Carl Walker Parking
Planning Engineering Restoration

Final Report

DOWNTOWN CHANDLER PARKING STUDY

Presented to:

City of Chandler, Arizona

Presented by:

Carl Walker, Inc.

950 West Elliot Road, Suite 107

Tempe, Arizona 85284

October 22, 2008

Ideas for parking.
SOLUTIONS FOR PEOPLE®

www.carlwalker.com

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.01. Study Purpose and Approach 1
1.02. Scope of Services 1
1.03. Study Area 2

2.0 ASSESSMENT OF CURRENT PARKING CONDITIONS 4

2.01. Current Parking Supply 4
2.01.1. Off-Street Parking Supply 5
2.01.2. On-Street Parking Supply 7
2.02. Current Parking Demand 8
2.03. Current Parking Adequacy 17
2.04. Public Input Workshop 22

3.0 PROJECTION OF FUTURE PARKING CONDITIONS 27

3.01. Anticipated Future Development Projects 27
3.02. Review of Projected Future Parking Adequacy 32
3.03. Parking Supply/Demand Alternatives 35
3.04. Planning for Future Parking Needs 46
3.05. Review of Current Parking Zoning Code 48

4.0 PARKING MANAGEMENT AND OPERATIONS STRATEGIES 54

4.01. Parking System Guiding Principles 54
4.02. Twenty Characteristics of Effective Parking Programs 57
4.03. Parking System Organization and Management 74
4.04. Pay Parking and System Management Technologies 83
4.05. Parking Enforcement Strategies 101
4.06. Parking Signage and Wayfinding 109
4.07. Parking Security and Lighting 111
4.08. Loading and Delivery Parking 113
4.09. Parking Communications and Marketing 113
4.10. Incorporating Parking and Transportation 115

5.0 ACTION PLAN AND RECOMMENDATION SUMMARY 118

APPENDIX A 124

LIST OF TABLES

1. Overall Occupancy Results..... 11
2. Overall Parking Adequacy..... 19
3. Overall Estimated Parking Adequacy by Block..... 21
4. Estimated General Public Parking Adequacy by Block..... 22
5. Accessible Parking Space Requirements..... 49
6. Parking Ratio Comparison by Land Use..... 51

LIST OF FIGURES

1. Study Area 3
2. Total Parking Supply 5
3. Off-Street Parking Supply 6
4. Publicly-owned Parking Lots 7
5. On-Street Parking Supply 8
6. Block Number and Lot Identifier Sequence 10
7. Percentage of Parking Occupied at Peak 12
8. Percentage of Parking Occupied in Core at Daytime Peak 13
9. Percentage of Parking Occupied in Core at Evening Peak 14
10. Parking Areas Included in Turnover/Duration Surveys 16
11. Anticipated Development Projects 32
12. Estimated Future Parking Supply/Demand Conditions 34
13. Possible Parking Structure Sites 40
14. Recommended Parking Dimensions 48
15. Possible Parking Directional Signage Locations 109
16. Sample Parking Signage 110
17. Sample Parking Map 113
18. Pedestrian Amenities 115

1.0 INTRODUCTION

1.01. Study Purpose and Approach

The primary purpose of this parking study was to determine short-term and long-term recommendations to improve parking in downtown Chandler. The parking study initially evaluated existing conditions, determined primarily through reviews of background materials, detailed parking inventory and occupancy surveys, and stakeholder input meetings. The examination of existing conditions provided the baseline data from which future development, with its impact on parking supply and demand, could be evaluated. Finally, parking alternatives were considered to address future needs, as well as improve the utilization and efficiency of existing parking resources. Future parking alternatives included potential parking supply changes, as well as general parking management strategies and improvements.

1.02. Scope of Services

The City of Chandler commissioned ***Carl Walker*** to complete this Downtown Parking Management Plan in September 2007. The study was divided into four primary phases. The first phase included a review of available background data and the parking inventory and occupancy surveys. The second phase provided a stakeholder outreach program consisting of several focus group meetings and one general public input session. An analysis of possible parking supply and management alternatives constituted the third phase of the project. The final phase of the project included the compilation of the final study report. The scope of services for this study can be summarized as follows:

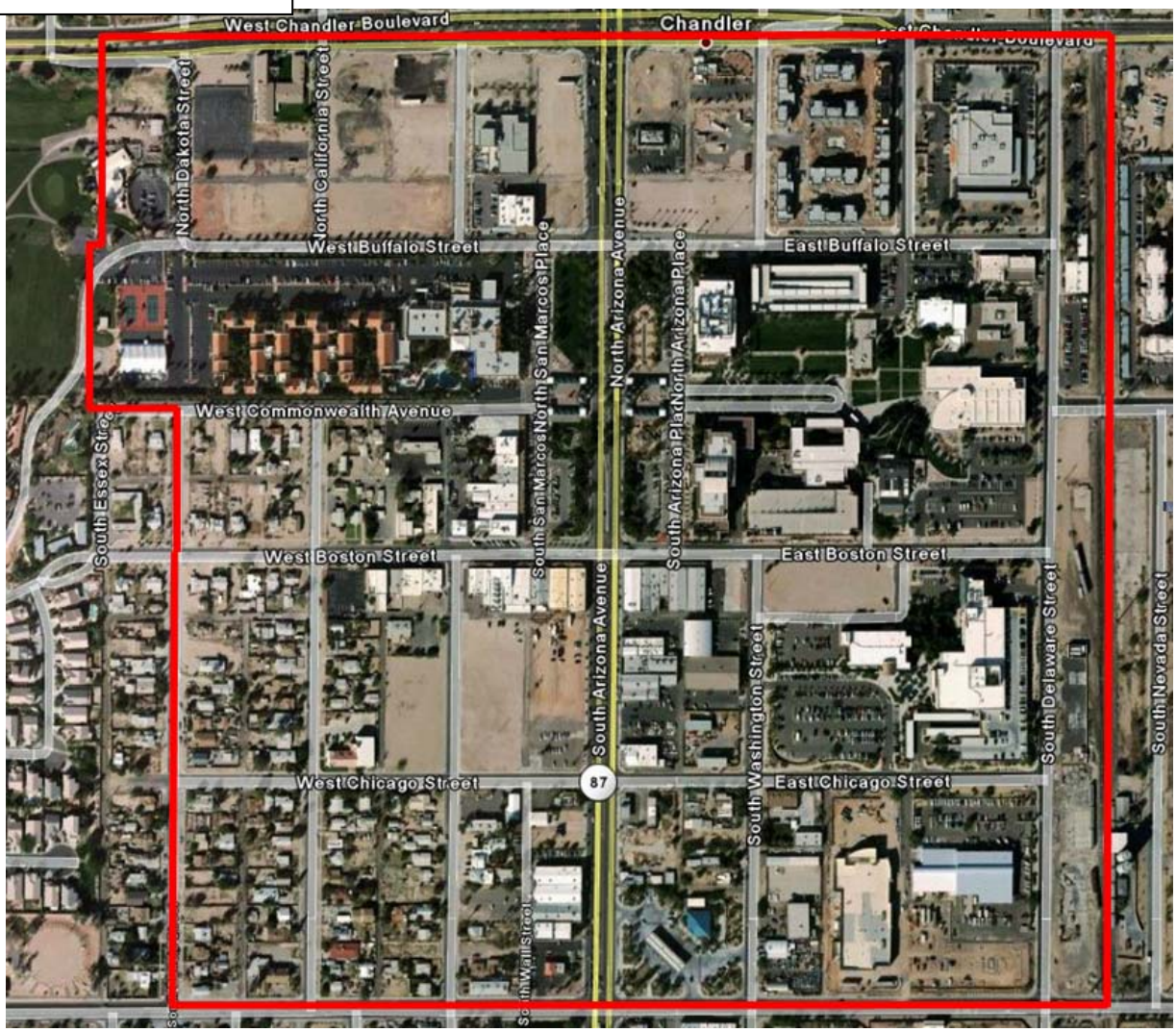
- Phase One
    - Review available background materials and previous planning efforts.
    - Conduct a field review of existing conditions.
    - Determine the existing parking inventory.
    - Determine current levels of parking occupancy.
    - Conduct parking turnover surveys in selected public parking areas.

- Phase Two
    - Conduct several stakeholder focus group meetings and one general public input workshop to gain perspectives concerning parking in the study area (completed in December 2007).
- Phase Three
    - Conduct an analysis of parking supply, management, and operations alternatives in order to improve existing and projected conditions.
        - Determine future parking demand and alternatives for addressing projected needs.
        - Provide recommendations concerning planning for future parking needs.
        - Review parking management strategies to improve current and future conditions.
        - Provide preliminary guidance concerning parking system guiding principles and funding.
        - Provide options/alternatives for improving the operations and control of current and future parking resources.
    - Develop a prioritized action plan for short-term and long-term parking system improvements.
- Phase Four
    - Compile the final downtown parking study report.
    - Provide a final report presentation.

1.03. Study Area

The study area for this project was roughly bounded by Chandler Boulevard to the north, Frye Road to the south, the railroad tracks to the east, and Dakota Street to the west. Figure 1 (next page) illustrates the study area. The designated study area is outlined in red in Figure 1.

