



Ahead of the Curve
in creative parking solutions

SHARED PARKING ANALYSIS

LANE PARKE
MOUNTAIN BROOK, ALABAMA

Prepared for:
GOODWYN, MILLS, & CAWOOD,
INC.

FEBRUARY, 2012



WALKER
PARKING CONSULTANTS



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January 6, 2012
Updated February 2, 2012

Jeffrey Brewer
Goodwyn, Mills, and Cawood, Inc.
2701 1st Avenue South
Birmingham, AL 35233

Re: Shared Use Analysis
Lane Parke Mixed-Use Development
Mountain Brook, Alabama
Walker Project # 15-1901.00
FINAL REPORT

Dear Mr. Brewer:

Goodwyn, Mills, and Cawood, Inc. retained Walker Parking Consultants (Walker) to perform a shared parking analysis on the Lane Parke Mixed-Use Development in Mountain Brook, Alabama. The following report details our methodology, analysis and findings surrounding the projected parking demand for this development.

When evaluating parking supply needs for Lane Parke, Walker projected the parking demand exerted during the busiest hour of the busiest month of the year. The philosophy behind this approach is simple; if the planned supply is adequate to meet demand at the pinnacle hour of the year, it will be adequate to meet demand during the other 8,759 hours of the year as well.

PROJECT BACKGROUND

The development at Lane Parke is a mixed-used development featuring retail, office space, restaurant space, and residential. The following uses are planned at build out:

- 94,273 square feet of retail space;
- 9,951 square feet of pharmacy space;
- 13,505 square feet of fine/casual dining space;
- 8,230 square feet of family restaurant space;
- 8,229 square feet of fast food restaurant space;
- 4,500 square feet of bank space;
- 27,312 square feet of grocery space;
- 25,043 square feet of office space.
- 276 Apartments; and
- 100 room hotel space.

METHODOLOGY

Walker designed a shared use parking demand model specifically for Lane Parke. This model is developed from basic demand ratios developed by Walker, the Urban Land Institute, the Institute of Transportation Engineers and other agencies. Base ratios are developed by observing hourly accumulations of vehicles around standalone land uses during the course of a standard year (365 consecutive days) and identifying design conditions for a weekday and a weekend. At the peak hour of the year, a comparison is made between the total number of cars parked and a key driver specific to the land use (square footage for most land uses, rooms for a hotel, bedrooms for a residential complex, seats for a theater or cinema, etc.)

Some base ratios were supplemented by additional data and fieldwork. Base ratios are shown in the following table.

Table 1: Recommended Parking Ratios

Land Use	Weekday		Weekend		Unit	Source	Total	
	Visitor	Employee	Visitor	Employee			Weekday	Weekend
Retail	2.90	0.70	3.20	0.80	/ksf GLA	1	3.60	4.00
Pharmacy	4.90	1.20	4.00	1.00	/ksf GLA	2	6.10	5.00
Fine/Casual Dining	15.25	2.75	17.00	3.00	/ksf GLA	2	18.00	20.00
Family Restaurant	9.00	1.50	12.75	2.25	/ksf GLA	2	10.50	15.00
Fast Food	12.75	2.25	12.00	2.00	/ksf GLA	2	15.00	14.00
Hotel-Business	1.00	0.25	0.90	0.18	/room	2,5	1.25	1.08
Residential Shared, Rental	0.15	1.5	0.15	1.5	/unit	2,3	1.65	1.65
Office <25,000sq ft	0.30	3.50	0.03	0.35	/ksf GLA	2	3.80	0.38
Bank (Drive In Branch)	3.00	1.60	3.00	1.60	/ksf GLA	2	4.60	4.60
Grocery	3.80	1.00	4.90	0.90	/ksf GLA		4.80	5.80

Sources

1. *Parking Requirements for Shopping Centers*, Second Edition. Washington DC: ULI-The Urban Land Institute, 1999
2. *Parking Generation*, Third Edition. Washington DC: Institute of Transportation Engineers, 2004
3. Data collected by Team Members
5. Gerald Salzman, "Hotel Parking: How Much Is Enough?" *Urban Land*, January 1988.

Walker utilized these basic ratios and specifically tailored them to Lane Parke using three factors to customize the model.

The first factor is a driving ratio. The driving ratio represents the percentage of users arriving at the site by means other than personal vehicle. According to the 2000 U.S. Census, approximately 97 percent of Mountain Brook residents arrive to work via private vehicle.

The second factor is the non-captive ratio. Non-captive ratios are typically expressed as a percentage of users who create no incremental parking demand when visiting more than one land use on the same trip. (For example, the office building employee who walks to a retailer during lunch.) Overall, the effects of the captive market can be significant. The use of the non-captive ratio factor ensures that patrons are not counted twice in the overall parking demand estimate for the study area.

Walker based the non-captive ratios on actual observations at mixed-use developments around the country. Adjustments to base demand ratios to render project-specific ratios are shown in the following table.

Table 2: Adjustments to Base Ratios for Driving and Captive Users at Build-Out

Land Use	Driving Ratio				Non Captive Ratio			
	Weekday		Weekend		Weekday		Weekend	
	Daytime	Evening	Daytime	Evening	Daytime	Evening	Daytime	Evening
Retail	95%	97%	95%	95%	90%	90%	90%	90%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Pharmacy	95%	97%	95%	95%	100%	100%	100%	95%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Fine/Casual Dining	95%	97%	95%	95%	80%	80%	80%	80%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Family Restaurant	95%	97%	95%	95%	80%	80%	80%	80%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Fast Food	95%	97%	95%	95%	10%	15%	30%	40%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Hotel-Business	66%	66%	77%	77%	100%	100%	100%	100%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Residential Guest	100%	100%	100%	100%	100%	100%	100%	100%
Residential Shared, Rental	100%	100%	100%	100%	100%	100%	100%	100%
Office = 100k sq ft	95%	97%	95%	95%	100%	100%	100%	100%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Bank (Drive In Branch)	95%	97%	95%	95%	95%	100%	95%	100%
Employee	90%	90%	90%	90%	100%	100%	100%	100%
Grocery	95%	97%	95%	95%	90%	90%	90%	90%
Employee	90%	90%	90%	90%	100%	100%	100%	100%

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The final factor applied to the shared use analysis was presence. Presence is expressed as a percentage of peak potential demand modified for time of day and month of year. Presence can have a significant effect on parking demand in a mixed-use development. For example, a 10,000 square feet retail store has a peak parking demand equal to 36 parking spaces on a weekday or 40 spaces on weekend day at the peak hour. However, this demand is dependent upon the time of day. At 3:00 a.m., the store is unlikely to project any parking demand at all.



