WALKER
PARKING CONSULTANTS

PARKING SUPPLY/DEMAND AND
ALTERNATIVES ANALYSIS

BROAD RIPPLE VILLAGE PARKING STUDY

BROAD RIPPLE VILLAGE,
INDIANAPOLIS, INDIANA

August 3, 2007

Prepared for:
City of Broad Ripple, Indiana

BROAD RIPPLE
VILLAGE

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August 3, 2007

Ms. Barbara Lawrence
Indianapolis Local Public Improvement Bond Bank
2342 City-County Building
200 East Washington Street
Indianapolis, IN 46204

Dear Ms. Lawrence:

Re: *Parking Supply/Demand, Alternatives, and On-Street Analysis*
Broad Ripple Village
Walker Project #13-2847.00

Walker Parking Consultants is pleased to provide the following parking analysis for Broad Ripple Village. This report documents our findings and recommendations regarding current and future parking conditions.

We appreciate this opportunity to be of service to you, the City of Indianapolis, and Broad Ripple Village. We look forward to discussing our report with the appropriate representatives in the near future.

Sincerely,
WALKER PARKING CONSULTANTS

Jon R. Martens, CPP
Parking Consultant

Enclosure

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EXECUTIVE SUMMARY

Broad Ripple Village ("Broad Ripple") experiences high levels of parking occupancy during peak weekend activity. Current parking adequacy is short by about 130 spaces in the core area, and we anticipate the shortage to grow to 180 spaces within five years, assuming development of known projects is completed as outlined in our full report.

Peak parking demand was observed to occur during a weekend around 11:00 p.m. Of 40 blocks in the study area, 16 blocks had parking occupancy levels at or above 85 percent, which represents the maximum occupancy level before parking deteriorates to problematic conditions. Observations were done on a typical weekend and during an event period, when parking demand would likely be even higher. Weekday parking is adequate, although one block experienced parking above what would be considered the optimal level.

We recommend the following actions for improving the existing supply:

- Consider increasing the parking supply through either a parking structure, surface lot, or circulator shuttle;
- Improve wayfinding signage to direct parkers to off-street parking areas;
- Consider extending the hours for meter collections and enforcement to capture additional revenue that could be used to pay for improvements to Broad Ripple parking;
- Once the parking supply is increased, determine if local residents want to establish residential parking permit programs;
- Establish and encourage employees to park in designated employee parking areas away from the customer demand;
- Encourage valet parking to move some of the parking demand to available parking areas;
- Ensure that future developments have a parking plan, to include supplying sufficient parking spaces that are available to their specific user as well as the general public; and,
- Improve lighting for existing on and off street parking areas.

INTRODUCTION

Broad Ripple Village is a unique destination located within Indianapolis, Indiana. The area is known for its diverse street life, including unique boutiques, restaurants, hair salons, and an active nightlife. The success of the area has created growing concern and interest in providing adequate parking. In order to quantify and understand the magnitude of the parking issues, the City of Indianapolis retained Walker Parking Consultants ("Walker") to provide a parking supply/demand and alternatives analysis for Broad Ripple.

OBJECTIVES

This report quantifies the current parking conditions in Broad Ripple, considers the impact of changes to parking conditions from potential developments, and provides alternatives to show what can be done to improve parking conditions.

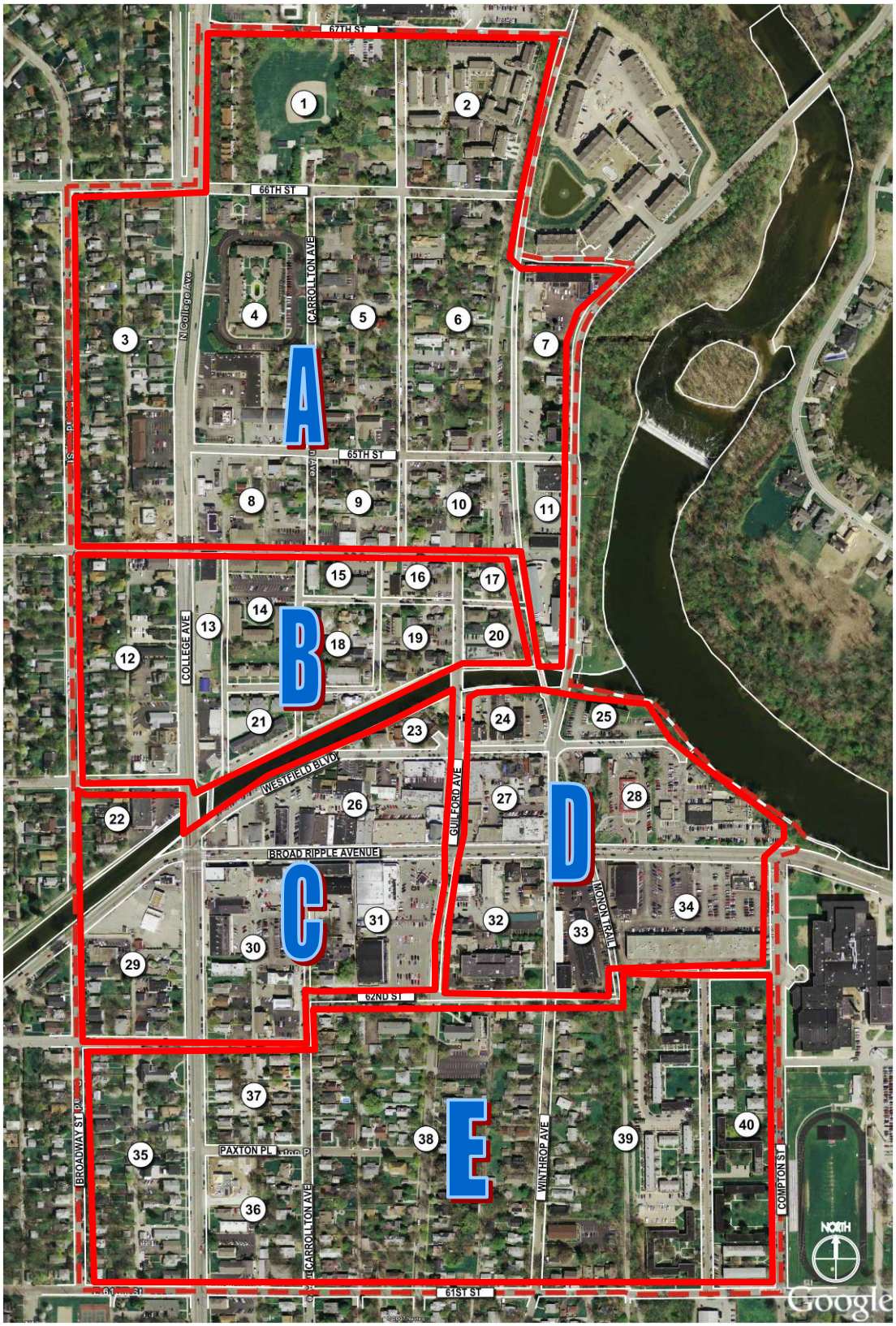
STUDY AREA

The study area consists of 40 city blocks, bound by 67th Street to the north, Compton Street and the White River to the east, 61st Street to the south, and Broadway Street to the west. The area was further divided into five zones, A, B, C, D and E, based on both geographical location and land use to aid in analyzing the data.

Key terrain features in the study area include the Central Canal, which runs east/west, and generally divides the study area into a northern and southern section, and the Monon Trail, which runs north south on the east end of the study area. Generally speaking, the area consists of a core business/entertainment area, surrounded by residential areas.

Figure 1 provides an overview of the study area, assigned block numbers, and zone identification for this analysis.

Figure 1: Broad Ripple Study Area



The core business areas include zones C and D. Zones A and E are primarily residential and zone B is a mix of business and residential land uses.

DEFINITION OF TERMS

Several terms used in this report have unique meanings when used in the parking industry. To help clarify these terms and enhance understanding by the reader, definitions for some of these terms are presented below.

- *Demand Generator* – Any building, structure, business, or attraction that brings individuals into the study area, thereby increasing parking demand and occupancy.

- *Effective Supply* – The total supply of parking spaces adjusted to reflect the cushion needed to allow patrons to spend less time looking for the last few available spaces in the parking facility and to account for the dynamics of vehicles moving in and out of spaces. It also accounts for spaces unavailable due to maintenance, improper parking, and snow removal. The effective supply varies by 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 parking spaces counted during survey day observations within the study area.

- *Occupancy* – The number of parked vehicles observed on a survey day.

- *Parking Adequacy* – The difference between the effective parking space supply and parking demand.

- *Parking Demand* – The number of spaces required to satisfy visitor, employee, and resident needs on a given day.

- *Survey Day* – The days that the parking occupancy counts were conducted in Broad Ripple.

SCOPE OF SERVICES

The following scope of services for this study was proposed and accepted:

TASK I – SUPPLY DEMAND ANALYSIS

1. Meet with representatives of the City and or Broad Ripple Village to further clarify study's objectives, review the work plan, and finalize the project schedule. At this meeting, the lines of communication and a schedule of deliverables will also be established.

2. Obtain the following information from the City or Broad Ripple Village representatives:

   - Building occupancy – the occupancy of major buildings and the City's best estimate for other buildings.

   - Future developments – this includes type of land use, square footage, seating capacity, or number of rooms, expected completion data, location, and whether any existing parking spaces will be displaced.

   - Copies of any previous parking studies, community master plans or downtown market studies.

3. Conduct an inventory of on- and off-street parking spaces in the study area. Inventory will be tabulated and summarized on a block-by-block basis.

4. Perform weekday parking occupancy counts during a typical weekday to determine peak occupancy. Up to five counts will be performed on a typical weekday during the period of 10:00 a.m. to 6:00 p.m. as appropriate for this effort.

5. Perform weekend (Friday or Saturday) parking occupancy counts during a typical weekend to determine peak occupancy. Up to four counts will be performed on a typical weekend between 7:00 p.m. and 1:00 a.m. as appropriate for this effort.

6. Compare the calculated parking demand to the existing parking supply to determine the existing parking surplus or deficit on a block-by-block basis in the study area.

7. Determine future parking surpluses and deficiencies (through 2012) by block within the study area. Future demand will be based on perspective developments and their calculated parking generation rates using available local data, national averages, Walker Parking Consultants' experience and shared-use methodology.

TASK 2 – ALTERNATIVES ANALYSIS

1. Identify if alternative on- and off-street solutions to meet the needs of the area exist within reasonable walking distance.
2. Explore remote shuttle opportunities using existing surface parking located in or adjacent to the study area, such as the park or school parking lots.
3. Review existing vehicular and pedestrian access and circulation patterns for their relationship to existing and proposed parking generators and the parking supply.
4. Determine whether the opportunity for re-striping and/or making efficiency improvements exists to increase the parking supply.
5. Develop options for expanding the parking supply through structured parking. Determine if there is a need for a parking structure in the study area. Identify alternative locations for such a parking structure, if needed.
6. Determine conceptual construction and project costs for each of the alternatives, including estimated operational expenses, to enable a comparison of the costs of each alternative.
7. Identify parking management strategies appropriate to the study area. This includes hours of operation, opportunities/strategies for shared parking, residential parking permit programs, parking rates, parking enforcement, etc.
8. Provide a preliminary cost projection for building and operating structured parking. This includes an opinion of construction costs, a discussion of hard and soft costs, annual operation costs, and break even costs.
9. Meet with City representatives to discuss findings.

TASK 3 - REPORT PREPARATION

1. Prepare a draft report for review by City representatives, provided in electronic PDF format.

2. Obtain feedback regarding draft report from City representatives, finalize report, and issue final report in a reproducible electronic PDF format.

STUDY METHODOLOGY

The first step in a supply demand analysis is to determine the parking supply in the area. To do this, we conducted a physical inventory of parking spaces.[1] The inventory was then tabulated by block and categorized as on-street, off-street, public or private. The total inventory is adjusted to provide a "cushion" to allow for mis-parked vehicles, lost spaces for maintenance, snow, etc, as well as the time needed to find the last few remaining spaces. This adjustment varies depending on the type of parking, such as on-street, public or private off-street, but is generally between 5 and 15 percent of the total parking supply.

