WALKER
PARKING CONSULTANTS

6602 E. 75th Street, Suite 210
Indianapolis, Indiana 46250

Tel: 317.842.6890

800.860.1579
www.walkerparking.com

July 8, 2016

Gary Carter
Economic Development Department
Clayton City Hall
10 N. Bemiston Avenue
Clayton, Missouri 63105

Re: Parking Needs Assessment
City of Clayton, Missouri
Walker Project #31-7958.00

Dear Mr. Carter:

Walker Parking Consultants, in association with Lochmueller Group, is pleased to present our findings relating to the referenced project. The attached report contains our analysis, conclusions, and assumptions. We appreciate and thank you for the opportunity to be of service to the City of Clayton. Please do call if there are any questions regarding our work.

Sincerely,

WALKER PARKING CONSULTANTS

John W. Dorsett, AICP, CPP
Senior Vice President

Megan Gardo
Parking Analyst

PARKING NEEDS ASSESSMENT

CITY OF CLAYTON

CLAYTON, MISSOURI

Prepared for:
ECONOMIC DEVELOPMENT
DEPARTMENT

JULY 8, 2016

WALKER
PARKING CONSULTANTS

PROJECT NO. 31-7958.00

PARKING NEEDS ASSESSMENT

CITY OF CLAYTON

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Table of Contents

Table of Contents

LIST OF TABLES AND FIGURES

Table of Contents

Executive Summary

EXECUTIVE SUMMARY

Downtown Clayton is a thriving business district, with more than seven million square feet of premier office space and one million square feet of specialty boutiques, galleries and restaurants. Over the next ten years, several major redevelopment projects are anticipated in the downtown area and these projects are expected to increase downtown parking demand. In anticipation of this growth, the City of Clayton ("City") engaged Walker Parking Consultants ("Walker") to perform a parking needs assessment of the downtown area, including a supply and demand study, a parking alternatives analysis, and a review of parking policies and practices.

PARKING SUPPLY AND DEMAND ANALYSIS

Based on this study, it may be concluded that there are significant parking space vacancies in downtown Clayton, during typical peak weekday business hours , weekday evenings, and weekends. A significant surplus of parking spaces exists.

EXISTING CONDITIONS

An estimated 66%, or almost 10,300, of the 15,656 publicly-available parking spaces within the downtown study area were observed to be occupied during the typical busiest hours on a weekday. Privately-owned, publicly-available facilities were slightly more utilized than on-street and public off-street parking spaces. Downtown parking is dominated by office demand. During the evenings and weekends, parking occupancy rates are significantly lower, with only about 14% of the available publicly-available supply occupied.

Occasionally, it may be difficult for users to locate parking on a handful of selected blocks that are located near Carondelet and Hanley or along Central Avenue. In these cases, users may have to walk a block or two from their parking spot to their final destination and back. A parking structure could be developed to address these occasional occurrences and also to support future development projects.

Walker surveyed a 32-block area in downtown Clayton on select weekdays and Saturdays in March, 2016 to confirm the available parking supply of publicly-available facilities and observe parking space occupancy rates. The following are our key field observations:

- An estimated 15,565 publicly-available parking spaces were identified within the downtown study area, including 13,775 privately-owned, publicly-available spaces and 1,881 publicly-owned and publicly-available parking spaces.

Executive Summary

- Peak weekday parking occupancy was observed during the morning when approximately 10,267 spaces or 66% of the available parking supply was occupied.
- During weekend conditions, peak parking demand was also observed during the morning, when 2,226 spaces or 14% of the available parking supply was occupied.

FUTURE CONDITIONS

Future parking demand was projected by taking baseline existing conditions and adding incremental growth from identified and known proposed redevelopment projects. It is our understanding that the majority of the new developments will provide their own private/restricted parking supply on site to support their own parking needs. As such, the publicly-available parking supply will not be significantly impacted.

The city identified seven redevelopment projects in or adjacent to the Study Area. The projects to be located on Blocks 22 and 32 are expected to impact future publicly-available parking supply. The parking demand generated by the library project on Block 32 and the new office development on Block 23 will also have an impact on future publicly-available parking conditions in the Study Area. As stated above, the remaining developments will mostly provide their own privately-owned, restricted parking facilities on site and in a majority of cases, this proposed supply is expected to meet increases in parking demand. In cases where the proposed supply is expected to fall short, we believe that the existing parking surplus will more than make up for increases in parking demand.

Executive Summary

New Development Assumptions

Existing Design Day Parking Demand

+

Identified and Known Redevelopment Projects:

Block	Land Use	Quantity		Base Ratio	
Outside	Residential	230	Dwelling Units	1.5	/Unit
23	Office	233,266	Square Feet	3.2	/KSF
22	Residential	260	Dwelling Units	1.5	/Unit
	Fine/Casual	7,500	Square Feet	20	/KSF
	Retail	7,500	Square Feet	4	/KSF
21	Residential	120	Dwelling Units	1.5	/Unit
	Fast/Casual	6,718	Square Feet	14	/KSF
	Retail	13,436	Square Feet	4	/KSF
32	Library	20,000	Square Feet	1.61	/KSF[1]
2	Residential	250	Dwelling Units	1.5	/Unit
6	Judicial	240,000	Square Feet	1.72	/KSF[2]

Please note, most of the changes in future parking supply and demand are projected to occur in the privately-owned, privately-available and restricted parking category.

Because no significant change in publicly-available parking occupancy is projected, parking demand is expected to remain relatively constant over the ten-year planning horizon. Future parking adequacy is projected as follows:

- By 2018, a typical peak weekday parking demand of 11,243 spaces or 73% occupancy is expected when compared to the available supply of 15,496 spaces.
    - No significant changes to on-street or privately-owned and publicly-available off-street parking are projected, with the exception of Block 23.
    - Public off-street parking occupancy is expected to increase to 73% during typical peak hours on a weekday. The parking supply in the public lot on Block 22 will be temporary displaced due to development and the existing demand will need to be redirected to other public and/or private facilities.
- During both the five- and ten-year planning horizons, which extends through 2026, 73% of the available parking spaces are expected to be occupied during peak weekday conditions.

Executive Summary

- While minor changes to the typical weekend parking demand are expected, the parking occupancy rate is projected to remain steady at 16% over the next ten years.

While most blocks are expected to have an adequate supply to support future demand during both weekday and weekend conditions, parking "hot spots" are expected. The table below summarizes the overall current and future parking demand and adequacy.

		Weekday				Weekend			
		Design	2018	2021	2026	Design	2018	2021	2026
Total	Supply	15,656	15,496	15,668	15,668	15,656	15,496	15,668	15,668
	Effective Supply	14,733	14,585	14,743	14,743	14,733	14,585	14,743	14,743
	Demand	10,780	11,243	11,443	11,454	2,382	2,410	2,457	2,468
	Occupancy	69%	73%	73%	73%	15%	16%	16%	16%
	Adequacy	3,953	3,342	3,300	3,289	12,351	12,175	12,286	12,275

EVALUATION OF PARKING POLICIES AND MUNICIPAL PARKING PROGRAM

Walker reviewed the city's parking policies and practices with the intent of recommending changes to help improve the overall delivery of parking services. Overall, the city manages more than 2,700 on- and off-street parking spaces in the greater downtown area and offers a variety of programs to residents, businesses, and customers. The city effectively relays its parking-related materials to the public through their webpage, including providing information regarding the location, cost, and hours of operation of various parking facilities through an interactive map, as well as links to their residential parking program, valet parking program, employee parking incentive program, parking policies and fines, mobile app, FAQ, and much more. Additionally, the city is further improving their communication efforts by offering a mobile parking app to better disseminate information to the public and payment by cell phone as a customer service enhancement.

While the city's parking website is an invaluable resource for parkers, there are other areas where changes to policies and practices could be made to improve parking in the downtown area. The following is a summary of these recommendations:

- **Planning/Zoning**
  - Revise the parking requirements listed in the zoning ordinance to reflect NPA recommendations. The 2015 Business Survey reported 45% of respondents were dissatisfied with restaurant/retail parking. We recommend encouraging restaurants and retailers to direct their

Executive Summary

employees to less convenient off-street facilities and advertise customer parking areas.
    - Advocate for and negotiate more shared parking opportunities with existing privately-owned parking facility owners. This may also include better educating the public regarding availability in existing parking facilities through marketing and signage programs.
    - Bid the parking operator contract every three years to encourage competition and gain the best value for the city.
    - Create a "park once" environment by establishing zones within the downtown area with time limits to minimize car shuffling on street by long term parkers.
- **Enforcement**
    - Revise the parking fine schedule to discourage repeat offenders.
    - Evaluate parking rates in conjunction with the implementation of pay-by-cell technology. On-street parking rates should be equal to or greater than hourly off-street rates. Public off-street rates should also be increased to keep in line with private facilities.
    - Review electronic citation issuance system to improve efficiency and the effectiveness of PEOs.
    - Re-evaluate the need to extend enforcement hours into the evening.
- **Communication/Organization**
    - Review and revise parking policies across all mediums to ensure a consistent message.
    - Identify a "parking champion" to serve as a centralized parking resources regarding the management of both on- and off-street facilities in the downtown area.

PARKING ALTERNATIVES ANALYSIS

While our observation and projections do not indicate a parking shortage on the whole, there are areas experiencing parking demand at or above 85% of supply. Additionally, while the known future developments will provide their own on-site parking supply, there may be some overflow demand. As such, the Study Area was evaluated to determine the optimum location(s) to provide additional parking. Walker's observations indicated the highest percentage of parking space occupancies occurred on Blocks 8, 14, and 15. Conversely, much of the planned redevelopment is expected to occur on blocks west of Central Avenue.

There are limited opportunities available in the downtown area to develop new parking. With the exception of Block 13, most of the blocks in the downtown area do not have adequate surface area available to build structured parking or properties are privately-owned and would require the city to purchase the property or enter into a public-private partnership.

Executive Summary

Walker considered several options to increase the available public parking supply in the downtown area, including restriping/reconfiguring an existing public lot and developing structured parking, both with and without ground floor retail. The table below summarizes the options.

ALTERNATIVE	*NET SPACE GAIN*	*PROJECT COST*
Block 13* – Option 1 Restripe/reconfigure the existing surface lot	Net gain of 4 spaces Existing: 150 Proposed: 154	$5,390
Block 13 – Option 2 Develop a four-level parking structure on the west side of the existing parking lot	Net gain of 224 spaces Existing: 93 Proposed: 317	$5,706,000 to $6,657,000
Block 13 – Option 3 Develop a four-level parking structure on the west side of the existing parking lot with retail on the ground floor	Net gain of 312 spaces Existing: 93 Proposed: 405	7,290,000 to $8,505,000

*Block 13 is bounded by Forsyth Blvd. to the north, Bemiston Ave. to the east, Carondelet Blvd. to the south, and Central Ave. to the west.

SUPPLY AND DEMAND ANALYSIS

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Supply and Demand Analysis

SUPPLY AND DEMAND ANALYSIS

INTRODUCTION

The City of Clayton (the "city") retained Walker ("Walker") and the Lochmueller Group ("Lochmueller") to evaluate the current and future parking supply and demand in Clayton, perform a policy assessment to discuss existing and potential management and operational improvements, and an alternatives analysis to analyze options for expanding parking capacity. The purpose of the study is to provide a quantitative evaluation of the current and future parking adequacy that clearly identifies the parking inventory, utilization and availability in Clayton, while providing insight on how the current inventory may be used more efficiently and whether additional supply is warranted.

SCOPE OF SERVICES

TASK 1: SUPPLY AND DEMAND ANALYSIS

1. Meet with City of Clayton (Client) representatives to finalize project parameters, review project background and obtain previous reports, area maps, and other background information.
2. Obtain and review land use data within the study area, provided in terms of square footage by land-use type (i.e. retail, restaurant, hotel, office, etc.)
3. Conduct parking inventories of on- and off-street parking within the study area. Inventories include space counts, rates, and restrictions.
4. Conduct parking occupancy counts (mid-morning, mid-afternoon and evening) of parking in the study area on a weekday and on a weekend.
5. Conduct an hourly license plate survey of on-street spaces (up to 6 block faces) to determine the user turnover and duration characteristics.
6. Determine the surplus or shortfall within the area under current conditions, and create tabular and graphic illustrations of the parking system adequacy.
7. Obtain build-out plans from the Client and adjust the demand model to show future parking demand generated by approved and/or proposed developments in the area.
8. Determine the present and future parking supply and demand. Base demand on data gathered from the Client and parking demand ratios developed from Walker's data from similar studies. Estimate the future adequacy of the parking system, including estimates of the timing of any future parking shortages and possible solutions for a two-, five-, and 10-year planning horizons.

Supply and Demand Analysis

9. Facilitate stakeholder meetings (up to three) during the data collection trip. Client to arrange and coordinate with appropriate stakeholders (as identified by the Client).
10. Conduct up to two community meetings for the purpose of gathering input into parking perceptions and needs.

TASK 2: PARKING ALTERNATIVES ANALYSIS

1. Review inventory, utilization and turnover data collected in Task I.
2. If data suggests imbalances of usage, recommend management and policy changes that could reduce congestion in affected areas.
3. Review existing vehicular and pedestrian access and circulation patterns for their relationship to existing and proposed parking facilities/lots.
4. Determine whether the number of spaces could be increased through significant efficiency improvements in existing facilities/lots.
5. Determine whether any existing facilities/lots can be expanded to meet area parking needs.
6. Identify potential locations for new parking facilities (surface and/or structured). External variables that will be considered are desirable density, phasing of construction, and incorporation of other uses (such as retail) in any proposed facility.
7. Determine an order of magnitude project cost including estimated operational expenses to enable a comparison of the costs of each alternative on an “apples to apples” basis.
8. Evaluate the various alternatives on the basis of qualitative criteria to be mutually agreed upon with the Client. A weighted matrix will be used to achieve more objectivity and to rank the alternatives.
9. Meet with the Client via teleconference to discuss the conceptual designs of any potential new parking facilities (if needed) and present the matrix analysis to agree upon weighting and other considerations.
10. Develop a recommended plan for improvements, including phasing of components corresponding to projected needs.
11. Present findings of all tasks to Mayor and Board of Aldermen (one meeting).

TASK 3: REVIEW OF PARKING POLICIES AND PRACTICES

1. Identify for the Client’s consideration, other customer-service enhancements that do not exist in the city. Obtain and review city parking policies, practices, and ordinances relating to parking.
2. Review and comment on parking rates, time restrictions or lack thereof, and enforcement hours.

Supply and Demand Analysis

3. Review existing parking equipment and recommend upgrades where necessary.
4. Recommend modifications to the parking element of the city's zoning ordinance that align with its downtown parking plan.
5. Review and comment on existing parking signage downtown and identify opportunities for improvement.

DEFINITION OF TERMS

Several terms or jargon are used in this report that have unique meanings when used in the parking industry. To help clarify these terms and enhance understanding by the reader, the following definitions are presented.

- **Adequacy** - The difference between the effective parking supply and parking space demand.
- **Design Day** - The day that represents the level of parking demand that the parking system is designed to accommodate. In most of the thousands of parking studies that we have conducted, this level of activity is typically equal to the 85th to 95th percentile of absolute peak activity. Although we will occasionally design to a higher-than-typical design standard, such as one exceeded less than one day per month or even the absolute peak level of demand, we do not typically design to these extreme conditions because the result is an abundance of spaces that remain unused most of the time.
- **Effective Supply** - The total supply of parking spaces, adjusted to reflect the cushion needed to provide for vehicles moving in and out of spaces, spaces unavailable due to maintenance, and to reduce the time necessary for parking patrons to find the last few available spaces. The effective supply varies as to the user group and type of parking, but typically the effective supply is 85 percent to 95 percent of the total number of spaces. The adjustment factor is known as the Effective Supply Factor.
- **Inventory** - The total number of marked publicly-available parking spaces within the Study Area.
- **Parking Demand** - The number of spaces required by various user groups in the downtown area. Parking demand representing design day conditions is compared with effective supply to determine the adequacy of a parking system.
- **Parking Generation** - The peak accumulation of parked vehicles generated by the land uses present under any given set of conditions.
- **Patron or User** - Any individual parking in a study area.
- **Peak Hour** - The peak hour represents the busiest hour of the day for parking demand.

Supply and Demand Analysis

- **Survey Day** - The day that occupancy counts within a study area are recorded. This day should represent a typical busy day.

EXISTING CONDITIONS

STUDY AREA

The City of Clayton identified an approximately 32-block Study Area as the focus of this study. The Study Area is generally bounded by Maryland Avenue to the north, the intersection of Forsyth Boulevard and Forest Park Parkway to the east, Forest Park Parkway to the south, and Gay Avenue to the west. A small portion of Meramec Avenue, between Maryland Avenue and Kingsbury Avenue, is also included in the Study Area. The following figure depicts the Study Area.

Supply and Demand Analysis

Figure 1: Study Area

Source: Google, 2016

Supply and Demand Analysis

PARKING SUPPLY

The foundation of a parking supply and demand study is an inventory of the existing publicly-available parking supply. Publicly-available parking in the Study Area is available in several forms. All on-street parking is metered at a rate of $1/hour, with a two-hour time limit on most blocks. For the most part, on-street parking is signed and restrictions are clearly marked. Off-street parking is available to the public in privately-owned surface lots and garages, as well as six publicly-owned parking lots and garages. Parking in the publicly-owned facilities is metered or contains a parking access and revenue control system. Most privately-owned public parking facilities charge for parking.

The Walker/ Lochmueller team did not survey privately-owned parking facilities restricted or reserved for a specific use group such as residents, certain offices, or the university. These facilities were identified as reserved or restricted through signage or parking access equipment.

We conducted this analysis on a block-by-block basis within the Study Area, segmenting the demand by block and facility.

Based on the data collected, there are a total of 15,656± publicly-available parking spaces in the Study Area. Following is a breakdown of these spaces: 944± are on street and 14,712± are off street. Of the off-street spaces, 937± are located in publicly-owned facilities and 13,775± are located in privately-owned facilities available to the public. Note, most spaces operated by the St. Louis Parking Company, a commercial parking operator, are included in the 13,775 privately-owned space count.

Supply and Demand Analysis

Table 1: Parking Supply Summary

Block	On-Street	St. Louis Parking Operated		Privately Owned		Public Off-Street	Total
		Surface	Garage	Surface	Garage		
1	32	0	0	181	0	0	213
2	39	0	1,284	0	0	0	1,323
3	29	0	831	10	0	0	870
4	35	0	569	0	0	0	604
5	43	0	0	7	32	575	657
6	24	0	0	0	0	0	24
7	44	0	667	0	0	0	711
8	50	38	0	0	2,371	0	2,459
9	0	0	38	0	0	0	38
10	8	0	1,229	51	0	0	1,288
11	42	0	325	0	290	0	657
12	26	0	0	0	0	0	26
13	46	0	172	0	0	150	368
14	37	0	122	55	632	0	846
15	26	0	0	0	49	13	88
16	0	0	0	0	384	0	384
17	16	0	0	0	0	0	16
18	26	69	0	0	0	0	95
19	23	0	471	7	0	0	501
20	45	0	0	41	23	0	109
21	43	0	0	0	0	0	43
22	51	0	0	0	500	156	707
23	53	0	2,487	0	0	0	2,540
24	12	0	0	82	0	0	94
25	0	0	0	0	0	0	0
26	73	0	0	153	57	0	283
27	29	0	0	81	0	0	110
28	19	47	0	91	0	0	157
29	13	0	48	0	0	0	61
30	8	0	0	29	71	0	108
31	34	33	75	18	0	43	203
32	18	0	0	0	55	0	73
Total	**944**	**187**	**8,318**	**806**	**4,464**	**937**	**15,656**

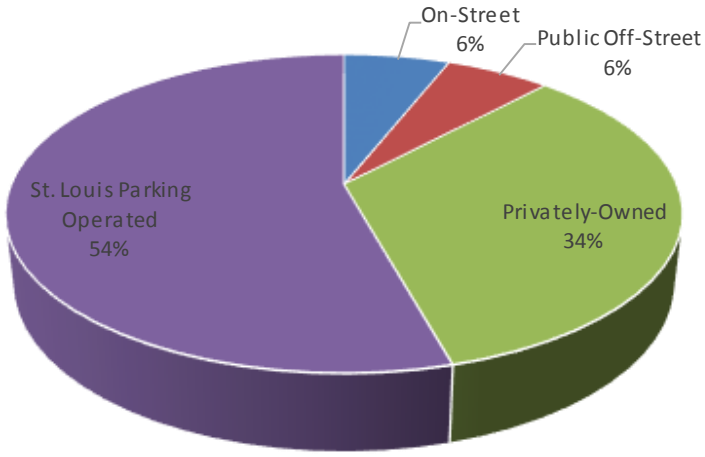
Source: Lochmueller, 2016

Figure 2 shows the total parking supply by type. The largest percentage of available parking in the Study Area is located in privately-owned off-street surface lots. The St. Louis Parking Company operated facilities[1] and the privately-owned, publicly-available parking facilities accounts for nearly 90% of the surveyed parking in the downtown area.

[1] The County-owned Shaw Drive Parking Garage on Block 2 is included in this category.

Supply and Demand Analysis

Figure 2: Parking Supply by Type



Source: Lochmueller & Walker Parking Consultants, 2015

EFFECTIVE PARKING SUPPLY

The inventory of parking within the Study Area is adjusted to allow for a cushion necessary for vehicles moving in and out of spaces, and to reduce the time necessary to find the last few remaining spaces when the parking supply is nearly full. We derive the effective supply by deducting this cushion from the total parking capacity. The cushion allows for vacancies created by restricting parking spaces to certain users (reserved spaces), misparked vehicles, minor construction and debris removal. A parking supply operates at peak efficiency when parking occupancy, including both transient and monthly parking patrons, is 85 percent to 95 percent of the supply. When occupancy exceeds this level, patrons may experience delays and frustration while searching for a space. Therefore, the parking supply may be perceived as inadequate even though there are some spaces available in the parking system.

As a result, the effective supply is used in analyzing the adequacy of the parking system rather than the total supply or inventory of spaces. Following are some factors that affect the efficiency of the parking system:

- Capacity – Large, scattered surface lots operate less efficiently than a more compact facility, such as a parking structure, which offers consolidated parking in which traffic generally, passes more available parking spaces in a more compact area. Moreover, it is more difficult to find the available spaces in a widespread parking area than a centralized parking facility.

Supply and Demand Analysis

- Type of users – Monthly or regular parking patrons can find the available spaces more efficiently than infrequent visitors because they are familiar with the layout of the parking facility and typically know where the spaces will be available when they are parking.
- On-street vs. off-street – On-street parking spaces are less efficient than off-street spaces due to the time it takes patrons to find the last few vacant spaces. In addition, patrons are typically limited to one side of the street at a time and often must parallel park in traffic to use the space. Many times on-street spaces are not striped or are signed in a confusing manner, thereby leading to lost spaces and frustrated parking patrons.

The size of the cushion is dependent on the type of user and facility. On-street parking is adjusted by an 85 percent effective supply factor (ESF), because of the relative difficulty of finding an open space while negotiating traffic. Publicly-owned and available off-street parking is adjusted by a 90 percent ESF to account for user unfamiliarity and the challenges of safely navigating the area while searching for a space. Privately-owned off-street parking is adjusted by a 95 percent ESF because employees or repeat users are familiar with the area and generally park in the same location each day. The Study Area contains a total of 15,656± spaces before any adjustments are made to account for an effective supply. After the effective supply factor is applied to the overall supply numbers, the Study Area's effective supply is 14,733± spaces, as shown in Table 2.

Table 2: Effective Parking Supply Summary

Parking Type	Inventory	Cushion	Effective Supply	Effective Supply Factor
On-Street	944	142	802	85%
Metered	937	93	844	90%
Privately Owned	5,270	264	5,006	95%
St. Louis Parking Operated	8,505	424	8,081	95%
Total	**15,656**	**923**	**14,733**	**94%**

Source: Lochmueller, 2016

PARKING OCCUPANCY - WEEKDAY

To determine the parking patterns of patrons in the Study Area, the usage of the majority of parking facilities located in the Study Area was evaluated. An understanding of these parking patterns helps define both patron types and parking locations. Occupancy counts were taken for on- and off-street parking spaces on March 5th and March 17th, 2016. Generally, three counts were taken,

once in the morning, once in the afternoon, and once in the evening. Some facilities were only counted once in the morning and again in the evening.

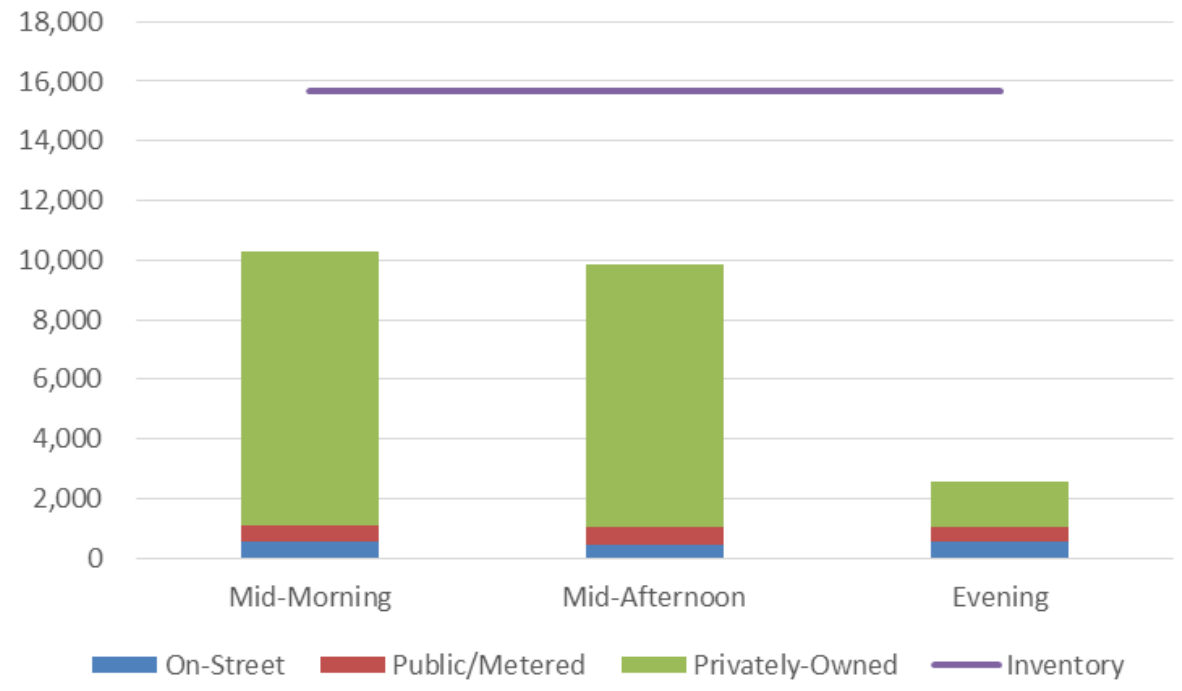
The following table summarizes the observed occupancy rates for on-street and off-street parking.

Table 3: Parking Occupancy Summary -Weekday

Parking Type	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	% Occupied	Evening	% Occupied
On-Street	944	540	57%	451	48%	541	57%
Public/Metered	937	580	62%	579	62%	500	53%
Privately-Owned	13,775	9,147	66%	8,832	64%	1,541	11%
Total	**15,656**	**10,267**	**66%**	**9,862**	**63%**	**2,582**	**16%**

Source: Lochmueller, 2016

Figure 3: Weekday Parking Occupancy Summary



Source: Lochmueller & Walker Parking Consultants, 2016

Occupancy rates as a whole do not indicate a shortage of parking. Peak parking demand was observed in the morning with approximately 10,267 occupied

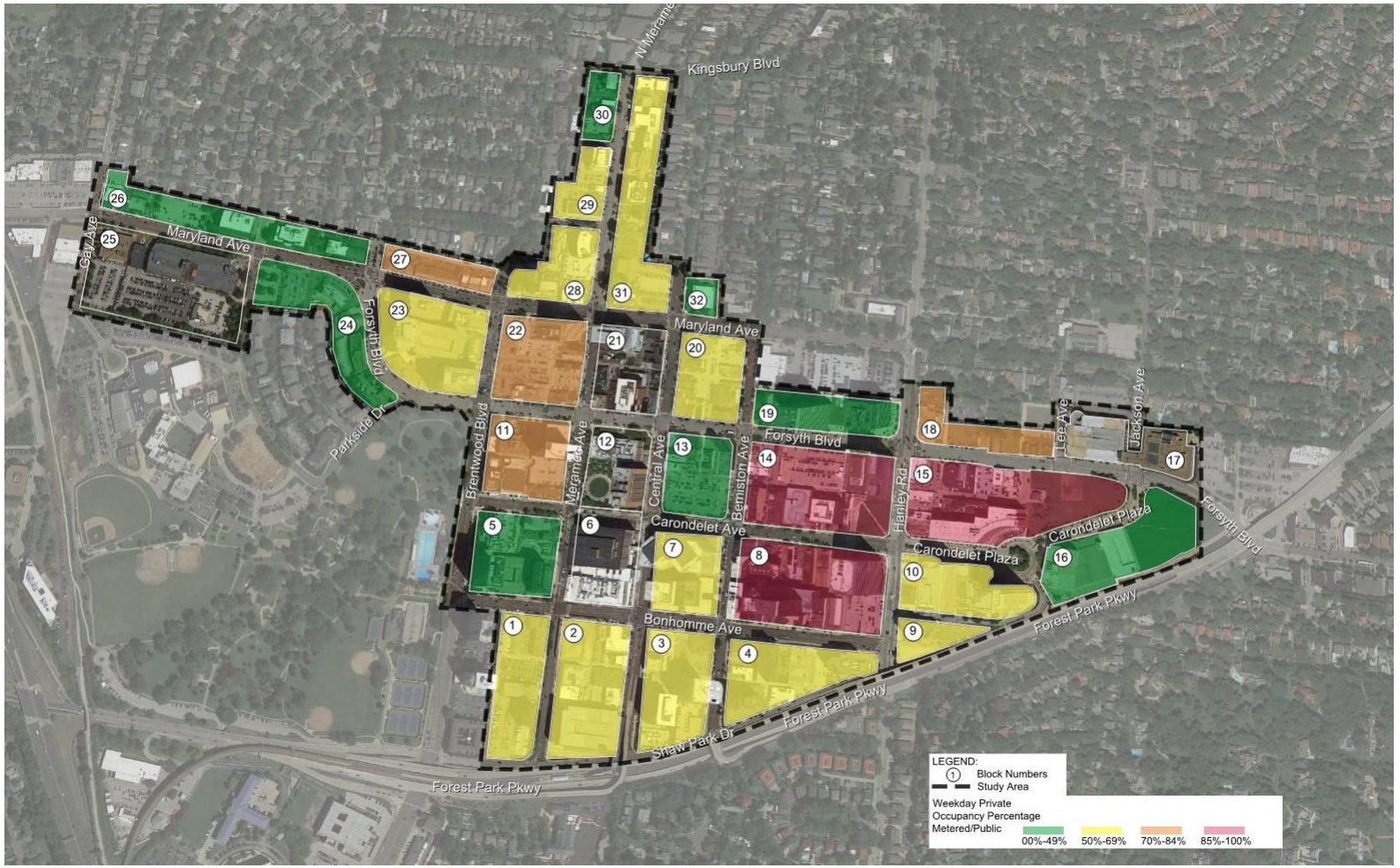
Supply and Demand Analysis

spaces, or 66% of the overall supply. The privately-owned parking facilities were approximately 66% occupied, while the publicly-owned and on-street parking supplies were slightly less utilized.