Historically, when designing a new development, planners calculated the parking demand for each land use component as a stand-alone entity, providing each use with an independent parking supply. This assured a parking surplus for the development, but increased the developed area and amount of impervious area. In reality fluctuating patterns of demand allow different land uses to share some or all of the same facility, thereby reducing the total number of parking spaces and thus impervious area needed to support a development. By ensuring a development offers an appropriate parking supply for the busiest hour of the year (without an unneeded surplus), owners are also able to maximize open space and undeveloped area.

The more the individual utilization patterns of land uses differ from each other, the more complimentary they are to shared parking use. For example, an office and a retail component are complimentary as they experience peak demand periods at different times during the day and days of the week.

Figure 1 illustrates hourly variations in presence on a weekday and weekend for some the major land uses planned for the project.

Figure 1: Example of Variations in Presence by Time of Day - Weekday

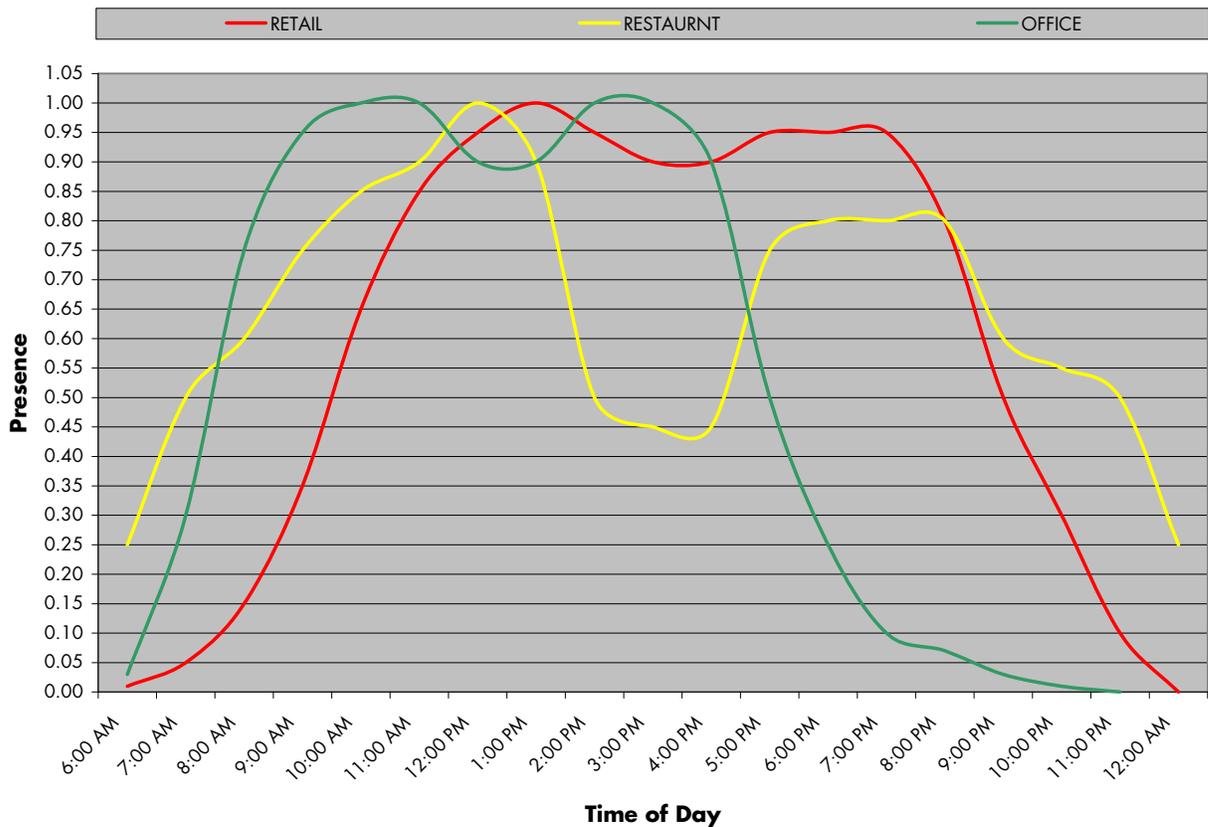
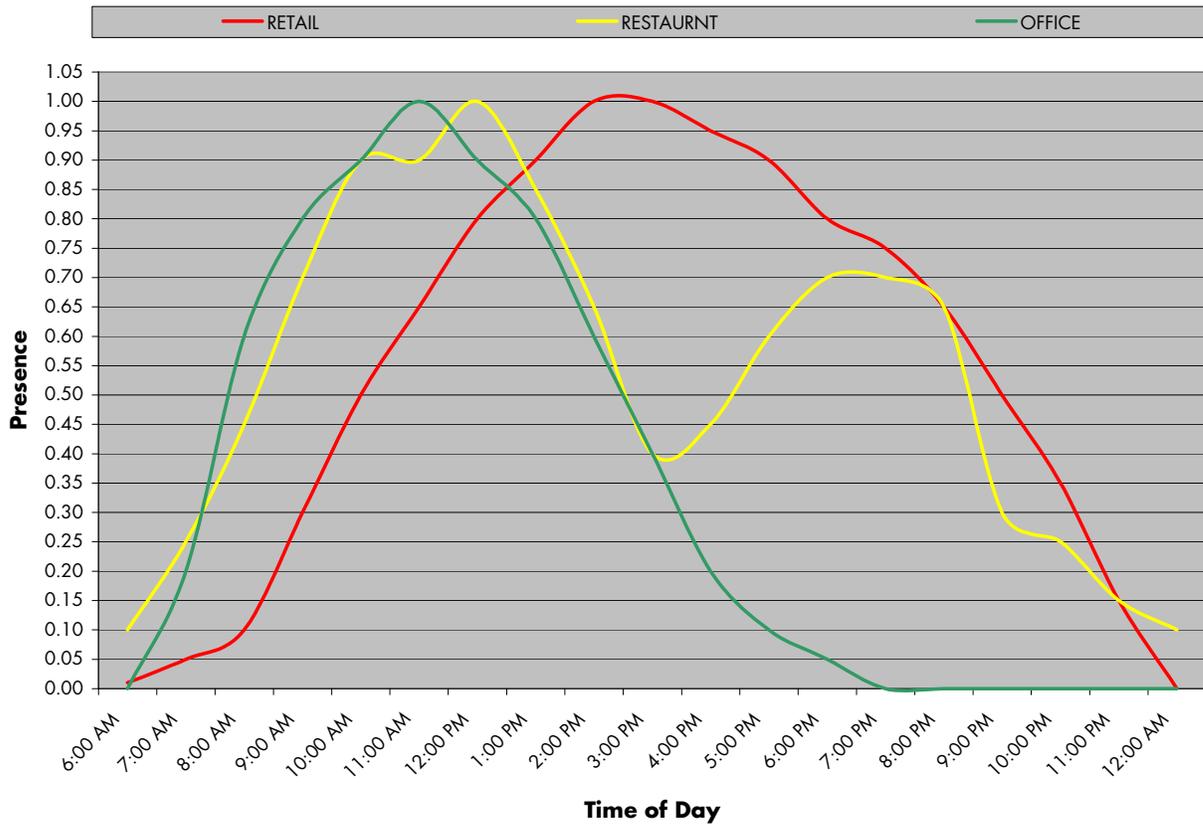