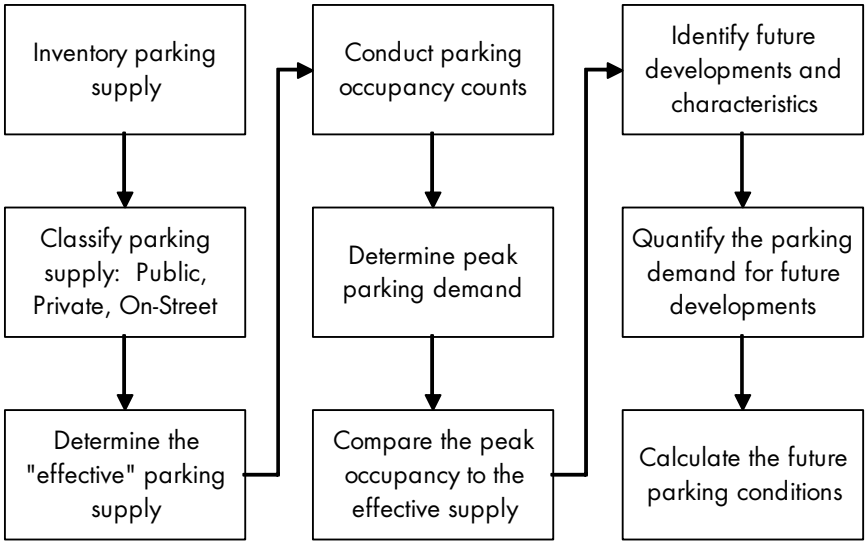
The next step is to determine the parking demand. To do this, we took parking occupancy counts for a weekday and weekend in the study area, resulting in a tabulation of the physical number of vehicles present. The weekday counts were conducted at 10:00 a.m., 12:00 p.m., 2:00 p.m., 4:00 p.m., and 6:00 p.m. Friday evening counts were conducted at 7:00 p.m., 9:00 p.m., 11:00 p.m., and 1:00 a.m. By comparing the observed peak parking occupancy with the parking supply on a block-by-block basis, we were able to determine the parking adequacy for each block in the study area.

The final step is to calculate the projected future parking demand considering potential land use changes to the area. Walker reviewed potential projects for the area and available building space to forecast the impact on parking within the next five years. Parking demand was calculated using Urban Land Institute (ULI), Institute of Transportation Engineers (ITE), and Walker's own research on parking demand generation rates.

[1] Residential driveways and residential garages were not included.

Table 1 is a flow chart outlining the steps taken to determine the existing parking adequacy and future parking conditions in the study area.

Table 1: Adequacy Flow Chart



Source: Walker Parking Consultants

EXISTING PARKING CONDITIONS

This section of the report identifies the parking characteristics within the study area. The information contained herein serves as the basis for analysis of the existing and future parking needs. Included is a discussion of current parking supply, effective supply, parking demand, and parking adequacy.

CURRENT SUPPLY

The foundation of a parking supply and demand study is an inventory of the existing parking supply. By examining the inventory of the parking supply and comparing it to the parking demand, we quantify the parking surplus or deficit that exists or potentially will exist with future development. There are few off-street public parking areas in the study area; rather, the supply is available in many small private lots, or as on-street parking. Much of the on-street parking in the core area is metered, but free on nights and weekends, when parking demand peaks. Several off-street private lots transform to public pay lots, Thursday to Saturday, due to increased parking demand. The lots basically add a parking attendant and portable sign indicating parking is available for $5.00.

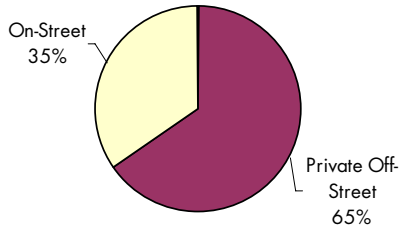
Based on the data Walker collected on June 22nd and 26th, 2007, there are 3,726 parking spaces in the study area.[2] The inventoried parking supply has been categorized into three classifications: *On-Street, Off-Street Public*, and *Off-Street Private*. The following quantifies a breakdown of these spaces for the weekday count: 1,293 are on-street, and 2,433 are off-street. Of the off-street spaces, 8 are open to the public, and 2,425 are private or restricted-use spaces, meant to serve a particular business or group of businesses.

During the weekend count, the 3,726 parking spaces in the study area were broken down to include 1,293 on-street, and 2,433 off-street. Of the off-street spaces, 551 were public ($5 parking fee) and 1,882 were private spaces.

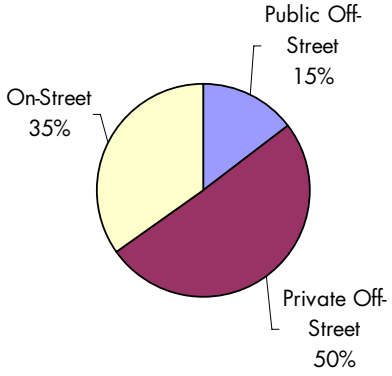
Table 2 in the right hand column shows the distribution of the current parking supply for a weekday and weekend. On-street parking for both weekday and weekend constitutes about 35 percent of the total parking supply.

Table 2: Distribution of Parking Supply

Weekday Parking Supply



Weekend Parking Supply



Source: Walker Parking Consultants, Data Collection June 2007

[2] Does not include private residential off-street parking.

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 snow removal.

A parking supply operates at peak efficiency when parking occupancy is 85 to 95 percent of the supply.

A parking system operates at peak efficiency when parking occupancy is at 85 to 95 percent of the supply. When occupancy levels exceed this, patrons may experience delays and frustration while searching for a space. Therefore, the parking supply may be perceived as inadequate even though some spaces are 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. The following factors affect the efficiency of the parking system:

- Capacity – Large, scattered surface lots operate less efficiently than a more compact facility, such as a double-threaded helix, which offers one-way traffic that passes each available parking space one time. Moreover, it is more difficult to find the available spaces in a widespread parking area than a centralized parking area.

- 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 either not striped or are signed in a confusing manner, thereby leading to lost spaces and frustrated parking patrons.

Table 3: Effective Supply Ratios

Parking Description	Effective Supply Factor
Public On-Street	85%
Public Off-Street	90%
Private Off-Street	95%

Source: Walker Parking Consultants

For this analysis, we applied a general effective supply factor of 85 percent for all on-street spaces, 95 percent for all private off-street spaces and 90 percent for all public off-street spaces.

Table 4 details the weekday effective parking supply by area. A total of 312 spaces, or about eight percent of the total supply, constitutes the effective supply cushion on a weekday.

Table 4: Weekday Parking Inventory and Effective Parking Supply

Area	Supply		Cushion		Effective Supply
A	1,130	-	99	=	1,031
B	456	-	43	=	413
C	810	-	62	=	748
D	891	-	54	=	837
E	439	-	54	=	385
Totals:	3,726	-	312	=	3,414

Source: Walker Parking Consultants

Table 5 shows the effective parking supply for a weekend period, broken down by area. A total of 339 spaces, or about nine percent of the total supply, make up the effective supply cushion on a weekend.

Table 5: Weekend Parking Inventory and Effective Parking Supply

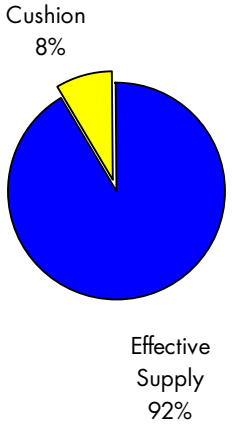
Area	Supply		Cushion		Effective Supply
A	1,130	-	99	=	1,031
B	456	-	43	=	413
C	810	-	77	=	733
D	891	-	64	=	827
E	439	-	56	=	383
Totals:	3,726	-	339	=	3,387

Source: Walker Parking Consultants

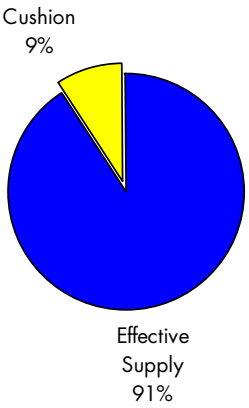
The small variation between a weekday and weekend period are due to the change in classification of the off-street parking supply; from Private to Public parking.

Effective Supply

Weekday



Weekend



Source: Walker Parking Consultants

PARKING DEMAND

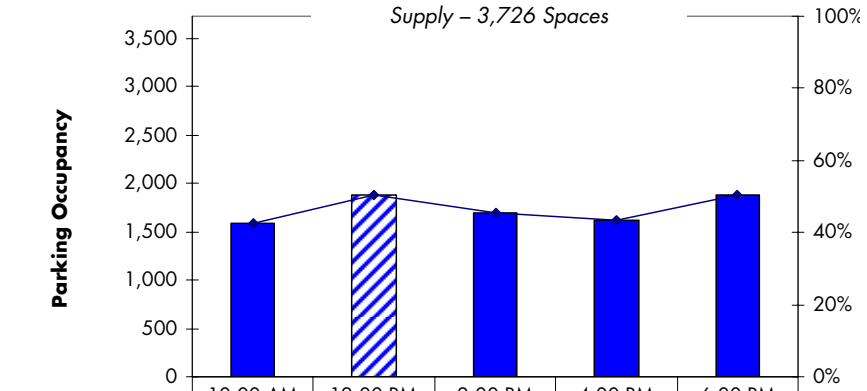
We evaluated the parking patterns in the study area by conducting vehicle occupancy counts on a weekday and a weekend evening. Occupancy counts were collected for all on- and off-street parking spaces on Friday, June 22nd and Tuesday, June 26th.

The weekday occupancy counts were started on the north end of the study area at 10:00 a.m., 12:00 p.m., 2:00 p.m., 4:00 p.m., and 6:00 p.m. Weekend counts were similarly conducted at 7:00 p.m., 9:00 p.m., 11:00 p.m., and 1:00 a.m.

Taken as a whole, the current parking occupancy rate in the study area is approximately 51 percent during business hours on a weekday and approximately 63 percent on a weekend. The parking occupancy rate is calculated by dividing the total number of observed parked vehicles by the total parking capacity.

Figure 2 shows the observed occupancy counts for the weekday. Peak parking occupancy was recorded around 12:00 p.m. and 6:00 p.m. with about 51 percent of the spaces occupied.

Figure 2: Broad Ripple Weekday Occupancy Levels



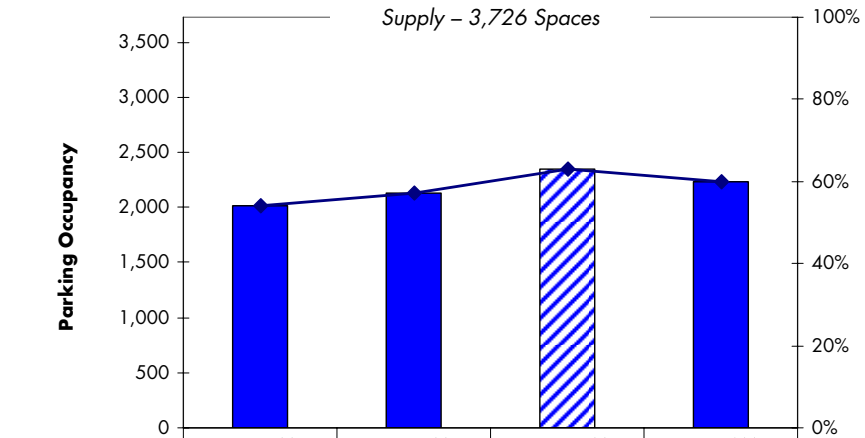
	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM
Occupancy (#)	1,590	1,885	1,695	1,623	1,883
Occupancy (%)	43%	51%	45%	44%	51%

Source: Walker Parking Consultants

Peak weekday occupancy was observed at around 12:00 p.m. and again around 6:00 p.m.