The following figures show the parking occupancy by block. Note, blocks without publicly available on- or off-street parking supplies are not colored. Additional figures displaying parking occupancy by facility are provided in the Appendix.

Supply and Demand Analysis

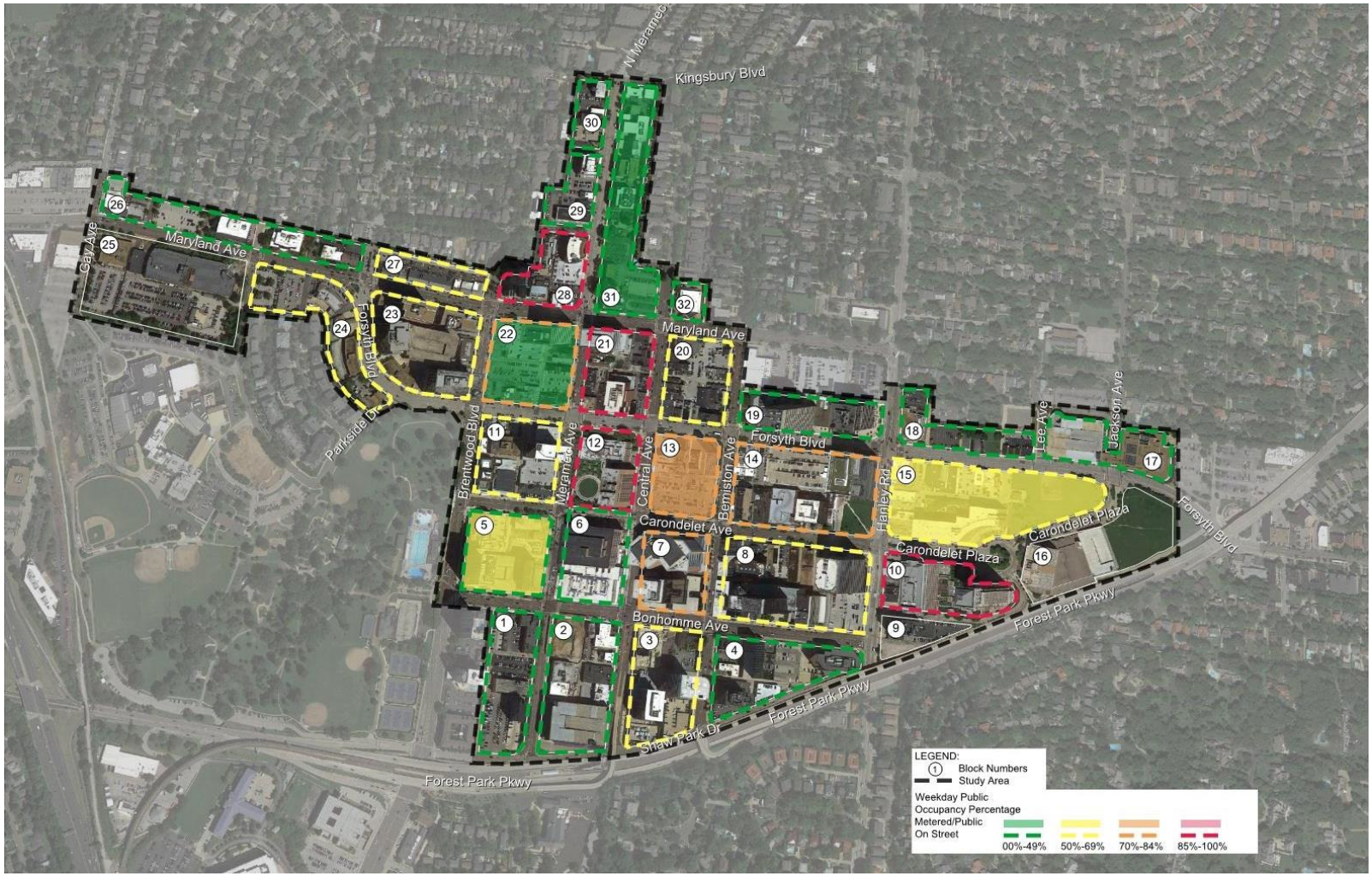
Figure 4: Weekday Parking Occupancy – Privately-Owned, Publicly-Available Off-Street



Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

Figure 5: Weekday Parking Occupancy –Publicly-Owned Off-Street and On-Street



Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

The tables below illustrate the observed occupancy for on-street, publicly-owned off-street and privately-owned and publicly-available off-street parking by block in the morning.

Table 4: Weekday Morning Parking Occupancy Summary – On-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	32	13	41%	14	12
2	39	16	41%	17	20
3	29	19	66%	18	27
4	35	16	46%	10	17
5	43	16	37%	15	4
6	24	5	21%	5	2
7	44	31	70%	39	30
8	50	29	58%	27	27
9	0	0	0%	0	0
10	8	8	100%	6	7
11	42	27	64%	33	25
12	26	32	123%	34	26
13	46	33	72%	41	39
14	37	29	78%	21	25
15	26	13	50%	4	26
16	0	0	0%	0	0
17	16	4	25%	3	2
18	26	3	12%	1	14
19	23	7	30%	3	3
20	45	28	62%	22	37
21	43	38	88%	37	46
22	51	36	71%	29	43
23	53	35	66%	19	28
24	12	7	58%	5	1
25	0	0	0%	0	0
26	73	28	38%	17	13
27	29	19	66%	8	15
28	19	18	95%	6	16
29	13	6	46%	3	2
30	8	0	0%	0	3
31	34	16	47%	7	17
32	18	8	44%	7	14
Total	**944**	**540**	**57%**	**451**	**541**

Source: Lochmueller, 2016

Supply and Demand Analysis

Generally, on-street parking occupancy during the mid-morning peak ranges from 12% on Block 18 to 123% on Block 12. The majority of the occupancy rates are below 70% and do not indicate a parking problem. Note, while on-street demand fell during the afternoon count, it was highest during the evening count.

Table 5: Weekday Morning Parking Occupancy Summary – Publicly-Owned Off-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	0	0	0%	0	0
2	0	0	0%	0	0
3	0	0	0%	0	0
4	0	0	0%	0	0
5	575	383	67%	383	253
6	0	0	0%	0	0
7	0	0	0%	0	0
8	0	0	0%	0	0
9	0	0	0%	0	0
10	0	0	0%	0	0
11	0	0	0%	0	0
12	0	0	0%	0	0
13	150	117	78%	117	134
14	0	0	0%	0	0
15	13	7	54%	10	12
16	0	0	0%	0	0
17	0	0	0%	0	0
18	0	0	0%	0	0
19	0	0	0%	0	0
20	0	0	0%	0	0
21	0	0	0%	0	0
22	156	62	40%	62	70
23	0	0	0%	0	0
24	0	0	0%	0	0
25	0	0	0%	0	0
26	0	0	0%	0	0
27	0	0	0%	0	0
28	0	0	0%	0	0
29	0	0	0%	0	0
30	0	0	0%	0	0
31	43	11	26%	7	31
32	0	0	0%	0	0
Total	**937**	**580**	**62%**	**579**	**500**

Source: Lochmueller, 2016

Supply and Demand Analysis

During the peak period, approximately 62% of the available publicly-owned off-street parking supply is occupied. Please note there are six publicly-owned parking facilities in the downtown area, including one parking garage on Block 5. The facilities on Blocks 5 and 13 were more heavily occupied.

Table 6: Weekday Morning Parking Occupancy – Privately-Owned, Publicly Available Off-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	181	126	70%	126	27
2	1,284	775	60%	775	53
3	841	474	56%	474	59
4	569	311	55%	311	75
5	39	17	44%	17	5
6	0	0	0%	0	0
7	667	456	68%	456	46
8	2,409	2145	89%	2145	131
9	38	25	66%	25	2
10	1,280	751	59%	751	141
11	615	464	75%	464	21
12	0	0	0%	0	0
13	172	81	47%	81	23
14	809	731	90%	679	129
15	49	48	98%	48	39
16	384	145	38%	145	101
17	0	0	0%	0	0
18	69	51	74%	51	1
19	478	220	46%	4	166
20	64	38	59%	38	27
21	0	0	0%	0	0
22	500	405	81%	405	79
23	2,487	1435	58%	1435	231
24	82	38	46%	57	16
25	0	0	0%	0	0
26	210	98	47%	107	31
27	81	63	78%	64	49
28	138	84	61%	57	29
29	48	26	54%	26	5
30	100	33	33%	42	24
31	126	68	54%	10	5
32	55	39	0%	39	26
Total	**13,775**	**9,147**	**66%**	**8,832**	**1,541**

Source: Lochmueller, 2016

Supply and Demand Analysis

Approximately 66% of the privately-owned, publicly-available off-street parking supply was occupied. Typically, private off-street parking occupancy rates ranged from 3% to 90%. As stated earlier, the observed parking demand on the survey day did not indicate a parking shortage. Private off-street parking demand decreased throughout the day, with the lowest occupancy occurring during the evening count.

Additional data on a facility-by-facility level is available in the Appendix.

PARKING OCCUPANCY - WEEKEND

Using the same methodology as stated in the weekday section, Walker collected weekend occupancy counts on March 8 and March 26, 2016. Three counts were again taken in the morning, afternoon, and evening.

The following table summarizes the observed occupancy rates for on-street and off-street parking.

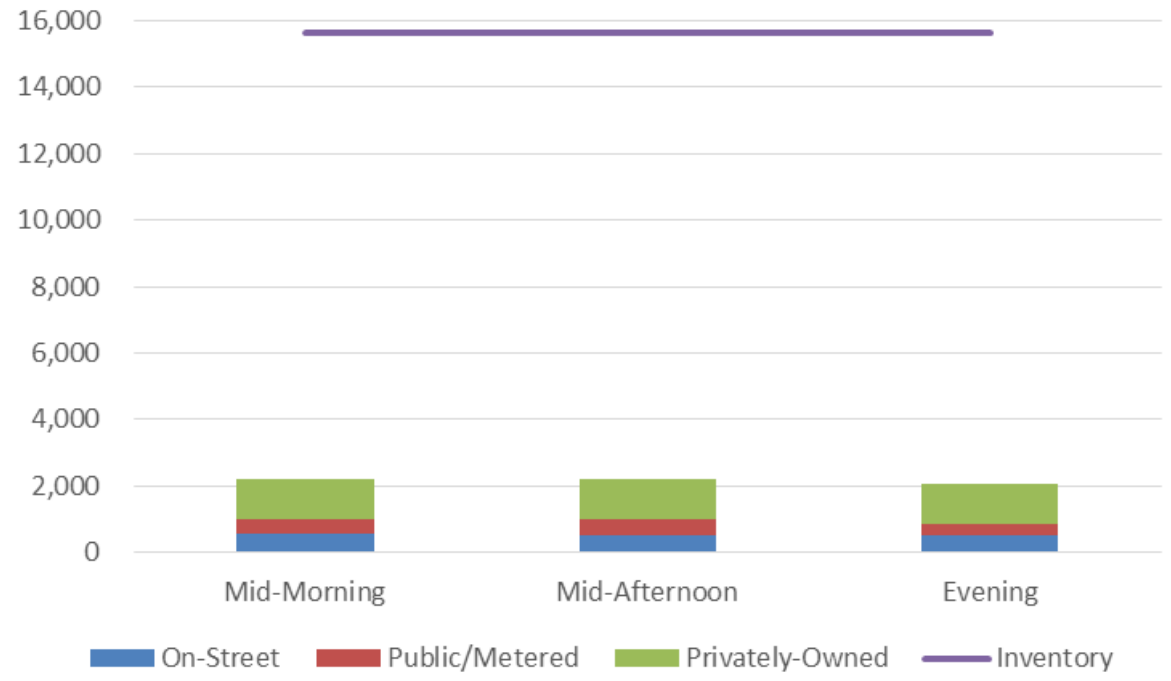
Table 7: Parking Occupancy Summary – Weekend

Parking Type	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	% Occupied	Evening	% Occupied
On-Street	944	573	61%	532	56%	509	54%
Public/Metered	937	442	47%	453	48%	340	36%
Privately-Owned	13,775	1,211	9%	1,200	9%	1,201	9%
Total	**15,656**	**2,226**	**14%**	**2,185**	**14%**	**2,050**	**13%**

Source: Lochmueller, 2016

Supply and Demand Analysis

Figure 6: Weekend Parking Occupancy Summary



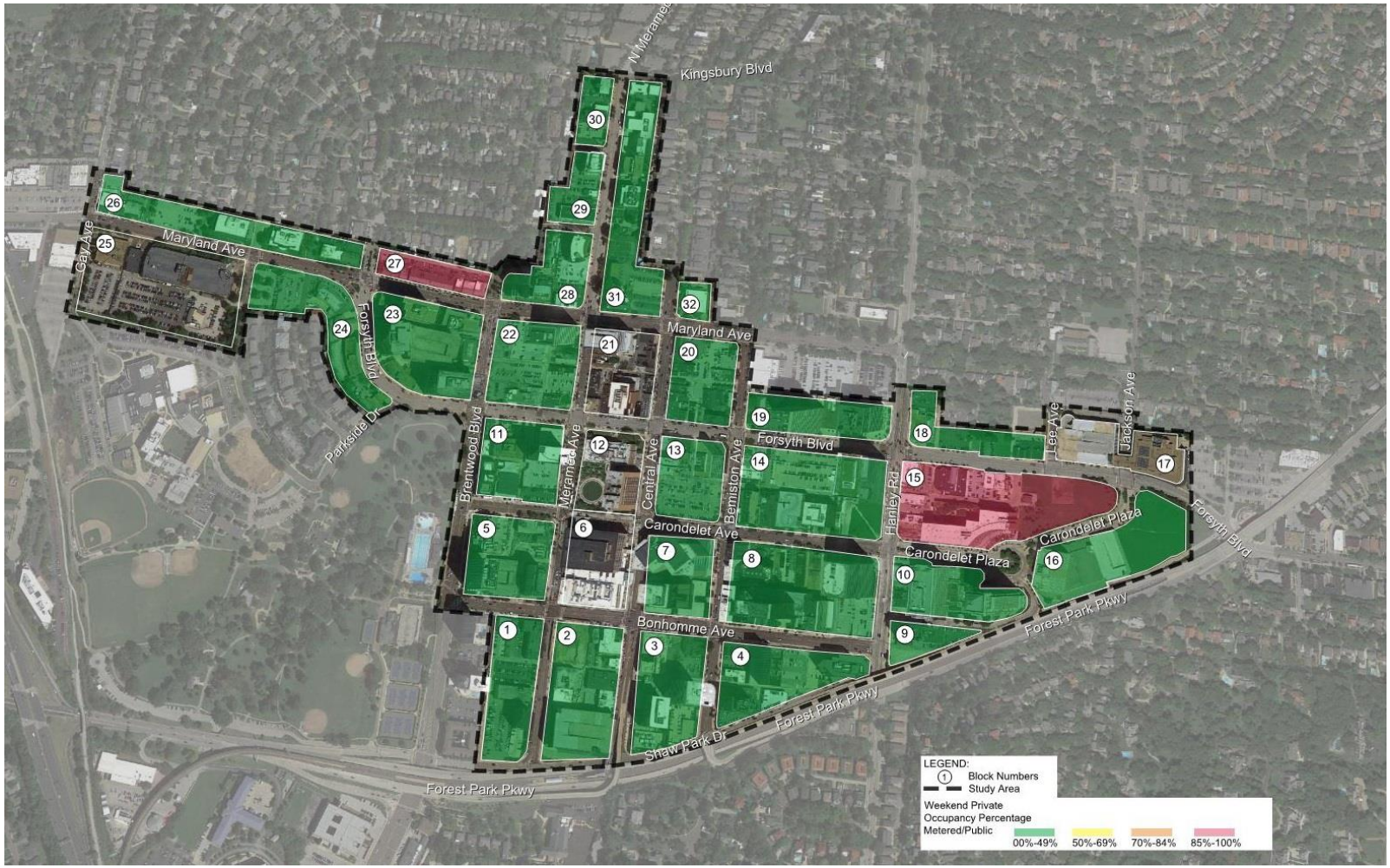
Source: Walker Parking Consultants, 2016

Occupancy rates as a whole do not indicate a shortage of parking. Peak parking demand was observed mid-morning with approximately 2,200 occupied spaces, or 14% of the overall supply.

The next two figures show the parking occupancy by block for the observed weekend peak hour. Additional figures displaying weekend parking occupancy by facility are provided in the Appendix.

Supply and Demand Analysis

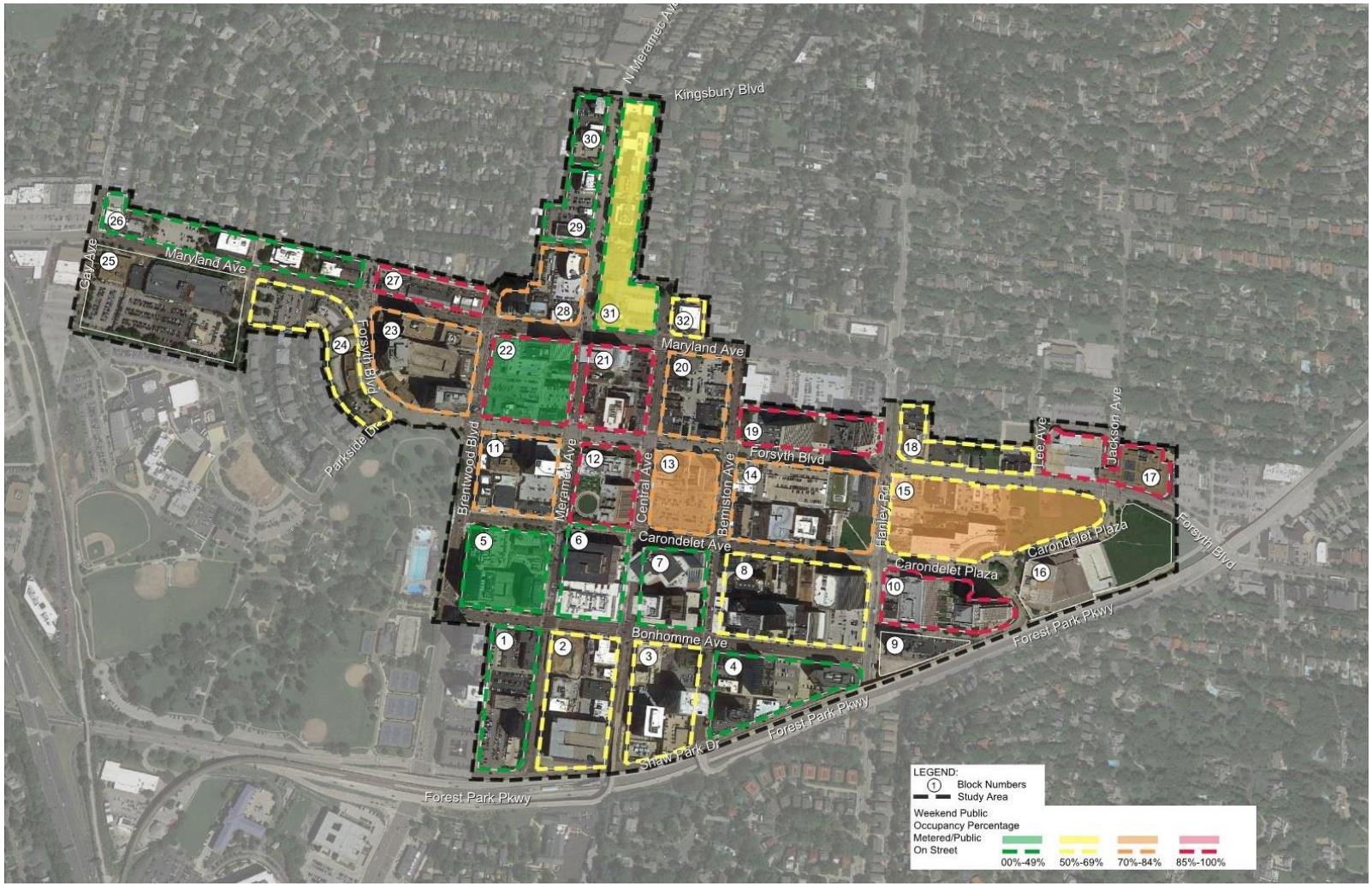
Figure 7: Weekend Parking Occupancy – Privately-Owned, Publicly Available Off-Street



Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

Figure 8: Weekend Parking Occupancy –Publicly-Owned Off-Street and On-Street



Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

The tables below illustrate the observed occupancy for on-street, public off-street and privately-owned, publicly-available off-street parking by block during the peak hour. Additional data on a facility by facility level is available in the Appendix.

Table 8: Weekend Morning Parking Occupancy Summary – On-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	32	12	38%	9	8
2	39	20	51%	11	9
3	29	16	55%	15	20
4	35	10	29%	8	18
5	43	11	26%	9	13
6	24	5	21%	3	4
7	44	16	36%	21	17
8	50	26	52%	28	27
9	0	0	0%	0	0
10	8	7	88%	9	7
11	42	30	71%	23	13
12	26	28	108%	19	20
13	46	35	76%	40	34
14	37	29	78%	36	30
15	26	14	54%	17	18
16	0	0	0%	0	0
17	16	19	119%	22	11
18	26	13	50%	8	4
19	23	20	87%	22	24
20	45	32	71%	35	41
21	43	37	86%	28	31
22	51	46	90%	36	37
23	53	43	81%	35	42
24	12	7	58%	2	3
25	0	0	0%	0	0
26	73	26	36%	29	11
27	29	28	97%	28	26
28	19	15	79%	11	10
29	13	3	23%	3	1
30	8	3	38%	3	7
31	34	10	29%	10	8
32	18	12	67%	12	15
Total	**944**	**573**	**61%**	**532**	**509**

Source: Lochmueller, 2016

Supply and Demand Analysis

Generally, on-street parking occupancy during the peak hour ranges from 21% on Block 6 to 119% on Block 17. On-street occupancy rates did not significantly change throughout the day.

Table 9: Weekend Morning Parking Occupancy – Publicly-Owned Off-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	0	0	0%	0	0
2	0	0	0%	0	0
3	0	0	0%	0	0
4	0	0	0%	0	0
5	575	220	38%	220	108
6	0	0	0%	0	0
7	0	0	0%	0	0
8	0	0	0%	0	0
9	0	0	0%	0	0
10	0	0	0%	0	0
11	0	0	0%	0	0
12	0	0	0%	0	0
13	150	107	71%	124	124
14	0	0	0%	0	0
15	13	10	77%	9	10
16	0	0	0%	0	0
17	0	0	0%	0	0
18	0	0	0%	0	0
19	0	0	0%	0	0
20	0	0	0%	0	0
21	0	0	0%	0	0
22	156	77	49%	73	59
23	0	0	0%	0	0
24	0	0	0%	0	0
25	0	0	0%	0	0
26	0	0	0%	0	0
27	0	0	0%	0	0
28	0	0	0%	0	0
29	0	0	0%	0	0
30	0	0	0%	0	0
31	43	28	65%	27	39
32	0	0	0%	0	0
Total	**937**	**442**	**47%**	**453**	**340**

Source: Lochmueller, 2016

Supply and Demand Analysis

During the peak period, approximately 47% of the available publicly-owned parking supply is occupied. Walker typically expects parking spaces to become more difficult to find and the parking facility to "appear" full when occupancy rates reach 85% or greater. At the observed parking levels, no shortages are expected.

Table 10: Weekend Morning Parking Occupancy - Privately-Owned Publicly-Available Off-Street

Block	Inventory	Mid-Morning	% Occupied	Mid-Afternoon	Evening
1	181	20	11%	20	43
2	1,284	24	2%	24	23
3	841	52	6%	53	18
4	569	42	7%	42	46
5	39	8	21%	7	14
6	0	0	0%	0	0
7	667	27	4%	27	20
8	2,409	181	8%	166	88
9	38	5	13%	5	0
10	1,280	98	8%	94	89
11	615	0	0%	0	0
12	0	0	0%	0	0
13	172	13	8%	13	8
14	809	56	7%	49	203
15	49	54	110%	60	56
16	384	22	6%	26	161
17	0	0	0%	0	0
18	69	3	4%	3	0
19	478	81	17%	82	76
20	64	13	20%	17	26
21	0	0	0%	0	0
22	500	22	4%	28	18
23	2,487	274	11%	274	176
24	82	14	17%	24	12
25	0	0	0%	0	0
26	210	38	18%	45	11
27	81	71	88%	73	53
28	138	33	24%	38	32
29	48	0	0%	0	0
30	100	26	26%	26	24
31	126	8	6%	4	3
32	55	26	47%	0	1
Total	**13,775**	**1,211**	**9%**	**1,200**	**1,201**

Source: Lochmueller, 2016

Supply and Demand Analysis

With the exception of Blocks 15 and 27, the parking occupancy rate of the privately-owned parking facilities did not exceed 30%. The overall occupancy rate was 9%.

DESIGN DAY CONDITIONS

Because parking levels vary from day to day, the Survey Day does not always represent the design conditions and may need to be adjusted accordingly. Walker frequently recommends designing the parking supply to satisfy at least the 85th percentile level of activity. This level is usually equivalent to a very busy day that may occur once or twice a month. Designing parking to meet the absolute peak level of parking would leave many unused spaces during the majority of the year. Conversely, designing for the average level would mean inadequate parking about half the year.

Walker adjusted the observed March peak occupancies based on the monthly presence factors for office, retail, and restaurant land uses published by the Urban Land Institute in *Shared Parking, 2nd Edition*. These adjustments were tempered by our discussions with the city regarding typical parking conditions.

Walker applied an upward seasonal adjust factor of 5% to the observed weekday parking demand and an upward 7% adjustment factor to weekend parking demand, based on the mix of land uses in the downtown area and the typical monthly presence factors associated with these uses.

During weekday design conditions, we anticipate 10,780 occupied spaces or 69% of the available supply. While the overall on- and off-street parking demand in the downtown area is not expected to exceed the available supply, parking "hot spots" do exist. As shown earlier, the weekend parking occupancy rates are significantly lower, with only 15% of the available public supply occupied during design conditions.

Again, it is important to note Walker only observed parking occupancy in publicly-owned or publicly-available parking facilities. Parking facilities reserved for or restricted to specific users, such as residential, were excluded from this analysis. It is assumed these facilities have adequate parking to support demand.

PARKING ADEQUACY - WEEKDAY

Parking adequacy is the ability of the parking supply to accommodate the parking demand. The Design Day occupancy was subtracted from the effective

Supply and Demand Analysis

supply to determine the adequacy for the Study Area. The parking adequacy for the Study Area is summarized in the following table.

Table 11: Weekday Parking Adequacy Summary

Block	Effective Supply	Design Demand	Surplus/ Deficit
1	199	146	53
2	1,253	831	422
3	824	518	306
4	571	344	227
5	592	437	155
6	20	5	15
7	671	512	159
8	2,331	2,282	49
9	36	26	10
10	1,223	797	426
11	621	515	106
12	22	34	(12)
13	337	243	94
14	799	798	1
15	81	71	10
16	365	152	213
17	14	4	10
18	88	57	31
19	474	238	236
20	99	69	30
21	37	40	(3)
22	658	528	130
23	2,408	1,544	864
24	88	47	41
25	0	0	0
26	261	132	129
27	102	86	16
28	147	107	40
29	57	33	24
30	102	35	67
31	187	100	87
32	67	49	18
Total	**14,734**	**10,780**	**3,954**

Source: Lochmueller & Walker Parking Consultants, 2016

As a whole, the current parking system has a parking surplus during design weekday conditions, with all but two blocks showing a parking surplus.