Figure 2: Example of Variations in Presence by Time of Day - Weekend



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Parking demand is also influenced by the time of year. The volume of patronage for a retail establishment peaks during the holiday season and decreases rapidly thereafter. Subsequently, so does parking demand for the overall development. Retailers report peak annual activity the two weeks prior to Christmas. Inversely, office demand decreases as employees are absent on vacation. These variations for time of day and time of year were also calculated for Lane Parke and applied to the model.

PARKING DEMAND PROJECTIONS

Parking demand is a dynamic, fluid force, subject to variations according to the availability of alternative transportation, the proximity of complimentary land uses, variations of user presence according to time of day and time of year, building occupancy rates and a host of other factors. Inversely, parking supply tends to be a fixed quantity, limited by the amount of space that can be allocated to parking facilities. The parking ratios expressed in this analysis have been based on observations of similar developments. Walker has conducted numerous studies and consulted leading organizations, such as the Institute of Transportation Engineers (ITE), the Urban Land Institute (ULI), and the international council of shopping centers (ICSC) in determining the appropriate ratios to be used in the shared parking model

The peak hour is projected to occur at 7:00 p.m. on a December weekend. The projected peak hour demand for the new uses at the development (i.e. the busiest hour of the busiest weekday of the year) based on shared parking, drive ratios, and captive ratios, is 1,136± spaces (1,655 unadjusted). Parking demand accumulations for the busiest hour of the busiest weekday and weekend of the year are presented in the following tables.

Table 3: Peak Hour Demand Projections – Weekday

Land Use	Weekday						Demand December 6:00 PM
	Unadjusted Demand	Month Adj December	Pk Hr Adj 6:00 PM	Non Captive Evening	Drive Ratio Evening		
Retail	273	100%	80%	90%	97%	191	
Employee	66	100%	95%	100%	90%	56	
Pharmacy	49	100%	70%	100%	97%	33	
Employee	12	100%	75%	100%	90%	8	
Fine/Casual Dining	206	100%	95%	80%	97%	152	
Employee	37	100%	100%	100%	90%	33	
Family Restaurant	74	100%	80%	80%	97%	46	
Employee	12	100%	95%	100%	90%	10	
Fast Food	105	100%	85%	15%	97%	13	
Employee	19	100%	90%	100%	90%	15	
Hotel-Business	100	67%	75%	100%	66%	33	
Employee	25	100%	40%	100%	90%	9	
Residential Guest	7	100%	60%	100%	100%	4	
Residential Shared, Rental	414	100%	90%	100%	100%	373	
Office = 100k sq ft	6	100%	5%	100%	97%	0	
Employee	79	100%	25%	100%	90%	18	
Bank (Drive In Branch)	14	100%	0%	100%	97%	0	
Employee	7	100%	0%	100%	90%	0	
Grocery	104	95%	70%	90%	97%	60	
Employee	27	100%	80%	100%	90%	19	
Subtotal Customer/Guest Spaces	938					532	
Subtotal Employee Spaces	698					541	
Subtotal Reserved Spaces	0					0	
Total Parking Spaces	1,636					1,073	

Shared Parking Reduction	Spaces:	563
	% reduction	34%



Table 4: Peak Hour Demand Projections – Weekend

Land Use	Weekend					Demand December 7:00 PM
	Unadjusted Demand	Month Adj December	Pk Hr Adj 7:00 PM	Non Captive Evening	Drive Ratio Evening	
Retail	302	100%	75%	90%	95%	194
Employee	75	100%	80%	100%	90%	54
Pharmacy	40	100%	100%	95%	95%	36
Employee	10	100%	100%	100%	90%	9
Fine/Casual Dining	230	100%	95%	80%	95%	166
Employee	41	100%	100%	100%	90%	37
Family Restaurant	105	100%	70%	80%	95%	56
Employee	19	100%	95%	100%	90%	16
Fast Food	99	100%	80%	40%	95%	30
Employee	16	100%	90%	100%	90%	13
Hotel-Business	90	67%	75%	100%	77%	35
Employee	18	100%	55%	100%	90%	9
Residential Guest	7	100%	100%	100%	100%	7
Residential Shared, Rental	414	100%	97%	100%	100%	402
Office = 100k sq ft	1	100%	0%	100%	95%	0
Employee	8	100%	0%	100%	90%	0
Bank (Drive In Branch)	14	100%	0%	100%	95%	0
Employee	7	100%	0%	100%	90%	0
Grocery	134	95%	58%	90%	95%	63
Employee	25	100%	40%	100%	90%	9
Subtotal Customer/Guest Spaces	1,022					587
Subtotal Employee Spaces	633					549
Subtotal Reserved Spaces	0					0
Total Parking Spaces	1,655					1,136