Figure 3 quantifies the observed occupancy counts for Friday evening. On a non-event weekend night peak parking occupancy is found to occur at approximately 11:00 p.m.

Figure 3: Broad Ripple Weekend Occupancy Levels



	7:00 PM	9:00 PM	11:00 PM	1:00 AM
Occupancy (#)	2,021	2,125	2,354	2,227
Occupancy (%)	54%	57%	63%	60%

Source: Walker Parking Consultants

Peak weekend occupancy was observed on a weekend at around 11:00 p.m.

The overall peak occupancy level does not in itself indicate a shortage of parking. However, when we look at the individual blocks that make up the study area, we see that there are several blocks that experience parking occupancy well above levels that indicate parking is an issue during peak demand periods.

Table 6 details the observed peak weekday parking occupancy on a block-by-block basis and Table 7 details the peak weekend parking occupancy observations on a block-by-block basis. The blocks highlighted in red indicate occupancy of 85 percent or greater, which indicates parking was difficult to find or full. Orange highlights indicate parking occupancy levels between 70 and 84 percent; yellow indicates parking occupancy levels between 60 and 69 percent; and green indicates parking occupancy levels below 59 percent. We see that there are several blocks experiencing occupancy above 85 percent during peak weekend conditions. Many blocks exceeded the actual parking capacity with vehicles parking in non-spaces.

Following the two tables are maps overlaying the data on the study area. This graphically shows where parking is most problematic and useful in determining where the parking issues are located.

Table 6: Observed Weekday Peak Hour (12:00PM) Occupancy by Block

Block	Zone	Inventory	Occupancy	Occupancy %
1	A	71	34	48%
2	A	70	20	29%
3	A	124	35	28%
4	A	140	56	40%
5	A	106	37	35%
6	A	197	74	38%
7	A	91	44	48%
8	A	97	39	40%
9	A	93	55	59%
10	A	61	46	75%
11	A	80	32	40%
12	B	55	22	40%
13	B	84	13	15%
14	B	22	7	32%
15	B	42	16	38%
16	B	47	29	62%
17	B	29	11	38%
18	B	66	15	23%
19	B	51	30	59%
20	B	37	34	92%
21	B	23	7	30%
22	C	34	12	35%
23	C	33	27	82%
24	D	64	50	78%
25	D	68	37	54%
26	C	220	184	84%
27	D	87	70	80%
28	D	212	124	58%
29	C	78	38	49%
30	C	252	190	75%
31	C	193	122	63%
32	D	123	68	55%
33	D	109	72	66%
34	D	228	140	61%
35	E	34	13	38%
36	E	98	17	17%
37	E	34	5	15%
38	E	149	12	8%
39	E	36	13	36%
40	E	88	35	40%
Total		3,726	1,885	51%

Source: Walker Parking Consultants, Data Collection – June 2007

Occupancy Level
- 85% or greater
- 70%-84%
- 60-69%
- Occupancy 59% or less

Only one block experienced parking occupancy above 85 percent during the peak weekday hour.

Table 7: Observed Weekend Peak Hour (11:00PM) Occupancy by Block

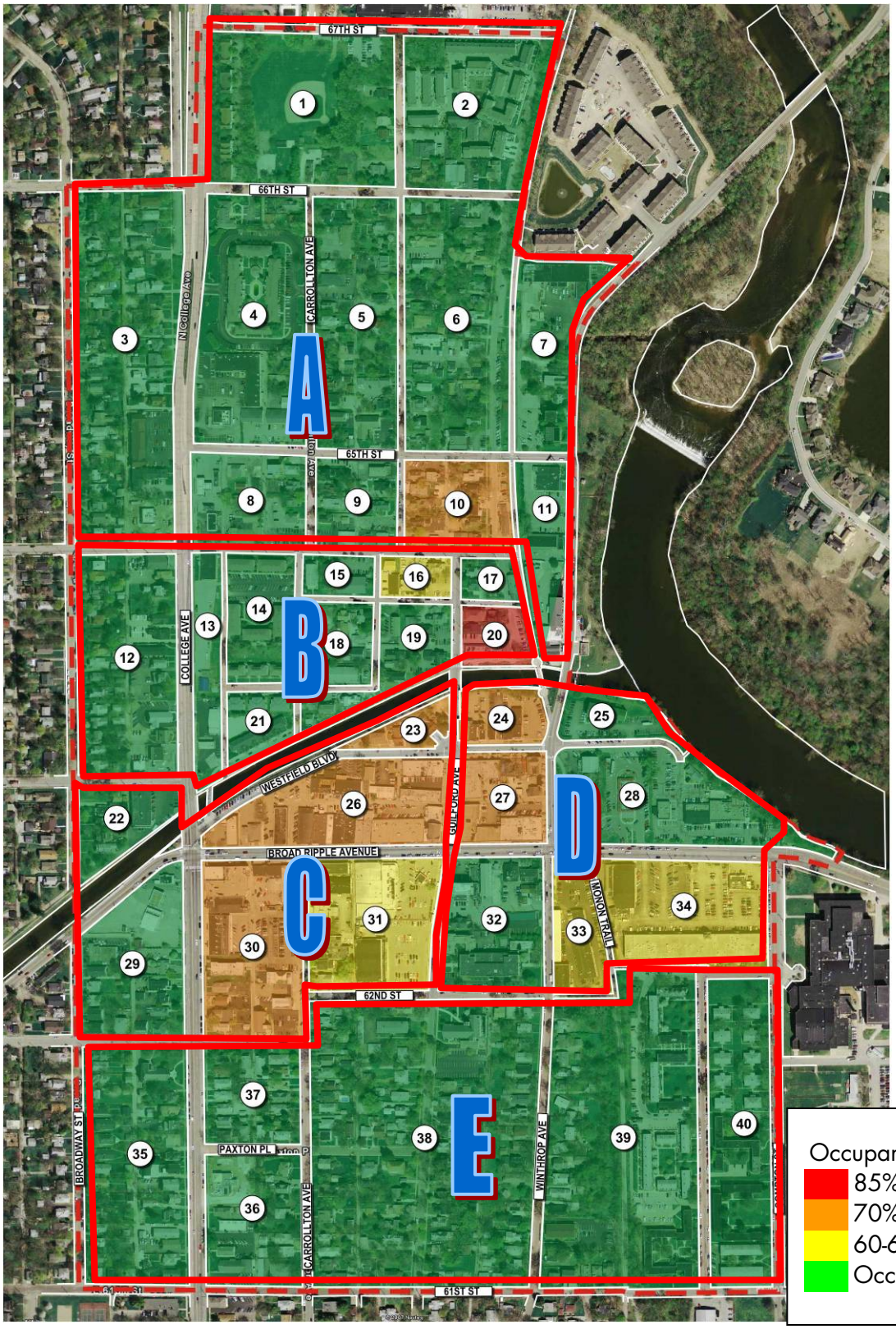
Block	Zone	Inventory	Occupancy	Occupancy %
1	A	71	21	30%
2	A	70	13	19%
3	A	124	12	10%
4	A	140	47	34%
5	A	106	20	19%
6	A	197	66	34%
7	A	91	9	10%
8	A	97	0	0%
9	A	93	12	13%
10	A	61	48	79%
11	A	80	9	11%
12	B	55	35	64%
13	B	84	7	8%
14	B	22	14	64%
15	B	42	18	43%
16	B	47	27	57%
17	B	29	10	34%
18	B	66	43	65%
19	B	51	55	108%
20	B	37	38	103%
21	B	23	30	130%
22	C	34	55	162%
23	C	33	33	100%
24	D	64	75	117%
25	D	68	38	56%
26	C	220	230	105%
27	D	87	97	111%
28	D	212	137	65%
29	C	78	75	96%
30	C	252	282	112%
31	C	193	190	98%
32	D	123	111	90%
33	D	109	16	15%
34	D	228	140	61%
35	E	34	37	109%
36	E	98	32	33%
37	E	34	34	100%
38	E	149	109	73%
39	E	36	52	144%
40	E	88	77	88%
Total		3,726	2,354	63%

Source: Walker Parking Consultants, Data Collection – June 2007

Occupancy Level
- 85% or greater
- 70%-84%
- 60-69%
- Occupancy 59% or less

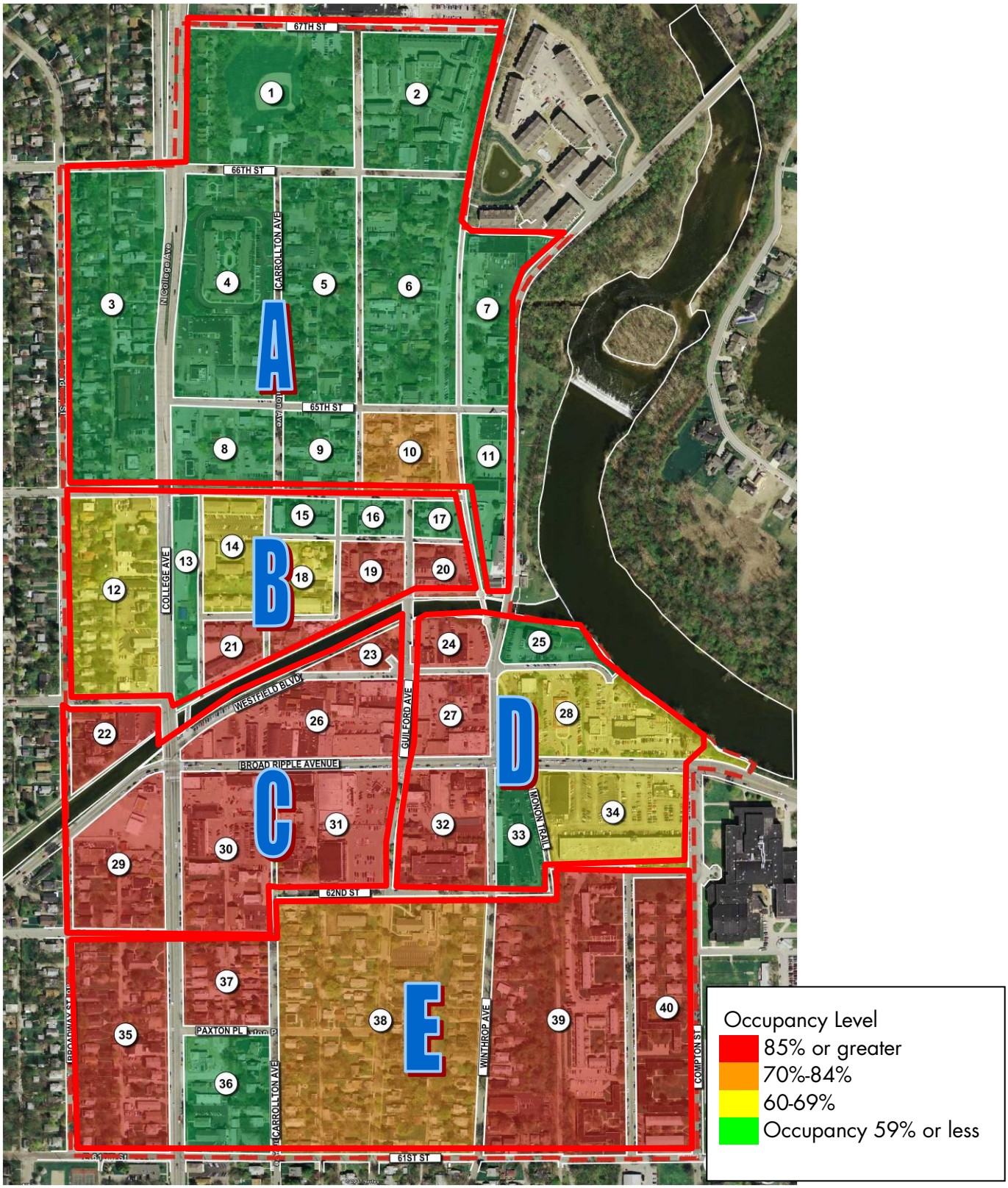
Sixteen blocks experienced parking occupancy above 85 percent during the peak weekday hour. Many experienced parking exceeding 100 percent due to patrons parking in "non"-spaces.