Supply and Demand Analysis

Walker also analyzed the adequacy of the parking system by parking type. Based on Design Day conditions, there is a surplus of both on- and off-street parking spaces within the Study Area.

Table 12: Weekday Parking Adequacy Summary – by Type

	On-Street			Public Off-Street			Privately Owned Off-Street		
Block	Effective Supply	Design Demand	Surplus/ Deficit	Effective Supply	Design Demand	Surplus/ Deficit	Effective Supply	Design Demand	Surplus/ Deficit
1	27	14	13	0	0	0	172	132	40
2	33	17	16	0	0	0	1,220	814	406
3	25	20	5	0	0	0	799	498	301
4	30	17	13	0	0	0	541	327	214
5	37	17	20	518	402	116	37	18	19
6	20	5	15	0	0	0	0	0	0
7	37	33	4	0	0	0	634	479	155
8	43	30	13	0	0	0	2,288	2252	36
9	0	0	0	0	0	0	36	26	10
10	7	8	(1)	0	0	0	1,216	789	427
11	36	28	8	0	0	0	585	487	98
12	22	34	(12)	0	0	0	0	0	0
13	39	35	4	135	123	12	163	85	78
14	31	30	1	0	0	0	768	768	0
15	22	14	8	12	7	5	47	50	(3)
16	0	0	0	0	0	0	365	152	213
17	14	4	10	0	0	0	0	0	0
18	22	3	19	0	0	0	66	54	12
19	20	7	13	0	0	0	454	231	223
20	38	29	9	0	0	0	61	40	21
21	37	40	(3)	0	0	0	0	0	0
22	43	38	5	140	65	75	475	425	50
23	45	37	8	0	0	0	2,363	1507	856
24	10	7	3	0	0	0	78	40	38
25	0	0	0	0	0	0	0	0	0
26	62	29	33	0	0	0	199	103	96
27	25	20	5	0	0	0	77	66	11
28	16	19	(3)	0	0	0	131	88	43
29	11	6	5	0	0	0	46	27	19
30	7	0	7	0	0	0	95	35	60
31	29	17	12	39	12	27	119	71	48
32	15	8	7	0	0	0	52	41	11
Total	**803**	**566**	**237**	**844**	**609**	**235**	**13,087**	**9,605**	**3,482**

Source: Lochmueller & Walker Parking Consultants, 2016

Supply and Demand Analysis

Generally, there is adequate parking on all blocks for all three types of parking. There are small shortages anticipated on Blocks 10, 12, 15, 21, and 28, but adequate parking in the surrounding area to support overflow.

PARKING ADEQUACY - WEEKEND

Demand was estimated based on the observed weekend parking occupancy counts recorded in March, 2016 and adjusted to account for Design Day conditions. The Design Day occupancy was subtracted from the effective supply to determine the adequacy for the Study Area. The parking adequacy for the Study Area by block and type is summarized in the following tables.

Supply and Demand Analysis

Table 13: Weekend Parking Adequacy Summary

Block	Effective Supply	Design Demand	Surplus/ Deficit
1	199	34	165
2	1,253	47	1,206
3	824	73	751
4	571	56	515
5	592	256	336
6	20	5	15
7	671	46	625
8	2,331	222	2,109
9	36	5	31
10	1,223	112	1,111
11	621	32	589
12	22	30	(8)
13	337	165	172
14	799	91	708
15	81	84	(3)
16	365	24	341
17	14	20	(6)
18	88	17	71
19	474	108	366
20	99	48	51
21	37	40	(3)
22	658	155	503
23	2,408	339	2,069
24	88	22	66
25	0	0	0
26	261	69	192
27	102	106	(4)
28	147	51	96
29	57	3	54
30	102	31	71
31	187	50	137
32	67	41	26
Total	**14,734**	**2,382**	**12,352**

Source: Lochmueller & Walker Parking Consultants, 2016

As a whole, the current parking system has a parking surplus during weekend conditions. A 12,352-space surplus is expected during peak weekend conditions. Four blocks are expected to experience small (less than 10 spaces) deficits during peak conditions.

Supply and Demand Analysis

Table 14: Weekend Parking Adequacy Summary – by Type

	On-Street			Public Off-Street			Privately Owned Off-Street		
Block	Effective Supply	Design Demand	Surplus/ Deficit	Effective Supply	Design Demand	Surplus/ Deficit	Effective Supply	Design Demand	Surplus/ Deficit
1	27	13	14	0	0	0	172	21	151
2	33	21	12	0	0	0	1,220	26	1,194
3	25	17	8	0	0	0	799	56	743
4	30	11	19	0	0	0	541	45	496
5	37	12	25	518	235	283	37	9	28
6	20	5	15	0	0	0	0	0	0
7	37	17	20	0	0	0	634	29	605
8	43	28	15	0	0	0	2,288	194	2,094
9	0	0	0	0	0	0	36	5	31
10	7	7	0	0	0	0	1,216	105	1,111
11	36	32	4	0	0	0	585	0	585
12	22	30	(8)	0	0	0	0	0	0
13	39	37	2	135	114	21	163	14	149
14	31	31	0	0	0	0	768	60	708
15	22	15	7	12	11	1	47	58	(11)
16	0	0	0	0	0	0	365	24	341
17	14	20	(6)	0	0	0	0	0	0
18	22	14	8	0	0	0	66	3	63
19	20	21	(1)	0	0	0	454	87	367
20	38	34	4	0	0	0	61	14	47
21	37	40	(3)	0	0	0	0	0	0
22	43	49	(6)	140	82	58	475	24	451
23	45	46	(1)	0	0	0	2,363	293	2,070
24	10	7	3	0	0	0	78	15	63
25	0	0	0	0	0	0	0	0	0
26	62	28	34	0	0	0	199	41	158
27	25	30	(5)	0	0	0	77	76	1
28	16	16	0	0	0	0	131	35	96
29	11	3	8	0	0	0	46	0	46
30	7	3	4	0	0	0	95	28	67
31	29	11	18	39	30	9	119	9	110
32	15	13	2	0	0	0	52	28	24
Total	**803**	**611**	**192**	**844**	**472**	**372**	**13,087**	**1,299**	**11,788**

Source: Lochmueller & Walker Parking Consultants, 2016

Similar to weekday conditions, there is generally a surplus of parking on each block in each category during weekend conditions. The most frequent shortages are expected to occur on-street, with as many as seven blocks

experience small shortages. The privately-owned, publicly available parking supply is expected to experience a surplus of nearly 12,000 spaces during weekend conditions.

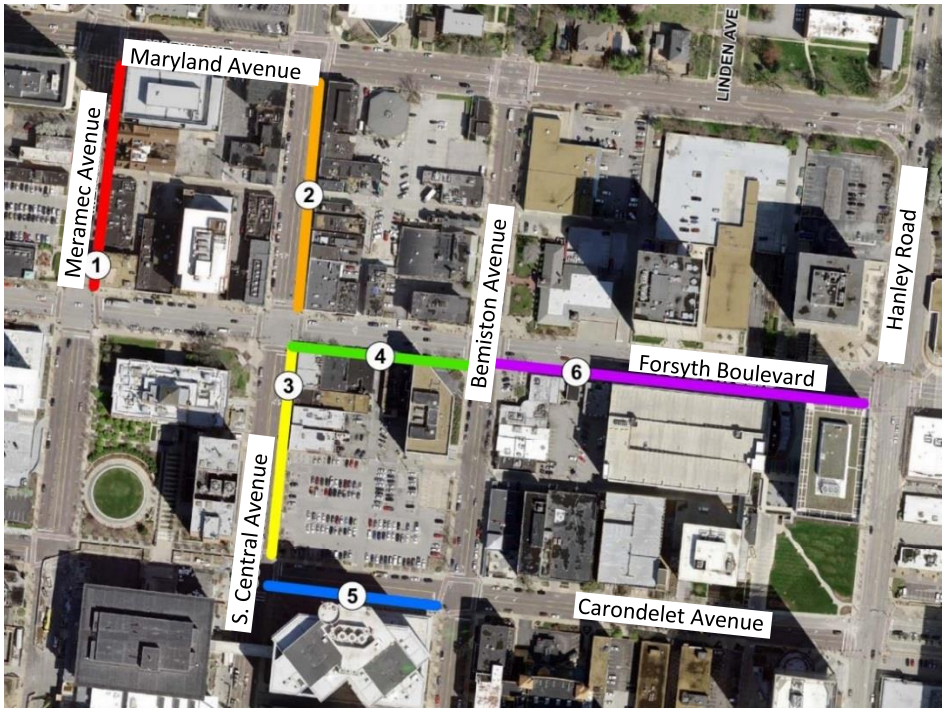
LICENSE PLATE INVENTORY

Walker conducted a site survey and analysis of the on-street parking conditions within the downtown area of the City of Clayton. The survey portion of the inventory required that visual inspections of all metered spaces be made every 45 minutes, during which time the last three characters of the license plate on the occupying vehicle (if present) were recorded on a data collection form. The survey began at 10:00 a.m. and continued throughout the day until 4:00 p.m.

Analysis of the data required input of the collected license plate characters into a spreadsheet that examined the turnover characteristics on a block face at a time. (A block face is one side of a four-sided block that features restricted parking.)

The figure below identifies the six block faces that were surveyed for this effort.

Figure 9: LPI Map



Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

Table 15 shows that the peak parking occupancy occurred during the noon hour, with 73 out of 82 spaces being occupied, and representing an 89% occupancy rate.

Table 15: LPI Occupancy Summary

Block Face	Inventory	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM
1	13	8	5	8	10	6	5
2	17	12	12	11	10	11	17
3	13	13	5	15	14	13	14
4	8	7	4	8	3	5	4
5	14	9	5	15	11	6	9
6	17	12	5	16	11	13	13
Total Occupancy	**82**	**61**	**36**	**73**	**59**	**54**	**62**
% Occupied		**74%**	**44%**	**89%**	**72%**	**66%**	**76%**

Source: Walker Parking Consultants, 2016

The following table shows that most vehicles that were observed as parked on street, were parked for one hour or less in the downtown area. This suggests that the majority of on-street spaces are used by short-term parkers, which is appropriate. This is not to say that specific streets within the study did not experience poor turnover. The high turnover at the majority of on-street spaces suggests that the public is, for the most part, obeying the posted time limits.

Table 16: Length of Stay Summary

Block Face	1 hour	2 hours	3 hour	4 hours	5 hours	6 hours	Total
1	26	12	1	1	1	1	42
2	46	15	5	4	0	0	70
3	55	15	2	1	1	0	74
4	22	7	0	2	0	0	31
5	37	11	4	3	0	0	55
6	55	9	2	3	1	0	70
Total	**241**	**69**	**14**	**14**	**3**	**1**	**342**

Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

FUTURE CONDITIONS

PROJECTED PARKING DEMAND

Parking demand refers to the amount of parking that is estimated to be used at a particular time, place, and price. It is affected by vehicle ownership, trip rates, transportation mode split, length of stay, geographic location, type of trip (work, shopping, special event), the quality of public transportation and factors such as fuel and parking costs. The methodology employed by Walker to project future demand combines the baseline design demand which is equal to the observed weekday occupancy level, and the incremental change or growth in demand resulting from new land uses entering the Study Area. The baseline and incremental increase in demand are added together and then compared to the effective parking supply to determine the overall parking adequacy.

There are several proposed downtown development projects that may impact parking in downtown Clayton. Walker used land use data provided by the city to project future parking demand for the Study Area. We focused on three planning horizons – 2018, 2021, and 2026. We assumed that all of the known redevelopment projects would be occupied and fully operational by 2026.

The list of proposed developments may not represent all real estate projects or business expansions being considered in the Study Area, but does represent a collection of the most significant and known projects being considered at this time. For the purpose of this study, the following projects are reflected in the calculation of future parking demand. The projects are organized by block.

Table 17: New Development Assumptions

Project Name	Land Use	Quantity	
8500 Mayland Avneue	Residential	230	Dwelling Units
8125 Forsyth Boulevard	Office	233,266	Square Feet
8049 Forsyth Boulevard	Residential	260	Dwelling Units
	Fine/Casual	7,500	Square Feet
	Retail	7,500	Square Feet
25 N Central Ave	Residential	120	Dwelling Units
	Fast/Casual	6,718	Square Feet
	Retail	13,436	Square Feet
Mid-County Library Rebuild	Library	20,000	Square Feet
212 S. Meramec Ave/ 7922 Bonhomme Ave	Residential	250	Dwelling Units
7900 Carondelet Avenue	Judicial	240,000	Square Feet

Source: City of Clayton, 2016

Supply and Demand Analysis

It is important note that Walker's analysis focuses solely on publicly-owned and privately-owned, but publicly-available parking facilities. As such, much of the parking associated with the new development in downtown Clayton will not impact our analysis of future conditions. It is assumed the new projects above will provide sufficient parking on site to meet their parking needs and that this parking will be use-restricted.

There are two primary variables applied to the calculation of peak accumulation for new developments: 1) the total gross floor area (GFA), number of hotel rooms, seating capacity, etc. for each type of proposed land use (i.e. office, retail, restaurant, etc.), and 2) the appropriate parking demand ratio. The following section provides a discussion on the use of shared parking methodology when calculating the appropriate demand ratio to use for each type of land use in this analysis.

SHARED PARKING DEMAND

Shared parking is defined as parking spaces that can be used to serve two or more individual land uses without conflict or encroachment. One of the fundamental principles of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to have each use or building have its own parking. The resurgence of many central cities resulting from the addition of vibrant residential, retail, restaurant and entertainment developments continues to rely heavily on shared parking for economic viability. In addition, mixed-use projects in many different settings have benefited from shared parking. There are numerous benefits of shared parking to a community at large, not the least of which is the environmental benefit of significantly reducing the square feet of parking provided to serve commercial development.

The interplay of land uses in a mixed-use environment produces a reduction in overall parking demand. For example, a substantial percentage of patrons at one business (restaurant) may be employees of another downtown business (office). This is referred to as the "effects of the captive market". These patrons are already parking and contribute only once to the number of peak hour parkers. In other words, the parking demand ratio for individual land uses should be factored downward in proportion to the captive market support received from neighboring land uses.

Adjustments are also made to account for the number of patrons who arrive at the subject property by means other than personal vehicle. Based on data collected by the U.S. Census Bureau, Walker applied a drive ratio, or modal split factor, to each land use. Per the most recently-available U.S. Census data,

approximately 88%[2] of employees arrive via personal vehicle in Clayton, MO, depending on proximity to public transit and their type of occupation. The remaining 12% utilize another means of transportation such as mass transit, bicycle, or walking.

The base parking demand ratio for each land use is adjusted to represent the project ratio. Project ratios are calculated by multiplying the base ratio by the drive ratio (transportation modal split), non-captive ratio (one minus the percent captive) and an hourly adjustment.

Table 18: Shared Parking Ratios - Weekday

Land Use	Base Ratio[3]	TOD Adjustment[4]	Captive Ratio[5]	Drive Ratio[6]
Residential	1.5 /Unit	75%	100%	90%
Fine/Casual	18 /KSF	15%	90%	90%
Retail	3.6 /KSF	65%	60%	90%
Fast/Casual	15 /KSF	55%	65%	90%
Library	2.42 /KSF[1]	100%	100%	90%
Judicial	1.72 /KSF[2]	90%	100%	90%
Office	3.2 /KSF	100%	100%	90%

Note: [1]Ratio based on existing library parking demand observations
[2]Ratio based on existing Family Court parking demand from Google Maps
[3]ULI recommended base parking ratios
[4]Walker assumed peak demand occurred around 10:00 a.m.
[5]Captive ratio adjustment accounts for long terms parkers from one land use visiting a second land use during the same visit without re-parking their vehicle. i.e. office employees visiting a restaurant for lunch.
[6]The US Census data indicated an 88% drive ratio for employees in Clayton. Walker adjusted to 90% to account for non-employee trips

Source: Walker Parking Consultants, 2016

Both the base demand ratio and time of day adjustment factors change for the various land uses projected, sometimes significantly affecting the project ratio. For example, during the weekday, the base demand ratio for the fine/casual dining land use is 18 spaces per 1,000 sf. However, during weekend conditions, the base demand ratio increases to 20 spaces per 1,000 square foot. Additionally, during the 10:00 a.m. hour on a weekday, demand is only 15% of peak, but on the weekend at 6:00 p.m., demand is 90% of peak.

[2] Walker used the 2008-2012 ACS survey to determine modal split.

Table 19: Shared Parking Ratios – Weekend

Land Use	Base Ratio[3]	TOD Adjustment[4]	Captive Ratio[5]	Drive Ratio[6]
Residential	1.5 /Unit	75%	100%	90%
Fine/Casual	20 /KSF	5%	90%	90%
Retail	4 /KSF	50%	60%	90%
Fast/Casual	14 /KSF	55%	65%	90%
Library	1.61 /KSF[1]	70%	100%	90%
Judicial	1.72 /KSF[2]	0%	100%	90%
Office	0.32 /KSF	90%	100%	90%

Note: [1]Ratio based on existing library parking demand observations
[2]Ratio based on existing Family Court parking demand from Google Maps
[3]ULI recommended base parking ratios
[4]Walker assumed peak demand occurred around 10:00 a.m.
[5]Captive ratio adjustment accounts for long terms parkers from one land use visiting a second land use during the same visit without re-parking their vehicle. i.e. office employees visiting a restaurant for lunch.
[6]The US Census data indicated an 88% drive ratio for employees in Clayton. Walker adjusted to 90% to account for non-employee trips

Source: Walker Parking Consultants, 2016

FUTURE PARKING SUPPLY

Parking will be built in association with each of the new development projects identified in Table 17. In total, it is estimated that more than 1,000 new publicly- and privately-available parking spaces will be built in downtown Clayton over the next ten years.

The following table summarizes the planned parking supply associated with each of the new developments identified by the city.

Supply and Demand Analysis

Table 20: Planned Parking Supply with New Developments

Block	Land Use	Quantity		Parking Provided
Outside	Residential	230	Dwelling Units	355
23*	Office	233,266	Square Feet	0
22	Residential	260	Dwelling Units	288
	Fine/Casual	7,500	Square Feet	
	Retail	7,500	Square Feet	
21	Residential	120	Dwelling Units	175
	Fast/Casual	6,718	Square Feet	
	Retail	13,436	Square Feet	
32	Library	20,000	Square Feet	67
2	Residential	250	Dwelling Units	212
6	Judicial	240,000	Square Feet	350
				1,447

Note: *No new parking facility is planned in association with this project; however, the existing privately-owned, publicly-available garage in the center of Block 23 will provide parking for the project. This garage has the capacity to meet the projected parking demand of the new office building.

Source: Walker Parking Consultants, 2016

The table to the left shows the change in the publicly-available parking supply in the downtown area over the next ten years.

The residential development on Block 22 will temporarily displace the existing 105-space public parking lot during construction. However, these public spaces will be replaced inside the new garage.

Additionally, the small 55-space garage under the existing library will also be demolished as part of the redevelopment of the library and will be replaced with a 67-space facility.

In a later section, Walker will comment on the potential to increase the existing parking supply through restriping and/or structured parking solutions.

Table 21: Future Publicly-Available Parking Supply

Year	Supply
2016	15,656
2018	15,496
2021	15,668
2026	15,668

Source: Walker Parking Consultants, 2016

Supply and Demand Analysis

FUTURE WEEKDAY PARKING CONDITIONS

As stated earlier, future parking demand for the downtown area was projected based on known developments rather than historic growth rates. Additionally, most of the developments identified by the city will provide their own parking supply on-site in privately-operated and/or restricted parking facilities. As such, publicly-owned and publicly-available parking demand in the Study Area is not expected to significantly change over the planning horizon.

Walker projected the parking demand associated with each of these developments in order to quantify the magnitude of additional private/ restricted parking demand being introduced into the downtown area. The table below summarizes the peak hour parking demand associated with the new developments, as well as their anticipated absorption rates into the market. The total available parking supply associated with the new developments (both planned and existing) is also shown for comparison.

Table 22: Future Weekday Peak Hour Parking Demand from Proposed New Development

					2018		2021		2026	
					Absorption		Absorption		Absorption	
Block	Land Use	Quantity		Base Ratio	Rate	Demand	Rate	Demand	Rate	Demand
Outside	Residential	230	Dwelling Units	1.5 /Unit	75%	175	100%	233	100%	233
23*	Office	233,266	Square Feet	3.2 /KSF	75%	504	100%	672	100%	672
	Residential	260	Dwelling Units	1.5 /Unit	0%	0	75%	197	100%	263
22	Fine/Casual	7,500	Square Feet	18 /KSF	0%	0	75%	12	100%	16
	Retail	7,500	Square Feet	3.6 /KSF	0%	0	75%	7	100%	9
	Residential	120	Dwelling Units	1.5 /Unit	75%	92	100%	122	100%	122
21	Fast/Casual	6,718	Square Feet	15 /KSF	90%	29	100%	32	100%	32
	Retail	13,436	Square Feet	3.6 /KSF	90%	15	100%	17	100%	17
32	Library	20,000	Square Feet	2.42 /KSF[1]	0%	0	75%	32	100%	43
2	Residential	250	Dwelling Units	1.5 /Unit	50%	127	100%	253	100%	253
6	Judicial	240,000	Square Feet	1.72 /KSF[2]	85%	285	100%	335	100%	335
				Projected Demand		**1,227**		**1,912**		**1,995**
				Planned New Supply		**1,092**		**1,447**		**1,447**
				Existing Available Supply*		**856**		**856**		**856**
				Surplus/Deficit		**721**		**391**		**308**

Note: *No new parking facilities are planned with the new development on Block 23. Rather the new office tower demand will be directed to the existing privately-owned, publicly-available garage in the center of the block.

**The project parking demand during the 2021 and 2026 planning horizons represent aggregate totals.

Source: Walker Parking Consultants, 2016

In total we anticipate the redevelopment projects will generate demand for nearly 2,000 new spaces over the next ten years. Future publicly-owned or publicly-available parking will be impacted by the projects on Blocks 22, 23, and 32 only.

Supply and Demand Analysis

The new office building on Block 23 is expected to generate nearly 700 parking spaces; however, no new parking will be built with the project. Rather, the new office demand will park in the existing privately-owned, publicly-available garage on Block 23. The addition of the new development is projected to increase the privately-owned, publicly-available parking occupancy rate on that block from 61% to 88%.

The table below shows the impact to the parking supply, demand, and occupancy during 2018, 2021, and 2026 design conditions. Over the ten-year planning horizon, the overall occupancy of publicly-available parking in the downtown area is not expected to change.

Small changes to the publicly-owned and publicly-available parking supply are anticipated in 2018 with the closure off the Mid-County Library and the temporary displacement of parking on Block 22 due to the 8049 Forsyth Boulevard project. These parking facilities come back on-line by 2021. No other changes to the public parking supply are anticipated.

Table 23: Future Weekday Parking Occupancy by Type

Year	Type	Supply	Demand	Occupancy
2016	On-Street	944	566	60%
	Public Off-Street	937	609	65%
	Private Off-Street	13,775	9,605	70%
	Total	**15,656**	**10,780**	**69%**
2018	On-Street	944	566	60%
	Public Off-Street	832	609	73%
	Private Off-Street	13,720	10,068	73%
	Total	**15,496**	**11,243**	**73%**
2021	On-Street	944	566	60%
	Public Off-Street	937	609	65%
	Private Off-Street	13,787	10,268	74%
	Total	**15,668**	**11,443**	**73%**
2026	On-Street	944	566	60%
	Public Off-Street	937	609	65%
	Private Off-Street	13,787	10,279	75%
	Total	**15,668**	**11,454**	**73%**

Source: Walker Parking Consultants, 2016

With the exception of Block 23 and the new office development, there were no significant changes to the parking occupancy through the planning horizon. Walker did not develop occupancy maps for 2018, 2021, and 2026. Please refer to Figure 4 and Figure 5 for the parking occupancy by block. The most notable difference to the map occurs on Block 23 where occupancy increases from 61%

in 2016 to 88% in 2026. When occupancy rates exceed 85% of capacity, parking spaces become more difficult to find and the parking facility "appears" full.

PARKING ADEQUACY

As stated earlier, parking adequacy the ability of the parking supply to accommodate the parking demand. Walker compared the available public parking supply to the future parking demand during the two-, five- and ten-year planning horizons in order to understand parking adequacy.

While parking hotspots are anticipated, adequate parking is projected to be available to support weekday parking demand over the next ten years.

Table 24: Future Weekday Parking Adequacy by Type

Year	Type	Effective Supply	Demand	Adequacy
2016	On-Street	802	566	236
	Public Off-Street	844	609	235
	Private Off-Street	13,087	9,605	3,482
	Total	**14,733**	**10,780**	**3,953**
2018	On-Street	802	566	236
	Public Off-Street	749	609	140
	Private Off-Street	13,034	10,068	2,966
	Total	**14,585**	**11,243**	**3,342**
2021	On-Street	802	566	236
	Public Off-Street	843	609	234
	Private Off-Street	13,098	10,268	2,830
	Total	**14,743**	**11,443**	**3,300**
2026	On-Street	802	566	236
	Public Off-Street	843	609	234
	Private Off-Street	13,098	10,279	2,819
	Total	**14,743**	**11,454**	**3,289**

Source: Walker Parking Consultants, 2016

FUTURE WEEKEND PARKING CONDITIONS

Similar to the weekday projections, Walker projected the parking demand associated with the private redevelopment projects during the 10 a.m. hour on a Saturday in order to quantify the magnitude of additional private/restricted parking demand being introduced into the downtown area.

The following table summarizes the peak hour parking demand associated with the new developments, as well as their anticipated absorption rates into the market. By 2026, we anticipate a demand for approximately 1,000 private/restricted parking spaces during the peak hour, including the residential development just outside the Study Area. When compared to the planned parking supply, it is expected that adequate private parking will be available to support parking demand.

Table 25: Future Weekend Peak Hour Parking Demand from New Development

					2018		2021		2026	
					Absorption		Absorption		Absorption	
Block	Land Use	Quantity		Base Ratio	Rate	Demand	Rate	Demand	Rate	Demand
Outside	Residential	230	Dwelling Units	1.5 /Unit	75%	175	100%	233	100%	233
23*	Office	233,266	Square Feet	0.32 /KSF	75%	45	100%	60	100%	60
	Residential	260	Dwelling Units	1.5 /Unit	0%	0	75%	197	100%	263
22	Fine/Casual	7,500	Square Feet	20 /KSF	0%	0	75%	5	100%	6
	Retail	7,500	Square Feet	4 /KSF	0%	0	75%	6	100%	8
	Residential	120	Dwelling Units	1.5 /Unit	75%	92	100%	122	100%	122
21	Fast/Casual	6,718	Square Feet	14 /KSF	90%	27	100%	30	100%	30
	Retail	13,436	Square Feet	4 /KSF	90%	14	100%	15	100%	15
32	Library	20,000	Square Feet	1.61 /KSF[1]	0%	0	100%	20	100%	20
2	Residential	250	Dwelling Units	1.5 /Unit	50%	127	100%	253	100%	253
6	Judicial	240,000	Square Feet	1.72 /KSF[2]	85%	0	100%	0	100%	0
				Projected Demand		**480**		**941**		**1,010**
				Planned New Supply		**1,092**		**1,447**		**1,447**
				Existing Available Supply*		**856**		**856**		**856**
				Surplus/Deficit		**1,468**		**1,362**		**1,293**

Note: *No new parking facilities are planned with the new development on Block 23. Rather the new office tower demand will be directed to the existing privately-owned, publicly-available garage in the center of the block.

**The project parking demand during the 2021 and 2026 planning horizons represent aggregate totals.

Source: Walker Parking Consultants, 2016

Table 26 summarizes future publicly-available parking supply, demand, and occupancy over the next ten years. Similar to weekday conditions, the overall percent occupancy in the downtown area is not expected to change significantly.

Supply and Demand Analysis

Table 26: Future Weekday Parking Occupancy by Type

Year	Type	Supply	Demand	Occupancy
2016	On-Street	944	611	65%
	Public Off-Street	937	472	50%
	Private Off-Street	13,775	1,299	9%
	Total	**15,656**	**2,382**	**15%**
2018	On-Street	944	622	66%
	Public Off-Street	832	472	57%
	Private Off-Street	13,720	1,316	10%
	Total	**15,496**	**2,410**	**16%**
2021	On-Street	944	622	66%
	Public Off-Street	937	472	50%
	Private Off-Street	13,787	1,363	10%
	Total	**15,668**	**2,457**	**16%**
2026	On-Street	944	622	66%
	Public Off-Street	937	472	50%
	Private Off-Street	13,787	1,374	10%
	Total	**15,668**	**2,468**	**16%**

Source: Walker Parking Consultants, 2016

As stated earlier, small changes to the publicly-owned and publicly-available parking supply are anticipated in 2018 on Blocks 22 and 32. These parking facilities come back on-line by 2021.

Because there were no significant changes to the parking occupancy through the planning horizon, Walker did not develop occupancy maps for 2018, 2021, and 2026. Note, the office land use on Block 23 is not expected to generate significant demand during a typical Saturday morning. Please refer to Figure 7 and Figure 8 for the parking occupancy by block.