Shared Parking Reduction	Spaces:	519
	% reduction	31%

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DEMAND BY USER

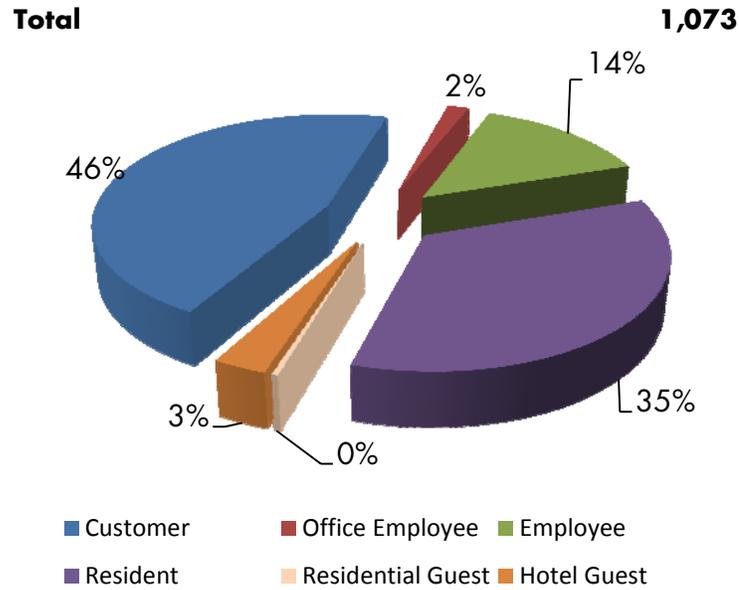
The premise of shared parking is the ability to reduce the required parking supply due to the different parking needs of different users and different land use types. Identifying parking demand by user type is even more important as the tasks of designating parking areas and managing parking assets come into play.

Some user groups will accept different levels of service. That is, some users will walk farther from parking to their destinations, while some will demand closer, more convenient parking. Generally, office employees will walk farther from parking locations to work. However, office workers typically like to park in the same area every day, in order to reduce search times. Retail/restaurant customers typically require nearby parking that is easy to identify. Residents require designated, secure parking areas that are protected from weather and adjacent to residential units.

The following tables and graphs depict parking demand by user type.

Figure 3: Parking Demand by User Type – Weekday

User	Weekday @ 6:00 PM
Customer	495
Office Employee	18
Employee	150
Resident	373
Residential Guest	4
Hotel Guest	33



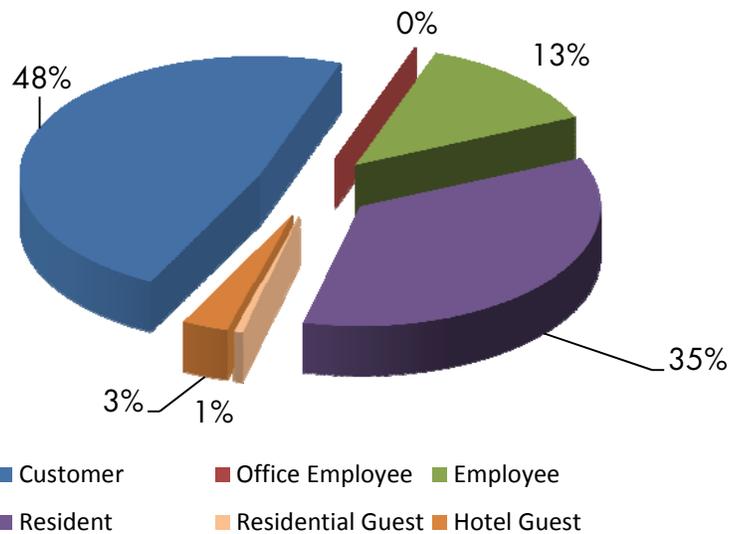
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Weekday parking conditions peak during the 6:00 p.m. hour with 1,073 spaces occupied. Approximately 46% of the peak demand is generated by retail and restaurant customers, while residents make up an estimated 35% of demand during peak conditions.



Figure 4: Parking Demand by User Type – Weekend

User	Weekend @ 7:00 PM
Customer	545
Office Employee	0
Employee	147
Resident	402
Residential Guest	7
Hotel Guest	35
Total	1,136



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During peak weekend conditions, retail and restaurant customers at 48% and residents at 35% account for the largest percentage of demand.

SEASONALITY

An integral part of calculating shared parking demand is to understand the seasonality of demand for each land use type. The monthly factors established by ULI's "Shared Parking, 2nd Edition" are used not only to determine the interplay between uses during different times of the year, but also combine to determine the overall demand throughout the year. The recommended design demand for the overall site is 1,136 spaces for the base programming, as stated in Table 4. However, this design demand is projected to occur at a particular time and does not represent the year-round demand for the development as shown in the following table and graph.