Figure 4: Weekday Parking Occupancy (12:00 p.m.)



Only block20 experienced parking occupancy above 85 percent during the peak weekday hour.

Figure 5: Weekend Parking Occupancy (11:00 p.m.)



PEAK OCCUPANCY BY ZONE

Overall, the peak occupancy occurred during the 11:00 p.m. count on a weekend, with 63 percent occupancy. While this alone does not represent a parking problem, we see that several individual blocks experienced higher occupancy in the core area. To further analyze the parking situation, we consolidated the individual blocks into five zones. Table 8 quantifies the weekend occupancy for the 11:00 p.m. observation. Overall, zone C experienced the highest occupancy, with 107 percent occupancy. The second highest occupancy was recorded in zone E, with 78 percent occupancy. This zone is primarily residential, thus the demand was most likely overflow from zone C.

Table 8: Zone Occupancy – Weekend 11:00 p.m.

Zone	Inventory	Occupancy	Occupancy %
A	1,130	257	23%
B	456	277	61%
C	810	865	107%
D	891	614	69%
E	439	341	78%
Total	3,726	2,354	63%

Source: Walker Parking Consultants, Data Collection – June 2007

Weekday occupancy by zone was also calculated; however, it was not found to be problematic. Peak occupancy was again found in Zone C, with 71 percent occupancy during the peak observation. For informational purposes, this is shown in Table 9.

Table 9: Zone Occupancy - Peak Weekday

Zone	Inventory	Occupancy	Occupancy %
A	1,130	472	42%
B	456	184	40%
C	810	573	71%
D	891	561	63%
E	439	95	22%
Total	3,726	1,885	51%

Source: Walker Parking Consultants, Data Collection – June 2007

PARKING ADEQUACY

Parking adequacy is the ability of the parking supply to accommodate the parking demand. Parking demand is estimated based on the observed peak parking occupancy count, which, based on our observations, occurs during a weekend, around 11:00 p.m. The peak observed occupancy is subtracted from the effective supply to determine the adequacy for the study area.

Overall parking adequacy for the study area, by type, is summarized in Table 10. Taken as a whole, the current parking system has a surplus of just about 1,033 spaces during a weekend.

Table 10: Summary of Current Parking Adequacy

Type	Effective Supply		Demand		Adequacy
On-Street	1,103	-	926	=	177
Public Off Street	497	-	430	=	67
Private Off-Street	1,787	-	998	=	789
Totals	3,387	-	2,354	=	1,033

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It is not reasonable to assume that just because there are parking spaces in this large of an area that they are convenient. To get a more meaningful picture of parking adequacy, we calculated the parking adequacy for each of the zones.

Table 11, on the next page, details the parking adequacy for each zone. Zone C experiences a 132 space deficit on a weekend evening. While not indicated in this table, several blocks surrounding zone C experience occupancy levels above 85 percent. A block-by-block summary of the parking adequacy is provided in the Appendix.

Table 11: Parking Adequacy by Zone

Zone	Total Effective Supply	Peak Demand 11:00 pm	Adequacy
A	1,031	257	774
B	413	277	136
C	733	865	(132)
D	827	614	213
E	383	341	42
Total	3,387	2,354	1,033

Source: Walker Parking Consultants, Data Collection – June 2007

Note: Observations made to calculate the adequacy of the parking system represent a "typical" condition. It is reasonable to assume that parking demand is elevated during special event periods.

CONCLUSIONS

Current parking is at a deficit during weekend periods, peaking around 11:00 p.m. This represents a typical weekend and not event periods. During these periods parking demand would likely be even higher. Weekday parking is adequate, with only one block experiencing parking occupancy above what would be considered the optimal level.

FUTURE PARKING CONDITIONS

Broad Ripple Village has a long and colorful history in Indianapolis. The continued success of the area has increased interest in continued development in the area and has resulted in few store fronts being available for lease. Current parking is an issue, as shown in our observations and quantified in our analysis. This section of the report considers known development plans for the area and changes to existing building space.

Information on future projects was assembled from discussions with the Broad Ripple Village Association (BRVA), as well as interviews with individuals involved in development in the study area. Impacts to the parking include changes to existing parking demand and changes to the parking supply, by either displacing parking or adding parking.

Table 12 lists the future development projects considered. These projects are all in the construction phase at this time. Only the Wild Beaver Saloon is a re-use of existing vacant building space.

Table 12: Potential Developments

Block #	Name	Description
24	916 E. Westfield	Mixed Use Development
39	The Townes at Winthrop	28 Three Story Town Homes
30	Wild Beaver Saloon	Nightclub/bar

Source: BRVA and private developers

There are other potential developments in the area, but at the time of this report, they had not been approved, or even presented for consideration. These projects are only potential in nature and not located in the core area. They are not considered in this analysis.

PARKING DEMAND

Each new development will generate its own unique parking demand, based on the type of land use and size. Parking demand ratios are used to estimate the parking demand. These demand ratios are based on primary data research by Walker, the Urban Land Institute (ULI), and the Institute of Transportation Engineers (ITE). Because parking demand fluctuates throughout the day, we adjust the demand by the time of day to reflect the impact on the current peak parking periods in Broad Ripple.

Table 13 details the parking demand calculations for the potential future developments during a weekday count around noon. The overall added parking during a weekday peak period is about 46 spaces. Changes to our land use assumptions will change the outcome of this analysis.

For this analysis, we assume the first floor of the mixed use development in block 24 to be retail space. If the first floor is developed as a restaurant, the demand ratio would be much higher - 18.00 – 20.00 spaces per 1,000 SF GLA (Gross Leasable Area) for a weekday and weekend respectively. In addition, the peak parking demand would occur later in the evening.

Table 13: Future Development Demand – Weekday around Noon

Block	Development	Size[1]	Demand Ratio[2]	Gross Parking Demand	Time of Day Adj[3]	Net Parking Demand
24	916 E. Westfield					
	Retail	2,748	3.60	10	0.90	9
	Office	3,600	3.80	14	0.90	13
	Residential	2	1.70	3	0.45	1
	Total Parking Demand					23
39	The Townes at Winthrop					
	Residential	28	1.70	48	0.45	22
	Total Parking Demand					22
30	Wild Beaver Saloon					
	Nightclub/Bar	1,500	19.00	29	0.05	1
	Total Parking Demand					1
	Overall parking demand - Weekday around Noon					46

[1] Size adjusted to reflect an estimate of GLA (Gross Leasable Area)
[2] Based on GLA or units as appropriate, peak demand
[3] Adjusts the parking peak parking demand to the Weekday Noon peak

Source: Walker Parking Consultants

We next considered the impact of these developments during a weekend. Table 14 shows the parking demand for a weekend around 11:00 p.m. Demand is at its peak for residential and the nightclub uses. Our analysis estimates added parking demand of 80 spaces at this time.

Table 14: Future Development Demand – Weekend around 11:00 p.m.

Block	Development	Size[1]	Demand Ratio[2]	Gross Parking Demand	Time of Day Adj[3]	Net Parking Demand
24	916 E. Westfield					
	Retail	2,748	4.00	11	0.00	0
	Office	3,600	0.38	1	0.00	0
	Residential	2	1.70	3	1.00	3
	Total Demand					3
39	The Townes at Winthrop					
	Residential	28	1.70	48	1.00	48
	Total Demand					48
30	Wild Beaver Saloon					
	Nightclub/Bar	1,500	19.00	29	1.00	29
	Total Demand					29
	Overall parking demand - Weekend around 11:00 p.m.					80

[1] Size based on square footage or units
[2] Based on GLA, GFA, or units as appropriate.
[3] Adjusts the parking peak parking demand to the Weekday Noon peak

Source: Walker Parking Consultants

CHANGES TO PARKING SUPPLY

Changes to the parking supply based on the three developments are minimal. The 916 E. Westfield and Wild Beaver Saloon projects are not adding any new parking spaces to the area. The Townes at Winthrop is adding only enough spaces for their use. Thus, the overall impact to the area from a parking supply standpoint, are minimal.

FUTURE PARKING ADEQUACY

Table 15 shows the new parking adequacy for by zone for a weekday, assuming all of the proposed developments come to fruition as outlined in our analysis. As a whole, a surplus of 1,512± spaces is projected.

Table 15: Future Parking Adequacy – Weekday

Zone	Total Effective Supply	Peak Demand 12:00 pm	Adequacy
A	1,031	472	559
B	413	184	229
C	733	574	160
D	883	584	266
E	383	117	288
Total	3,443	1,931	1,512

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Conditions for a weekend are projected to deteriorate, as the overall parking adequacy decreases in zone's C, D, and E. Table 16 shows that the deficit in zone C is projected to increase to 180 spaces, and the surplus in zone E is projected to be reduced to only 13 spaces.

Table 16: Future Parking Adequacy – Weekend

Zone	Total Effective Supply	Peak Demand 11:00 pm	Adequacy
A	1,031	257	774
B	413	277	136
C	733	913	(180)
D	883	617	266
E	383	370	13
Total	3,443	2,434	1,009

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CONCLUSIONS

Many of the blocks in the core of Broad Ripple experience parking supply deficits during peak periods. This condition is expected to deteriorate in the next five years assuming the future developments come to fruition as detailed. The end result is a deficit of about 180 spaces during a weekend in zone C, and only a 13 space surplus in zone E. Conditions will likely deteriorate further during special events.

This section of the report provides various alternatives for improving the usage of the existing parking supply, as well as options for increasing the supply through expanding existing facilities, and shuttle operations. In addition, we discuss the typical costs associated with the construction of a parking structure and the on-going costs of operating and maintaining a parking facility. The alternatives provided cover a broad range of options and best practices for supplying, managing, and marketing the parking supply.

INCREASING THE PARKING SUPPLY

Our supply and demand analysis identified the need for an additional 180± spaces in zone C. A review of the study area found few potential locations for increasing the parking with either new surface parking or structured parking, as the area is densely populated with existing developments. Factors in our review include walking distance and site size, and are discussed in more detail in the following sections.

WALKING DISTANCE AND PARKING ADEQUACY

An important consideration in determining whether or not the parking supply is sufficient for a particular area is to review walking distance from the parking area to the destination. The "acceptable" walking distance varies depending on the user group, such as a first-time visitor vs. a long-term employee. As a whole, the parking supply may be sufficient, but if the available parking supply is located too far from the destination it will not accepted by the user, resulting in frustration for the patrons and complaints about the parking.

Factors impacting the acceptable walking distance that a typical person will consider reasonable include:

- Climate
- Perceived security
- Typical user
- Lighting
- Walking environment
- Terrain

To aid in estimating the appropriate walking distance, Walker developed a Level of Service ("LOS") rating system for evaluating appropriate walking distances based on specific criteria. 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.

A breakdown of the LOS conditions is provided in Table 17. Because a majority of the walking in the area is outdoor and uncovered, that category is highlighted for reference.

Table 17: Walking Distance Level of Service Conditions

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

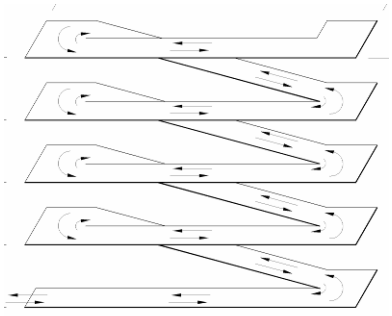
Source: "How Far Should Parkers Have to Walk?", by Mary S. Smith and Thomas A. Butcher, *Parking* September 1994

We recommend striving for LOS A or B walking distance for patrons, as patrons are most likely unfamiliar and/or are short-term parkers. This equates to walking distance of under 400 to 800 feet from the main destination.