PARKING ADEQUACY

As stated earlier, parking adequacy is the ability of the parking supply to accommodate the parking demand. Walker compared the available public parking supply to the projected future parking demand during the two-, five- and ten-year planning horizons in order to understand parking adequacy.

While parking hotspots are anticipated, adequate parking is projected to be available to support weekend parking demand over the next ten years.

Supply and Demand Analysis

Table 27: Future Weekend Parking Adequacy by Type

Year	Type	Effective Supply	Demand	Adequacy
2016	On-Street	802	611	191
	Public Off-Street	844	472	372
	Private Off-Street	13,087	1,299	11,788
	Total	**14,733**	**2,382**	**12,351**
2018	On-Street	802	622	180
	Public Off-Street	749	472	277
	Private Off-Street	13,034	1,316	11,718
	Total	**14,585**	**2,410**	**12,175**
2021	On-Street	802	622	180
	Public Off-Street	843	472	371
	Private Off-Street	13,098	1,363	11,735
	Total	**14,743**	**2,457**	**12,286**
2026	On-Street	802	622	180
	Public Off-Street	843	472	371
	Private Off-Street	13,098	1,374	11,724
	Total	**14,743**	**2,468**	**12,275**

Source: Walker Parking Consultants, 2016

CONCLUSIONS/FINDINGS

Based on Walker's Survey Day observations, there are approximately 15,656 public or publicly-available parking spaces available in the Study Area. During weekday conditions, we observed peak demand during the mid-morning with 10,267 occupied spaces or 66% of capacity. The weekend occupancy rate was 14%, with 2,226 of the total available spaces occupied.

Walker adjusted the observed parking demand to account for Design Day conditions. The demand was increased by 5% on weekdays and 7% on weekends to account for seasonality of the uses. During design conditions, the typical weekday demand is estimated to be 10,780 spaces and the typical weekend demand is estimated to be 2,382 spaces. While some "hot spots" are expected, adequate parking is judged to be available within the Study Area during Design Day conditions.

While several major redevelopment projects are planned for downtown Clayton over the next ten years, most of these projects are private developments and will provide their own on-site parking to support their parking needs. As such, very little change to the public parking supply occupancy percentages is expected. Additionally, Clayton is not expected to experience any significant commercial growth that will significantly impact public parking conditions. Existing public parking space occupancy conditions

are expected to remain relatively constant over the planning horizon. The table below summarizes our findings by parking type during the Survey Day, Design Day, 2018, 2021, and 2026 planning horizons.

Table 28: Parking Demand Summary

		Weekday					Weekend				
		Survey	Design	2018	2021	2026	Survey	Design	2018	2021	2026
On-Street	Supply	944	944	944	944	944	944	944	944	944	944
	Effective Supply	802	802	802	802	802	802	802	802	802	802
	Demand	540	566	566	566	566	573	611	622	622	622
	Occupancy	57%	60%	60%	60%	60%	61%	65%	66%	66%	66%
	Adequacy	262	236	236	236	236	229	191	180	180	180
Public Off-Street	Supply	937	937	832	937	937	937	937	832	937	937
	Effective Supply	844	844	749	843	843	844	844	749	843	843
	Demand	580	609	609	609	609	442	472	472	472	472
	Occupancy	62%	65%	73%	65%	65%	47%	50%	57%	50%	50%
	Adequacy	264	235	140	234	234	402	372	277	371	371
Private Off-Street	Supply	13,775	13,775	13,720	13,787	13,787	13,775	13,775	13,720	13,787	13,787
	Effective Supply	13,087	13,087	13,034	13,098	13,098	13,087	13,087	13,034	13,098	13,098
	Demand	9,147	9,605	10,068	10,268	10,279	1,211	1,299	1,316	1,363	1,374
	Occupancy	66%	70%	73%	74%	75%	9%	9%	10%	10%	10%
	Adequacy	3,940	3,482	2,966	2,830	2,819	11,876	11,788	11,718	11,735	11,724
Total	Supply	15,656	15,656	15,496	15,668	15,668	15,656	15,656	15,496	15,668	15,668
	Effective Supply	14,733	14,733	14,585	14,743	14,743	14,733	14,733	14,585	14,743	14,743
	Demand	10,267	10,780	11,243	11,443	11,454	2,226	2,382	2,410	2,457	2,468
	Occupancy	66%	69%	73%	73%	73%	14%	15%	16%	16%	16%
	Adequacy	4,466	3,953	3,342	3,300	3,289	12,507	12,351	12,175	12,286	12,275

Source: Walker Parking Consultants, 2016

EVALUATION OF PARKING POLICY & MUNICIPAL PARKING PROGRAM

WALKER
PARKING CONSULTANTS

Evaluation of Parking Policy & Municipal Parking Program

EVALUATION OF PARKING POLICY AND MUNICIPAL PARKING PROGRAM

SUMMARY OF PROGRAM

The city manages 1,500 on-street metered spaces and more than 600 off-street spaces located in 11 surface parking lots and the 570-space 8011 Bonhomme Parking Garage. On- and off-street parking is designated with blue and green signage. Most parking meters are limited to two-hour parking; some single space meters have green heads and are designated as ten-hour parking spaces. The city uses a combination of Duncan Eagle single space meters and Parkeon multi-space smart parking meters that offer centralized management control and credit card acceptance. On-street parking rates range from $0.75 to $1.00 per hour. Parking responsibilities are shared amongst city departments as follows: Public Works handles facility structural maintenance and repairs; Economic Development manages the operator agreement; and Police administers the parking enforcement program with assistance from Courts on matters pertaining to parking ticket adjudication.

GOALS AND OBJECTIVES OF PARKING SYSTEM

The goals of any parking system are centered on providing the most efficient and friendly parking experience to patrons and visitors. This is accomplished through various parking policies that promote a positive customer experience while ensuring that supply is available for commercial and civic activity. Management of the parking supply plays a key role in ensuring that visitors and patrons find parking quickly and efficiently while assisting in the mitigation of unwanted on-street parking by long-term users, including employees. Walker's recommendations for the City of Clayton incorporate the following strategies that promote effective management of downtown parking supply:

- Prudent use of available parking technologies;
- Clear, effective on-street parking enforcement;
- Assistive zoning strategies, such as shared parking provisions for new development;
- Clear and understandable signage and wayfinding;
- Management of available on and off-street parking demand; and
- Promotion of space availability and a "park once" philosophy.

2015 BUSINESS SURVEY RESULTS

During the summer of 2015, the city engaged ETC Institute to perform a business survey. Eighteen hundred randomly-selected Clayton businesses received a survey form and 270 respondents completed the survey. ETC reported that the survey findings represent a 95% level of confidence with a

Evaluation of Parking Policy & Municipal Parking Program

precision of ±5%. A variety of business-related topics were addressed within this survey, including parking.

In summary, ETC concluded through this survey that 36% of businesses that had an opinion, were "very satisfied" or "somewhat satisfied" with parking in the business district, compared to 35% that were "very dissatisfied" or "dissatisfied"; 28% of businesses were "very satisfied" or "satisfied" with parking for restaurants and retail customers, compared to 45% who were "very dissatisfied" or "dissatisfied." (pp. iii)

The survey suggests that significant numbers of business owners would welcome improvements to the existing parking situation in downtown Clayton.

2010 DOWNTOWN CLAYTON MASTER PLAN

In October 2010, a master plan entitled, "Master Plan Update and Retail Strategy," was finalized. There are several parking references and recommendations within this plan, including the following:

- The city should "develop a comprehensive signage and wayfinding system and shared parking in strategic locations." (pg. 9)
- Create curbside parking along Forsyth Boulevard at off-peak hours. (pg. 49)
- Discourage surface parking lots except behind buildings. (pg. 49)
- Parking requirements throughout the district should be modified to reflect the prevalence of public transit, rather than car travel, and remaining garages should not have frontage on key streets. (pg. 51)
- Provide density bonuses and reduced parking requirements to facilitate transit-oriented development. (pg. 55)
- Improve the pedestrian environment along Brentwood Boulevard by extending on-street parking to shield pedestrians from traffic. (pg. 59)
- "Over time, the street-level aesthetic can be improved by minimizing first-floor blank walls and parking garages as part of larger redevelopment projects." (pg. 61)
- "Future development of Central Station could take advantage of underutilized sites such as surface parking lots by consolidating them in order to create new opportunities for higher density residential and office development." (pg. 61)
- "Improve the county parking garage façade and add uses by developing on top of the existing structure." (pg. 63)
- "Develop a wayfinding system to help orient visitors arriving at the Clayton MetroLink Station." (pg. 63)

Evaluation of Parking Policy & Municipal Parking Program

- "Maryland Avenue can be transformed from an auto-focused right-of-way to a human-focused corridor with changes to the streetscape that reflect the urban character of downtown." (pg. 65)
- Maryland Avenue – "Reorganizing the number of travel lanes creates space for a separated parking lane, similar to the successful arrangement used on K Street in Washington, DC." (pg. 66)
- "As shown in the street sections, the number of travel lanes is reduced from five to four with a separate frontage road between Gay Avenue and Topton Way. Appropriately spaced curbcuts allow easy access to the frontage road from every intersection, but still leaves plenty of space to remove parking from the throughway, plant additional trees, and develop a buffer between the street and the sidewalk." (pg. 67)
- "Allow on-street parking along the frontage lane of the redesigned boulevard." (pg. 69)
- "Prohibit parking garages and surface lots along Meramec Avenue." (pg. 73)
- "Parking: Undertake a comprehensive parking study to assess utilization and promote shared parking in key locations to facilitate infill and appropriately scaled downtown development. Pursue an overall parking management strategy and consider establishing a parking authority to coordinate efforts across the six Downtown Districts." (pg. 89)
- "PARKING–As higher densities generate higher parking requirements, provision of structured parking on site can become a cost issue due to the cost per space for parking garages. Traditional suburban parking ratios, especially in areas with available transit, are being reconsidered nationally. Conversely, most condominium purchasers will prefer to have one or more parking spaces per unit available, either as part of the purchase price, or as an additional purchase. For marketability purposes, provision of on-site, dedicated parking is generally expected in multi-story residential buildings. Providing incentives for (or fully paying for) structured parking is an established approach to reduce developer costs, as the parking is not capable of covering its costs. Through establishment of a parking management district, requirements for parking throughout downtown Clayton can be assessed and better managed, but it is not anticipated that a management district will eliminate the need for structured parking for new residential projects. It may become necessary that the City of Clayton consider the use of lower-cost public funding instruments (such as revenue or GO bonds) to help finance structured parking as a development incentive. However, this step would, by its nature, be project-specific and negotiated according to the characteristics of each residential project under consideration (density, unit types, location/proximity to transit, provision of other public amenities, etc.)." (pg. 95)

- "Parking costs may require subsidy or favorable financing to make projects viable." (pg. 98)
- Public-Private Partnerships – "This could be a promise to lease space for 25 years or more (to secure financing) in a commercially-constructed building or complex of buildings, construction of a project with the public sector funding the non-commercial components (such as a parking structure)," (pg. 100)
- "North Central Between Maryland Avenue And Forsyth Boulevard—Narrow the street section, maintaining one lane in each direction and parallel parking on both sides. Widen sidewalks to accommodate outdoor dining and trees as well as a sufficient pedestrian walkway." (pg. 109)
- "Forsyth Boulevard Between Forest Park Parkway and Parkside Drive (Excluding The Block Between Bemiston Avenue and Hanley Road)—Narrow the street section, maintaining one lane in each direction with a common turn lane (will not significantly decrease volume of traffic) and parallel parking on both sides (except on south side in front of County Police Building). Widen sidewalks to accommodate outdoor dining and trees as well as sufficient pedestrian walkway. Leave block with fire station between Bemiston Avenue and Hanley Road as it is. (pg. 109)
- Brentwood Boulevard—Improve pedestrian crossings at every intersection along Brentwood through use of a traffic table/raised pedestrian crossing, bump outs, or paving materials. Improve pedestrian condition along parkside to include promenade, plantings, and active uses." (pg. 110)
- "Parking - Undertake a comprehensive parking study to assess utilization, increase use of existing parking supply, and promote shared parking in key locations to facilitate infill and appropriately scaled downtown development. Pursue an overall parking management strategy and a parking authority to coordinate efforts across the six Downtown districts. While the Master Plan did not include a specific parking analysis, it appears that there is a significant amount of parking in Clayton today, but it could be used more efficiently, particularly as the spaces used for office/employee parking in the daytime can provide parking for shopping/dining/entertainment consumers in the evening. To best address the parking opportunity, it is recommended that a parking management district be explored. In other locations, parking management districts have implemented parking sign systems that show where (and how many) parking spaces are available in off street/structured parking locations, have centralized parking enforcement programs to provide the flexibility to deal with the parking behaviors during different parts of the day, and have encouraged coordinated programs for valet parking in dining districts. Underutilized parking capacity in Clayton can be better used if organized under a parking management district as a joint public/private effort by the city. The parking garages and decks arrayed throughout Downtown are

well located and can adequately serve the next wave of downtown revitalization. Efforts should be made to encourage the public to use them, and pricing should be part of that effort. Other measures should be taken as well: the city should seek to improve the image of the garages, through cosmetic upgrades, advertising, and other promotion. Consideration should be given to charging for the most desirable curb spaces on primary streets and providing an incentive for short-term parking in the nearby garages." (pg. 111)

CLAYTON MOBILE APP

The city has a mobile phone application that provides cell phone users with access to information regarding dining, hotels, services, shopping, promotions, and community events. Parking is also a featured item. However, the amount of information related to parking is limited. There is a "Downtown" drop-down menu associated with parking that provides limited information on the following four facilities:

- City-owned parking garage at Brentwood Boulevard and Bonhomme Avenue
- City-owned parking lot at Forsyth Boulevard and Brentwood Boulevard
- Metro-owned parking garage with 800 spaces
- City-owned parking lot at Hanley Road and Wydown Boulevard

Weblinks are provided for each facility. There is no other information provided relating to capacity, operating hours, parking rates, space availability, occupancy levels, etc.

RECOMMENDATION

The city is in the process of implementing a mobile app. Walker recommends and supports this addition.

The city or Client Services Manager (CSM) can set up a mobile application (app) or separate apps to enable motorists to pay for parking without going to the meter. The app vendor will set up the application at no charge to the city/CSM. The vendor charges transaction fees, which are negotiable, based on parking rates. The transaction fees can be subsidized by the city/CSM or passed on to the motorist.

Motorists can pay via credit and debit cards, smart cards, wallet applications, PayPal or Apple Watch. Note that the city/CSM is responsible for merchant

credit card processing fees, and that these fees are avoided when wallet applications are utilized.

Mobile apps also allow for the use of validations via merchant validations codes. When a motorist uses the app, the credit card isn't charged until the 'end' of the session. If the motorist purchases one hour of parking, then enters a store and the merchant wishes to validate the motorist's parking, the merchant can do so by giving a validation code to the motorist, which the motorist would enter in the app. Bluetooth beacons can also be installed in stores or restaurants that automatically identify a mobile phone that has paid for parking, and can automatically validate the motorist's parking fee. The motorist would be notified via the app.

Note that when motorists open the app, merchant validation programs would be displayed, serving to promote the merchant and the validation. Also note that the merchant would set the validation programs up with the app vendor directly. The city/CSM will not need to administer these programs. Some app vendors provide these services (and beacons) at no charge, as these programs increase the number of transactions.

Motorists can also extend the time of a parking session through the app (if allowed by the city/CSM), and since the credit card is not charged until after the session, merchant credit card processing fees are not assessed twice.

The app can bring motorists to the app vendor's site (at no charge to the city/CSM) or the app vendor can set up a 'private label' for the city/CSM (for development fees). In this scenario, the city/CSM would own the app, even if they decide to contract with another app vendor.

The apps provide excellent transaction data, including the time and amount of the transaction, as well as the zone, and the frequency of transactions by the motorist. The app can be used for hourly, daily, permit and event parking.

The app vendor will integrate with the mobile LPR system to download paid license plate data into the mobile LPR system's enforcement software.

The city and CSM can set up one account or individual accounts, as different parking areas will be defined as zones. The app vendor is able to segregate the parking payments by zone when assessing credit card processing fees and depositing parking payments into the respective bank accounts. Walker assumes the city and CSM will prefer to set up individual accounts, to assure there is no inadvertent comingling of funds; and because there are little to no set-up fees; however, it may be easier for users to download one payment app, rather than needing to determine which app to utilize.

The app can be embedded in the city's app, with a link to the payment app.

Cell Phone Payments: Technological improvements in the cell phone industry have extended to the parking industry; however, pay-by-cell (PbC) actually bypasses the meter completely. Here's how it works:

1. The cell-by-phone vendor sets up an account with the city, identifying all parking spaces and/or zones.
2. Motorists register their cellphones and provide credit card payment information for the pay-by-cell vendor via their cell phone.
3. Upon parking, the motorist calls the pay-by-cell vendor's automated payment line.
4. The motorist enters the appropriate location codes for the city, zone, meter number, space number, etc., or enters their license plate. The motorist enters the desired parking time.
5. The pay-by-cell vendor charges a convenience fee, typically $0.35 per transaction.
6. Enforcement is done by viewing a web-based report of paid transactions provided by the pay-by-cell vendor.
7. The pay-by-cell vendor deposits the parking fees into the city's established bank account, keeping the convenience fees.

PARKING OPERATOR AGREEMENT

The city contracts with St. Louis Parking Company, an established and well-known St. Louis-area commercial parking operator, to manage the following city-owned parking facilities: 8011 Bonhomme Garage and surface lots known as Upper Huntleigh Financial Lot, 120 N. Meramec Lot, Southeast corner of Hanley and Wydown Lot, North side of Wydown at Hanley and Wydown Lot, 10 N. Brentwood Lot, Forsyth Avenue/N. Brentwood Lot, and Hanley at Carondelet Lot. The management agreement effectively in place was entered into on February 13, 2006 and runs for one year, with the option to extend the agreement for additional one year periods. The agreement may be terminated by either party with 30 days' notice, a customary contract term within the commercial parking industry.

The operator's responsibilities include parking revenue collection, bookkeeping and accounting, revenue controls, parking facility management and staffing, insurance, and facility maintenance and repairs. The existing contract suggests that in exchange for these services, the city pays the operator a management fee equal to $1,050 per month flat fee for the Bonhomme Garage and $300 per month flat fee for each of the surface lots. (City records show that a

management fee of $12,600 was paid in FY2015 for the Bonhomme Garage; this matches up with the operator agreement.)

The city controls the parking facility operating hours and parking rates.

The operator is required to obtain city's consent for garage repairs that exceed $500.

RECOMMENDATION

At a minimum, the city should put the operation of its parking facilities out to bid every three years, instead of extending a contract nine consecutive years. This keeps the incumbent operator on its toes, encouraging competition and best value for the city. The city should also hire a qualified and experienced parking auditor to review the existing operations and parking revenue and expense controls. The initial audit could be followed up with annual updates aimed at optimizing and protecting the city's parking revenues. The parking operator agreement should be clarified to eliminate some ambiguities.

Walker was provided a seven-page agreement. The pages of this agreement are not numbered. Paragraphs are numbered in some places and there is no evidence of missing pages. However, there are some ambiguities that should be cleared up when the contract is relet. For example, the second page of the PDF file, paragraph #2 states, "Operator shall contract and pay for all operating expenses, utilizing in this connection the operating account herein above described." We could not find any description of this operating account, nor could we find language that mentions operator's reimbursement for expenses, which we suspect is occurring. Paragraph #3 on the same page references "'net operating income' realized over and above all expenses of the operation." Our interpretation of this portion of the agreement is that the parking operator is paid a flat management fee for its services and all operating expenses are reimbursed by the city. However, the agreement is unclear in our view. We also question how the operator can continue to charge the same parking management fee ten years after the date of the initial contract was established in 2006. We could not find any provision relating to fee escalation.

An audit and operator RFP could address these concerns.

PARKING PLANNING AND ZONING

There are areas of downtown Clayton that temporarily experience high levels of demand that strain local parking supply, while nearby areas experience a substantial parking surplus. Even though available supply may exist within one

or two blocks, these localized challenges form perceptions that parking is inadequate. The community can either address the parking challenges by building more supply, better managing the existing resources, or a measured combination of both. Many communities are rethinking how best to address the challenges of parking and are pursuing management solutions before committing to long-term capital investments. This course of action is proven to improve perceptions and increase access to available supply.

The following exhibit provides an overview of how communities are starting to think about parking planning.

Figure 10: Community Approach to Parking Planning

Old Parking Paradigm	New Parking Paradigm
• "Parking Problem" means inadequate parking supply.	✓ There are many types of parking problems (management, pricing, enforcement, etc.)
• Abundant parking supply is always desirable.	✓ Too much supply is as harmful as too little. Public resources should be maximized and sized appropriately.
• Parking should be provided free, funded indirectly, through rents and taxes.	✓ Users should pay directly for parking facilities. A coordinated pricing system should value price parking with on-street the highest.
• Innovation faces a high burden of proof and should only be applied if proven and widely accepted.	✓ Innovations should be encouraged. Even unsuccessful experiments often provide useful information.
• Parking management is a last resort, to be applied only if increasing supply is infeasible.	✓ Parking management programs should be applied to prevent parking problems.

Source: Walker Parking Consultants, 2016

As additional development makes its way through downtown Clayton, the city should review the zoning code to ensure that parking is available for employees and patrons of new development alike.

PARK ONCE DISTRICT

A widely-accepted principle or ideal shared by parking planners is the concept of a "park once district." This ideal is achieved when parking patrons in a specified geographic area park their vehicles a single time over the course of a day and do not relocate their vehicle to a different parking spaces within this specified geographic area.

Evaluation of Parking Policy & Municipal Parking Program

We recommend this concept for Clayton.

To further promote this concept, we recommend that time limits be enforced on a zonal basis. This discourages patrons from moving their vehicle to a nearby or adjacent parking space located within the park-once district, to avoid a ticket. This recommended practice of enforcing parking time limits by zone is especially targeted to employees who may be in the habit of moving their vehicle periodically throughout the course of the day and occupying short-term parking spaces intended to be used by downtown merchant customers.

Many other cities, including Whittier and Santa Monica, California, have implemented a park-once district best practice. The cities of Valparaiso, Indiana; Houston, Texas; and Palo Alto, California enforce parking time limits on a zonal basis.

REVIEW OF ZONING ORDINANCE

The following is a table that compares a sampling of the Clayton minimum parking requirements with recommendations provided by the National Parking Association's ("NPA") Parking Consultants Council. Similar to the NPA, Clayton's zoning code specifies minimum parking requirements for several different land uses under generic headings, such as restaurant, "commercial, business, office, service and industrial buildings", and dwelling.

Clayton's Zoning Ordinance also allows for several parking exemptions for land uses that fall under a minimum square footage and also those located within the Central Business District. Parking modifications for mixed-use developments may also be applied based upon the results of a shared parking analysis performed by a professional engineering firm and approval of the Board of Aldermen.

Walker understands the City of Clayton has elected to limit restaurant parking requirements in order to encourage growth in the area. While there is a surplus of privately-owned, publicly-available parking in the downtown area on nights and weekends, stakeholder interviews suggest there is a perceived shortage associated with this land use. We recommend encouraging restaurants to promote/educate the general public about the parking options available to them, as well as encourage their employees to park in the less desirable spaces and leave the most convenient spaces for guests.

Reductions should be considered for multi-family dwellings, retail space, and medical office buildings.

Table 29: Zoning Ordinance Comparison

Land Use	City of Clayton	NPA	Recommended Change/No Change Needed
Multiple Dwellings	2 spaces per Dwelling Unit	1.65/ Dwelling Unit - Rental 1.85/ Dwelling Unit - Condo	Reduce Requirement to NPA Recommendation
Single- and Two-Family Dwellings	1 space per Dwelling Unit	< 2000 SF: 1/ Dwelling Unit 2000 to 3000 SF: 2/Dwelling Unit; over 3000 SF: 3/dwelling Unit	No Change
Hotel or Motel	0.75 spaces per sleeping room	1/ Unit or Room plus 2 for owners/managers	No Change unless experiencing shortages
Restaurants and All Other Similar Dining or Drinking Establishments[1, 2]	Establishments<3,000 SF GFA in the CBD - Exempt Establishments >3,000 SF GFA 3 spaces per five (5) seats on a prorated percentage for all SF in excess of 3,000 SF i.e. (Total SF-3,000 SF)/Total SF x seats s 0.6 = requirement	Fine/Casual Dining (with Bar) - 20/1,000 SF GFA Family Restaurant (w/o Bar) - 15/1,000 SF GFA Fast Food - 15/1,000 SF GFA	No Change Suggest educating public about available parking options
Commercial/ Retail	<3,000 SF - No Requirement with the exception of the properties facing the north side of Maryland Avenue west of Forsyth Boulevard to the west city limits. >3,000 SF - 1 space per 300 SF of GFA within building or structure	2.75/ 1,000 SF GFA (not in a shopping center)	Reduce Requirement to NPA Recommendation
Office, Business, Services Uses	1 space per 300 SF of GFA within building or structure 1 space per 400 SF of GFA* *>30,000 SF and not occupying more than 40% of the site or office buildings erected as part of multi-building developments where not more than 40% of the total site is occupied with office buildings	3.8/1,000 SF GFA up to 25,000 SF; scaled between 25,000 to 100,000 SF; 3.4 for 100,000 SF; scaled between 100,000 and 500,000 SF; 2.8/1,000 SF GFA over 500,000 SF Data Processing/Telemarketing/Operations Offices - 6/1,000 SF GFA	No Change
Medical Office Building	1 space per 200 SF of GFA* Defined at buildings in which 20%+ of the GFA is occupied by members of the healing profession	Medical Offices (not part of hospital campus) - 4.5/1,000 SF GFA	Reduce Requirement to NPA Recommendation
Library, Museum, Community Center, or other Public Building	1 space per 300 SF GFA	0.25/ person in permitted capacity where not seated, or 0.3 per seat where seated (Other Public Assembly)	No Change

Source: NPA and the City of Clayton, 2016
Note: [1]Restaurants located in the CBD not exceeding 3,000 SF GFA, cafeteria and kiosks located in office buildings designed to primarily serve building tenants, restaurant located in office buildings greater than 150,000 SF that provide parking for the building as proscribed, and restaurants in hotels/motels are exempt of the above requirement.
[2]Restaurants in office/mixed-use buildings under 150,000 SF GFA where dedicated parking is available within 500 feet may expand their floor area in the evenings and on weekends, but must provide 0.6 spaces per seat in the expanded area.

Evaluation of Parking Policy & Municipal Parking Program

ON- AND OFF-STREET PARKING POLICIES

SHARED PARKING

Shared parking is defined as parking spaces that can be used to serve two or more individual land uses without conflict or encroachment. One of the fundamental principles of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to have each use or building have its own parking. The resurgence of many central cities resulting from the addition of vibrant residential, retail, restaurant and entertainment developments continues to rely heavily on shared parking for economic viability. In addition, mixed-use projects in many different settings have benefited from shared parking. There are numerous benefits of shared parking to a community at large, not the least of which is the environmental benefit of significantly reducing the square feet of parking provided to serve commercial development.

The interplay of land uses in a mixed-use environment produces a reduction in overall parking demand. For example, a substantial percentage of patrons at one business (restaurant) may be employees of another downtown business (office). This is referred to as the "effects of the captive market". These patrons are already parking and contribute only once to the number of peak hour parkers.

RECOMMENDATION

Significant opportunities exist in downtown Clayton to further encourage shared parking and the city should take an active role in brokering agreements between private property owners. At any given time, there are literally thousands of unused parking spaces. Better communications that alert motorists of parking opportunities, helping them find available spaces, and increased availability of privately-owned parking for general public use could go a long way toward addressing stakeholder concerns. The city is advised to make formal agreements to allow public parking on private lots, and direct cars to these areas. Spaces can be reserved as needed within the lot for the on-site uses, essentially limiting the public parking and guaranteeing that businesses do not lose their valuable resource. This sends a clearer message to the public that they can use the lot, but it does so without jeopardizing on-site tenants. Sample agreements between a City and a private lot owner, and for valet parking, are provided in the Appendix.

Evaluation of Parking Policy & Municipal Parking Program

RESTAURANT PARKING DEMAND

Walker recognizes the extensive number and variety of food and beverage establishments located within downtown Clayton and the parking demand that these businesses generate. Specifically, the four blocks that face Central Avenue, between Forsyth and Maryland, include the following food and beverage establishments:

- Nami Ramen
- Vincent Van Doughnut
- Barcelona Tapas Bar
- John P. Field's
- Imo's Pizza
- House of Wong
- Pickleman's Gourmet Café
- Coastal Bistro & Bar
- Sushi Ai
- Starbucks
- Chipotle Mexican Grill
- WH Clayton
- The Libertine
- Avenue
- Molly Darcys

Parking demands for these businesses are being met in a variety of ways. During weekday business hours, significant numbers of customers are already parked in the downtown and these customers walk to these restaurants. During weekday evenings and weekends, higher percentages of customers are likely driving cars. Customers are using the valet parking program that many of these restaurants offer, parking on street, and parking in publicly-available, off-street spaces such as the 51-space city lot located at 15. N. Meramec Avenue. The city has appropriately created valet parking spaces for restaurant use, i.e., along Central Avenue. These spaces should continue to be used. Restaurants hire valet parking operators to park cars in privately-owned facilities; operators are able to find ample parking spaces.