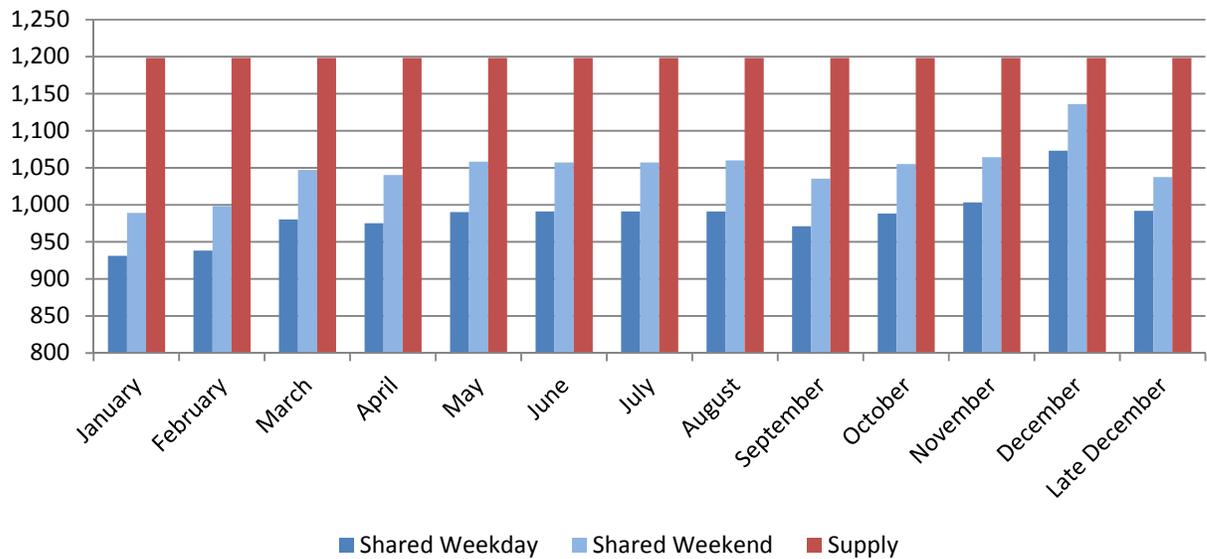


Table 5: Seasonality of Demand

	Shared Weekday		Shared Weekend	
	Demand	% of Peak	Demand	% of Peak
January	931	87%	989	87%
February	938	87%	998	88%
March	980	91%	1,047	92%
April	975	91%	1,040	92%
May	990	92%	1,058	93%
June	991	92%	1,057	93%
July	991	92%	1,057	93%
August	991	92%	1,060	93%
September	971	90%	1,035	91%
October	988	92%	1,055	93%
November	1,003	93%	1,064	94%
December	1,073	100%	1,136	100%
Late December	992	92%	1,037	91%

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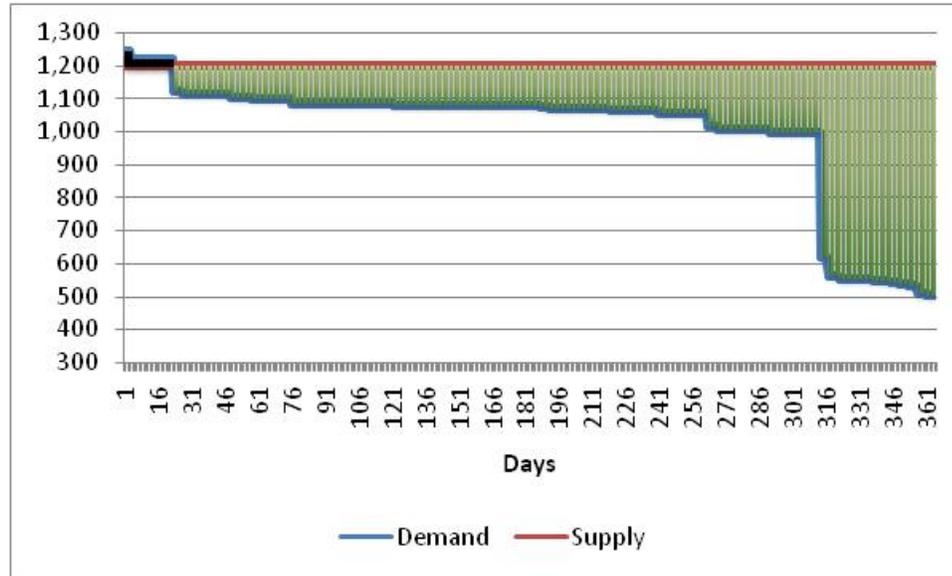
Figure 5: Peak Demand by Month



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Figure 6: Projected Parking Surplus by Day



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LOCAL REQUIREMENTS

The planning parking supply does meet current code requirements when comparing the planning parking supply to parking needs using shared parking methodology as permitted by the Village Overlay Standards. Even though local code for unshared parking in Mountain Brook dictates that 1,475 spaces should be established to support the base programming, the Village Overlay Standards, as described below, permit reductions for shared parking arrangements.

Table 6: Local Code Requirements (unshared)

Land Use	Required Parking Ratio	Total	
		Units	Spaces
Retail	5.0 per 1,000 sf	144,265	722
Office	4 per 1,000 sf	25,043	101
Hotel	1 per key	100	100
Residential	2 per du	276	552
Required			1,475
Supply			1,201
Over/(Short)			(274)

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In our experience, many municipalities are now allowing for shared parking reductions, through individual requests (supported by a professional analysis) or adopted into the ordinances as a standard. Using the Village Overlay Standards, [Article XXXI. Section 129-555.(b) (3)], a reduction considering shared parking methodology may be proposed.

"d. The cumulative requirements of uses sharing the parking may be reduced for uses having different hours of operation or different peak period of demand. The proposed reduction shall be based upon recognized industry sources, such as the more recent edition of the Urban Land Institute Shared Parking Model or other similar and equivalent study or data, and upon evidence that such model is applicable to the agreement..."

Consequently, we prepared a model replacing the ULI base parking demand ratios with the current code required ratios, thereby applying the shared parking concept to the local parking requirements. The resultant is a need for 974 spaces, which is less than the planned 1,201 spaces.



Table 7: Code Requirement, Adjusted for Shared Parking

Land Use	Unadjusted Code Requirement	Demand December 6:00 PM
Retail	377	263
Employee	94	80
Pharmacy	40	27
Employee	10	7
Fine/Casual Dining	54	40
Employee	14	13
Family Restaurant	33	20
Employee	8	7
Fast Food	33	4
Employee	8	6
Hotel-Business	100	33
Employee	0	0
Residential Guest	0	0
Residential Shared, Rental	414	373
Office = 100k sq ft	20	1
Employee	80	18
Bank (Drive In Branch)	18	0
Employee	5	0
Grocery	109	63
Employee	27	19
Subtotal Customer/Guest Spaces	784	451
Subtotal Employee Spaces	660	523
Subtotal Reserved Spaces	0	0
Total Parking Spaces	1,444	974