MINIMUM PARKING STRUCTURE DIMENSIONS[3]

One effective way to concentrate a parking supply is through a parking structure. There are several variables and options to consider when selecting the type of structure, including the desired traffic flow (one way or two way), additional use within the structure (such as retail on the bottom level), the Level of Service (LOS), and height restrictions.

Generally, there are more design options with a larger the site. Table 18 provides the minimum dimensions for two types of structures, as well as a variation on the level of service (LOS). Characteristics of a single-threaded helix include two-bays[4], 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,



ISOMETRIC

SINGLE THREADED HELIX

[3] 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 footage of floor area per space.

[4] A "parking bay" consists of a drive aisle and usually parking on both sides of that drive aisle. A double-loaded aisle means parking is located on both sides of the drive aisle, whereas a single-loaded aisle means that parking is only provided on one side of the drive aisle.

thus requiring a longer site than a single-threaded helix. These are examples only and do not represent a specific site or design. The dimensions do not include required set-backs or green space; therefore, each site would likely need to be five to ten feet wider.

Table 18: 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'

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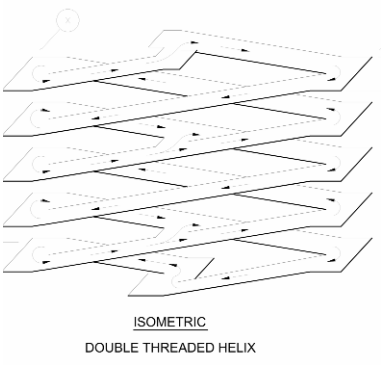
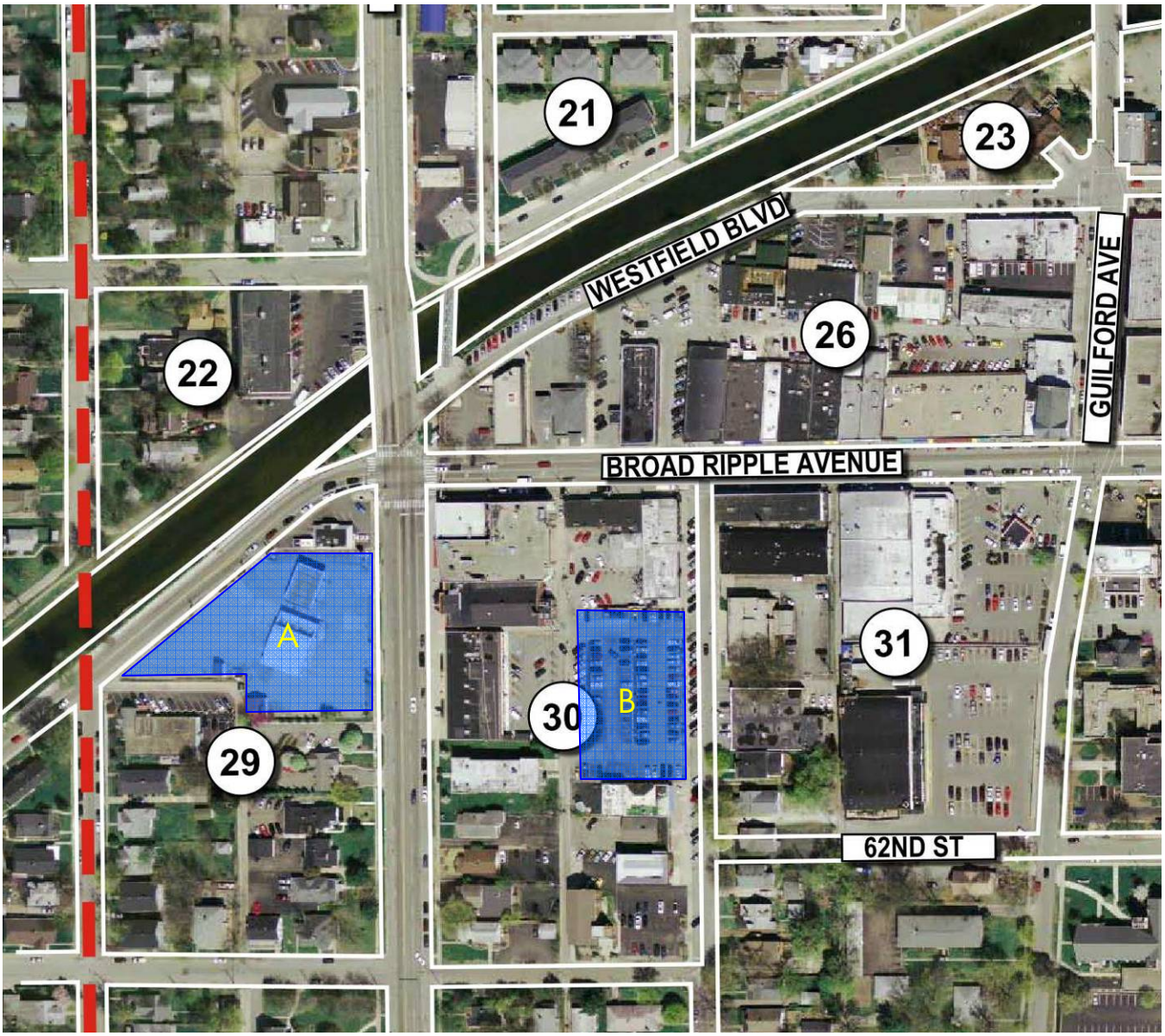


The minimum parking structure dimensions may be useful when considering sites for adding a parking structure. We recommend building a structure with at least 300 spaces in order to hold down the overall cost per added space. Smaller garages result in fewer spaces per square foot and higher construction costs per space.

POTENTIAL SITES FOR ADDING PARKING

The density of the existing land use provides few potential areas to add parking supply in or around zone C. Using our walking distance and minimum site requirements as guides, we found two potential sources for adding to the parking supply. The first site is the old gas station at the corner of College Avenue and Broad Ripple Avenue. This site could be converted into a surface parking lot and used for parking until a better use for this gateway parcel is developed. While this helps with the parking supply, it does not fully address the parking need, nor is it necessarily the type of land use that is considered the "best use" for this very visible intersection of Broad Ripple. The other option is a parking structure built on the existing surface lot south of Broad Ripple Avenue and west of Carrollton Avenue. This site is just large enough to build a two-bay structure with about 75 spaces per level. Figure 6 shows the approximate location of both sites.

Figure 6: Potential Parking Sites



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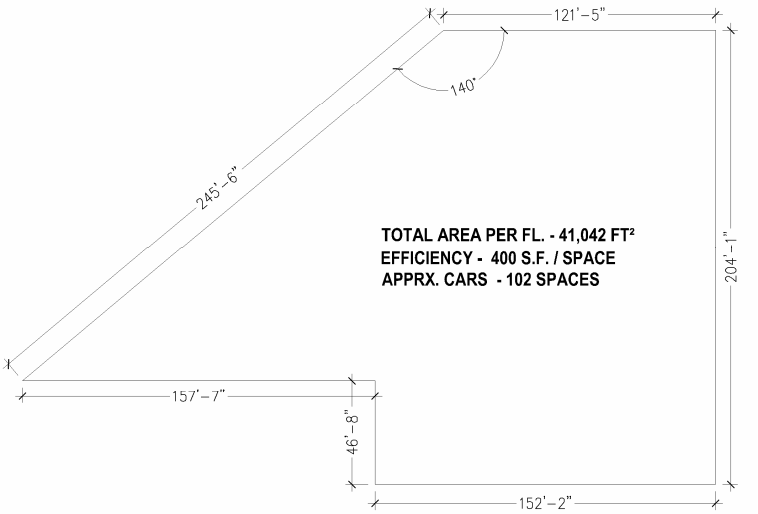
Site A: Surface Parking Lot

Site B: Parking Structure

SITE DESCRIPTIONS

Site A: Site A is an odd-shaped corner parcel that once served as an active gas station. This site is currently blocked off and not used as for any particular purpose. The location is less than ideal for parking, as patrons would have to cross College Avenue to reach the main entertainment area of Broad Ripple, and the odd shape does not provide the most efficient area to layout a parking. We estimate 102 spaces could fit on the site based on 400 square feet per space. The site measurement and assumptions are shown in Figure 7. Because this site does not provide sufficient space, and is most likely not the best use for this prime location, we do not recommend developing permanent parking on this site. This leaves Site B for further consideration.

Figure 7: Site A



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Site B: Site B is located in the parking lot behind the Vogue nightclub and west of Carrollton Avenue. The dimensions of the potential parking structure are 125' x 216'. Based on 360 square feet per space, we estimate 75 spaces per level could be added on this site. The site measurement and assumptions are shown in Figure 8. The site would displace about 95 existing spaces. A four level parking structure with 300 spaces would effectively add about 205 spaces due to the displacement of existing surface spaces. The structure would have a height of about 48 feet for elevator and stair towers.