The city has already taken steps to facilitate the addition of food and beverage establishments in its downtown and to support the ongoing vitality of these businesses in the following ways:

- By exempting restaurants and bars from providing parking for the first 3,000 square feet of floor area;
- By creating and administering its Downtown Restaurant and Retail Employee Parking Incentive Policy;

- By providing for and paying the cost to build and operate all on- and some off-street public parking spaces;
- By putting a valet parking ordinance in place to help facilitate meeting restaurant and bar parking needs; and
- By establishing and enforcing parking regulations.

Is it the city's responsibility to take this a step further and provide additional off-street parking spaces for restaurants and bars? Is it unreasonable to expect these businesses to solve their own parking issues without further city support? A final option and last resort could include the city building an expensive parking structure which costs $15,000 to $20,000 or more per space to build and $750± per space annually to operate. However, again, the cost of this facility should be carefully considered as this solution represents by far, the most expensive approach to addressing this issue. If this option is pursued, the matter would then quickly become one of equity. Who should pay for the garage? Should all Clayton property owners pay or should users only pay for it? If users only would be required to foot the bill, how agreeable might users be to the higher parking rates required to generate sufficient income to pay for the facility? Might users seek out less costly parking options instead of parking in a new facility? Is it possible to locate a parking structure on a site that works for all users?

To further address this issue, we recommend the following:

- Extend parking enforcement hours until 7 p.m. on weekdays and Saturdays. This should help move and keep most employees from parking in the on-street spaces that are best suited for customer parking.
- Develop shared parking agreements with private property owners so that these landlords open their parking up to the general public, if not during weekday business hours, at least during weekday evenings and weekends, when drive-in restaurant traffic is at its peak (weekday lunchtime crowds consist of significant numbers of pedestrians who are not driving). The following is a list of properties that the city should specifically target:
    - St. Joseph's Church
    - St. Louis Public Library – Mid-County Branch
    - Pierre Laclede Center, 7739 Forsyth
    - Carrollton Bank, 7911 Forsyth
- Compensate private property owners as needed as this would be a more cost effective option than building an expensive parking structure.

Communicate parking options with restaurant owners and their customers, placing emphasis on the city's valet parking space ordinance, the locations of valet stands, facilities available through shared-use agreements, and the

rationale for extended enforcement hours. Further promote the city's employee parking program and work more effectively at moving employees out of spaces that could be used for customer parking.

PARKING RATES

On-street parking meter rates range from $0.75 to $1.00 per hour.

The city issues permits to applicants for the rental of an on-street parking meter space for $20 per day.

Public off-street parking is available in six facilities in the downtown area. With the exception of the garage on Block 5, all public off-street parking is $1 per hour. The garage on Block 5 charges $2 per hour with a daily maximum of $9. The table below summarizes the public off-street parking rates.

Table 30: Public Off-Street Parking Rates

Block	Name	Location	Total Spaces	Hourly Rate	Daily Max
22	11 N Meramec Lot	NW Corner of Forsyth & Meramec	51	$ 1.00	NA
13	Carondelet Lot	NE Corner of Carondelet & Central	150	$ 1.00	NA
22	8049 Forsyth Lot	Brentwood btw. Forsyth & Maryland	105	$ 1.00	NA
15	S Hanley / Carondelet Plz. Lot	NE Corner of Carondelet & Hanley	13	$ 1.00	NA
31	103 N Central Lot	NW Corner of Maryland & Central	43	$ 1.00	NA
5	8011 Bonhomme	N Side of Bonhomme btw. Brentwood & Meramec	575	$ 2.00	$ 9.00
			Average:	**$ 1.17**	**$ 9.00**

Source: The Lochmueller Group, 2016

Private off-street parking facilities were also surveyed during our site visit. The average hourly rate in private off-street facilities is $1.77, which is slightly higher than the public off-street facilities. Again, the average daily maximum parking rate was also slightly higher in privately-owned lots and garages. Table 31 details the hourly and daily maximum parking rates in downtown Clayton.

Table 31: Private Off-Street Parking Rates

Area	Block	Name	Location	Total Spaces	Hourly Rate	Daily Max	Notes
Central	22	7733 Forsyth Garage	S Side of Maryland btw. Brentwood & Meramec	500	$ 2.00	$ 10.00	
	11	Commerce Bank Garage	SW Corner of Forsyth & Meramec	325	$ 2.00	None	
	13	7800 Forsyth	SW Corner of Forsyth & Bemiston	172	$ 1.50	None	$1 for first hour plus $0.75/half hour after that
East	14	Centene Garage	S Side of Forsyth btw. Bemiston & Hanley	551	$ 2.00	$ 15.00	
	15	Carondelet Shops Garage	E Side of Alley N of Carondelet E of Hanley	49	$ -		free with 2 hour limit (for shopping center customers)
	16	Ritz-Carlton Garage	S Side of Carondelet S of Forsyth	384	$ 2.00	$ 10.00	
	19	Pierre Laclede 1	NW Corner of Forsyth & Hanley	471	$ 2.00	$ 12.00	
	14	7733 Carondelet	N Side of Carondelet btw. Bemiston & Hanley	122	$ 1.00	$ 9.00	
South	1	Parkway Tower Rear Lot	N Side of Shaw Park btw. Brentwood & Meramec	87	$ 1.00	$ 5.00	
	7	Clayton Central Garage	NE Corner of Bonhomme & Hanley	667	$ 3.00	$ 10.00	
	2	Shaw Park Drive Garage (Metro)	NW Corner of Shaw Park & Central	1,284	$ 1.00	$ 6.00	
	3	222 S Central	E Side of Central btw. Shaw Park & Bonhomme	343	$ 2.00	$ 10.00	
	3	Bemiston Tower Garage	NW Corner of Shaw Park & Bemiston	488	$ 2.00	$ 10.00	
Southeast	8	7777 Bonhomme Garage	N Side of Bonhomme btw. Bemiston & Hanley	875	$ 2.00	$ 10.00	
	8	7711 Bonhomme Garage	N Side of Bonhomme btw. Bemiston & Hanley	40	NA	$ 5.00	Only have the option of paying $5 per day/trip
	8	101 S Hanley Garage	NW Corner of Bonhomme & Hanley	1,456	$ 2.00	$ 10.00	
	10	Plaza in Clayton	SW Corner of Carondelet Circle	1,229	$ 2.00	$ 11.00	
	9	200 S Hanley	NE Corner of Bonhomme & Hanley	38	$ 2.00	$ 10.00	
	4	230 S Bemiston	NE Corner of Shaw Park & Bemiston	27	$ 3.00	None	$3 for first hour plus $1/hour after that
	4	Sheraton Garage	S Side of Bonhomme btw. Bemiston & Hanley	295	$ 2.00	$ 10.00	
	4	Bonhomme Place	SW Corner of Bonhomme & Hanley	247	$ 2.00	$ 10.00	
	8	130 S Bemiston Lot	NE Corner of Bonhomme & Bemiston	38	$ 2.00	None	
West	23	Regions Centre	Center of Block at SW Corner of Brentwood & Maryland	1,950	$ 2.00	$ 12.00	
	23	Shaw Park Plaza Garage	NW Corner of Forsyth & Brentwood	537	$ 2.00	$ 10.00	
				Average:	**$ 1.77**	**$ 9.47**	

Source: The Lochmueller Group, 2016

RECOMMENDATION

Existing parking rates are modest and have not been increased for several years. We believe existing rates could be doubled without significant negative consequences. In comparison, St. Louis currently charges $1.50 in high demand areas and $1.00 in all other areas. Also, the city is planning to implement a pay-by-cell phone mobile app which allows patrons to add time to their parking meter. At some point, the city may want to consider charging higher parking

Evaluation of Parking Policy & Municipal Parking Program

rates for longer term stays and remove time limits. For example, while on-street parking could be $1 or $2 an hour for up to two hours, parking rates for the third and fourth hours could be priced at higher rates, say $3 or $4 an hour. On-street parking rates should be set higher than off-street parking rates in order to incentivize long term parkers to park in off-street facilities.

On-street parking is the most visible and easily accessible parking in the downtown area. When on-street parking is full, prospective visitors/parkers "perceive" the all the parking in the area is full and may deem the area too "busy" to visit. However, by adjusting on-street parking rates, long term parkers are relocated to the available off-street facilities and on-street parking remains available for short term parkers.

Increasing on-street parking rates in conjunction with other management strategies such as increasing parking fines and implementing a graduated parking fine schedule, as well as extending enforcement hours, all represent parking management "best practices" and would encourage long-term parkers to use off-street facilities and improve on-street turnover.

TIME LIMITS

The city has a stated policy that its parking meters are intended for short-term use. Re-feeding meters beyond two hours is illegal.

RECOMMENDATION

The city's webpage and YouTube video are inconsistent and should be modified to convey the same message. The webpage states that on-street parking is limited to two hours. The YouTube video mentions ten-hour on-street parking in some places.

PARKING ENFORCEMENT

The city's parking meters are enforced from 8 a.m. to 5 p.m. Monday through Friday, which equates to approximately 160 enforcement hours per month. No time limits are enforced after 5 p.m. on weekdays, on weekends, or holidays.

The city reportedly chalks tires randomly and checks every two hours for overtime violations. In cases where meters have been re-fed, overtime tickets are issued.

Evaluation of Parking Policy & Municipal Parking Program

Over the last three years, the number of violations written annually has increased by 74%. The monthly average jumped from approximately 2,300 tickets to more than 4,000 tickets.

The table below summarizes the violations written by month and annually.

Table 32: City of Clayton Annual Meter Violations

	Year		
Month	**2015**	**2014**	**2013**
January	4,406	1,850	1,878
February	4,020	2,349	1,718
March	4,499	2,746	2,194
April	4,611	4,387	2,533
May	3,830	3,999	2,749
June	4,657	4,123	2,770
July	4,028	4,269	2,519
August	4,034	3,380	2,763
September	3,517	4,273	2,151
October	3,821	4,703	2,747
November	3,375	3,265	2,298
December	3,618	4,054	1,478
Total	**48,416**	**43,398**	**27,798**
Average	**4,035**	**3,617**	**2,317**

Source: City of Clayton, 2016

Walker also estimated the number of violations written per enforcement hour (approximately 180 hours per month). In April of 2014, the number of tickets written per hour significantly increased, which is contributable to a change in staff. Essentially, the number of tickets written per hour per PEO doubled between 2013 and 2015.

Evaluation of Parking Policy & Municipal Parking Program

Table 33: City of Clayton Annual Recorded Meter Violations per Hour

Month	Violations per Hour 2015	2014	2013
January	24	10	10
February	22	13	10
March	25	15	12
April	26	24	14
May	21	22	15
June	26	23	15
July	22	24	14
August	22	19	15
September	20	24	12
October	21	26	15
November	19	18	13
December	20	23	8
Average	**22**	**20**	**13**

Source: City of Clayton, 2016

RECOMMENDATION

At some point in the future, when on-street employee parking overtakes on-street customer parking, the city should consider extending its enforcement hours from 5 p.m. to 7 p.m. The current enforcement hours end just as many restaurant employees begin their shifts, making it easy for them to park on-street and legally leave their vehicles parked in the most convenient spaces for customers. Extending enforcement days to include Saturdays might also be a consideration. The consequence of extending enforcement hours and days is that significant, convenient on-street parking would be freed up for customer use. Employees would be encouraged to park off street with these changes and for some, this could hit them in the pocketbook.

Walker understand the city currently uses Ticketrak to write electronic citations. We recommend that the city review the capabilities of their existing electronic citation issuance and parking enforcement management system to allow for electronic tire chalking and maintaining of electronic records of enforcement activity. Systems are available that provide the enforcement officer with information on a "live" or "real-time" basis while in the field via cellular technology, but most require that base data be downloaded to the handheld units from a local or remote application server before departure, and are not networked again until docked at the end of the shift. Citation and configuration data is then transferred to the base application server to be ready for the following business day.

Evaluation of Parking Policy & Municipal Parking Program

In the past few years, many systems have begun offering "apps" for parking enforcement that can be used with most Android- and Apple-based cellular phones and tablets. The "apps" are downloaded, accessed, and used in very similar ways to most other smart phone apps. This type of system can be a great option for small- to medium-sized operations as it can significantly reduce upfront costs. The traditional electronic handheld ticket-writer can be quite expensive when compared to the cost of a standard smart phone. Most of these applications, both the enforcement software as well as the back-end management system, are stored remotely and accessed through standard web-browsers, thereby significantly reducing the up-front hardware costs for new computers and equipment.

Parking management systems are typically networked to a service provider's central server computer, which can often be networked to exchange information with the local DMV-directory-license-lookup services. These services supply addresses, facilitating follow-up letters, collection efforts, etc. Some service providers can also perform all of the processing between the citation and the money collection, off-loading the related overhead, for small fees passed on to the payer or for portions of the ultimate collection amounts.

The most significant advantages over the old handwritten systems are as follows:

1. Information is automatically downloaded directly to the system, avoiding data entry errors and transcription errors from sometimes-illegible handwritten citations;
2. Most systems are programmed or modified specifically for the client; and
3. Options such as scofflaw programs are included with a permit database, so no citations will be written on permitted vehicles. Handhelds can record occupancy data with special time intervals so the handheld keeps track of warning time (like chalk marks on tires). Some systems also use bar code reading of licenses or permits.

Walker anticipates the cost of a handheld electronic citation at approximately $5,000 per handheld device, and a one-time fee of approximately $5,000 for back-end processing and reporting software.

Using handhelds for parking enforcement is a best practice that is employed by many cities including Arroyo Grande, CA; Santa Rosa, CA; Pittsburgh, PA; Washington, DC; Baltimore, MD; Chicago, IL; Seattle, WA; Urbana, IL; and Easton, PA, to name a few.

Evaluation of Parking Policy & Municipal Parking Program

MOBILE LICENSE PLATE RECOGNITION

Currently, the city does not use mobile license plate recognition (LPR) technology to enforce their on- or off-street metered parking. Rather, three PEOs enforce metered parking on foot using handheld citation devices and chalking tires. As an alternative to updating the electronic citation system, we recommend the city also consider mobile LPR for enforcement.

Mobile license plate recognition (LPR) technology has made the enforcement of pay-by-plate, pay-by-cell, time limit and license plate permit parking remarkably efficient and cost effective.

Mobile LPR utilizes vehicle mounted cameras that read and record license plate numbers as an enforcement vehicle 'patrols' the streets. The cameras are typically placed on the left and right side of the patrol vehicle and record the rear (and/or front) license plates of parked vehicles. System software compares the plate number to databases of paid or permitted license plates, to determine if the vehicle has the right to park in that particular location at that particular time. A processor is installed in the vehicle's trunk or in the floor, and a laptop is installed on the dashboard, between the front seats.

The LPR software can integrate with multi-space meter software, pay-by-cell software, permit software and other databases, (i.e. law enforcement agencies) to not only identify paid and unpaid parkers, but also stolen or otherwise significant license plates (Amber Alerts or other 'Be on the lookout' (BOLO) vehicles. If the LPR camera reads a plate that is not recorded as registered or paid, or has been otherwise identified as searchable, an audible alarm ("ping") sounds to alert the driver, who can then take the appropriate action.

Mobile LPR can also be used to enforce time restricted parking, as the software time-stamps every image and can be programmed to identify license plates that parked beyond municipal time limits. Furthermore, cameras can be used to record and compare images of a vehicle's size, shape and color, taken over the course of time, to determine if the vehicle has exceeded the time limit. Another camera option, 'electronic chalking', captures the images of valve stems on tires to determine if the vehicle has moved over the course of time.

At a driving speed of just 15 MPH, mobile LPR is potentially more than five times more efficient than foot-patrol, as the average foot patrol speed is less than 3 MPH. One vehicle could theoretically cover the same territory of five or six enforcement officers on foot-patrol; however, vehicular traffic, traffic controls and the need to park the enforcement vehicle to issue citations, will reduce the comparative efficiency. Also note that while mobile LPR is an efficient

enforcement tool for paid and time-limit parking, many other infractions such as no parking, ADA parking, loading zone, hydrant, etc., will still need to be manually (visually) inspected.

Walker is aware of the following U.S. cities that have implemented pay by plate with LPR enforcement:

- Harrisburg, VA
- Ithaca, NY
- Decatur, GA
- Richmond, VA
- Flint, MI
- Medford, MA
- Miami, FL
- Joliet, IL
- Albany, NY
- Pittsburgh, PA – using handheld units for enforcement
- Middletown, CT – using handheld units for enforcement
- Miami Beach, FL – Using handheld units for enforcement

PARKING FINES

Parking fines are as follows:

- Expired meter (payment within 14 days) - $10.00 ($5.00 if paid in person within half an hour of the issuance of a summons)
  - First penalty (payment after 14 days) – add $10.00
  - Second penalty (payment after 60 days) – add $10.00
- Overtime at meter - $15.00
- Parking in a disabled space - $100.00

Scofflaws are defined as motorists with six or more unpaid parking tickets or more than $150 in unpaid parking fines. Scofflaws are subject to vehicle towing and additional fees associated with vehicle tow charges, storage, and impoundment.

RECOMMENDATION

Parking fines are too low to effectively deter most people from attempting to "game" the parking system out of fear of having to pay for a parking citation. At only $10 for an expired meter or $15 for parking beyond the posted time limit, many people will intentionally take their chances at being cited for a parking violation. Moreover, the parking fine schedule shown previously, does

little in the way of discouraging repeat offenses and minimizing the numbers of scofflaws.

The goal of fining violators is not to increase revenues or fill city coffers; it is to influence parking behaviors that are designed to keep parking spaces available for short-term demand. Parking fines, if too low, will encourage abuse by members of the resident and business communities. A graduated fine schedule is geared toward repeat offenders, rather than first time violators. Walker recommends a graduated fine schedule based on the number of violations within a specific time frame. The following is an example schedule.

- 1st Violation Warning
- 2nd Violation $20.00
- 3rd Violation $35.00
- 4th Violation $50.00 plus vehicle booting or towing

When the on-street parking violation fines exceed the cost to park off-street, fewer people are willing to risk receiving a ticket and will adjust their parking behavior.

We know of one city, similar in size to Clayton, that charges $500 for a 4th violation.

RESIDENTIAL PARKING PERMITS

A City of Clayton residential parking decal may be obtained with proof of residency (utility bill, residential lease agreement or driver's license) at the Traffic Violations Bureau located in the Police Department, free of charge.

RECOMMENDATION

No changes.

VALET PARKING PERMITS

The city allows on-street valet parking in commercial districts only on Saturdays and Sundays from 5:30 to 11:30 p.m. Applicants are required to submit a $100 non-refundable application fee annually, plus submit a certificate of insurance for general liability that provides a minimum coverage of $1,000,000 and names the city, its agents, employees, guests, and invitees as additional insured. Two parking spaces are the maximum number of valet parking spaces available per property frontage. The city's public works department installs

signage identifying the spaces as valet parking spaces during specific hours and days of the week. Permittees are required to remove all vehicles from valet parking zone within ten minutes and cars may not be parked in public streets, alleys, or publicly-owned parking lots.

RECOMMENDATION

No changes.

COMMUNICATIONS AND PUBLIC RELATIONS

The city has a webpage dedicated to city parking and this webpage is located at http://www.claytonmo.gov/business/parking.htm. This webpage contains significant amounts of information regarding parking and has been professionally developed. It represents the city well. Topics include the following:

- YouTube video that summarizes City of Clayton parking program including numbers and locations of spaces under management by city, on-street parking regulations, parking enforcement hours, time limits, on-street rates, multi-space meters that offer credit card acceptance, and signage designating on- and off-street parking locations
- Employee parking incentive program
- Policy and application for downtown employee parking program
- No parking postings (a form for residents and business owners, requesting that the city post temporary “No Parking” signs to accommodate moving and delivery vehicles on non-metered streets)
- Parking locations for shopping, restaurants, and services
- Parking maps, including an interactive city map, downtown Clayton map, St. Louis Parking Company locations in Clayton, and SP Plus Parking Company locations in Clayton
- Business district hourly parking guide
- Clayton mobile app
- Resident parking, including frequently asked questions and answers
- Frequently-asked questions relating to parking in general
- Parking regulations including time limits, enforcement days and hours, enforcement practices, and parking fines
- A portal for paying parking tickets
- Meter rental information
- Traffic complaints/questions
- Parking inquiries and complaints
- Valet parking inquiries
- Information regarding pay and display meters, including a list of other cities using this equipment

Evaluation of Parking Policy & Municipal Parking Program

RECOMMENDATION

The city's website does a good job of providing information regarding its parking program. The city is advised to continue investing in this tool. It is also recommended that the city, in coordination with any downtown business / merchants association(s), consider developing a formalized parking management plan that clearly communicates locations for employee, resident and visitor parking. Many of the localized parking challenges can be addressed through improved management and marketing of the existing resources.

The Public Relations and Communications program should:

- Continue to include a comprehensive "Downtown Parking" city web site. This web-site can share data and links with the current site in order to reduce duplication and overall cost and effort.
- Respond to questions and requests from the general public for locations of parking facilities, pricing, and availability.
- Maintain the integrity of downtown parking promotional materials, and provide parking maps, business development packets, and fact sheets.
- Provide day-to-day media relations, and generate press releases as needed.
- Provide public relations assistance to other downtown events as needed.

This information could be distributed through the following:

- A comprehensive "Downtown Parking" city web site.
- A quarterly newsletter for the downtown parking community with news of economic developments in parking, development and construction projects, upcoming downtown events and profiles of downtown newsmakers.
- Newspaper items or articles and media releases.
- Brochures and maps both distributed and posted.
- Direct mailings / email when appropriate.
- Downtown meetings and presentations about downtown parking to city business and civic groups upon request.

Local businesses are often willing to provide parking information and links to additional parking resources from their website's home page. This can be very helpful in catering specific location data to their customers, while also providing a free portal to market parking services to potential patrons. If patrons are armed with parking availability and location information prior to arriving at their destination their overall downtown experience will be greatly improved.

Examples of municipal parking web pages include the following:

- http://www.downtownsouthbend.com/parking-and-maps

- http://downtownlincoln.org/get-there/car.html
- http://www.pittsburghparking.com/
- http://www.miamiparking.com/en/home.aspx
- https://springfieldparkingauthority.com/
- http://archive.baltimoreCity.gov/Government/QuasiAgencies/ParkingAuthority.aspx
- http://www.downtownkalamazoo.org/
- http://bloomington.in.gov/sections/viewSection.php?section_id=132
- http://www.traverseCitymi.gov/publicparking.asp
- https://cantonohio.gov/engineering/?pg=112

EMPLOYEE PARKING INCENTIVE PROGRAM

The city's 2010 master plan, a framework for improving downtown activity and economic vibrancy and a plan adopted by the mayor and board of aldermen, includes a number of recommendations, including that the city continue to make parking-related improvements. The city created a Downtown Restaurant and Retail Employee Parking Incentive Policy. The purpose of this policy is to support and encourage continued activity and vibrancy of both new and existing businesses and to encourage increased utilization of public parking and retail and restaurant employees to park further from their places of employment, thereby freeing up parking spaces for patrons of those businesses.

The policy makes 50 city-owned parking spaces available at the Shaw Park Drive Garage located at the Metro Station. Eligibility requirements include retail or restaurant employees of a business located within Clayton's Special Business District, as defined by Ordinance 4207. Provided that the city is able to verify that the eligibility requirements have been met, the city provides one parking space at $25 per month per participant. This is a $35 discount from the normal rate of $60. An application process is required to assist the city in determining an applicant's eligibility and this application is posted on the city's website.

The program has a provision to cease nine months from adoption unless extended by the mayor and board of aldermen. The city's website states that the program will be re-evaluated in the fall of 2014.

The city reports that this program still exists but is underutilized. Most people that take advantage of it reportedly do not fit the definition of retail/restaurant employee. Hearsay is that the garage is located "too far" from where people work. Many restaurant employees are believed to use street parking which is available at no charge and not time restricted after 5 p.m. on weekdays and during weekends and holidays.

Evaluation of Parking Policy & Municipal Parking Program

RECOMMENDATION

Prior to constructing a parking garage, the city should consider providing free employee parking at the Shaw Park Drive Garage location as this would be significantly less costly than building a new parking structure. Such a program must be aggressively marketed over time to build usage. If significant numbers of employees can be accommodated in this facility and other off-street and long-term parking locations, more spaces would be available for short-term vehicle parking.

PARKING FACILITY MAINTENANCE

The 8011 Bonhomme Parking Garage was built in 1999. The city's Public Works Department reported that no condition appraisals have been performed for this facility. Public Works handles the facility's structural maintenance and repairs.

For new parking structures, in addition to operating expenses, Walker highly recommends that funds be set-aside in a sinking fund, on a regular basis, to cover structural maintenance costs at a minimum of $75 per structured space annually. Once a sinking fund is established, contributions to this fund accumulate over time and are available to cover structural maintenance and structural repairs. Even the best designed and constructed parking facility requires structural maintenance. For example, expansion joints need to be replaced and concrete invariably deteriorates over time and needs to be repaired to ensure safety and to prevent further damage.

The structural maintenance cost typically represents the largest portion of the total maintenance budget. Property owners tend to grossly underestimate the structural maintenance cost and do not budget adequately for timely corrective actions that must be performed to cost effectively extend the service life of the structure. The cost of structural maintenance is relatively small considering the potential waste of the improvements associated with the failure to perform proper maintenance on a timely basis.

Periodic structural maintenance includes items such as patching concrete spalls and de-laminations in floor slabs, beams, columns, walls, etc. In many instances there are maintenance costs associated with the topping membranes, the routing and sealing of joints and cracks, and the expansion joint repairs. The cost of these repairs can vary significantly from one structure to another. The factors that will impact the maintenance cost include, but are not limited to, the value the owner places on the maintenance of the facility, the local climate, and the age of the structure.

Evaluation of Parking Policy & Municipal Parking Program

RECOMMENDATION

In recent years, the city has made significant improvements to the management of its parking structure. Its assistant director of public works/city engineer uses a professional asset manager program, Facility Dude, to keep track of repairs. This practice is healthy and should continue. Also, the city is advised to contract with a qualified engineering firm that has significant experience in evaluating the condition of parking structures and developing repair plans and programs. Condition appraisals are recommended every five years. The purpose of these assessments is to identify the need for repairs so that these repairs can then be made in a timely manner and optimize the life of the facility. This professional service would augment the good work being performed through the city's public works department.

FINDING A PARKING CHAMPION

At present, various city departments and a third-party, commercial parking operator manage various elements of the city's parking assets including one parking structure, several surface lots, and on-street parking spaces.

RECOMMENDATION

One person, perhaps even on a part-time basis, if they have the passion and resourcefulness to improve the delivery of the city's parking system, can make significant improvements that would be centered on making better use of existing parking assets (which are numerous and which exhibit significant underutilization.) We recommend that a role description be crafted for this position and that a goal plan be developed as an outgrowth of this study. This role has been carried out in other cities by a number of different organizations including city public works or economic development departments, downtown development association or merchants group, or a commercial parking operator. One specific model or organizational approach is not required, as we have seen different approaches work in different cities, but the focus and passion on making the parking system better is a key ingredient to success.

PARKING SYSTEM FINANCES

Walker reviewed 2015 operating expenses for the Bonhomme Garage and these align with industry norms.

The total operating expenses for the Bonhomme Garage totaled $451,708.69, of which the County is responsible for 47% or $212,303.08. Per space, the Bonhomme Garage incurred $744.28 in total operating expenses. In

comparison, Walker's database of parking operating and maintenance expense for the Midwest suggests an average per space cost of $880. The national average is slightly lower ($849.00).

The following table compares several common operating expenses incurred at the Bonhomme Garage to the Midwest and National averages.

Table 34: Parking Operating Expense Comparison

Operating and Maintenance Expenses	Bonhomme Parking Structure	Midwest Average	National Average
Mechanical Repair and Maintenance	$ 284,154.15	$ 63,503.33	$ 48,356.58
Operating Expenses			
Accounting Fees	$ 250.00	$ 3,083.51	$ 3,821.53
Attendants Wages	$ 59,868.53	$ 197,226.76	$ 162,994.59
Insurance - General Liability	$ 3,726.00	$ 15,789.59	$ 16,012.72
Insurance - Workers Comp	$ 1,619.84	$ 4,324.87	$ 4,946.37
Payroll Taxes	$ 4,623.94	$ 4,389.56	$ 4,666.88
Snow Removal	$ 3,264.11	$ 1,225.16	$ 885.49
Supplies	$ 3,599.02	$ 16,901.42	$ 13,386.56
Telephone	$ 3,542.64	$ 3,729.76	$ 3,285.09
Uniforms	$ 190.00	$ 1,714.67	$ 1,308.28
Utilities	$ 39,388.09	$ 53,225.09	$ 41,015.36
Management Fee	$ 12,600.00	$ 14,954.60	$ 17,788.34
Total Operating Expense	**$ 424,241.69**	**$ 551,221.24**	**$ 481,352.50**
Operating Expense per Spaces	$ 744.28	$ 880.00	$ 849.00

Source: City of Clayton and Walker, 2016

PARKING ALTERNATIVES ANALYSIS

WALKER
PARKING CONSULTANTS

Parking Alternatives Analysis

ALTERNATIVES ANALYSIS

There are cases where parking management alone is not the solution. While an organized parking system provides the framework for future growth, additional supply in the form of a parking structure or lot may be required to support new development. It is rare that a community would build a fully subsidized, stand-alone parking facility without clear plans for new commercial development. The preferred approach is to develop new parking in coordination with highly dense mixed-use projects, as is evidenced by multiple redevelopment projects currently planned in Clayton. This approach maximizes development space by integrating parking into the development program.