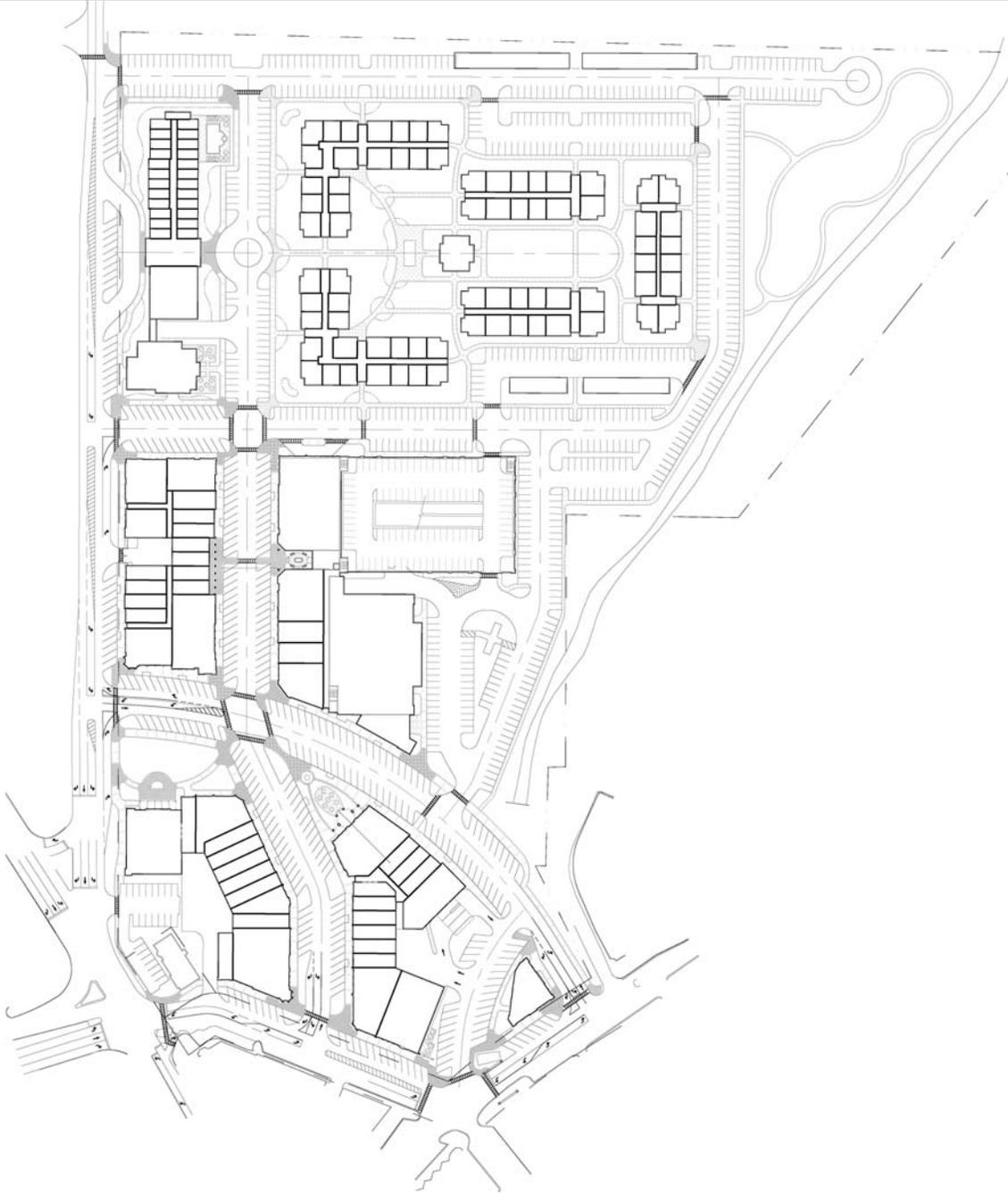
Shared Parking Reduction	Spaces:	470
		33%



PARKING SUPPLY/SITE PLAN

Lane Parke will provide approximately 1,201± spaces on-site in multiple surface lots and one parking structure, shown on the following figure.

Figure 7: Site



ALTERNATE PARKING LOCATIONS

From time to time, additional parking may be needed for Lane Parke. The developer has identified off-site parking facilities that may be available to accommodate parking during peak holiday periods. The developer is currently investigating one or more of the following options:

1. Botanical Gardens: 215± spaces
2. Birmingham Zoo: 515± spaces
3. Shades Valley Presbyterian: 110± spaces
4. Mountain Brook Elementary: 76± spaces (plus an underground parking facility, size unknown at this time)
5. George Ladd Building: 100± spaces
6. Office Park Circle: 900± spaces
7. BB & T Office Building: 375± spaces

VALET PARKING

EXPLORING OPPORTUNITIES FOR VALET PARKING

The opportunity may exist to offer seasonal valet parking to the restaurant patrons. This alternative may increase the level of service provided and may increase the utilization of less desirable, unused parking spaces. Several restaurants typically offer valet parking as an amenity to their guests, and as a way to maximize parking resources.

Walker has worked to identify valet storage areas in the parking structure, for each level. These spaces incorporate a modest stacking scheme that would require movement of cars to retrieve cars blocked in by the valet stack. Level one could comfortably accommodate 14± extra cars, with minimal stacking. Level two could accommodate 12± extra cars, with minimal stacking. Level three could accommodate 12± extra cars, with minimal stacking. To accommodate more cars during periods of extreme peak demand, additional stacking is shown on an option for level 3. This would require more maneuvering of vehicles, but may result in 38± additional cars. The following figures illustrate potential valet parking schemes for the parking structure.