Figure 1. Study Area



2.0 ASSESSMENT OF CURRENT PARKING CONDITIONS

2.01. Current Parking Supply

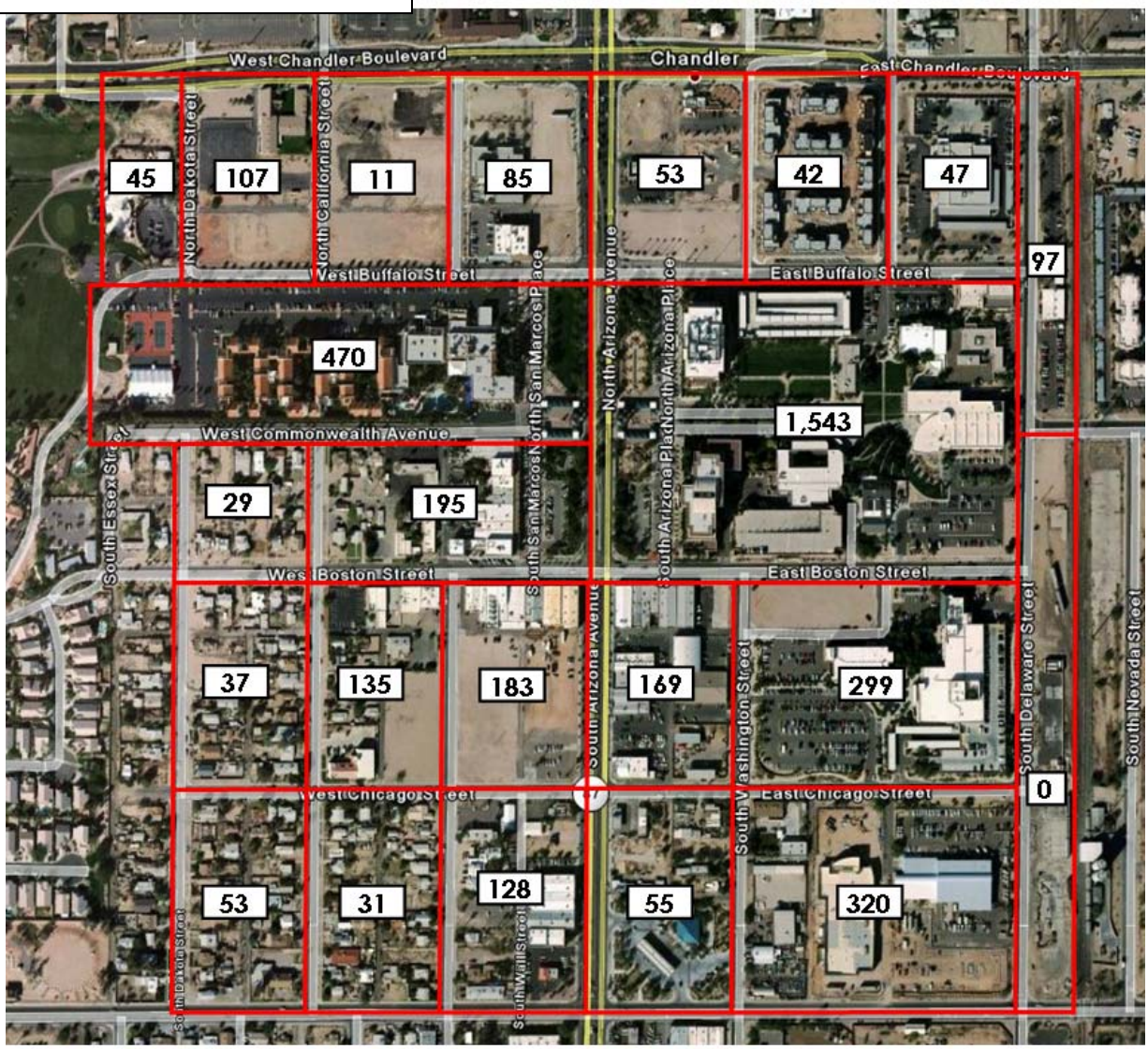
On November 6, 2007 ***Carl Walker*** and ***Traffic Research and Analysis*** conducted an inventory of parking spaces located within the downtown Chandler study area. The parking spaces were classified into two primary categories, on-street and off-street. For this study, on-street spaces generally refer to spaces located on a roadway, adjacent to a block, oriented parallel or angled to the curb. Off-street spaces refer to spaces located within a block and within the curb face. Generally, all on-street parking spaces were available for public parking while the majority of off-street spaces were reserved for a particular group (e.g., specific customers, reserved parking). In this report, public parking will refer to city owned/managed parking available to all user groups. Private parking will refer to parking owned privately and/or designated for a specific business or user group.

The downtown study area has a total parking supply of 4,134 parking spaces. Of these, 3,655 parking spaces (88%) are in off-street parking areas and 479 spaces (12%) are located on-street. For this study, the parking spaces located on San Marcos Place and Arizona Place are not considered on-street parking as they essentially function as off-street parking lots with drive-through access to bordering streets. The on-street parking inventory includes both marked parking spaces and locations where on-street parking is possible but not currently marked. The amount of on-street parking was estimated by ***Carl Walker*** based on block face lengths and street widths.

Some parking areas could not be accurately inventoried, as they lacked parking stripes or existing stripes were not visible. In these situations, inventories were estimated based on the size of the parking area. Residential parking areas, including apartment complexes and private driveways were not counted in the parking inventory as they would not contribute to any shared parking opportunities.

The following graphic (Figure 2) illustrates the total parking supply located in each designated block. The totals include the number of spaces located in off-street parking lots located within each block, as well as the number of on-street parking spaces on each block face.

Figure 2. Total Parking Supply



The following two subsections summarize the current downtown parking supply by type (off-street versus on-street).