Figure 8: Site B

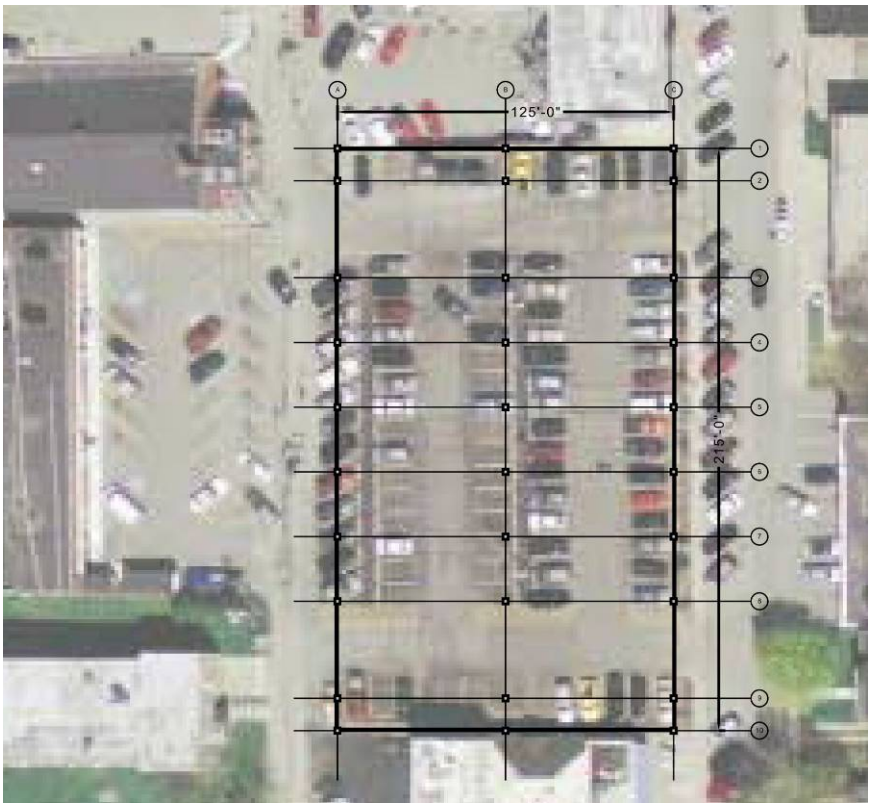

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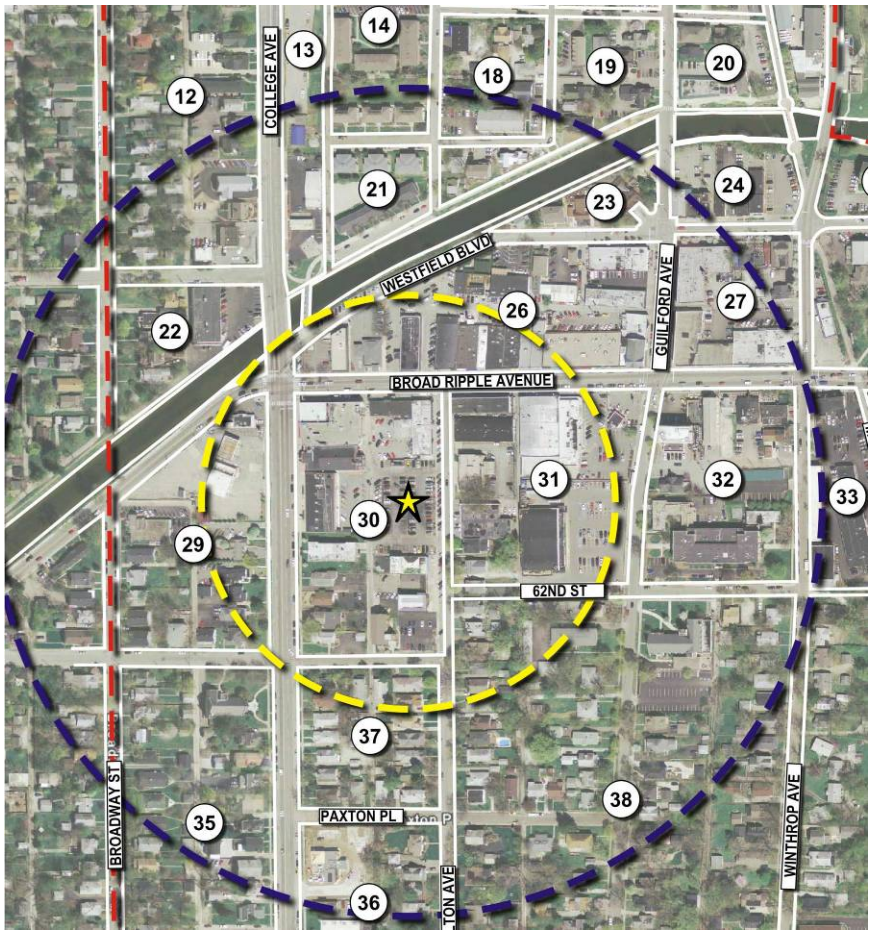
Figure 9 depicts walking distance LOS A and B bands from the center of the site area. This indicates that this location would serve the area with the highest shortage of parking.

Figure 9: Site B Service Area



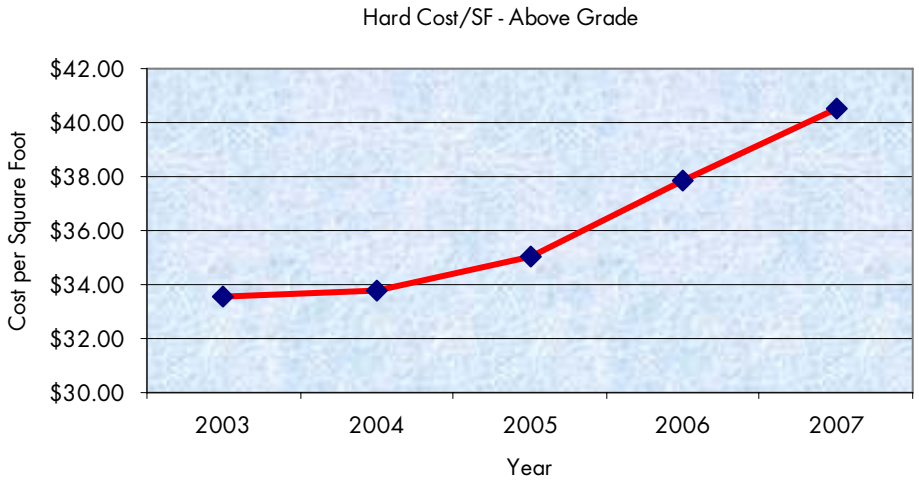
INCREASING COST OF PARKING STRUCTURES

According to Walker's research and data compiled by R.S. Means, one of North America's leading suppliers' of construction cost information; the construction cost per square foot for a parking structure has steadily increased over the past five years. From 2003 to 2007, hard costs have increased by approximately 17 percent for above-grade and approximately 21 percent for below-grade parking construction. Concrete prices are expected to continue to increase spurred by the ongoing increases in cement, aggregate and the fuel necessary to mine or extract these components. The recent slowdown in the residential construction industry may moderate concrete price increases, but the impact of ongoing construction overseas may more than offset these influences.

The following figures show how construction costs for above grade and below grade parking structures have increased over the past five years.

Figure 10: Construction Costs for Above Grade Parking Structure

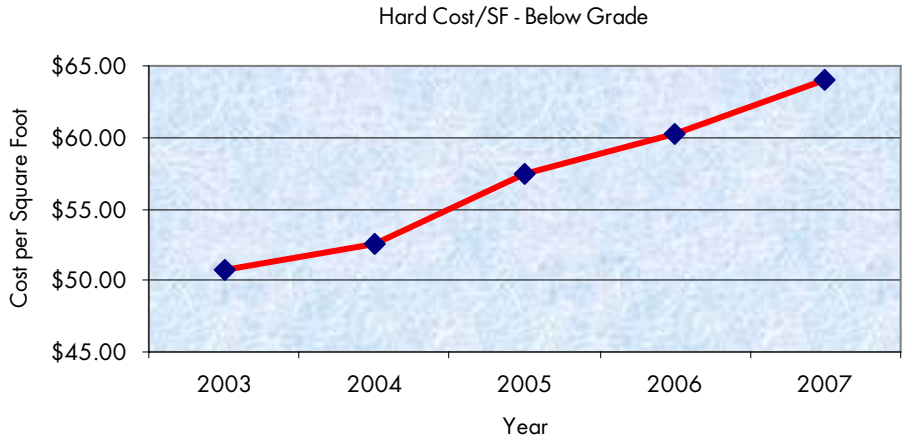
	Parking Ramp (Above Grade)					
Hard Costs/SF	**2007**	**2006**	**2005**	**2004**	**2003**	**Overall Trend Rate Annual, Compound**
Atlanta	$ 35.85	$ 33.48	$ 31.16	$ 30.00	$ 29.79	4.7%
Baltimore	37.21	34.79	32.17	30.57	30.32	5.3%
Boston	46.28	43.29	40.04	38.47	38.24	4.9%
Chicago	45.43	41.83	38.73	37.78	37.77	4.7%
Cleveland	40.34	37.60	35.08	34.19	34.15	4.3%
Dallas	33.68	31.61	29.25	28.20	28.13	4.6%
Denver	38.14	35.88	33.24	32.05	31.89	4.6%
Detroit	42.11	40.18	37.13	35.86	35.78	4.2%
Houston	35.49	32.84	30.26	29.10	29.09	5.1%
Kansas City	41.34	38.76	35.88	34.12	33.82	5.1%
Los Angeles	42.91	40.00	37.06	36.23	35.74	4.7%
Miami	34.81	32.43	30.19	29.13	28.10	5.5%
Minneapolis	45.03	42.02	39.07	37.93	37.64	4.6%
New Orleans	34.73	32.36	29.98	28.85	28.83	4.8%
New York City	52.49	49.40	45.94	44.82	44.09	4.5%
Philadelphia	45.83	42.84	39.42	37.50	37.04	5.5%
Phoenix	35.81	32.81	30.43	29.40	29.36	5.1%
Pittsburg	39.66	37.52	34.67	33.62	33.32	4.5%
Portland, Or.	40.98	38.69	35.98	34.87	34.85	4.1%
St. Louis	41.66	38.31	35.43	34.19	34.01	5.2%
San Diego	41.82	38.95	36.23	35.10	35.08	4.5%
San Francisco	48.84	45.58	42.40	41.34	41.10	4.4%
Seattle	41.74	39.02	36.44	34.82	34.38	5.0%
Washington, D.C.	39.34	36.51	33.62	31.84	31.82	5.4%
Winston-Salem, NC	31.72	28.69	26.67	25.02	24.94	6.2%
Average	$ 40.53	$ 37.82	$ 35.06	$ 33.80	$ 33.57	4.8%



Source: R.S. Means 2003 - 2007

Figure 11: Construction Costs for Below Grade Parking Garage

	Underground Parking (Below Grade)					
Hard Costs/SF	**2007**	**2006**	**2005**	**2004**	**2003**	**Overall Trend Rate Annual, Compound**
Atlanta	$ 56.63	$ 53.28	$ 51.14	$ 46.69	$ 45.07	5.9%
Baltimore	58.79	55.37	52.79	47.57	45.87	6.4%
Boston	73.11	68.90	65.72	59.86	57.85	6.0%
Chicago	71.78	66.57	63.56	58.56	57.14	5.9%
Cleveland	63.73	59.84	57.58	53.20	51.66	5.4%
Dallas	53.21	50.30	48.01	43.88	42.55	5.7%
Denver	60.25	57.10	54.56	49.86	48.24	5.7%
Detroit	66.52	63.95	60.94	55.80	54.12	5.3%
Houston	56.06	52.27	49.66	45.28	44.01	6.2%
Kansas City	65.31	61.69	58.89	53.09	51.16	6.3%
Los Angeles	67.78	63.65	60.82	56.37	54.07	5.8%
Miami	54.99	51.61	49.55	45.34	42.50	6.7%
Minneapolis	71.14	66.87	64.13	59.02	56.94	5.7%
New Orleans	54.86	51.49	49.20	44.76	43.61	5.9%
New York City	82.93	78.61	75.40	69.75	66.70	5.6%
Philadelphia	72.41	68.18	64.70	58.35	56.03	6.6%
Phoenix	56.57	52.21	49.95	45.75	44.41	6.2%
Pittsburg	62.65	59.72	56.89	52.31	50.40	5.6%
Portland, Or.	64.74	61.57	59.06	54.13	52.71	5.3%
St. Louis	65.82	60.97	58.15	53.20	51.46	6.3%
San Diego	66.07	61.98	59.46	54.50	53.07	5.6%
San Francisco	77.16	72.53	69.59	64.33	62.17	5.5%
Seattle	65.95	62.10	59.80	54.18	52.01	6.1%
Washington, D.C.	62.15	58.11	55.18	49.55	48.14	6.6%
Winston-Salem, NC	50.11	45.65	43.11	38.93	37.73	7.4%
Average	$ 64.03	$ 60.18	$ 57.51	$ 52.57	$ 50.78	6.0%



Source: R.S. Means 2003 - 2007

OPINION OF COST

Construction costs vary based on several factors, such as the site size, number of spaces, façade treatment, and whether the spaces are below grade or above grade. Parking structures generally cost $12,000 to $20,000 per space (or even higher).

Our analysis assumes a construction cost of $13,000 per space for structured parking, which assumes a basic parking structure with minimal façade treatments. Table 19 shows our opinion of the basic construction costs for site B.

Table 19: Parking Structure Opinion of Cost

Site	Spaces	Levels	Height[1]	Cost Per Space	Construction Costs[2]
B	300	4	48 ft	$ 13,000	$ 3,900,000

[1] Height based on 12' per level
[2] Does not include land, demolition, or soft costs

Source: Walker Parking Consultants

Construction costs do not include soft costs. Soft costs vary for each project, but generally run about 15 - 20 percent of construction costs. The cost is broken down as follows:

Architectural/Engineering Fees	5%
Client Administration	1%
Financing	3%
Survey & Geotechnical Report	1%
Testing (Soil, Concrete, etc,)	1%
Construction Contingency	4%

Table 20 shows the total cost construction and soft costs, assuming 15 percent for soft costs. The total cost per space for structured parking with soft costs is $14,950. This equates to about $4.5 million. This does not include land or demolition costs.

Table 20: Opinion of Cost including Soft Costs

Site	Spaces	Cost Per Space	Soft Costs 15%	Total Cost Per Space	Construction with Soft Costs
B	300	$ 13,000	$ 1,950	$ 14,950	$ 4,485,000

Note: This does not include land or demolition costs. The cost per added space is $21,878 per space.

Source: Walker Parking Consultants

OPERATING COSTS

Besides the initial investment required to construct the parking structure, there are on-going operational costs required to staff and maintain the facility. Walker maintains a database of operating revenue and expense statements for over 200 separate parking facilities. Based on this database and knowledge of the local market, we present the following discussion of the typical costs associated with the operation of a parking structure.