Figure 8: Valet Level 1

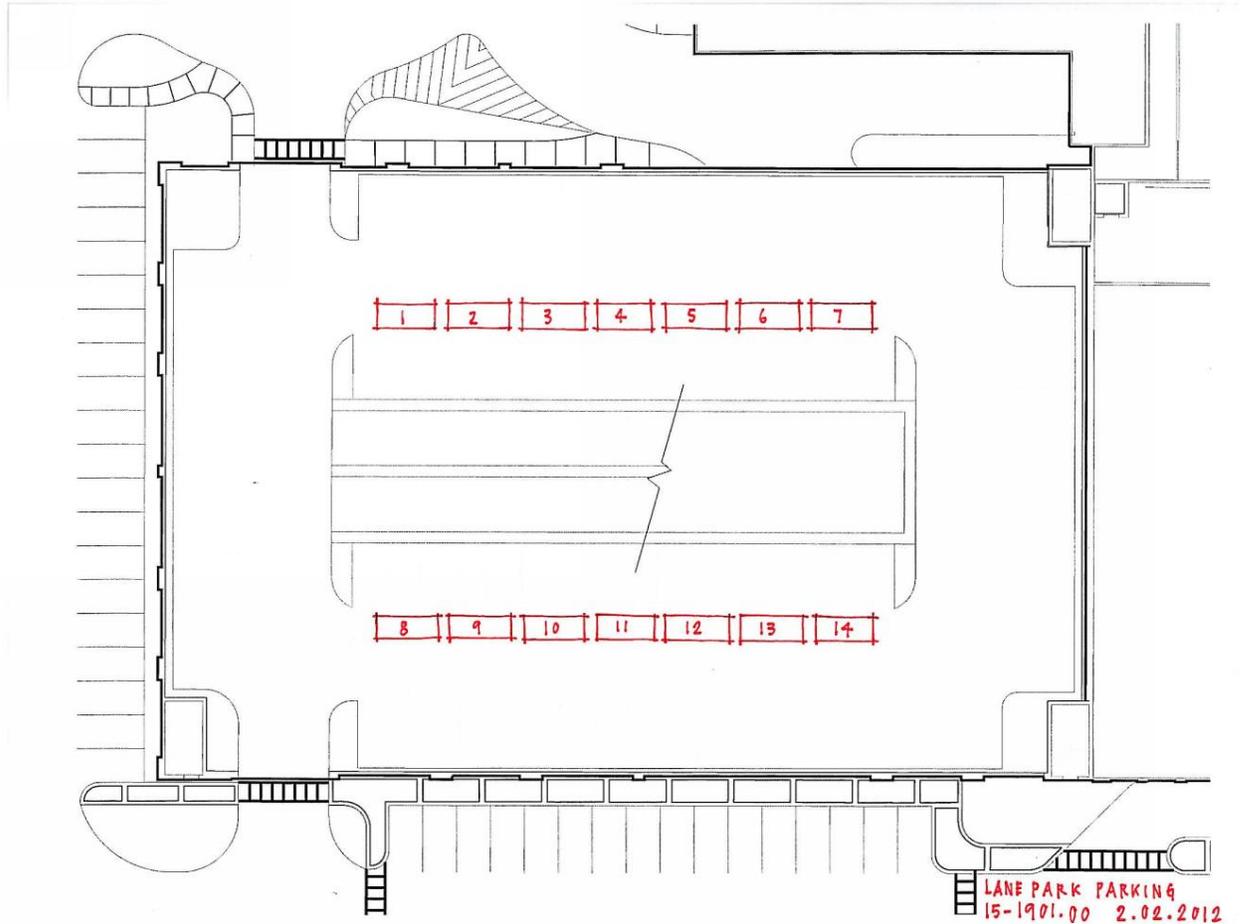




Figure 9: Valet Level 2

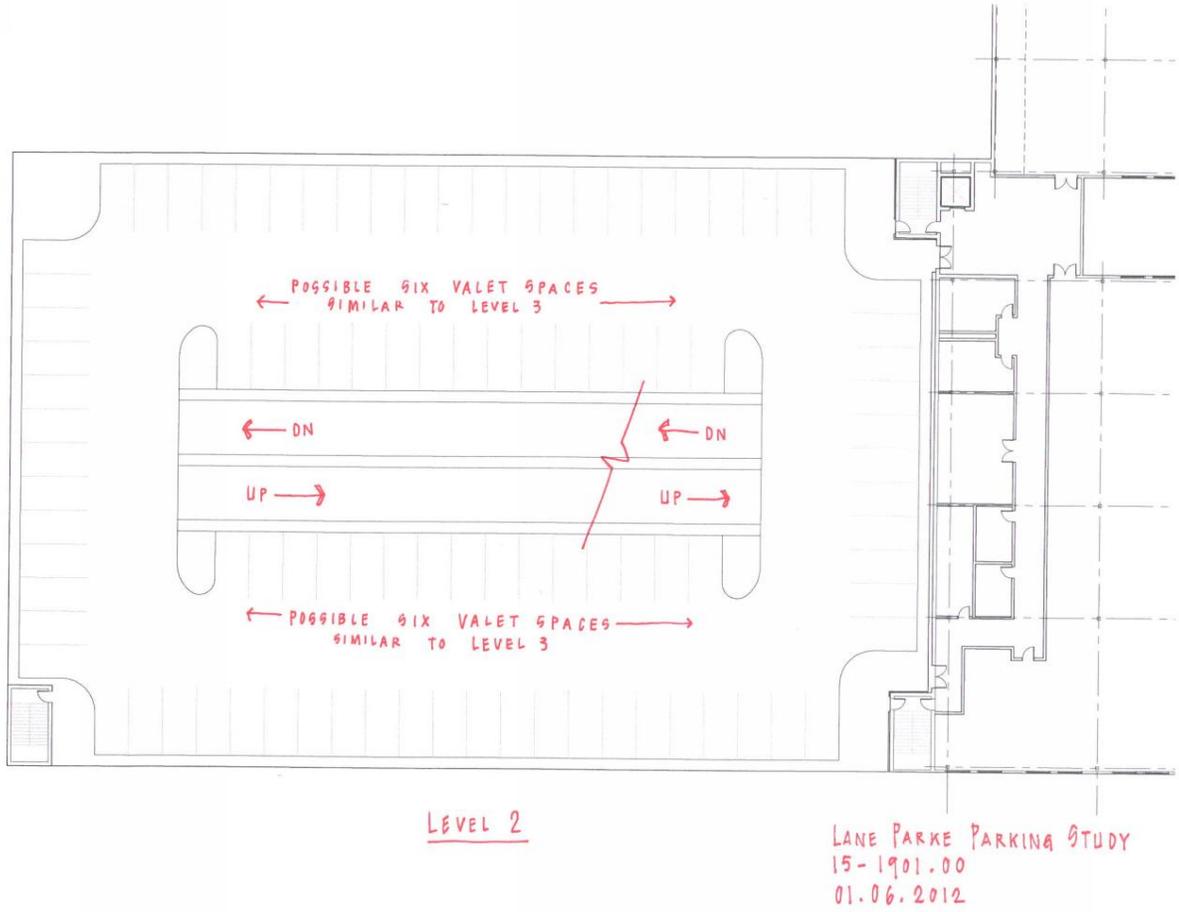
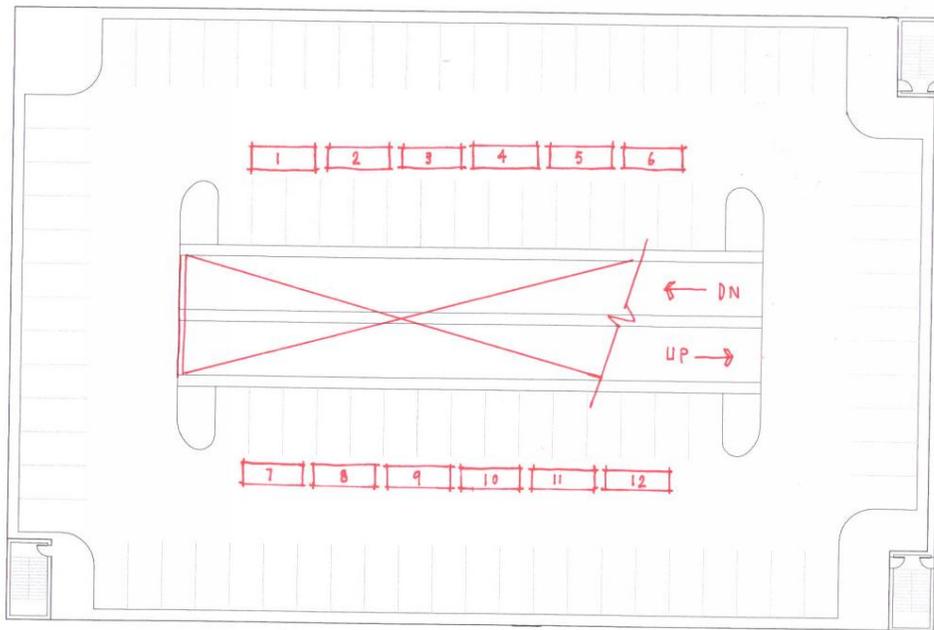