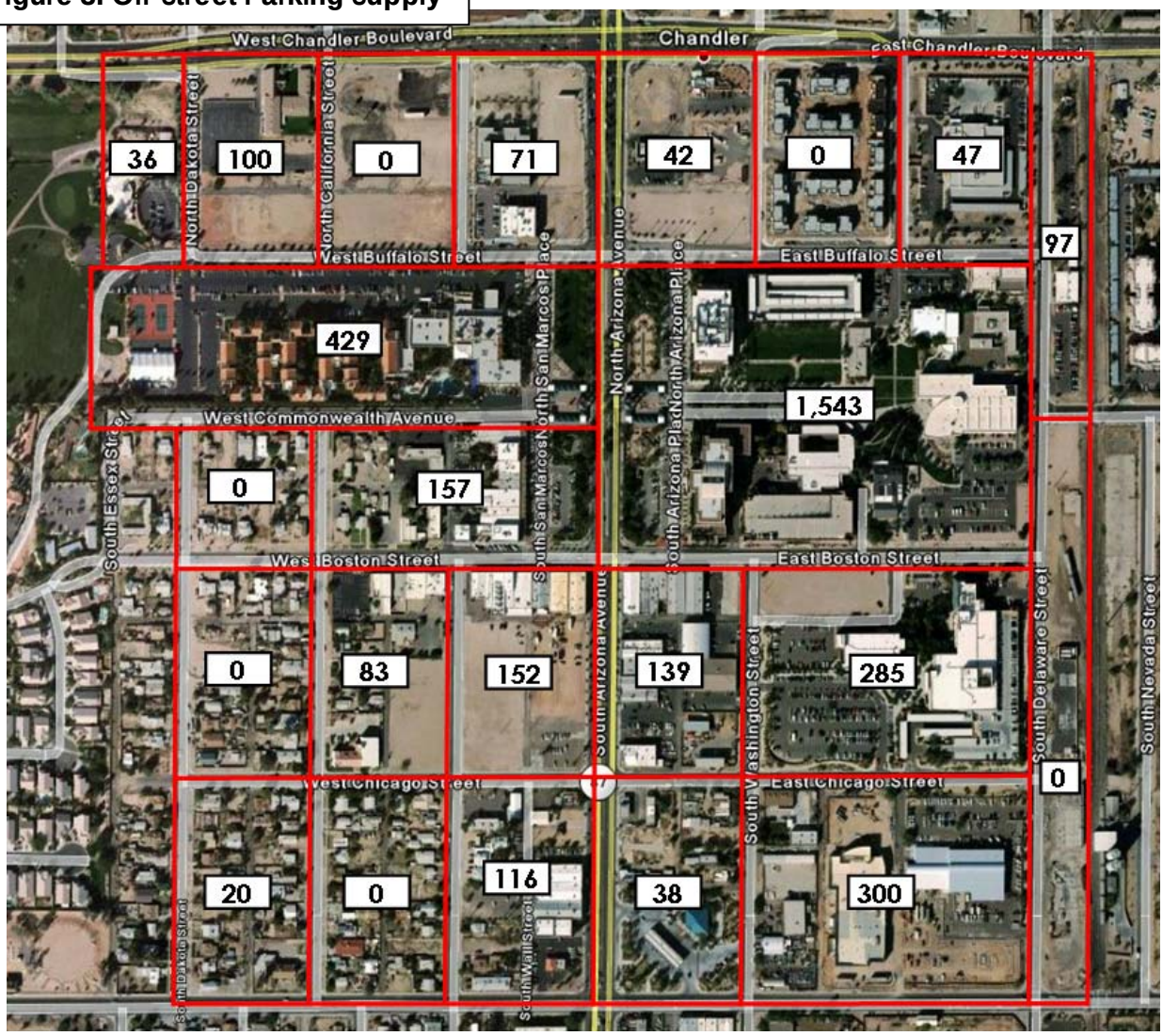
2.01.1. Off-Street Parking Supply

The study area contained an approximate total of 3,655 off-street parking spaces. There are currently 1,390 city-controlled off-street parking spaces and 2,265 private parking spaces. Based on current parking space inventories, the city controls approximately 38% of the total off-street parking supply (both general public and reserved spaces). The public off-street spaces are not currently controlled using any parking control technology such as parking meters, exit cashiering, etc. Many

public parking spaces are time-limited, but some parking spaces are available for long-term (longer than four hours) public parking. Of the remaining 2,265 off-street parking spaces, the vast majority are reserved for employees and visitors of specific businesses or buildings.

The following graphic (Figure 3) illustrates the off-street parking supply located within each block.