Certain operating expenses are directly related to the type of operation of the facility. An example of this is revenue collection. Cashiered locations obviously have far greater payroll expenses as compared to "free" parking or contract only parking. Other expenses, such as maintenance, are fairly predictable, although even these are influenced by the location of the facility and type of construction.

The following are typical line item expenses for a parking facility:

- Labor (wages and benefits)
- Security
- Management Fee
- Supplies
- Liability Insurance & Claims
- Utilities
- Accounting/Banking
- Maintenance
- Other/Miscellaneous Expenses

Table 21 presents a summary of median operating cost data for parking structures in our database. This indicates that the annual cost per space to operate a parking structure is about $584. The highest costs are associated with labor and security for the facility. Depending on the type of operation and staffing, a reasonable range for operating a 300 space parking structure in Broad Ripple is $450 to $600 per space on an annual basis. A preliminary financial analysis is needed to determine a more accurate level of detail, which would include specific staffing schedules, and hours of operation.

Table 21: Median per Space Operating Expenses

Expense Category	*Median Per Space Cost*
Payroll & Benefits	$ 267
Security	$ 107
Management Fees	$ 33
Supplies	$ 19
Liability Insurance & Claims	$ 18
Utilities	$ 52
Accounting / Banking	$ 4
Snow Removal	$ 6
Maintenance	$ 68
Miscellaneous / Other Expense	$ 10
Total Cost Per Space	$ 584

Source: Walker Parking Consultants, Revenue and Expense Database

BREAK-EVEN POINT

By applying the projected construction and operating cost per space, we can calculate the monthly revenue needed for the structure to be self-sufficient. Table 22 shows the monthly revenue needed for a range of cost options, assuming 25 year financing at 6.5 percent interest. As an example, we have highlighted the $15,500 per space construction cost and $500 per space operating expense. These factors intersect at $148.00 monthly revenue per space needed to break even.

Table 22: Annual Breakeven Cost per Structured Parking Space

Project Cost Per Space	Annual Operating Cost Per Space					
	$300	$400	$500	$600	$700	$800
$12,500	$110	$119	$127	$135	$144	$152
$13,500	$117	$126	$134	$142	$151	$159
$14,500	$124	$132	$141	$149	$157	$166
$15,500	$131	$139	$148	$156	$164	$173
$16,500	$138	$146	$154	$163	$171	$179
$17,500	$145	$153	$161	$170	$178	$186
$18,500	$151	$160	$168	$176	$185	$193
$19,500	$158	$167	$175	$183	$192	$200
$20,500	$165	$173	$182	$190	$198	$207
$21,500	$172	$180	$189	$197	$205	$214
$22,500	$179	$187	$195	$204	$212	$220
$23,500	$186	$194	$202	$211	$219	$227
$24,500	$192	$201	$209	$217	$226	$234
$25,500	$199	$208	$216	$224	$233	$241
$26,500	$206	$214	$223	$231	$239	$248
$27,500	$213	$221	$230	$238	$246	$255
$28,500	$220	$228	$236	$245	$253	$261

Annual Revenue Per Space Needed

Rate: 6.5% Amortized Period: 25 Years

Source: Walker Parking Consultants

A parking structure costing $15,500 per space to build, with annual operating costs of $500 per space, financed at 6.5% interest for 25 years, requires a monthly revenue stream of about $148.00 to break even. This does not include land or demolition costs.

PARKING RATES

Paid parking in Broad Ripple is limited to on-street meters and selected off-street parking lots during peak evenings, typically Thursday through Saturday. Meters are enforced Monday – Friday from 6:30 a.m. to 7:00 p.m. Rates are $ .75 per hour, with a two hour limit. During peak parking demand periods, the meters are free, which encourages on-street parking. The observed off-street parking charge was a flat $5.00 on entry to the parking facility.

Based on the high demand, extending meter enforcement hours and days should be considered, if the additional meter and violation revenue collected can be put back into Broad Ripple.

WAYFINDING / SIGNAGE

We recommend implementing a comprehensive signage program to maximize visitor awareness of public parking locations. The signage improvements should be prepared in conjunction with any enhancements to the parking resources, in addition to any streetscape improvements in the study area. As is true with any good communications medium, signs should be brief, precise, and appropriate, such as "Public Parking" or "Free Public Parking." Further, the signage should guide the driver from Broad Ripple Avenue, College Avenue, and Gilford Streets to public parking areas.

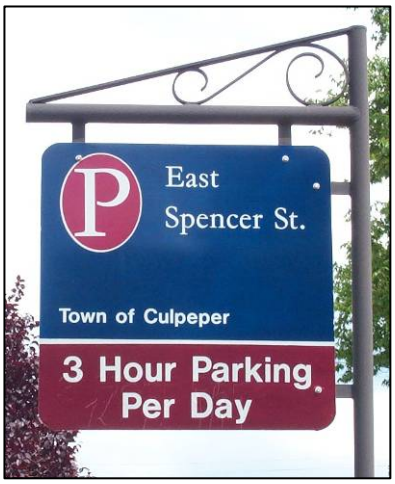
At present, no consistent parking signage seems to exist for off-street parking areas or along the primary thoroughfares. While some business owners have private parking signs posted on the sides of buildings, sign posts, and fences, they all vary in content and visual appearance. The off-street pay parking is consistent, but only located at the entrance of each facility. The signs appear to be hand made of painted plywood, painted yellow, with "Park" - "$5.00" as the message.

Each parking area has its own set of wayfinding/signage requirements. These requirements present specific questions concerning the needs and concerns of the users to be answered during the design of the signs, including:

- What are the points at which information is needed?
- What information is needed?
- How should this information be presented?
- Will there be a high percentage of first time visitors, or is the parking supply used by the same people every day?
- Are there special sign requirements for accessible parking or bilingual patrons?

Examples of Parking Signs Unique to Each Town

Greenville, NC



Culpeper, VA

Colorado Springs, CO

It is also important that general rules for sign design and placement should be followed when planning the streetscape improvements.

- All signage should have a general organizing principle consistently evident in the system.
- Direction signage for both pedestrians and vehicles must be continuous (i.e., repeated at each point of choice) until the destination is reached.
- Signs should be placed in consistent and therefore predictable locations.

LIGHTING

During our observations we noted several parking areas that were not very well illuminated after hours. These areas included surface lots and on-street parking areas. We recommend special attention be given to the lighting requirements in each lot and for on-street areas. In addition, a security presence during peak hour conditions in the parking areas and frequent collection and removal of trash may positively influence the perception that an individual may have on parking.

Lighting can be measured in terms of Level of Service (LOS), just as it is for walking distance. Table 23 provides the LOS rating for surface parking lighting.

Table 23: Level of Service Luminance Ratings

LOS	Minimum Illuminance[1]	Average Illuminance[1]
A	4	10
B	3	8
C	2	6
D	1	4

[1] Measured in Foot Candles

Parking Structures, Third Edition, Walker Parking Consultants, 2001

Good lighting not only helps identify the off-street parking areas, but also is more inviting to patrons, reduces the risk of liability claims due to slip and fall type injuries, and increases the perception of security.

REGULATING EMPLOYEE PARKING

Establishing remote employee parking areas is another way to increase the available parking for patrons. Many communities have embraced the concept of providing a location for employees to park that is separate from customer parking. While the amount varies from town to town, a common rule of thumb for the value of a prime parking space occupied by an employee is approximately $150 to $300 in retail/restaurant sales per day. Business owners need to recognize the potential financial impact that employee parking may have on their businesses and other businesses located within the core area of Broad Ripple.

In addition to the financial motivation, the desire to provide the highest level of service should be a motivating factor as well. Customers expect and deserve easy, *convenient* parking, which they cannot find if employees are occupying prime parking spaces. A couple of potential locations for employee parking on weekends are the large lot along College Avenue in block 13 or the lot in block 33. The lot in block 13 is private and chained off during the evening. The owner might be willing to allow employee parking on the lot for a monthly fee and add equipment to control access to the lot. The lot in block 33 is currently available for parking during the weekends for $5.00, but usage is low. A deal could potentially be brokered to allow permit parking for employees.

EXPLORING OPPORTUNITIES FOR VALET PARKING

The opportunity may exist for some business owners to offer seasonal valet parking to their restaurant/retail/entertainment customers. There are nearby parking areas with available space that could be used by valet to store the vehicles, such as in block 33. This large parking lot had minimal usage during our observations, even though it is adjacent to areas experiencing high occupancy levels. The lot was even staffed and charging $5.00 for parking. This alternative could increase the level of service provided by the local businesses and add a level of prestige for customers.

RESIDENTIAL PARKING PROGRAM

Residential parking programs have been established in various cities across the U.S. The goal of these programs is to make more parking spaces available to residents and to discourage long-term parking by people who do not live in the respective neighborhoods. Residential parking programs are needed to restrict access by non-residents to street parking. The presence of non-resident vehicles parked in neighborhoods may increase noise and air pollution and create unsafe traffic conditions. Residential parking zones seem to be most commonly found in university communities, tourist and resort communities such as beach and ski towns, locations near major transit hubs - such as ferries or other mass transit stops, and residential areas near major employers, including businesses or major institutions[5]. A review of the residential areas indicates high use by non-residents. Once additional parking is available, we suggest considering residential permit programs for those areas that want to reduce non-resident parking. We have provided some case study summaries in the Appendix of different communities that have implemented said programs.

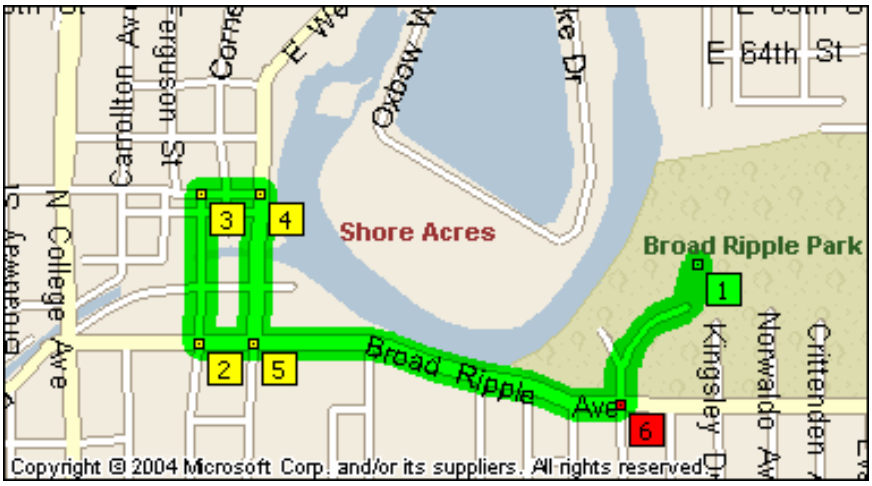
Residential parking programs limit on-street parking by non-residents.

CIRCULATOR SHUTTLE OPTION

While parking demand has been quantified as problematic, it appears to be worse Thursday through Saturday nights, and during events. A circulator shuttle from the Broad Ripple Park to the core area could assist with providing additional resources during the weekend and large events. This has the potential to add about 350 spaces based on an inventory of parking at the park. A preliminary shuttle route is depicted in Figure 12. The total distance of the route is about 1.5 miles. Based on the distance, one shuttle should be sufficient to complete the route with about a ten minute headway (time between shuttles) assuming an average speed of 10 mph. Operating the shuttle 30 hours per week would provide coverage Thursday through Saturday, from 5:30 p.m. to 3:30 a.m. Costs for a shuttle operation of this type have been reported to run about $75.00 per hour. This equates to an annual cost of about $117,000. Note: This does not include any additional costs associated with security, which would likely be required.

[5] http://www.mrsc.org/askmrsc/parking.aspx

Figure 12: Potential Shuttle Route



Source: Walker Parking Consultants, Microsoft Streets and Trips

CIRCULATOR CONCERNS

Providing the shuttle can increase the parking supply, but patrons must be willing to utilize the parking and shuttle. Our experience is that people tend to resist shuttle parking, except during events. A small charge would most likely be needed to limit the shuttle for legitimate users.