Our observations of publicly-available parking in the downtown area do not currently indicate a parking shortage, nor is a parking shortage projected over the next ten years. The known redevelopment projects are expected to build parking (private/restricted) associated with their respective projects. However, while the overall Study Area did not experience a parking shortage, there are parking "hot spots," particularly around the intersection of Carondelet Avenue and Hanley Road. Additionally, while the private developments will provide their own parking, it is likely they may also generate some demand for public parking as well. As such, Walker considered opportunities to increase the publicly available parking supply, if the city desired, in the future.

This section provides a general overview of basic parking economics that must be considered when planning for a new parking structure. A brief discussion is provided on capital costs, operating expenses, breakeven pricing, structural repair budget, and minimum parking dimensions. In addition, the advantages and disadvantages of structured, surface, and shared parking options available to downtown Clayton are discussed in detail.

CAPITAL COSTS

Walker understands that future parking improvements may be developed as a stand-alone parking ramp or incorporated with the design of a future mixed-use building. A parking facility that is built into a project, as either the upper or lower floors of that development compared to a stand-alone parking facility, requires that the garage use short-span construction. Short-span construction uses an increased number of columns to support the weight of the structural elements above it.

In short-span construction, the column grid is roughly 30 feet on center. The efficiencies of short-span construction are less than long-span construction because of the column projections that interfere with the parking layout. A

typical short-span construction garage has design efficiency in the range of 400-450 square feet per space, depending upon the geometrics of the footprint.

If the ramp is a stand-alone structure, utilizing long-span construction, the columns can be located at the front of the parking stalls so that there are no column projections. The efficiency of the garage can be increased to an approximate range of 315 to 350 square feet per space, depending upon the geometrics of the footprint. The increase in efficiency is due to the ability to increase the number of parking spaces inside the same footprint.

A general guideline for determining the conceptual estimate of probable cost for a parking structure is to apply a cost per space figure to the target capacity. The cost of parking structures vary greatly based on location, architectural features, sustainability features, and whether the facility is above or below-grade. A reasonable range for an above-grade, 200-300 space parking facility is $15,000 to $20,000 per space in construction costs, assuming long-span construction, a site that allows for the design and construction of a facility that can average 300-325 square feet of buildable floor area per parking space, and modest architectural treatments. The cost per space can increase significantly when built below ground, or includes multi-use retail and office space. Additionally, soft costs, including project financing, developer fees, design fees, soils and materials testing, etc. could add another 20-35% of construction costs. Land costs are an additional consideration.

OPERATING COSTS

Expenses can vary dramatically since these depend on a number of independent variables. Traditional expenses can include costs associated with labor, utilities, daily maintenance, supplies, management and accounting, and insurance. Key factors in determining operating costs include the proposed hours of operations, type of parking access and revenue controls, and the application of active or passive security measures.

The operating expenses for a parking facility are typically presented on a cost per space basis. Walker's research indicates actual operating expenses that range from $150 to over $1,000 per space annually. The operating costs are lower at facilities that do not maintain revenue and access controls, and have limited hours of operation. Conversely, operating costs are higher at facilities that are staffed, that monitor access to the property with revenue and access controls, and operate 24 hours 7 days a week. All facilities require some degree of daily janitorial service that includes trash removal, sweeping, and minor repairs and maintenance such as lighting replacement. These responsibilities

are often delegated to a city's public works department, if a parking department does not exist.

STRUCTURAL REPAIR BUDGET

For new parking structures, in addition to operating expenses, Walker highly recommends that funds be set-aside in a sinking fund, on a regular basis, to cover structural maintenance costs at a minimum of $75 per structured space annually. Once a sinking fund is established, contributions to this fund accumulate over time and are available to cover structural maintenance and structural repairs. Even the best designed and constructed parking facility requires structural maintenance. For example, expansion joints need to be replaced and concrete invariably deteriorates over time and needs to be repaired to ensure safety and to prevent further damage.

The structural maintenance cost typically represents the largest portion of the total maintenance budget. Property owners tend to grossly underestimate the structural maintenance cost and do not budget adequately for timely corrective actions that must be performed to cost effectively extend the service life of the structure. The cost of structural maintenance is relatively small considering the potential waste of the improvements associated with the failure to perform proper maintenance on a timely basis.

Periodic structural maintenance includes items such as patching concrete spalls and de-laminations in floor slabs, beams, columns, walls, etc. In many instances there are maintenance costs associated with the topping membranes, the routing and sealing of joints and cracks, and the expansion joint repairs. The cost of these repairs can vary significantly from one structure to another. The factors that will impact the maintenance cost include, but are not limited to, the value the owner places on the maintenance of the facility, the local climate, and the age of the structure.

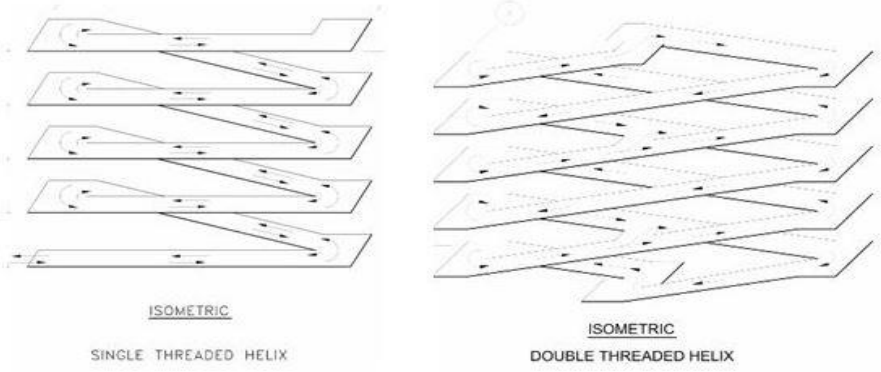
MINIMUM PARKING STRUCTURE DIMENSIONS

There are several variables and options to consider when selecting the type of structure, including the desired traffic flow (one-way or two-way), the type of users, the Level of Service (LOS), and height restrictions. The following table provides the minimum dimensions for two types of structures, as well as a variation on the level of service. Characteristics of a single-threaded helix include two-bays, two-way traffic flow, and 90-degree parking, with the motorist ascending one floor for every 360-degree revolution. By contrast, a double-threaded helix features angled parking and one-way traffic flow,

providing a continuous travel path up and then down through the structure. In a double-threaded helix, the motorist climbs two levels for every 360-degree revolution, thus requiring a longer site than a single-threaded helix.

Figure 11: Minimum Parking Structure Dimensions

Garage Type	Traffic	Space	LOS D Dimensions	LOS A Dimensions
Single Threaded Helix	Two Way	90°	120' x 135'	120' x 187'
Double Helix	One Way	75°	112' x 188'	112' x 282'



Source: Walker Parking Consultants, 2016

Parking structures could be built on smaller footprints. However, implied in this discussion is the desirability to achieve a relatively efficient parking structure design, as measured by square feet of floor area per each parking space.

WALKING DISTANCE

Pedestrian safety and comfort involves two factors: the ability of vehicles to move to and from the area without or with limited pedestrian conflict and, the ease of use by pedestrians with consideration of the walking path and distances to and from the facility.

Walking distance varies based on the patron user group as well as the environment of the surrounding area in which the patron must walk. To aid in estimating the appropriate walking distance, a Level of Service (LOS) rating system is used for evaluating appropriate walking distances based on specific criteria. Several factors impact the walking distance that a typical person will consider reasonable. These include climate, perceived security, lighting, and whether it is through a surface lot or inside a parking structure. LOS "A" is

considered the best or ideal, LOS "B" is good, LOS "C" is average and LOS "D" is below average but minimally acceptable.

The following table includes the level of service walking distances for various parking environments. Walker applies the level of service for outdoor/uncovered parking when considering shared parking opportunities in Downtown Clayton.

Table 35: LOS Conditions: Walking Distances

Level of Service Conditions	A	B	C	D
Outdoor/Uncovered	400 ft.	800 ft.	1,200 ft.	1,600 ft.
Through Surface Lot	350	700	1,050	1,400
Outdoor/Covered	500	1,000	1,500	2,000
Climate Controlled	1,000	2,400	3,800	5,200
Inside Parking Facility	300	600	900	1,200

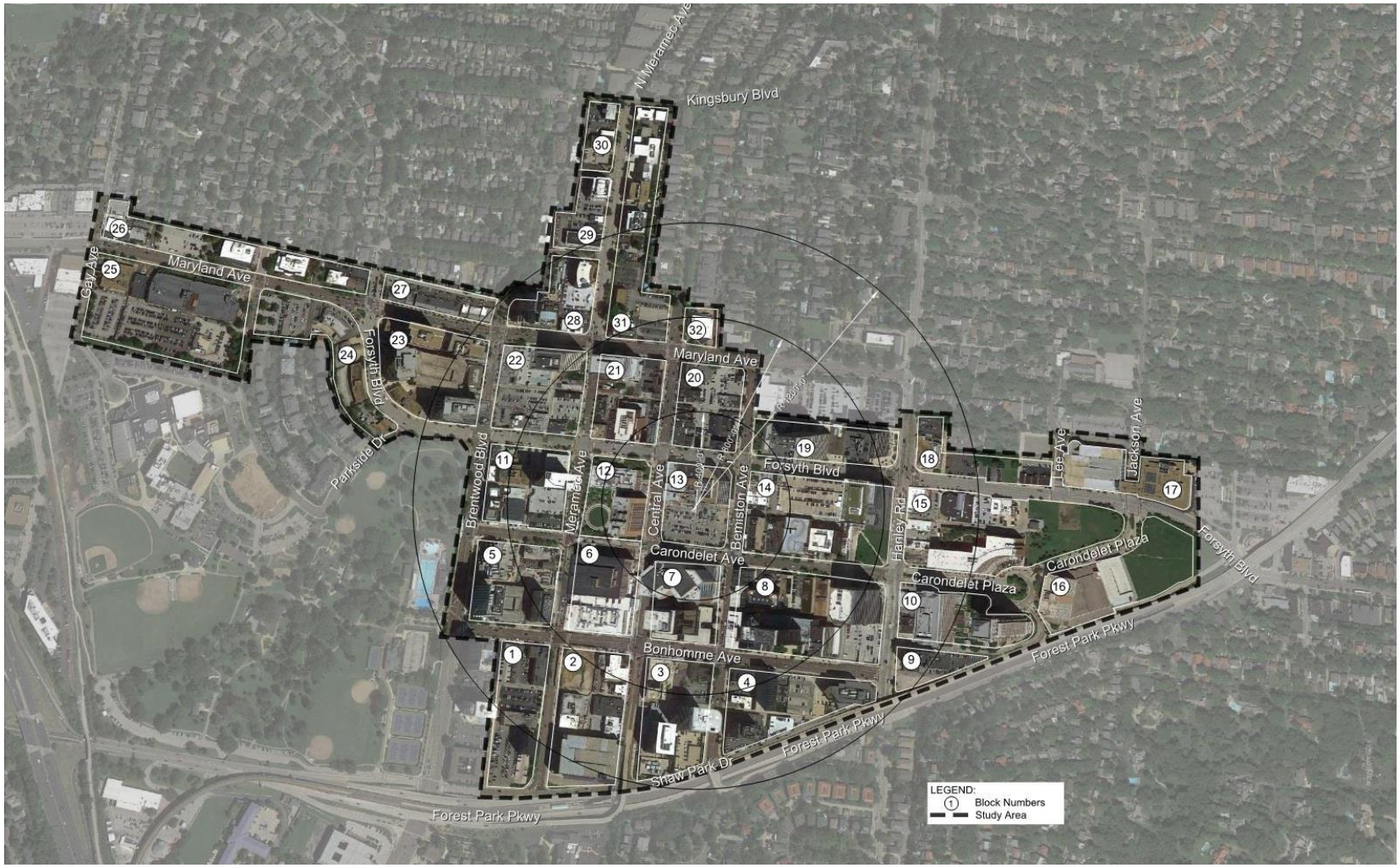
Source: Walker Parking Consultants, 2016

For purposes of comparison or frame of reference, the parking used during typical days at shopping centers is designed to provide LOS A and B, while the parking that only gets used for a few hours on the busiest days of the year might be designed for LOS C. Additionally, employee parking at a shopping mall is most often provided at LOS C, due to the willingness of employees to walk farther than customers and the desire to provide customers with the most proximate parking options.

In a downtown setting, it is not unreasonable to expect someone to walk a block or two for most short-term activity (i.e. running into the drug store, dropping off dry cleaning, etc.) and further for long-term activities like dinner and a movie or going to working. We recommend striving to provide adequate parking to specific user groups using the following LOS guidelines.

For example, the following figure shows 400, 800, and 1,200 foot radii (LOS A through C) from the public parking lot on Block 13. Much of the downtown Study Area is located within 1,200 feet. Since the average walking speed is 3 mph, much of the study area is located within an approximately five minute walk of this lot. Our observations during our field survey indicate the lot is highly utilized throughout the day.

Figure 12: Walking Distances – Block 13



Source: Walker Parking Consultants, 2016

Parking Alternatives Analysis

As stated earlier, our observation and projections do not indicate a parking shortage on the whole. However, there are areas experiencing parking demand at or above 85% of supply. Additionally, while the known future developments will provide their own on-site parking supply, there may be some overflow demand. As such, the Study Area was evaluated to determine the optimum location(s) to provide additional parking. Walker's observations indicated the highest occupancies occurred on Blocks 8, 14, and 15. Conversely, much of the planned redevelopment is expected to occur on blocks west of Central Avenue.

There are limited opportunities available in the downtown area to develop new parking. With the exception of Block 13, most of the blocks in the downtown area do not have adequate surface area available to build structured parking. Again, with the exception of Blocks 13, 15, and 22, all other existing surface lots are privately owned. Developing on any of these properties would require the city to purchase the property and demolish the existing buildings or enter into a public private partnership to develop the property as parking.

BLOCK 13

Blocks 13 is bounded by Forsyth Boulevard to the north, Bemiston Avenue to the east, Carondelet Avenue to the south, and Central Avenue to the west. More than half of the block is occupied by a 150-space public parking lot. Parkers pay for parking on an hourly bases at single space meters. The lot was highly utilized throughout the day during our field survey.

The block is very much centrally located within the downtown area. It is within one block of the areas observed to experience the highest parking demands. It is also close to several of the redevelopment projects identified by the city. It is possibly the largest contiguous parcel of undeveloped land in the downtown area. As such we prepared both a restriping option and two structured parking options for this property.

OPTION 1 – RESTRIPING/RECONFIGURING

Typically the quickest and least expensive way to increase parking supply is by maximizing the existing space through restriping. Costs of a parking structure can run anywhere from $15,000 to $20,000 per space and upwards. Surface parking lot construction costs typically range from $2,500 to $4,500 per space. By comparison, simple line restriping costs for an asphalt parking lot range from $21 to $35 per space depending on several variables including the number of coats of sealer used. Therefore, restriping a parking facility to increase capacity represents a substantial savings over building new parking facilities. How and why an existing lot is restriped is dependent on the situation. In some cases,

stall widths can be reduced to 8'-6" to increase the parking supply. In other cases, drive aisles may be reduced; moreover, converting from 90-degree to angled parking or vice versa can result in increased capacity.

The existing lot is approximately 300 feet long and 200 feet wide, with 150 metered parking spaces. There are three entry/exit lanes; one entry/exit on Carondelet Avenue and two entry/exits on Central Avenue. The stall size is approximately 9' wide.

The following figure illustrates the changes made to the existing public surface lot on Block 13 to increase the available parking supply.

Figure 13: Block 13 – Option 1

Source: Walker Parking Consultants, 2016

On Block 13, the stall size was reduced to 8'-6", one entry/exit lane was closed, and the parking layout reconfigured. Once reconfigured, the capacity of the lot would be 154 spaces, a net gain of four spaces. The cost to restripe and modify the existing curb cuts is estimated at $5,390[3]. Should other curb work be needed, the cost may be slightly higher.

There are several advantages and disadvantages associated with restriping this lot including the following:

Pros:

- There are no capital costs associated with purchasing the property
- Minimal construction is required to restripe/reconfigure the existing lot
- Improves efficiency of the parcel
- There is minimal cost per net space gained (≈$1,347)

Cons:

- When the lot is restriped/reconfigured, the single space parking meters will need to be relocated and/or replaced with multi-space meters, similar to the public lot on Block 22. Restriping will eliminate the "island" area where the meters are currently located.
- Only gains four parking spaces
- Will require a variance to restripe at 8'-6"

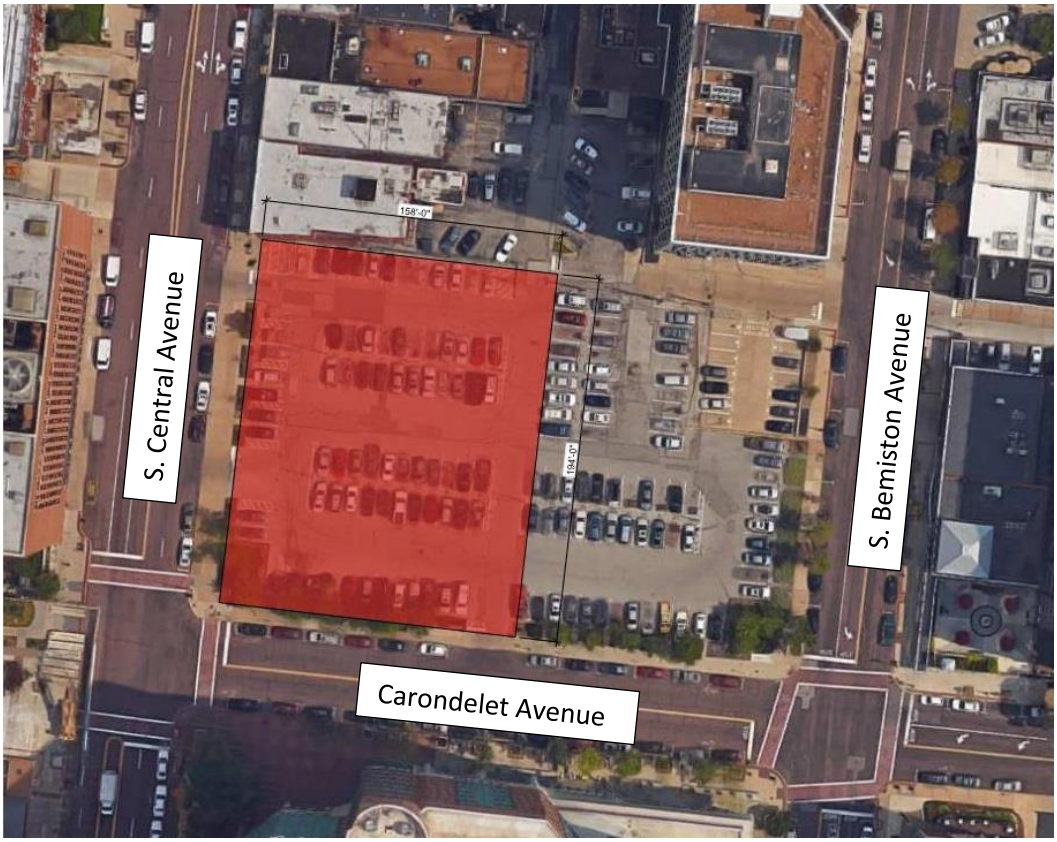
OPTION 2 – STRUCTURED PARKING

Alternatively, Walker considered a structured parking option for Block 13. As shown below, only a portion of the lot would be redeveloped as structured parking. The remaining portion of the surface lot could remain surface parking, or could be redeveloped by a private developer.

[3] 154 spaces at $35 per space to restripe.

Parking Alternatives Analysis

Figure 14: Structured Parking on Block 13



Source: Walker Parking Consultants, 2016

The Option 2 garage is a two-bay, two-way traffic flow parking facility with a footprint of 158'-0" by 194'-0". The overall structure could consist of four levels of parking and provide approximately 317 parking spaces. The net gain of parking associated with this option is approximately 224 spaces. The net gain accounts for spaces displaced by the garage, as well as any reconfiguration of the remaining surface lot (i.e. new entry/exit lane).

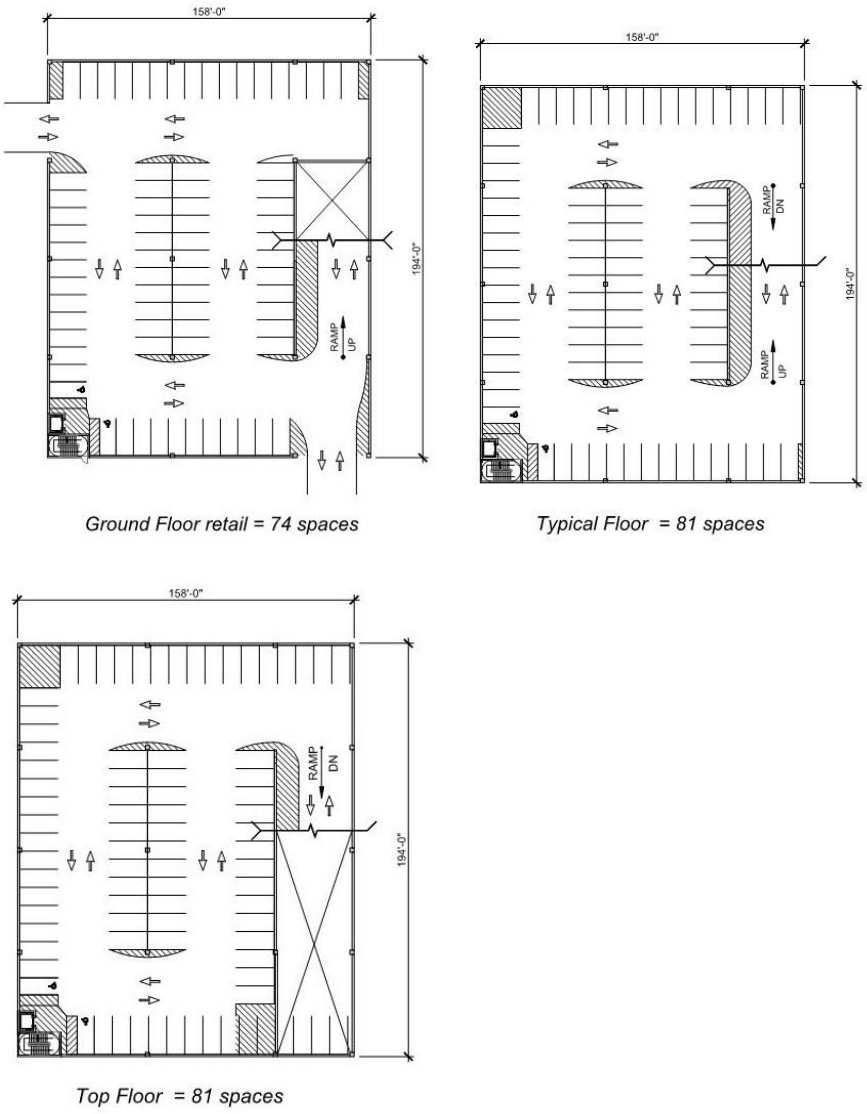
The estimated order-of-magnitude construction cost per-space is between $18,000 and $21,000, excluding the cost associated with land/building acquisition, environmental remediation that may or may not be needed, utility relocation costs, geotechnical engineering impacts, demolition costs, and other soft costs such as design or financing fees. Based on a 317-space facility, the total estimated construction cost is between $5,706,000 and $6,657,000. The net cost per space gained in between $25,500 and $29,700.

While Walker's assumptions are based on a four-level garage, additional levels could be added in the undeveloped portion of the parking lot is selected for

Parking Alternatives Analysis

redevelopment by a private developer. The figure below shows the conceptual layout of the proposed structure.

Figure 15: Option 2 Structured Parking on Block 13



Source: Walker Parking Consultants, 2016

There are several advantages and disadvantages associated with Option 2 including the following:

Pros:

- The garage is ideally located within a short walking distance to major demand generators

Parking Alternatives Analysis

- The land parcel is of sufficient size to develop an efficient parking structure
- The city does not need to purchase the property

Cons:

- A prime parcel of available land in the downtown area is no longer available
- The capacity of the existing lot needs to be added to the projected parking design capacity of the new garage
- High construction cost
- High cost per net space gained
- Will require a variance to restripe at 8'-6"

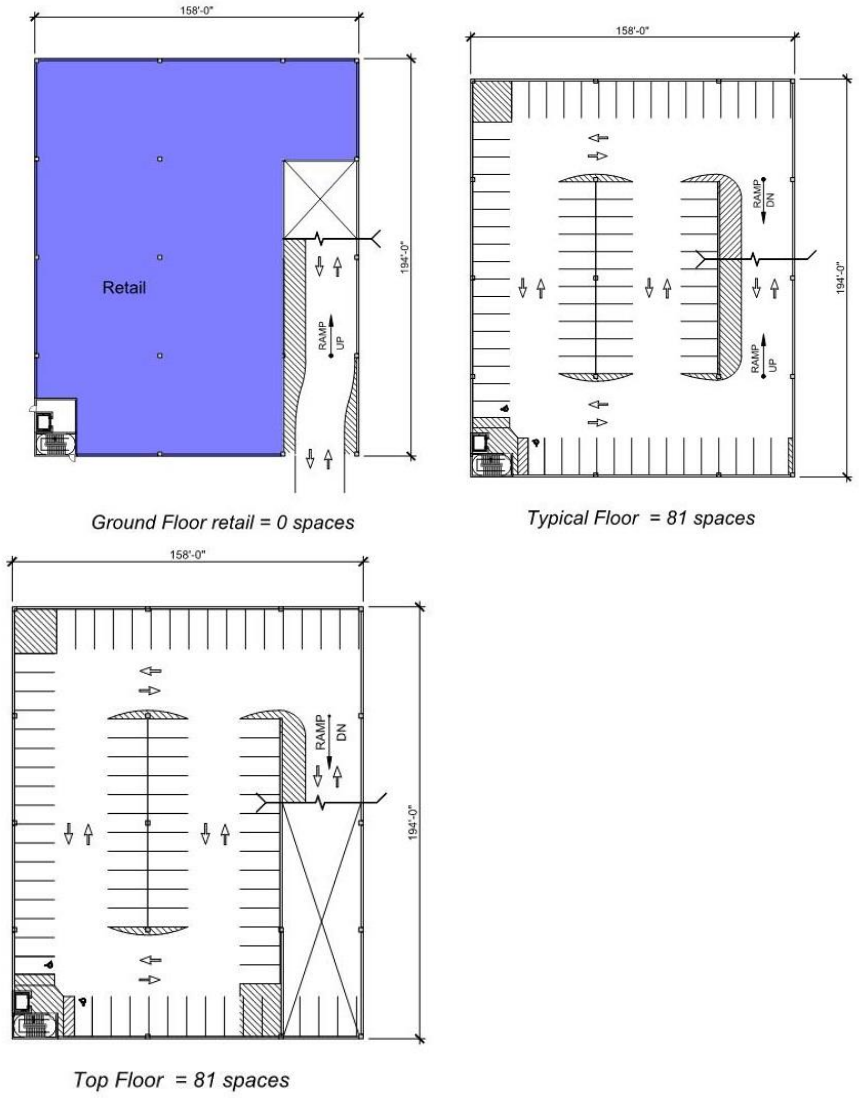
OPTION 3 – STRUCTURED PARKING WITH GROUND RETAIL

As a modification to the above option, Walker considered a structure of the same footprint with retail located on the ground floor (Option 3). However, due to the increased parking demand generated by the ground floor retail, we recommend a garage of 417 spaces. The overall structure will consist of six stories (five stories parking) and have a design capacity of approximately 405 spaces.

The estimated construction cost per-space is between $18,000 and $21,000, excluding the cost associated with land/building acquisition, environmental remediation that may or may not be needed, utility relocation costs, geotechnical engineering impacts, and demolition costs. Based on a 405-space facility, the total estimated construction cost is between $7,290,000 and $8,505,000. The net cost per space gained in between $23,400 and $27,300.

Parking Alternatives Analysis

Figure 16: Option 3 Structured Parking on Block 13



Source: Walker Parking Consultants, 2016

The figure above shows the conceptual layout of the proposed structure with ground floor retail.

Again, it is important to note that Walker's analysis of current and future conditions does not indicate the need for additional parking in the downtown area. Rather, the option above is an example of what a parking structure in this location could look like and cost.

Parking Alternatives Analysis

There are several advantages and disadvantages associated with Option 3 including the following:

Pros:

- The garage is ideally located within a short walking distance to major demand generators
- The land parcel is of sufficient size to develop an efficient parking structure
- The city does not need to purchase the property
- Incorporates retail space on the ground floor to maintain a central business district look

Cons:

- A prime parcel of available land in the downtown area is no longer available
- The capacity of the existing lot needs to be added to the projected parking design capacity of the new garage
- High construction cost
- High cost per net space gained
- Will require a variance to restripe at 8'-6"

MATRIX OF THE ANALYSIS

To help prioritize the criteria to consider when judging the various sites, we use a matrix analysis. As agreed upon with the city, we list all the criteria that we want to consider during the evaluation process and assign each a weight (i.e. importance). The alternative's score for the criteria is the weight multiplied by the rating. The summation of scores gives us a final number such that theoretically the highest number is the most preferred scheme and the lowest number is the least preferred. Small variations in the totals can be ignored. The city should review the weights and ratings because it could easily affect the final recommendation.