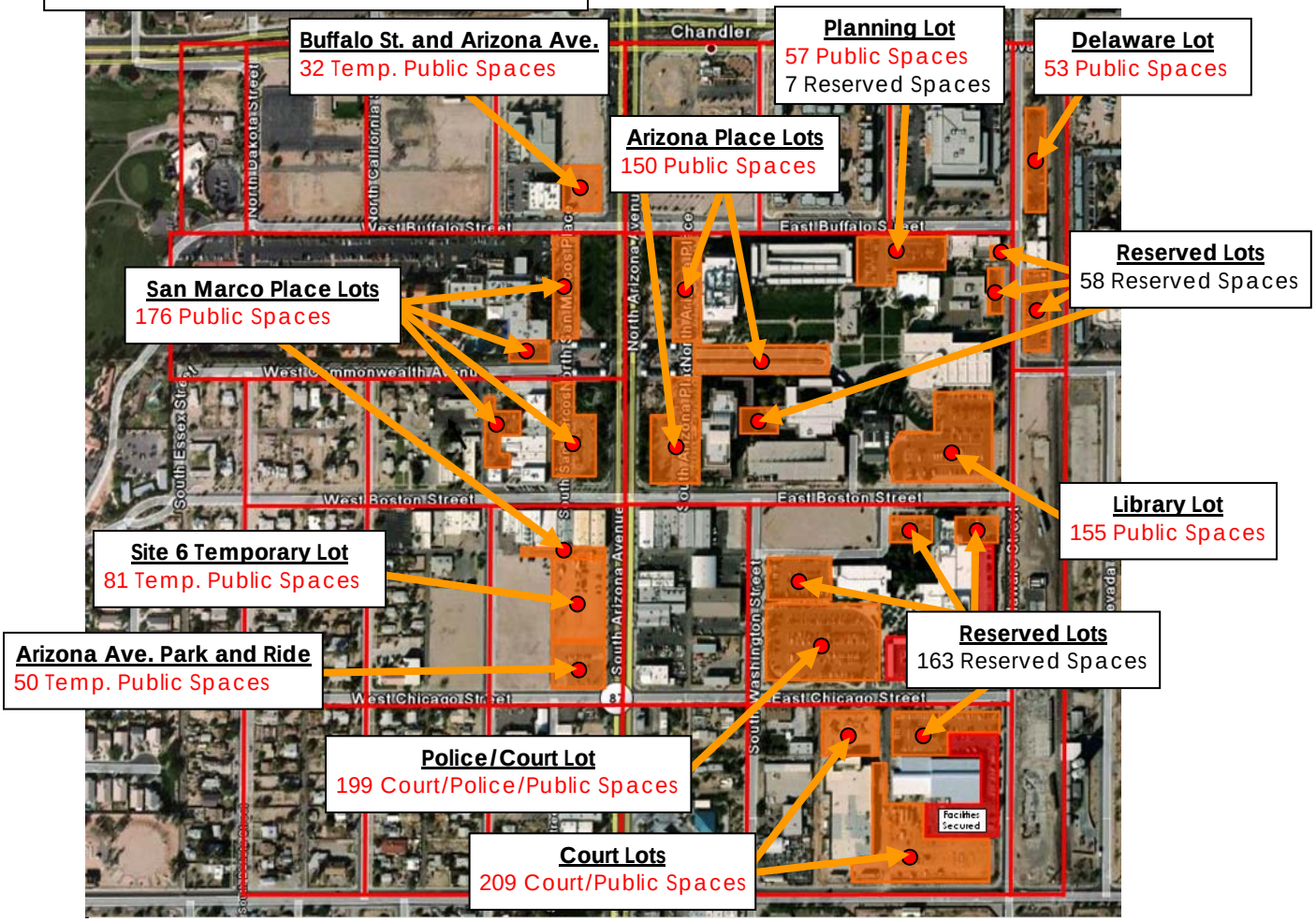
Figure 3. Off-Street Parking Supply



The city currently controls 27 off-street parking facilities that provide parking for downtown visitors, city employees, and city vehicles. Two of these facilities were not included in the parking inventory and occupancy counts conducted by ***Carl Walker***

as use is restricted to specific vehicles (e.g., police vehicles and city maintenance vehicles). As stated previously, there are approximately 1,390 parking spaces provided in city parking lots. The following figure (Figure 4) illustrates the location of each publicly-owned parking lot, as well as the number of spaces allocated to each user group (as of the date of the surveys). Public parking spaces are highlighted in red.