SUMMARY

Broad Ripple has parking occupancy issues in several blocks during peak conditions. As a result of high occupancy, surrounding residential streets are filled with visitors and employees during evenings and early morning hours. These conditions are further exaggerated during events and big weekends in Indianapolis. The density of the existing land use offers limited options for adding parking. If it is decided a parking structure will be added, we recommend considering the site behind the Vogue as the best option. We offer several alternatives that may improve the parking conditions, but ultimately, adding to the parking supply is needed.

Once parking is added to the inventory, consideration for implementing a residential parking permit program can be explored to eliminate patrons and employees from parking on neighborhood streets. Because parking demand is at such high levels during

evenings, we suggest considering extending meter hours and enforcement, so long as revenue from on-street parking goes back to Broad Ripple to fund parking improvements.

APPENDIX A

Scope of Services

TASK I – SUPPLY DEMAND ANALYSIS

1. Meet with representatives of the City and or Broad Ripple Village to further clarify study's objectives, review the work plan, and finalize the project schedule. At this meeting, the lines of communication and a schedule of deliverables will also be established.
2. Obtain the following information from the City or Broad Ripple Village representatives:
   - Building occupancy – the occupancy of major buildings and the City's best estimate for other buildings.
   - Future developments – this includes type of land use, square footage, seating capacity, or number of par rooms, expected completion data, location, and whether any existing parking spaces will be displaced.
   - Copies of any previous parking studies, community master plans or downtown market studies.
3. Conduct an inventory of on- and off-street parking spaces in the study area. Inventory will be tabulated and summarized on a block-by-block basis.
4. Perform weekday parking occupancy counts during a typical weekday to determine peak occupancy. Up to five counts will be performed on a typical weekday during the period of 10:00 a.m. to 6:00 p.m. as appropriate for this effort.
5. Perform weekend (Friday or Saturday) parking occupancy counts during a typical weekend to determine peak occupancy. Up to four counts will be performed on a typical weekend between 7:00 p.m. and 1:00 a.m. as appropriate for this effort.
6. Compare the calculated parking demand to the existing parking supply to determine the existing parking surplus or deficit on a block-by-block basis in the study area.
7. Determine future parking surpluses and deficiencies (through 2012) by block within the study area. Future demand will be based on perspective developments and their calculated parking generation rates using available local data, national averages, Walker Parking Consultants' experience and shared-use methodology.

TASK 2 – ALTERNATIVES ANALYSIS

1. Identify if alternative on- and off-street solutions to meet the needs of the area exist within reasonable walking distance.
2. Explore remote shuttle opportunities using existing surface parking located in or adjacent to the study area, such as the park or school parking lots.
3. Review existing vehicular and pedestrian access and circulation patterns for their relationship to existing and proposed parking generators and the parking supply.

4. Determine whether the opportunity for re-striping and/or making efficiency improvements exists to increase the parking supply.

5. Develop options for expanding the parking supply through structured parking. Determine if there is a need for a parking structure in the study area. Identify alternative locations for such a parking structure, if needed.

6. Determine conceptual construction and project costs for each of the alternatives including estimated operational expenses to enable a comparison of the costs of each alternative.

7. Identify parking management strategies appropriate to the study area. This includes hours of operation, opportunities/strategies for shared parking, residential parking permit programs, parking rates, parking enforcement, etc.

8. Provide a preliminary cost projection for building and operating structured parking. This includes an opinion of construction costs, a discussion of hard and soft costs, annual operation costs, and break even costs.

9. Meet with City representatives to discuss findings.

TASK 3 - REPORT PREPARATION

1. Prepare a draft report for review by City representatives, provided in electronic PDF format.

2. Obtain feedback regarding draft report from City representatives, finalize report, and issue final report in a reproducible electronic PDF format.

APPENDIX B

Parking Supply and Occupancy Data

APPENDIX B: PARKING SUPPLY AND OCCUPANCY DATA

Weekday

Block	Zone	Inventory	Occupancy
1	A	71	34
2	A	70	20
3	A	124	35
4	A	140	56
5	A	106	37
6	A	197	74
7	A	91	44
8	A	97	39
9	A	93	55
10	A	61	46
11	A	80	32
12	B	55	22
13	B	84	13
14	B	22	7
15	B	42	16
16	B	47	29
17	B	29	11
18	B	66	15
19	B	51	30
20	B	37	34
21	B	23	7
22	C	34	12
23	C	33	27
24	D	64	50
25	D	68	37
26	C	220	184
27	D	87	70
28	D	212	124
29	C	78	38
30	C	252	190
31	C	193	122
32	D	123	68
33	D	109	72
34	D	228	140
35	E	34	13
36	E	98	17
37	E	34	5
38	E	149	12
24	D	56	23
28	D	0	1
39	E	0	22
39	E	36	13
40	E	88	35
Total		3,782	1,931

Weekend

Block	Zone	Inventory	Occupancy
1	A	71	21
2	A	70	13
3	A	124	12
4	A	140	47
5	A	106	20
6	A	197	66
7	A	91	9
8	A	97	0
9	A	93	12
10	A	61	48
11	A	80	9
12	B	55	35
13	B	84	7
14	B	22	14
15	B	42	18
16	B	47	27
17	B	29	10
18	B	66	43
19	B	51	55
20	B	37	38
21	B	23	30
22	C	34	55
23	C	33	33
24	D	64	75
25	D	68	38
26	C	220	230
27	D	87	97
28	D	212	137
29	C	78	75
30	C	252	282
31	C	193	190
32	D	123	111
33	D	109	16
34	D	228	140
35	E	34	37
36	E	98	32
37	E	34	34
38	E	149	109
24	D	56	3
28	D	0	48
39	E	0	29
39	E	36	52
40	E	88	77
Total		3,782	2,434

APPENDIX C

Parking Adequacy by Block

APPENDIX C: PARKING ADEQUACY BY BLOCK

Block #	Zone	Total Effective Supply	Peak Demand 11:00 pm	Adequacy
1	A	67	21	46
2	A	64	13	51
3	A	112	12	100
4	A	129	47	82
5	A	95	20	75
6	A	173	66	107
7	A	86	9	77
8	A	90	0	90
9	A	84	12	72
10	A	56	48	8
11	A	75	9	66
12	B	48	35	13
13	B	79	7	72
14	B	19	14	5
15	B	38	18	20
16	B	43	27	16
17	B	27	10	17
18	B	59	43	16
19	B	47	55	(8)
20	B	33	38	(5)
21	B	20	30	(10)
22	C	32	55	(23)
23	C	29	33	(4)
24	D	58	75	(17)
25	D	61	38	23
26	C	195	230	(35)
27	D	78	97	(19)
28	D	201	137	64
29	C	71	75	(5)
30	C	228	282	(54)
31	C	178	190	(12)
32	D	113	111	2
33	D	98	16	82
34	D	217	140	77
35	E	29	37	(8)
36	E	89	32	57
37	E	29	34	(5)
38	E	129	109	20
39	E	31	52	(21)
40	E	75	77	(2)
Total		3,383	2,354	1,029

APPENDIX D

Residential Parking Permit Programs

APPENDIX D: RESIDENTIAL PARKING PERMIT PROGRAMS

BOSTON, MA

POPULATION:

569,165[6]

PROGRAM DESCRIPTION:

Boston residents may participate in a Resident Permit Parking Program (RPP) and request the restrictions that they feel will accommodate the parking needs of their respective neighborhoods. Residents must submit a notification to City Hall requesting that the Commissioner of the Boston Transportation Department (BTD) participate in an informational community meeting consisting of residents of the surrounding streets in the RPP area. After evaluating advantages and disadvantages of the RPP program explained in the meeting, residents are then asked to make an informed decision regarding the applicability of the RPP program to their needs. If the community decides to move forward with the action, each street within the RPP area must submit at least 50% of residents' signatures to be considered for the RPP program. After the petitions are collected, a BTD representative may perform a license plate inventory to determine if vehicles parked in the proposed area are registered from outside of the neighborhood. If deemed appropriate, the BTD will implement the RPP program in the designated area and will inform residents of the appropriate time limitations for parking. (Note: Submission of petitions does not guarantee RPP approval).

ADMINISTRATIVE BODY:

A representative of the BTD manages and administers the process.

PROOF OF RESIDENCY REQUIREMENTS:

A resident must provide vehicle registration and a second proof of residency. Previous parking tickets must be paid in order to receive a residential parking permit.

OTHER FEATURES:

Parking is banned on alternating sides of the street during street cleaning. All vehicles in violation of street cleaning regulations will be towed.

[6] 2004 U.S. Census Bureau Population Estimates

CHICAGO, IL

POPULATION:

2,862,244[7]

PROGRAM DESCRIPTION:

A community must be classified by specific conditions in order to receive a Residential Permit Parking (RPP) designation. The street(s) under consideration must be zoned within R1 and R5. A traffic survey must be conducted to confirm that 45% of existing vehicles on the proposed street are not owned by the residents. If an ordinance is passed, the Chicago Department of Transportation posts signs restricting use to residential vehicles during specific dates and times.

The RPP program in Chicago is designed to ensure that residents in densely populated areas have access to parking near their residences.

ADMINISTRATIVE BODY:

The Chicago City Council manages and administers the process.

PROOF OF RESIDENCY REQUIREMENTS:

A resident must provide vehicle registration and a second proof of residency, i.e. driver's license, utility bill, voter registration, etc. Previous parking tickets must be paid in order to receive a residential parking permit.

OTHER FEATURES:

Licensed, not-for-profit organizations qualify to acquire visitor parking permits to park in the adjacent Residential Permit Parking Zone if the organization is located within the Residential Permit Parking Zone or on either side of a business or commercial block immediately adjacent to the zone. This provision applies only in those wards where the Alderman has introduced and passed a not-for-profit Permit Parking Ordinance.

[7] 2004 U.S. Census Bureau Population Estimates

DENVER, CO

POPULATION:

556,835[8]

PROGRAM DESCRIPTION:

A residential parking permit exempts the resident's vehicle from posted on-street parking time limit restrictions at the street of residence. The limit on vehicles for any household is one vehicle for each licensed driver of the household, plus one vehicle for household use. Permits are valid for three years and do not allow you to park in violation of parking meters, loading zones, no parking anytime zones, 72-hour parking rules, street sweeping restrictions, or any other restrictive parking ordinances.

Residential permit parking is an integral part of the Denver Municipal Zoning Plan.

ADMINISTRATIVE BODY:

The Parking Cashiers Office for the City of Denver administers the process.

PROOF OF RESIDENCY REQUIREMENTS:

In order to be eligible for the permit, the applicant's name and address should match the information of the current vehicle registration and utility, phone or cable bill.

[8] 2004 U.S. Census Bureau Population Estimates

SAN JOSE, CA

POPULATION:

904,522[9]

PROGRAM DESCRIPTION:

The City of San Jose has established the following guidelines for evaluation of a potential residential permit parking (RPP) program:

- The area is primarily residential
- Majority of residences are owner occupied
- Permit area is sufficient in size to eliminate rather than relocate the problem
- Peak on-street occupancy is at least 75%
- At least 50% of peak occupancy are non-resident parkers

There are five types of parking permits: resident, employee, and guest, single – use, and special use. One residential permit is issued per currently registered vehicle. A maximum of 2 guest permits per address can be issued. A single – use permit may only be used for a maximum of 14 days and a special use permit is only valid for a maximum of 90 days.

ADMINISTRATIVE BODY:

The San Jose Department of Transportation administers the applications.

PROOF OF RESIDENCY REQUIREMENTS:

Vehicle registration and either a telephone bill, property tax bill or rental contract are needed.

OTHER FEATURES:

Discounted parking spaces are available to downtown residents at specific parking garages. The Downtown Residential Parking Program provides a discounted monthly rate of $50 for qualified downtown residents.

The Downtown Residential Parking Program provides a discounted monthly rate of $50 for qualified residents.

[9] 2004 U.S. Census Bureau Population Estimates