Figure 10: Valet Level 3

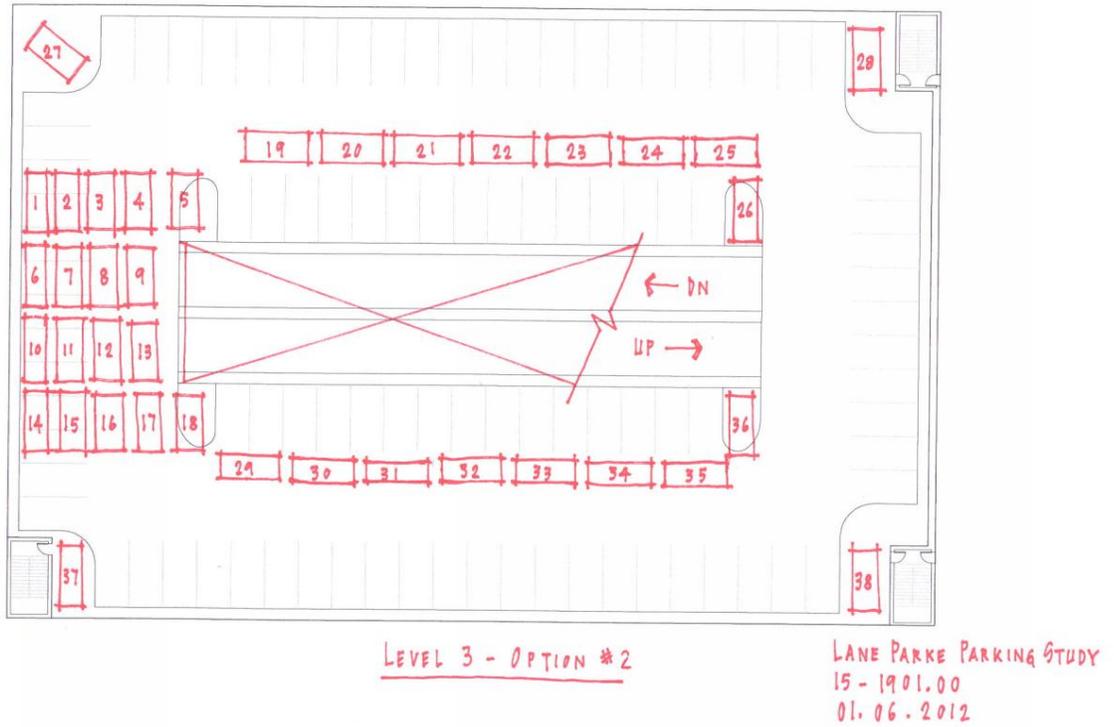


LEVEL 3 - OPTION #1

LANE PARKE PARKING STUDY
15-1901.00
01.06.2012



Figure 11: Valet Level 3 OPTIONAL





PARKING SUPPLY/DEMAND SUMMARY

For weekends, the peak hour of the year is projected to occur at 7:00 p.m. in December. Based on the proposed mix of uses and applying shared parking, drive ratios, and captive ratios, the projected annual peak hour demand figure for Lane Parke is 1,136± spaces (1,073± spaces for weekday).

Lane Parke will provide approximately 1,201± spaces on-site in surface lots and one parking structure (up to 1,265± with valet in the parking structure). Peak demand is projected at 1,136±, leaving a parking surplus of approximately 65± spaces (without valet).

We hope you have found this analysis informative and useful.

Respectfully Submitted,
WALKER PARKING CONSULTANTS

Jeffrey A. Colvin, AICP
Parking Consultant