Figure 4. Publicly-owned Parking Lots



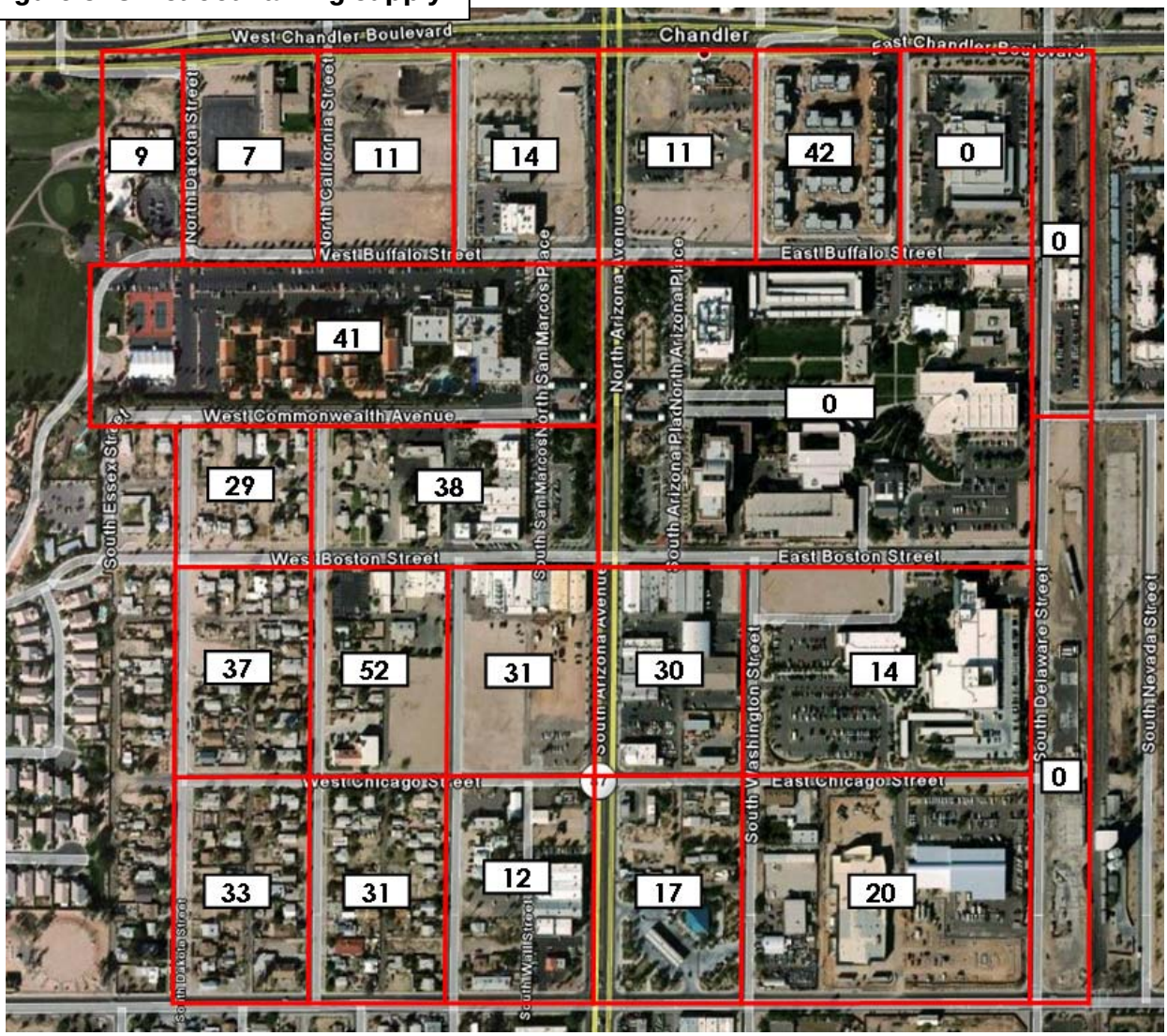
2.01.2. On-Street Parking Supply

The study area contains approximately 479 public on-street spaces, all of which are controlled by the city. The on-street parking is available to the public on a first-come-first-serve basis, and a significant portion of the spaces are currently time

restricted (up to two hours). The on-street parking located in most residential areas and south of Boston Street is not time limited.

The following graphic (Figure 5) illustrates the on-street parking supply located on each block (sum of all on-street parking spaces on each block face).

Figure 5. On-Street Parking Supply



2.02. Current Parking Demand

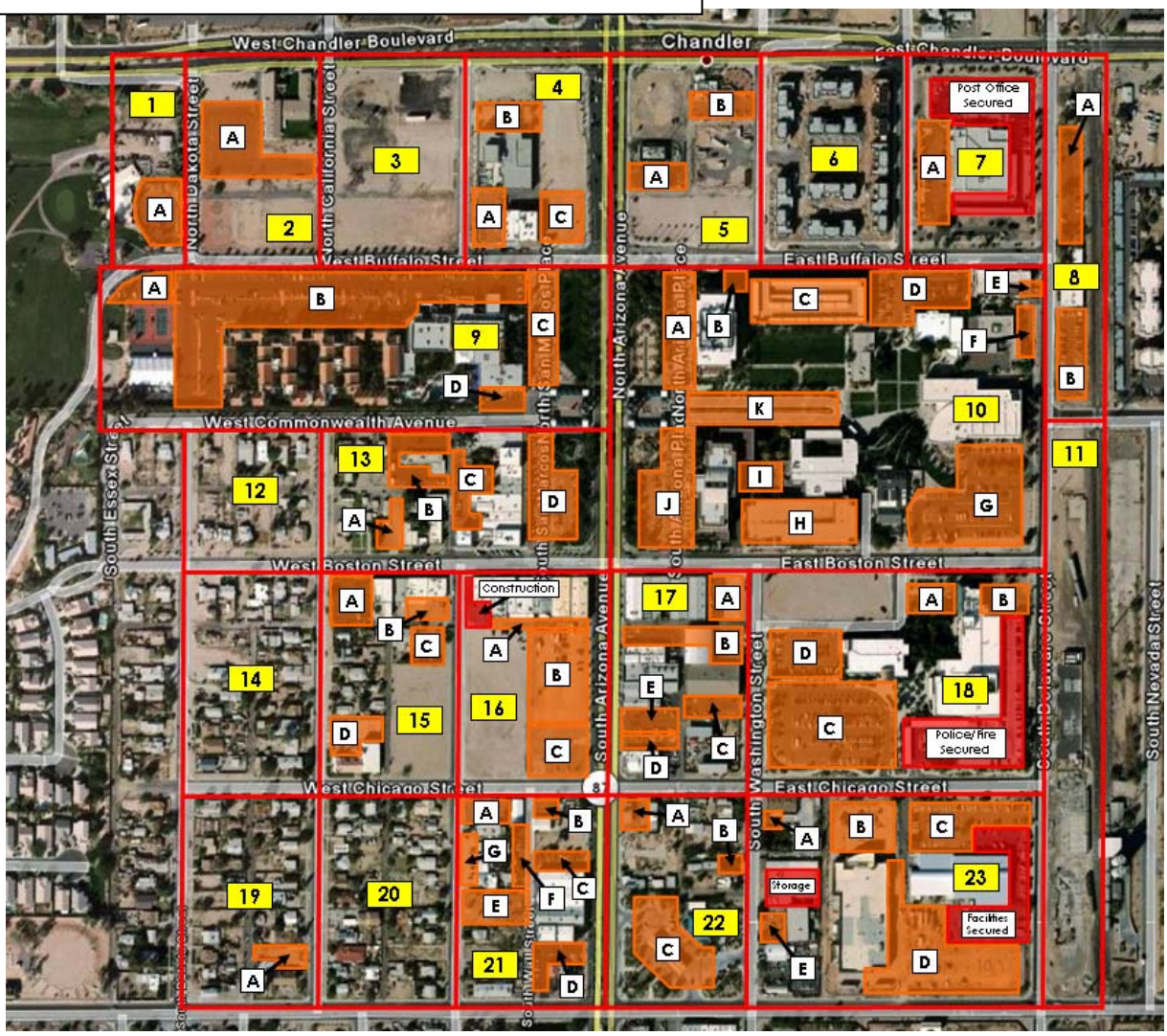
After the parking inventory was completed, ***Carl Walker*** conducted several occupancy surveys to determine how many parking spaces were utilized during a typical peak parking period. The completed survey essentially provided a "snapshot" of parking