Proximity to Demand – The location of each potential development site in relation to commercial buildings that are occupied and generate demand for parking during traditional business hours. The representation of land use near each site is considered and the level of reliance a site may have on one or multiple sources of demand.

Construction Cost – The construction cost associated with each potential development site does not include things such as property acquisition, tenant relocation, and demolition.

Parking Alternatives Analysis

Cost per Net Space Gained – The cost associated with building an additional parking space.

Land Availability – The land availability associated with each potential development site considers the existing use of the land, whether or not property acquisition is required, and the need for tenant relocation, zoning compliance, and whether or not identified redevelopment plans exist.

Future Development – The assessment of future development includes whether parking is the highest and best use of the land and if future development is planned on or adjacent to the site that may benefit or hinder the parking operation.

Traffic Impact – The traffic impact on the existing traffic patterns and the impact that peak period loading and unloading may have on the surrounding street system.

Mixed-Use Potential – The potential of each site to integrate at grade level retail, restaurant and/or office space. Whether or not potential for a mixed-use parking facility exists is dependent on the type of land uses that surround the site and the existing market conditions for each type.

Increased Capacity of System – Does the new garage or expansion eliminate existing public parking? Can the displaced parking be absorbed back into the garage's capacity?

Aesthetic Value – The structure will need to blend in with the buildings adjacent to it. What kind of façade will be needed?

Temporary Displacement of Close-In Parking – A new garage or the expansion of an existing facility may require the exiting lot or a part of the existing parking be shut down for a period of time. How disruptive will this be to the current parking situation?

Site Wayfinding – The ability of a driver or pedestrian to locate the parking facility. Many of these sites already contain public or private parking. Is the site already easily located? Can signage be added to the downtown area to aid drivers in locating parking?

Parking Alternatives Analysis

Table 36: Alternatives Matrix

CRITERIA		Block 13 Option 1 Restriping/ Reconfiguration		Block 13 Option 2 Parking Garage		Block 13 Option 3 Parking Garage with Retail	
	Weight	Rating	Score	Rating	Score	Rating	Score
Proximity to Demand	5	3	15	3	15	3	15
Construction Cost	4	5	20	2	8	2	8
Parking Efficiency	3	3	9	3	9	3	9
Demolition	3	5	15	5	15	5	15
Land Availability	4	5	20	5	20	5	20
Future Development	3	3	9	3	9	3	9
Traffic Impact	3	5	15	3	9	3	9
Mixed-Use Potential	3	1	3	2	6	4	12
Increased Capacity of System	5	1	5	4	20	4	20
Aesthetic Value	2	1	2	3	6	4	8
Temporary Displacement of Close-In Parking	3	3	9	1	3	1	3
Site Wayfinding	3	5	15	5	15	5	15
Expansion Opportunity	2	5	10	3	6	3	6
Total			147		141		149
Rating: 5 = Most Important, Best 1 = Less							

Source: Walker Parking Consultants, 2016

Parking Alternatives Analysis

The final determination of the relative attractiveness of the alternative solutions must rest with the City of Clayton. Again, at this time, our analysis does not indicate the need for additional parking in the downtown area. However, this site analysis provides a reasonable and supportable look at the criteria upon which to base such a decision. Based on this analysis, we would recommend the city consider Option 3 on Block 13, the structured parking with ground floor retail.

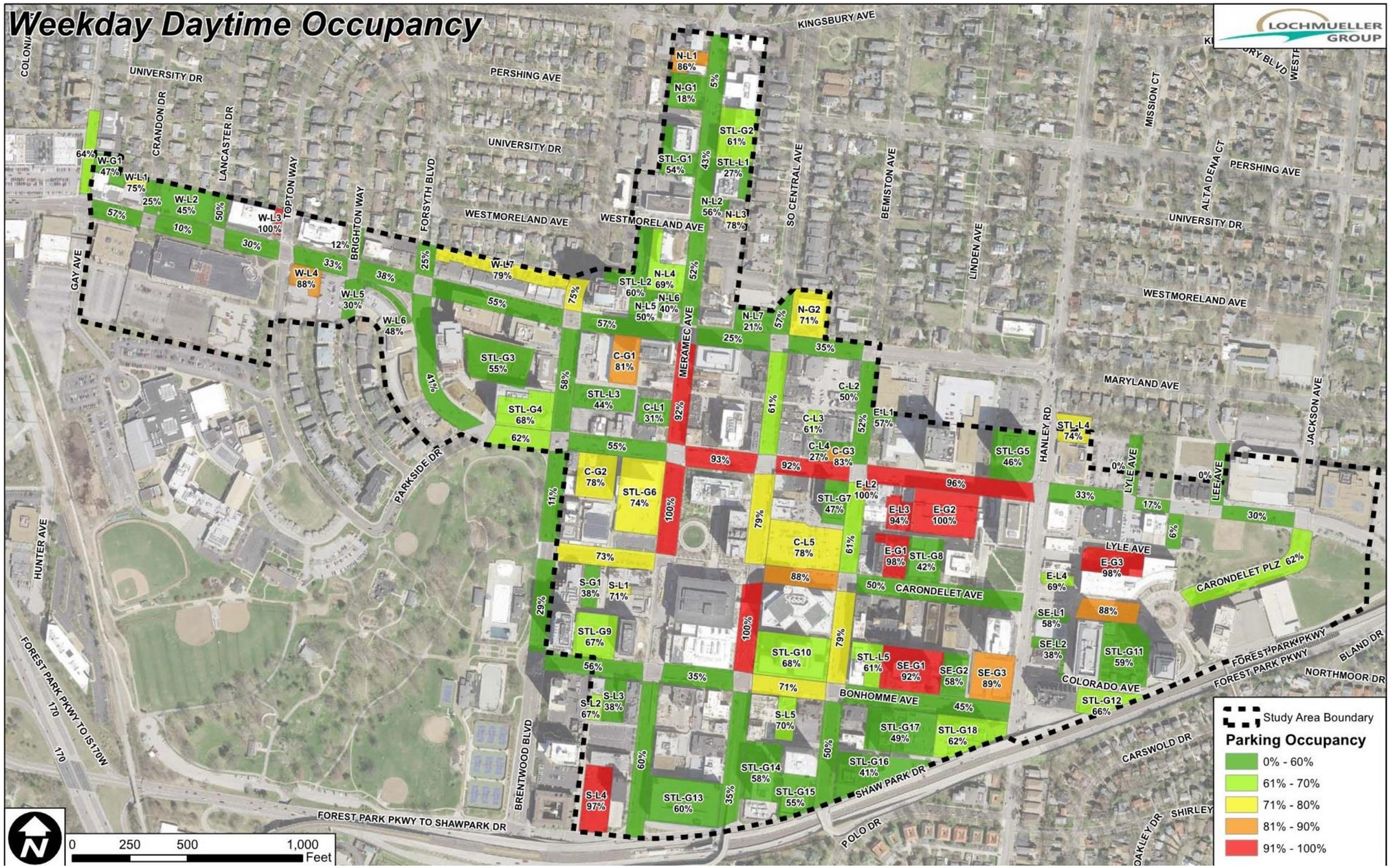
This option offers the city the opportunity to increase parking availability in the core of the downtown while also maintain a central business district “look”.

APPENDIX A

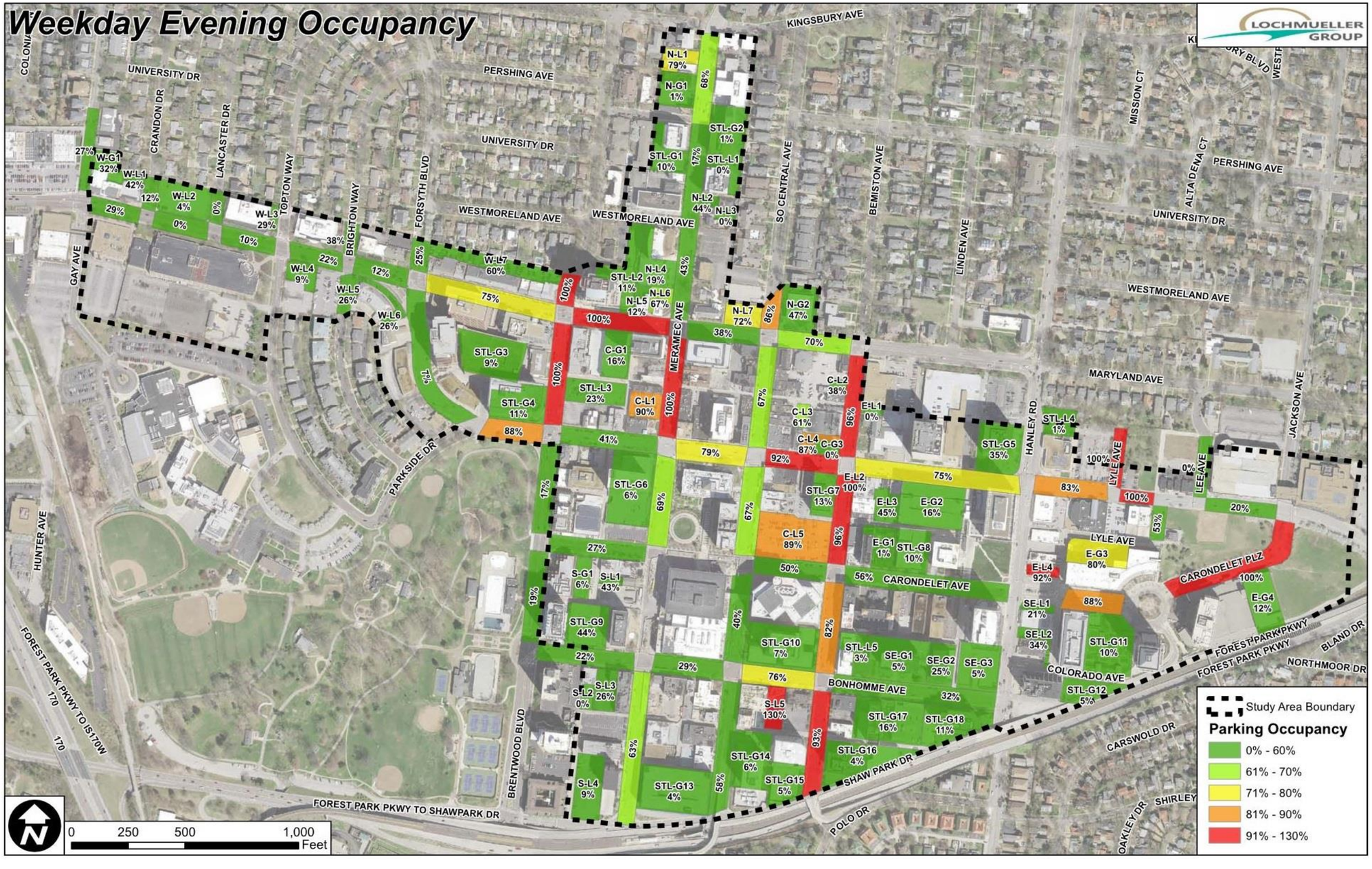
WEEKDAY OCCUPANCY MAPS BY FACILITY

WALKER
PARKING CONSULTANTS

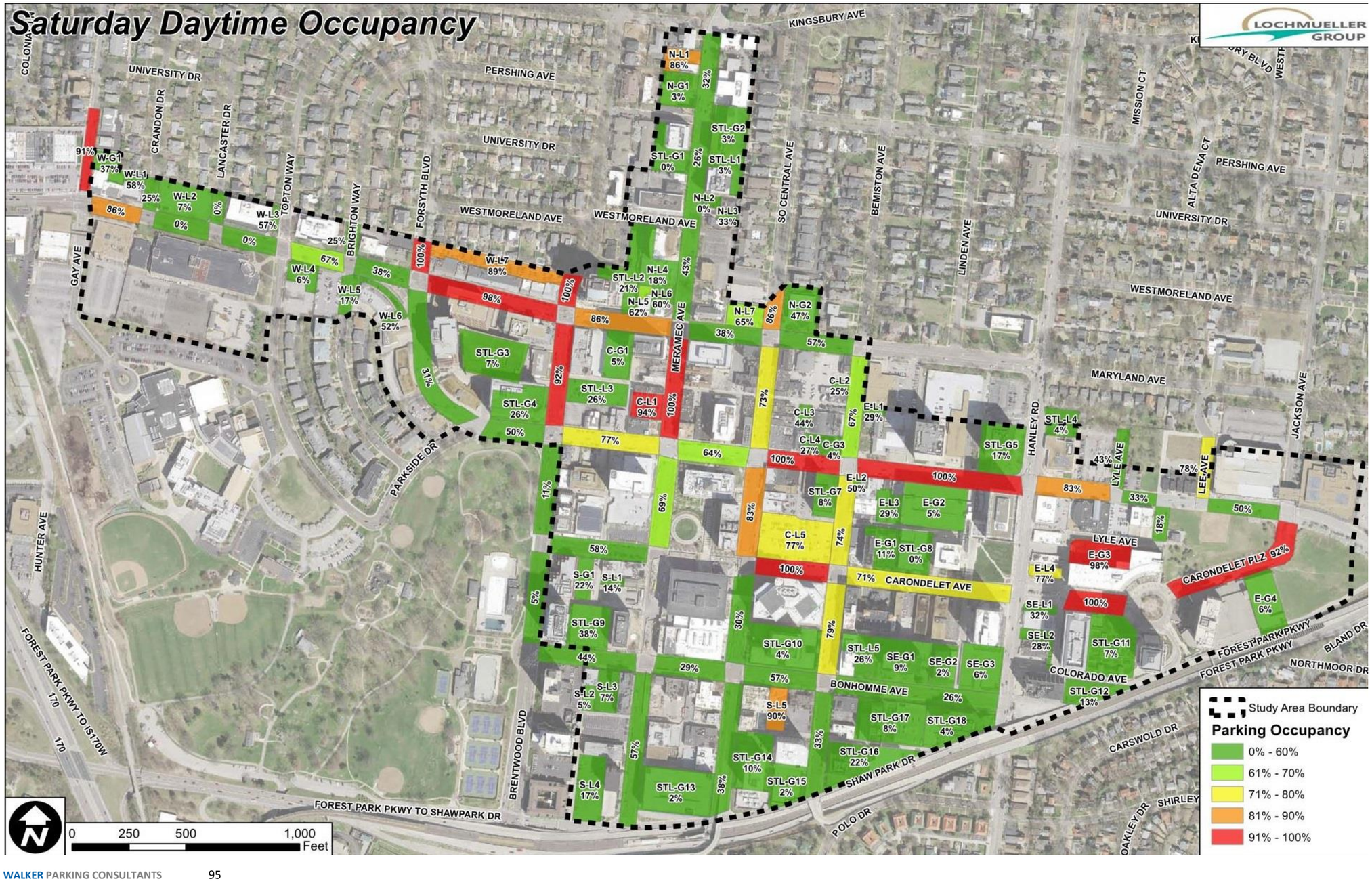
Appendix A


Weekday Daytime Occupancy
LOCHMUELLER GROUP
KINGSBURY AVE
UNIVERSITY DR
PERSHING AVE
WESTMORELAND AVE
MARYLAND AVE
CARONDELET AVE
CARONDELET PLZ
LYLE AVE
BONHOMME AVE
COLORADO AVE
FOREST PARK PKWY
FOREST PARK PKWY TO IS-170W
FOREST PARK PKWY TO SHAWPARK DR
SHAW PARK DR
CRANDON DR
LANCASTER DR
TOPTON WAY
BRIGHTON WAY
FORSYTH BLVD
SO CENTRAL AVE
BEMISTON AVE
LINDEN AVE
MISSION CT
ALTA DENA CT
MERAMEC AVE
HANLEY RD
LYLE AVE
LEE AVE
JACKSON AVE
GAY AVE
PARKSIDE DR
HUNTER AVE
BRENTWOOD BLVD
POLO DR
CARSWOLD DR
SHIRLEY
BLAND DR
NORTHMOOR DR
N-L1 86%
N-G1 18%
STL-G2 61%
STL-G1 54%
STL-L1 27%
N-L2 56%
N-L3 78%
W-G1 47%
W-L1 75%
W-L2 45%
W-L3 100%
W-L4 88%
W-L5 30%
W-L6 48%
W-L7 79%
STL-L2 60%
N-L4 69%
N-L5 50%
N-L6 40%
N-L7 21%
N-G2 71%
STL-G3 55%
C-G1 81%
STL-L3 44%
C-L1 31%
STL-G4 68%
C-L2 50%
C-L3 61%
C-L4 27%
C-G3 83%
E-L1 57%
STL-G5 46%
STL-L4 74%
C-G2 78%
STL-G6 74%
STL-G7 47%
E-L2 100%
E-L3 94%
E-G2 100%
C-L5 78%
E-G1 98%
STL-G8 42%
E-G3 98%
E-L4 69%
S-G1 38%
S-L1 71%
STL-G9 67%
STL-G10 68%
STL-L5 61%
SE-G1 92%
SE-G2 58%
SE-G3 89%
SE-L1 58%
SE-L2 38%
STL-G11 59%
S-L2 67%
S-L3 38%
S-L4 97%
S-L5 70%
STL-G12 66%
STL-G13 60%
STL-G14 58%
STL-G15 55%
STL-G16 41%
STL-G17 49%
STL-G18 62%
0 250 500 1,000 Feet
Study Area Boundary
Parking Occupancy
0% - 60%
61% - 70%
71% - 80%
81% - 90%
91% - 100%

Appendix A


Weekday Evening Occupancy
LOCHMUELLER GROUP
KINGSBURY AVE
UNIVERSITY DR
PERSHING AVE
CRANDON DR
LANCASTER DR
TOPTON WAY
BRIGHTON WAY
FORSYTH BLVD
WESTMORELAND AVE
SO CENTRAL AVE
BEMISTON AVE
LINDEN AVE
MISSION CT
ALTA DENA CT
GAY AVE
MERAMEC AVE
MARYLAND AVE
JACKSON AVE
HANLEY RD
LYLE AVE
LEE AVE
CARONDELET PLZ
CARONDELET AVE
COLORADO AVE
BONHOMME AVE
SHAW PARK DR
FOREST PARK PKWY
BLAND DR
NORTHMOOR DR
CARSWOLD DR
SHIRLEY
OAKLEY DR
POLO DR
PARKSIDE DR
HUNTER AVE
BRENTWOOD BLVD
FOREST PARK PKWY TO I-170
FOREST PARK PKWY TO SHAWPARK DR
N-L1 79%
N-G1 1%
68%
STL-G2 1%
STL-G1 10%
17%
STL-L1 0%
N-L2 44%
N-L3 0%
W-G1 32%
W-L1 42%
W-L2 4%
W-L3 29%
27%
12%
29%
0%
0%
10%
38%
22%
9%
W-L4
W-L5 26%
W-L6 26%
W-L7 60%
25%
12%
STL-L2 11%
N-L4 19%
43%
N-L5 12%
N-L6 67%
75%
100%
100%
N-L7 72%
86%
N-G2 47%
38%
70%
STL-G3 9%
C-G1 16%
STL-L3 23%
C-L1 90%
STL-G4 11%
88%
41%
C-L2 38%
C-L3 61%
C-L4 87%
C-G3 0%
E-L1 0%
96%
92%
79%
67%
STL-G5 35%
STL-L4 1%
100%
0%
83%
100%
20%
53%
75%
E-L2 100%
STL-G7 13%
E-L3 45%
E-G2 16%
STL-G6 6%
69%
17%
C-L5 89%
96%
E-G1 1%
STL-G8 10%
E-G3 80%
E-L4 92%
27%
50%
56%
88%
100%
E-G4 12%
S-G1 6%
S-L1 43%
19%
STL-G9 44%
22%
40%
82%
STL-G10 7%
STL-L5 3%
SE-G1 5%
SE-G2 25%
SE-G3 5%
SE-L1 21%
SE-L2 34%
STL-G11 10%
29%
76%
S-L2 0%
S-L3 26%
S-L5 130%
32%
STL-G12 5%
STL-G17 16%
STL-G18 11%
STL-G14 6%
STL-G16 4%
93%
63%
58%
S-L4 9%
STL-G13 4%
STL-G15 5%
0 250 500 1,000 Feet
Study Area Boundary
Parking Occupancy
0% - 60%
61% - 70%
71% - 80%
81% - 90%
91% - 130%

Appendix A


Saturday Daytime Occupancy
LOCHMUELLER GROUP
KINGSBURY AVE
UNIVERSITY DR
PERSHING AVE
WESTMORELAND AVE
MARYLAND AVE
CARONDELET AVE
LYLE AVE
BONHOMME AVE
COLORADO AVE
FOREST PARK PKWY
FOREST PARK PKWY TO SHAWPARK DR
FOREST PARK PKWY TO I-170W
SHAW PARK DR
POLO DR
CARSWOLD DR
NORTHMOOR DR
BLAND DR
SHIRLEY
OAKLEY DR
COLONIAL
CRANDON DR
LANCASTER DR
TOPTON WAY
BRIGHTON WAY
FORSYTH BLVD
GAY AVE
PARKSIDE DR
HUNTER AVE
BRENTWOOD BLVD
MERAMEC AVE
SO CENTRAL AVE
BEMISTON AVE
LINDEN AVE
HANLEY RD
MISSION CT
ALTA DENA CT
JACKSON AVE
LYLE AVE
LEE AVE
CARONDELET PLZ
N-L1 86%
N-G1 3%
32%
STL-G2 3%
STL-G1 0%
26%
STL-L1 3%
N-L2 0%
N-L3 33%
W-G1 37%
91%
W-L1 58%
25%
W-L2 7%
0%
86%
0%
W-L3 57%
0%
25%
67%
W-L4 6%
38%
W-L5 17%
W-L6 52%
100%
W-L7 89%
98%
100%
STL-L2 21%
N-L4 18%
43%
N-L5 62%
N-L6 60%
86%
N-L7 65%
86%
N-G2 47%
38%
57%
STL-G3 7%
C-G1 5%
31%
92%
STL-L3 26%
C-L1 94%
100%
73%
C-L2 25%
C-L3 44%
67%
E-L1 29%
STL-G4 26%
50%
77%
64%
C-L4 27%
C-G3 4%
100%
STL-G5 17%
STL-L4 4%
43%
78%
100%
E-L2 50%
83%
33%
50%
11%
69%
83%
STL-G7 8%
E-L3 29%
E-G2 5%
C-L5 77%
74%
E-G1 11%
STL-G8 0%
18%
58%
100%
71%
E-G3 98%
E-L4 77%
92%
5%
S-G1 22%
S-L1 14%
100%
SE-L1 32%
E-G4 6%
STL-G9 38%
30%
79%
STL-G10 4%
STL-L5 26%
SE-G1 9%
SE-G2 2%
SE-G3 6%
SE-L2 28%
STL-G11 7%
44%
29%
57%
S-L3 7%
S-L2 5%
26%
STL-G12 13%
S-L5 90%
STL-G17 8%
STL-G18 4%
33%
57%
STL-G14 10%
STL-G16 22%
STL-G15 2%
38%
STL-G13 2%
S-L4 17%
0 250 500 1,000 Feet
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91% - 100%

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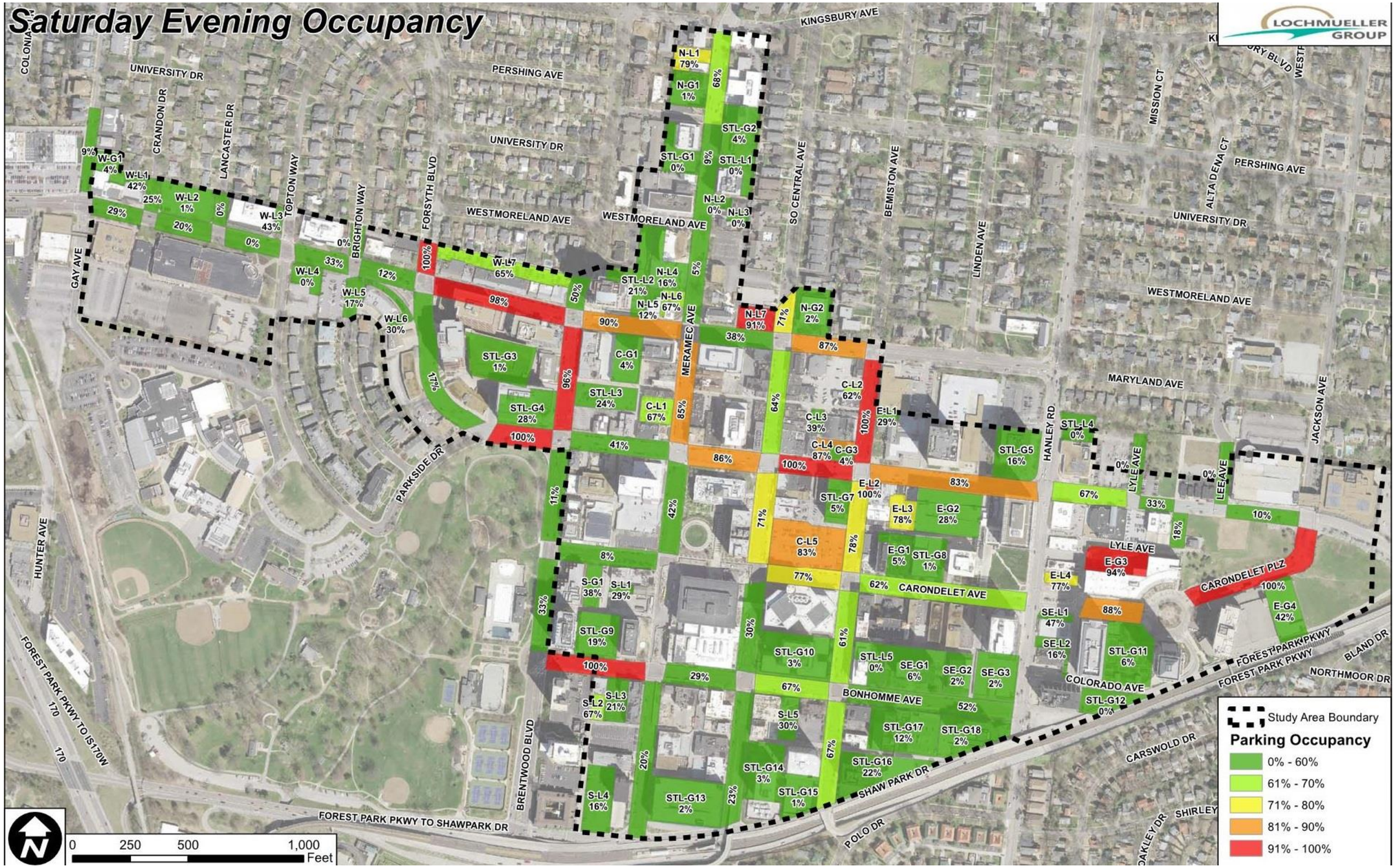
Saturday Evening Occupancy
LOCHMUELLER GROUP
KINGSBURY AVE
UNIVERSITY DR
PERSHING AVE
WESTMORELAND AVE
MARYLAND AVE
CARONDELET AVE
LYLE AVE
BONHOMME AVE
COLORADO AVE
FOREST PARK PKWY
FOREST PARK PKWY TO SHAWPARK DR
FOREST PARK PKWY TO IS170W
SHAW PARK DR
COLONIAL
CRANDON DR
LANCASTER DR
TOPTON WAY
BRIGHTON WAY
FORSYTH BLVD
GAY AVE
MERAMEC AVE
SO CENTRAL AVE
BEMISTON AVE
LINDEN AVE
MISSION CT
ALTA DENA CT
HANLEY RD
JACKSON AVE
LEE AVE
PARKSIDE DR
HUNTER AVE
BRENTWOOD BLVD
CARSWOLD DR
SHIRLEY
POLO DR
BLAND DR
NORTHMOOR DR
CARONDELET PLZ
W-G1 4%
W-L1 42%
W-L2 1%
W-L3 43%
W-L4 0%
W-L5 17%
W-L6 30%
W-L7 65%
N-L1 79%
N-G1 1%
N-L2 0%
N-L3 0%
N-L4 16%
N-L5 12%
N-L6 67%
N-L7 91%
N-G2 2%
STL-G1 0%
STL-G2 4%
STL-L1 0%
STL-L2 21%
STL-G3 1%
STL-G4 28%
STL-L3 24%
C-G1 4%
C-L1 67%
C-L2 62%
C-L3 39%
C-L4 87%
C-G3 4%
C-L5 83%
E-L1 29%
E-L2 100%
E-L3 78%
E-G1 5%
E-G2 28%
E-G3 94%
E-G4 42%
E-L4 77%
STL-G5 16%
STL-L4 0%
STL-G7 5%
STL-G8 1%
S-G1 38%
S-L1 29%
S-L2 67%
S-L3 21%
S-L4 16%
S-L5 30%
STL-G9 19%
STL-G10 3%
STL-L5 0%
SE-G1 6%
SE-G2 2%
SE-G3 2%
SE-L1 47%
SE-L2 16%
STL-G11 6%
STL-G12 0%
STL-G13 2%
STL-G14 3%
STL-G15 1%
STL-G16 22%
STL-G17 12%
STL-G18 2%
0 250 500 1,000 Feet
Study Area Boundary
Parking Occupancy
0% - 60%
61% - 70%
71% - 80%
81% - 90%
91% - 100%

APPENDIX B

SAMPLE SHARED PARKING AGREEMENTS

WALKER
PARKING CONSULTANTS

Appendix – Example Shared Parking Agreements

Model - Shared Use Agreement for Parking Facilities

This Shared Use Agreement for Parking Facilities, entered into this ____ day of _____, _____, between _____, hereinafter called lessor and _____, hereinafter called lessee. In consideration of the covenants herein, lessor agrees to share with lessee certain parking facilities, as is situated in the City of _____, County of _____ and State of _____, hereinafter called the facilities, described as: [Include legal description of location and spaces to be shared here, and as shown on attachment 1.]

