSIBLE STALL REGULATIONS

DOUBLE ACCESSIBLE STALLS

SINGLE ACCESSIBLE STALL

VAN ACCESSIBLE STALL

NOTE:

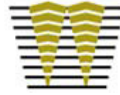
- 1) PER UBC CODE SECTION 119A.3 ALL ENTRANCES TO AND VERTICAL CLEARANCES WITHIN PARKING STRUCTURES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 8'-2" WHERE REQUIRED FOR ACCESSIBILITY TO PARKING SPACES FOR PERSONS WITH PHYSICAL DISABILITIES.
- 2) PER UBC CODE SECTION 119A.4.4 SURFACE SLOPES AND PATH OF TRAVEL FOR ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 1/4" PER FOOT IN ANY DIRECTION OR MORE THAN 2% SLOPE.

1/8" = 1'-0"

Oliver & Graham Principal Real Estate Investors
PARTNERSHIP

GUASTI

Thirtieth Street Architects Associated Engineers, Inc. WATRY DESIGN, INC. Gensler



Guasti Parking Space Design