occupancy, and did not attempt to determine the absolute peak parking period. Based on other similar municipal parking occupancy studies conducted by ***Carl Walker***, it was determined that the surveys would be conducted every two hours between 8:00 a.m. and 4:00 p.m. on two weekdays, from 4:00 p.m. to 10:00 p.m. on one weekday night, and from 10:00 a.m. to 10:00 p.m. on one Saturday night. The occupancy surveys were conducted on Wednesday, November 7; Thursday, November 8; Friday, November 9; and Saturday, November 10, 2007. Three events were held during the occupancy counts: ArtWalk on November 7 (5:00 p.m. to 9:00 p.m.), Marketplace on November 10 (10:00 a.m. to 2:00 p.m.), and the San Marcos Jazz Festival on November 9 and 10 (all day).

The parking occupancy surveys focused on the two primary categories of parking in the study area, on-street and off-street. Each off-street parking area was counted individually, and counts were separated between private and publicly-controlled parking facilities. The intent of the survey was to determine the overall level of parking utilization in the study area both by facility and by block. The results of the occupancy surveys will serve as a baseline for determining future parking expansion needs and possible parking management alternatives.

Prior to conducting the parking inventory and occupancy surveys, block numbers were assigned to the various blocks located in the study area. A total of 23 blocks were designated. The following graphic (Figure 6) illustrates the block numbering sequence, as well as the location of each surveyed parking facility (as of the date of the surveys). The block numbers and lot identifiers shown in Figure 6 will identify each block and parking facility throughout the remainder of this study. Parking inventory and occupancy data for individual blocks and parking facilities can be found in Appendix A. Some of the parking areas may have changed since the initial parking inventory counts (e.g. Lot 4C) and capacities may have increased or decreased.

Figure 6. Block Number and Lot Identifier Sequence



The overall peak period of parking occupancy for the entire study area occurred at 2:00 p.m. on Wednesday, November 7. During this period, a total of 2,048 parking spaces were occupied in both off-street and on-street parking areas. This level of occupancy translated into 49.5% of the total parking supply. Observed parking occupancies at 10:00 a.m. were very similar to those at the 2:00 p.m. peak. The following table (Table 1) illustrates the total observed occupancy levels for all blocks in the study area during the peak period of observed parking occupancy.