The facilities shall be shared commencing with the ____ day of _____, _____, and ending at 11:59 PM on the ____ day of _____, _____, for [insert negotiated compensation figures, as appropriate]. [The lessee agrees to pay at [insert payment address] to lessor by the _____ day of each month [or other payment arrangements].] Lessor hereby represents that it holds legal title to the facilities

The parties agree:

1. USE OF FACILITIES
This section should describe the nature of the shared use (exclusive, joint sections, time(s) and day(s) of week of usage.
-SAMPLE CLAUSE-*[Lessee shall have exclusive use of the facilities. The use shall only be between the hours of 5:30 PM Friday through 5:30 AM Monday and between the hours of 5:30 PM and 5:30 AM Monday through Thursday.]*

2. MAINTENANCE
This section should describe responsibility for aspects of maintenance of the facilities. This could include cleaning, striping, seal coating, asphalt repair and more.
-SAMPLE CLAUSE-*[Lessor shall provide, as reasonably necessary asphalt repair work. Lessee and Lessor agree to share striping, seal coating and lot sweeping at a 50%/50% split based upon mutually accepted maintenance contracts with outside vendors. Lessor shall maintain lot and landscaping at or above the current condition, at no additional cost to the lessee.]*

3. UTILITIES and TAXES
This section should describe responsibility for utilities and taxes. This could include electrical, water, sewage, and more.
-SAMPLE CLAUSE-*[Lessor shall pay all taxes and utilities associated with the facilities, including maintenance of existing facility lighting as directed by standard safety practices.]*

4. SIGNAGE
This section should describe signage allowances and restrictions.
-SAMPLE CLAUSE-
[Lessee may provide signage, meeting with the written approval of lessor, designating usage allowances.]

5. ENFORCEMENT
This section should describe any facility usage enforcement methods.
-SAMPLE CLAUSE-*[Lessee may provide a surveillance officer(s) for parking safety and usage only for the period of its exclusive use. Lessee and lessor reserve the right to tow, at owners expense, vehicles improperly parked or abandoned. All towing shall be with the*
approval of the lessor.]

6. COOPERATION
This section should describe communication relationship.
-SAMPLE CLAUSE-*[Lessor and lessee agree to cooperate to the best of their abilities to mutually use the facilities without disrupting the other party. The parties agree to meet on occasion to work out any problems that may arise to the shared use.]*

7. INSURANCE
This section should describe insurance requirements for the facilities.
-SAMPLE CLAUSE-*[At their own expense, lessor and lessee agree to maintain liability insurance for the facilities as is standard for their own business usage.]*

8. INDEMNIFICATION
This section should describe indemnification as applicable and negotiated. This is a very technical section and legal counsel should be consulted for appropriate language to each and every agreement.
-NO SAMPLE CLAUSE PROVIDED-

9. TERMINATION
This section should describe how to or if this agreement can be terminated and post termination responsibilities.
-SAMPLE CLAUSE-*[If lessor transfers ownership, or if part of all of the facilities are condemned, or access to the facilities is changed or limited, lessee may, in its sole discretion terminate this agreement without further liability by giving Lessor not less than 60 days prior written notice. Upon termination of this agreement, Lessee agrees to remove all signage and repair damage due to excessive use or abuse. Lessor agrees to give lessee the right of first refusal on subsequent renewal of this agreement.]*

10. SUPPLEMENTAL COVENANTS
This section should contain any additional covenants, rights, responsibilities and/or agreements.
-NO SAMPLE CLAUSE PROVIDED-

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date Set forth at the outset hereof.

[Signature and notarization as appropriate to a legal document and as appropriate to recording process negotiated between parties.]

Please return to: Administrative Staff, Cary Planning Department, P.O. Box 2008, Cary, NC 27512-8005

STATE OF NORTH CAROLINA
COUNTY OF WAKE

SAMPLE
Shared Parking Agreement

This Shared Parking Agreement ('Agreement') entered into this _____ day of _____, 200__ by and between _____, whose address is _____, and Parcel Identification Number (PIN) is _____ ('Lessor') and _____, whose address is _____, and Parcel Identification Number (PIN) is _____ ('Lessee').

1. To relieve traffic congestion in the streets, to minimize any detrimental effects of off-street parking areas on adjacent properties, and to ensure the proper and uniform development of parking areas throughout the Town, the Town of Cary Land Development Ordinance ('LDO') establishes minimum number of off-street parking and loading spaces necessary for the various land uses in the Town of Cary; and
2. Lessee owns property at _____, Cary, N.C. ('Lessee Property') which property does not have the number of off-street parking spaces required under the LDO for the use to which Lessee Property is put; and
3. Lessor owns property at _____, Cary, N.C. ('Lessor Property') which is zoned with the same or more intensive zoning classification than Lessee Property and which is put to a use with different operating hours or different peak business periods than the use on Lessee Property; and
4. Lessee desires to use some of the off-street parking spaces on Lessor Property to satisfy Lessee Property off-street parking requirements, such shared parking being permitted by the Town of Cary LDO, Section 7.8.3; and
5. Town LDO requires that such shared use of parking spaces be done by written agreement.

NOW THEREFORE, in consideration of the premises and the information stated above, the parties agree as follows:

1. SHARED USE OF OFF STREET PARKING FACILITIES

Per Section 7.8.2, Town of Cary Land Development Ordinance (Off-Street Parking Space Requirements), Lessor is required _____ off-street parking spaces and has _____ existing off-street parking spaces, which results in an excess of _____ off-street parking spaces. Lessee is required _____ off-street parking spaces and has _____ existing off-street parking spaces.

Lessor hereby agrees to share with Lessee a maximum of _____ off-street parking spaces associated with Lessor's Property, which is described in more detail on Attachment 1, attached hereto and incorporated herein by reference ('Shared Spaces').

Lessee's interest in such parking spaces is non-exclusive. The Lessee's shared use of parking shall be subject to the following:

[describe the time, days etc of the use and the nature of the shared use, limits on time vehicles may be parked, etc.]

2. TERM

This Agreement shall be effective upon execution by both parties and shall be accepted by the Planning Director and shall not be amended and/or terminated without written consent of both parties and the Cary Planning Director, or his/her designee.

3. SIGNAGE

Directional signage in accordance with Chapter 9, Town of Cary Land Development Ordinance and the written approval of Lessor may be added to direct the public to the shared parking spaces.

4. COOPERATION

The parties agree to cooperate and work together in good faith to effectuate the purpose of this Agreement.

5. SUPPLEMENTAL COVENANTS

No private agreement shall be entered into that overrides this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date Set forth at the outset hereof.

(Lessor)	(Date)
(Lessee)	(Date)
(Planning Director)	(Date)

_____**COUNTY, NORTH CAROLINA**

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20_____

(Official Seal)

_____
Signature of Notary Public

_____
My Commission Expires

_____**COUNTY, NORTH CAROLINA**

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20_____

(Official Seal)

_____
Signature of Notary Public

_____
My Commission Expires

THE CITY OF SAN DIEGO

RECORDING REQUESTED BY:
THE CITY OF SAN DIEGO
AND WHEN RECORDED MAIL TO:

_____

_____

_____

(THIS SPACE IS FOR RECORDER'S USE ONLY)

SHARED PARKING AGREEMENT

This SHARED PARKING AGREEMENT ("Agreement") is entered into and effective _____, 20_____, by and between _____, _____and the City of San Diego.

RECITALS

WHEREAS, pursuant to sections 142.0535 and 142.0545 of the Land Development Code, the City of San Diego specifies criteria which must be met in order to utilize off-site shared parking agreements to satisfy on-site parking requirements.

NOW, THEREFORE, in consideration of the recitals and mutual obligations of the parties as herein expressed, _____, _____ and the City of San Diego agree as follows:

1. _____ the owner of the property located at _____, agrees to provide _____ the owner of the property located at _____ with the right to the use of (____) parking spaces _____ from _____ as shown on Exhibit A to this Agreement on property located at _____.

   1.1 Applicant: _____ Co-Applicant: _____
   Assessor Parcel No: _____ Assessor Parcel No: _____
   Legal Description: _____ Legal Description: _____
   _____ _____

2. The parking spaces referred to in this Agreement have been determined to conform to current City of San Diego standards for parking spaces, and the parties agree to maintain the parking spaces to meet those standards.

3. The Parties understand and agree that if for any reason the off-site parking spaces are no longer available for use by _____, _____ will be in violation of the City of San Diego Land Development Code requirements. If the off-site parking spaces are no longer available, Applicant will be required to reduce or cease operation and use of the property at Applicant's address to an intensity approved by the City in order to bring the property into conformance with the Land Development Code requirements for required change for required parking. Applicant agrees to waive any right to contest enforcement of the City's Land Development Code in this manner should this circumstance arise.

   Although the Applicant may have recourse against the Party supplying off-site parking spaces for breach of this Agreement, in no circumstance shall the City be obligated by this agreement to remedy such breach. The Parties acknowledge that the sole recourse for the City if this Agreement is breached is against the Applicant in a manner as specified in this paragraph, and the City may invoke any remedy provided for in the Land Development Code to enforce such violation against the Applicant.

Continued on Page 2

4. The provisions and conditions of this Agreement shall run with the land for those properties referenced in paragraph 1 of this document and be enforceable against successors in interest and assigns of the signing parties.

5. Title to and the right to use the lots upon which the parking is to be provided will be subservient to the title to the property where the primary use it serves is situated.

6. The property or portion thereof on which the parking spaces are located will not be made subject to any other covenant or contract for use which interferes with the parking use, without prior written consent of the City.

7. This Agreement is in perpetuity and can only be terminated if replacement parking has been approved by the City's Director of the Development Services Department and written notice of termination of this agreement has been provided to the other party at least sixty (60) days prior to the termination date.

8. This Agreement shall be kept on file in the Development Services Department of the City of San Diego in Project Tracking System (PTS) Project Number: _____ and shall be recorded on the titles of those properties referenced in paragraph 1 of this document.

In Witness whereof, the undersigned have executed this Agreement.

_____
Applicant

Date: _____

_____
Party/Parties Supplying Spaces

Date: _____

_____
Deputy Director

Business and Process Management, Development Services

Date: _____

NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ.

Reset Button Page 2

Print Form

Shared Parking Agreement

'160.117(E)(4): A Shared parking. Formal agreements which share parking between intermittent uses with non-conflicting parking demands (eg. a church and a bank) are encouraged as a means to reduce the amount of parking required. Such agreements are subject to the approval of the Planning Commission. Individual spaces identified on a site plan for shared users shall not be shared by more than one user at a time.@

As owner(s) of the property located at _____, I (we) hereby agree to share _____ parking spaces (as shown on attached site plan) during the following times and days:

_____

_____

_____

The following restrictions apply:

_____

_____

_____

Required parking

My (our) property requires_____ parking spaces based upon the City's parking lot ordinance. The use of my (our) property is_____ and it contains _____square feet.

The applicant's property requires_____ parking spaces based upon the City's parking lot ordinance. The use of the applicant's property is _____and it contains _____ square feet.

Site Plan

Attach a diagram of the entire parking lot. Enumerate spaces to be shared per this agreement. Also indicate any spaces within this lot which are shared with other entities.

Owner Signature:_____ Date:_____

Owner Signature:_____ Date:_____

Applicant Signature:_____ Date:_____

PARKING LOT LEASE AGREEMENT

This PARKING LOT LEASE AGREEMENT ("Agreement") is made and entered into as of this ____ day of _____, 200__, by and between the [PLEASE PROVIDE EXACT NAME OF TRUST AND NAMES OF (CO)-TRUSTEES] ("Owner"), and the CITY OF ARCADIA, a California municipal corporation ("City"). Owner and City are hereinafter sometimes referred to collectively as "parties" and individually as a "party."

R E C I T A L S

A. Owner is the owner in fee of that certain real property located at [ADDRESS], Assessor's Parcel Numbers ("APN") [APN NUMBER] located in the downtown area of the City of Arcadia, County of Los Angeles, State of California (the "Property").

B. City has requested to lease, and Owner is willing to lease, those portions of the Property more particularly depicted in Exhibit "A", attached hereto and incorporated by this reference (the "Premises"), for the purpose of providing public parking according to the terms and conditions of this Agreement.

C O V E N A N T S

Based upon the foregoing Recitals, which are incorporated into this Agreement by reference, and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by both parties, Owner and City hereby agree as follows:

1. Grant of Lease. Owner hereby leases to City, and City hereby leases from Owner, the Premises and all landscaping, improvements, and structures that will be used for the Permitted Uses (defined below) according to the terms and conditions of this Agreement.

2. Term.

2.1 Initial Term. The lease of the Premises shall be for an initial term of five (5) years (the "Initial Term"), commencing upon the date that the City Council approves in accordance with law this fully executed Agreement (the "Commencement Date") and expiring on the date that is the fifth (5^{th}) anniversary of the Commencement Date.

2.2 Automatic Renewal. Upon the expiration of the Initial Term, the lease of the Premises shall be divided into one (1) year renewable terms, wherein each one (1) year term is hereinafter referred to as a "Renewable Term." The first Renewable Term shall automatically commence upon the date that is the day immediately after the expiration of the Initial Term, and each subsequent Renewable Term shall automatically commence on the date that is the day immediately after the expiration of the previous Renewable Term. The lease of the Premises for any time after the expiration of the Initial Term (i.e., for any time during any and all Renewable Terms) is hereinafter referred to as the "Extended Term." The Initial Term and Extended Term are collectively referred to in this Agreement as the "Term."

2.3 Termination of Lease. Either party, in its sole and absolute discretion, may terminate the lease of the Premises either: (i) at the expiration of the Initial Term, or (ii) at any time during the Extended Term. The party seeking to terminate the lease shall deliver to the other party written notice thereof no later than sixty (60) days prior to the date of termination.

3. Rent and Security Deposit.

3.1 Rent. City shall pay to Owner as rent for the Premises [AMOUNT] per month (the "Rent"). The first payment of Rent shall be prorated pursuant to Section 3.4 below (if applicable) and shall be delivered to Owner no later than the date that is three (3) weeks after the Commencement Date. Each and every subsequent payment of Rent shall be delivered to Owner no later than the tenth (10^{th}) day of the month for which the Rent is due.

3.2 Security Deposit. City shall deliver to Owner, no later than the date that is three (3) weeks after the Commencement Date, a security deposit in the amount of [AMOUNT] (the "Security Deposit"). The Security Deposit shall be held by Owner as security for the performance by City of the terms and conditions of this Agreement to be kept and performed by City. Prior to the use of the Security Deposit for any obligation to be performed by City pursuant to this Agreement, Owner shall deliver written notice to City of the reason for the use, and Owner shall provide City with an opportunity to cure any failure to perform said obligation prior to the use of the Security Deposit pursuant to the cure provisions set forth in Section 10 below. If City fully performs every obligation of this Agreement to be performed by it, the Security Deposit or any balance thereof shall be returned to City upon termination of this Agreement.

3.3 Delivery. All payments and charges due under this Agreement shall be paid by City in lawful money of the United States of America, which shall be legal tender at the time of payment, at:

_____
_____
_____
Attn: _____

or to such other person or at such other place as Owner may from time to time designate in writing. Owner shall promptly deliver to City any change in address or person responsible for receiving payment of Rent. City shall not be in default of this Agreement if Owner fails to receive any payment of Rent when Owner fails to promptly deliver any change in address or person responsible for receiving payment.

3.4 Prorated Amounts. Any Rent due under this Agreement for any fractional part of a calendar month shall be prorated based on the ratio that the number of days in that month during the Term bears to the total number of days in that month.

4. Permitted Uses. For the duration of the Term, the Premises shall be used for parking by the general public and incidental uses relating thereto (the "Permitted Uses"), and for no other purpose, subject to the following conditions: (i) no overnight parking shall be permitted; (ii) parking for each vehicle used by a member of the general public shall be limited

to four (4) hours for any twenty-four (24) hour period, provided, however, that the time limits may be adjusted by mutual consent of the parties; (iii) any vehicle used by a current employee of [NAME] may park all day on the Premises, but only if such vehicle has a parking permit or sticker for such all day use clearly posted on the vehicle's bumper or windshield; and (iv) any other rules and regulations that City may impose on the general public for the use of the Premises. With respect to the condition concerning the ability of [NAME]employees to park on the Premises pursuant to clause (iii) above, the parties agree that this parking condition shall remain in effect only so long as [NAME] remains in business at its location as of the Commencement Date, and that in the event [NAME] no longer continues its business operations at such location, City shall have no obligation to comply with the parking condition set forth in clause (iii) above.

5. Improvement and Maintenance of Premises. City, at its own cost and expense, shall be responsible for the improvement and maintenance, as needed, of the Premises for use as a public parking lot, including but not limited to: (i) surfacing the parking lot; (ii) striping parking lot spaces; and (iii) providing signage, as needed. Signage shall indicate, where City determines is appropriate, that the parking lot is open for use by the general public.

6. Insurance.

6.1 General Liability. City shall obtain and keep in force and effect for the entire Term a commercial general liability insurance policy which names Owner as an additional insured, protecting against claims of bodily injury, personal injury and property damage based upon, involving, or arising out of the use or maintenance of the Premises by City. Such insurance shall be on an occurrence basis providing single limit coverage in an amount not less than One Million Dollars ($1,000,000.00) per occurrence.

6.2 Certificates. City shall provide to Owner a certificate of insurance evidencing insurance coverage as provided herein no later than the date that is three (3) weeks after the Commencement Date, and thereafter as requested by Owner until the termination of this Agreement.

6.3 Self-Insurance. In lieu of the obligations set forth in Section 6.1 and 6.2 above, City may satisfy its obligation to provide general liability insurance for the Premises through a self-insurance program, but only if City remains self-insured for no less than One Million Dollars ($1,000,000.00) in liability claims. In the event that City is self-insured, City shall deliver to Owner, no later than the date that is three (3) weeks after the Commencement Date, a statement, certificate, or other proof of financial responsibility, duly acknowledged by City's authorized representative, for One Million Dollar ($1,000,000.00) in self-insurance.

7. Indemnity. City shall indemnify, defend, and hold harmless Owner and its officers, officials, employees, agents, or representatives (collectively the "Indemnitees") against any and all claims, demands, causes of action, damages, costs, expenses, losses and liabilities, at law or in equity arising out of or relating to (i) any activity or work done, permitted, or suffered on the Premises; (ii) use of the Premises by City and its officers, officials, employees, agents, representatives, invitees, patrons, or sub-lessees; or (iii) the acts or omissions of City or its officers, officials, employees, agents, or representatives acting in an official capacity. This

indemnity shall specifically include the right to indemnification for any claims, demands, causes of action, damages, costs, expenses, losses and liabilities, at law or in equity arising from the acts or omissions, whether negligent, reckless, willful or otherwise, of any member of the public (as that term is defined below) while that member of the public is or was on or about the Premises. Notwithstanding the forgoing sentences in this Section 7, City shall have no obligation to indemnify, defend, and hold harmless the Indemnitees for any claim, demand, cause of action, damages, costs, expenses, losses and liabilities arising from or relating to (i) a pre-existing environmental condition concerning hazardous substances on or under the Premises; or (ii) any negligent, reckless, or willful act or omission of Indemnitee(s) while on or about the Premises.

For purposes this Agreement, the term "hazardous substance" shall mean any substance or material defined or designated as hazardous or toxic waste, hazardous or toxic material, a hazardous or toxic substance, or other similar term by any federal, state, or local environmental statute, regulation, or ordinance. For purposes of this Section 7, the term "member of the public" shall mean any person other the officers, officials, employees, agents, or representatives, acting in an official capacity, of Owner or City.

8. Peaceable Possession. Owner hereby warrants and represents that it has the authority to lease the Premises and to execute this Agreement. Owner further covenants and agrees that City, upon performing and quietly observing the terms and conditions of this Agreement, shall have the right to hold, occupy, and enjoy the Premises for the Permitted Uses during the Term without any interruption or hindrance from Owner, its successors or assigns, or any person or entity lawfully claiming by or through it.

9. Assignment and Subletting. Upon Owner's approval, which shall not be Unreasonably withheld, conditioned, or delayed, City shall have the right to assign or transfer this Agreement or any interest in this Agreement, and shall have the right to sublet the Premises or any part thereof, for the purpose of operating and maintaining the Premises for the Permitted Uses.

10. Default. The occurrence of any one or more of the following events shall constitute a material default ("default"): (i) the vacating or abandonment of the Premises by City; (ii) the failure by City to pay Rent when due pursuant to this Agreement, and such failure continues for a period of ten (10) days after delivery of written notice from Owner to City of said failure; and (iii) the failure by either party to observe or perform any of the obligations of this Agreement to be observed or performed by the responsible party (other than the obligation described in clause (ii) above), where such failure either: (A) continues for a period of thirty (30) days after delivery of written notice thereof from the party seeking performance, or (B) if performance cannot be completed with thirty (30) days, cure of such failure has not commenced within thirty (30) days after delivery of written notice thereof and diligently prosecuted until completion within sixty (60) days of the expiration of the thirty (30) day period (for a total of ninety (90) days). Upon an event of default and after the expiration of the applicable cure period, this Agreement and City's right to lease the Premises shall terminate upon the date that is one day after the date of expiration of the applicable cure period unless the party in default cures the default within the applicable cure period.

11. Miscellaneous.

11.1 Binding on Heirs. This Agreement shall be binding upon the parties hereto and inure to their respective representatives, transferees, successors, and assigns.

11.2 Litigation Expenses. If either party to this Agreement commences an action against the other party to this Agreement arising out of or in connection with this Agreement, the prevailing party shall be entitled to recover reasonable attorneys' fees, expert witness fees, costs of investigation, and costs of suit from the losing party.

11.3 Notices. All notices required to be delivered under this Agreement to another party must be in writing and shall be effective: (i) when personally delivered by the other party or messenger or courier thereof; (ii) three (3) business days after deposit in the United States mail, registered or certified; (iii) one (1) business day after deposit before the daily deadline time with a reputable overnight courier or service; or (iv) upon receipt of a telecopy or fax transmission, provided a hard copy of such transmission shall be thereafter delivered in one of the methods described in the foregoing (i) through (iii); in each case postage fully prepaid and addressed to the respective parties as set forth below or to such other address and to such other persons as the parties may hereafter designate by written notice to the other parties hereto:

To City: City of Arcadia

Copy to:

To Owner: _____
_____
_____
Attn: _____

Copy to: _____
_____
_____
Attn: _____

11.4 Entire Agreement, Waivers, and Amendments. This Agreement incorporates all of the terms and conditions mentioned herein, or incidental hereto, and

supersedes all negotiations and previous agreements between the parties with respect to all or part of the subject matter hereof. All waivers of the provisions of this Agreement must be in writing and signed by the appropriate authorities of the party to be charged. A waiver of the breach of the covenants, conditions or obligations under this Agreement by either party shall not be construed as a waiver of any succeeding breach of the same or other covenants, conditions or obligations of this Agreement. Any amendment or modification to this Agreement must be in writing and executed by the appropriate authorities of City and Owner.

11.5 Interpretation; Governing Law. This Agreement shall be construed according to its fair meaning and as if prepared by all of the parties hereto. This Agreement shall be construed in accordance with the internal laws of the State of California without regard to any conflict of law principles in effect at the time of the execution of this Agreement.

11.6 Severability. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way.

11.7 Force Majeure. In the event that either party is delayed, hindered, or prevented from performing any act required hereunder by reason of strikes, lockouts, or other labor troubles, inability to procure or shortage of materials or supplies, failure of power, energy shortages, restrictive governmental laws or regulations, inclement weather, fire, explosion, earthquake or other casualty, riots, insurrection, war, act of God, or other causes that are without the fault and beyond the reasonable control of such Party, then the performance of the party obligated to perform under this Agreement shall be excused for and extended by the period of such delay.

11.8 Headings. Section and Subsection headings in this Agreement have been inserted solely for the convenience of the parties, and such captions, headings, and titles shall in no way define or limit the scope, intent, or application of any provision of this Agreement.

11.9 Time is of the Essence. Time is of the essence with respect to every provision of this Agreement.

11.10 Computation of Time. Unless otherwise specified in this Agreement, use of the word "days" shall mean calendar days, and any provision requiring the computation of time shall be based upon a standard calendar of three hundred sixty five and one-quarter (365 ¼) days.

11.11 Execution in Counterpart. This Agreement may be executed in several counterparts, and all so executed shall constitute one agreement binding on all parties hereto, notwithstanding that all parties are not signatories to the original or the same counterpart.

[signatures on next page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first set forth above.

"CITY"

CITY OF ARCADIA,
a California municipal corporation

By: _____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

"OWNER"

By: _____
Its: _____

By: _____
Its: _____

APPENDIX C

STAKEHOLDER INTERVIEWS

WALKER
PARKING CONSULTANTS

Parking Alternatives Analysis

Downtown Action Team (8:30 am)

- General consensus that there is not enough parking in the CBD
  - People cannot park close enough to their destinations
  - 1st Floor retail shops in particular have a hard time surviving
  - Restaurants and bars are less sensitive to parking
- Parking is "too difficult"
  - Parking machines are inconvenient (especially when it's cold) and unintuitive; need an app that works everywhere (rates variable)
  - Garages are hard to find; difficult to determine public vs. private
  - Parallel parking too hard, particularly on hills
- Pay/Display is not popular, do not want to walk back to car
- People want to park directly in front of business – not feasible
- There is a need for workforce parking for retail/restaurant workers
  - Difficult to find employees due to parking cost and constraints
- There is an expectation that customers will have quarters on hand
- Difficult to balance urban priorities and parking supply
  - Which comes first, parking or demand?
- Wayfinding plan has just been approved and will go out to bid in a few weeks; will include parking signage and time to walk signs
- Pastaria - 50% of customers live within 0-1 mile based on credit card zip codes
- The increased mix of uses will create more demand for shops and less need for parking
- Pedestrian areas could be a good solution – the more consistent the ground-level pedestrian experience, the further people are willing to walk
- Connections between downtown and surrounding neighborhoods important to help reduce the need for on-site parking
- "Residential Density is what's needed to support businesses, not providing more parking"
- In recent years, Clayton has substantially increased fast lunch-oriented restaurants to capitalize on daytime population
- Parking on the 8100 Block of Maryland during the day (9-5) is very constrained
- Provide monthly pass idea for residents – popular among attendees
- App awareness to locals; pricing not as much a deterrent as awareness and ease of access
- There is an issue with businesses guarding their handful of dedicated spaces – leads to inefficiencies

Parking Alternatives Analysis

- Outreach to Clayton residents to offer parking on an annual basis to any garage; also identifies public parking options to residents

Business and Major Property Owners (1:00 pm)

- STL County manages Shaw Parking Garage; has plenty of parking right now, however concerned with impacts of other developments (like adjacent apartment development)
  - Shaw Parking Garage currently has construction workers parking in the garage which is inflating the occupancy temporarily
- Any plans for electric car stations? Not at this time
- Any plans for new garages? Only with individual private developments
- Clayton's signage ordinance has restricted the ability to provide additional signage to indicate public parking facilities
- Clayton's parking ordinance does not address non-leasable square footage
  - 2-2.5 spaces/ksf of leasable space actually experienced vs. 3-3.5 in the ordinance
  - The ordinance is overestimating the parking demand
- For the past 30 years, been told that there is plenty of parking but always a perception that its not
- Desire for a parking app to be able to pay by phone
- STL Parking has implemented some app-based payments in private lots that they operate
- The City would rather remove parking meters vs. having a pay by number system to reduce street clutter
- Perception of safety in garages is a deterrent to using off-street parking
  - County garages have rumors of crime that aren't true – anything to do to improve perception of safety is important
  - If the entrance is not directly on-street, it can feel unsafe
  - Cameras in the Shaw Parking Garage and Bonhomme Garage are being discussed

Public and Neighborhood Associations (3:00 pm)

- Chairman of the Planning Commission is concerned about the City's parking ratios; requested review of parking ratio requirement
- Homes on North Central (North of Maryland) frequently have overflow parking in the evenings and on weekends from restaurants (Friday night and Saturdays)
  - Concerns about the Opus building's impact on parking

Parking Alternatives Analysis

- Owner at World News concerned about short-term parking (15-20 minutes)
  - 2+ hour parking turnover rate is too slow to facilitate the very short durations that her clientele needs
- Kiosk system very inconvenient for handicapped people
- The lighting along the street and in the City lot at Central and Carondelet is not adequate
- Better signage would help people identify off-street parking facilities
- Some private garages close early so they are not available to restaurant patrons
- Pay/Display not a very efficient system; kiosks unintuitive
- People are unsure where to park if the poles are not there, not paying attention to the lines on the street
- In places where parallel spaces aren't marked, there are inefficiencies in the way people park
- Valet parking for individual restaurants takes up a lot of curb space; a consolidation of operations would open up a lot of on-street spaces
- The residential permits are not enforced very often
  - One-hour parking is allowed in the permit zone