Table 1. Overall Occupancy Results

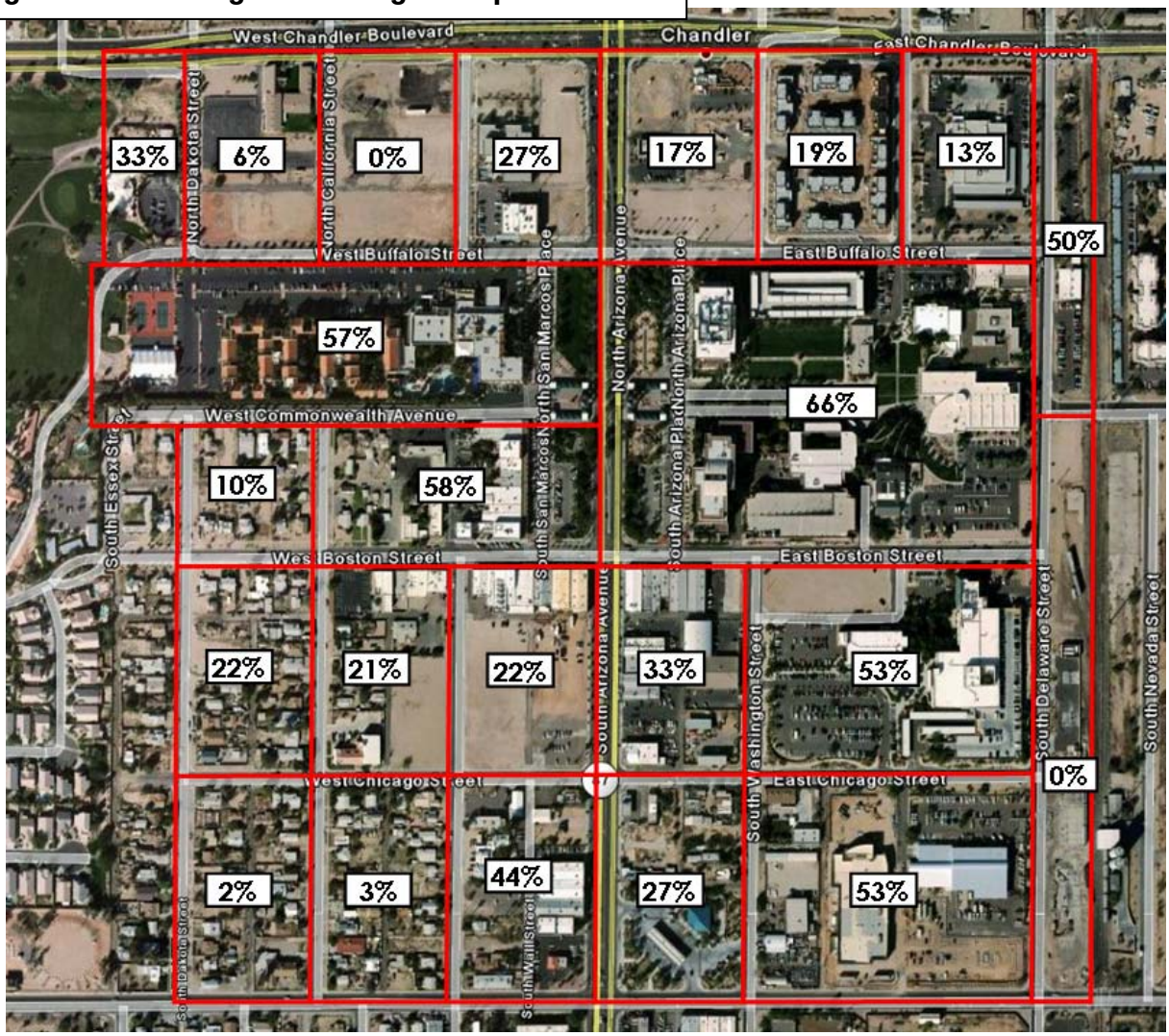
Parking Type/Location	Parking Inventory	8am	10am	12pm	2pm	4pm
Off-Street Public	1,390	521	820	778	824	778
Off-Street Private	2,265	948	1,097	1,082	1,137	963
Total Off-Street	***3,655***	***1,469***	***1,917***	***1,860***	***1,961***	***1,741***
On-Street North	100	25	40	36	25	31
On-Street South	109	12	30	25	28	30
On-Street East	123	17	16	16	14	21
On-Street West	147	10	38	18	20	29
Total On-Street	***479***	***64***	***124***	***95***	***87***	***111***
Total Area Parking	***4,134***	***1,533***	***2,041***	***1,955***	***2,048***	***1,852***
Total Off-Street Public Occupancy %		37.5%	59.0%	56.0%	59.3%	56.0%
Total Off-Street Private Occupancy %		41.9%	48.4%	47.8%	50.2%	42.5%
Total Off-Street Parking Occupancy %		40.2%	52.4%	50.9%	53.7%	47.6%
Total On-Street Parking Occupancy %		13.4%	25.9%	19.8%	18.2%	23.2%
Total Parking Occupancy %		37.1%	49.4%	47.3%	49.5%	44.8%

During the peak period of parking occupancy approximately 18.2% of the on-street parking supply and 53.7% of the off-street parking supply was occupied. Peak parking occupancies for the on-street parking spaces occurred earlier on the peak survey day at 10:00 a.m. While off-street and overall parking occupancies fell after 2:00 p.m., on-street parking occupancies increased slightly.

Of the available off-street public parking supplies located in the downtown study area, approximately 59.3% of the spaces were occupied during the overall peak period of parking. Of the total public parking supply in the study area (1,869 spaces - both off-street and on-street), approximately 48.7% of the spaces (911 spaces) were occupied during the overall observed peak period of parking.

Figure 7 provides a summary of overall off-street and on-street parking occupancies during the observed peak period of parking demand. The highest percentages of parking occupancy occurred in Blocks 9, 10, 13, 18, and 23.

Figure 7. Percentage of Parking Occupied at Peak

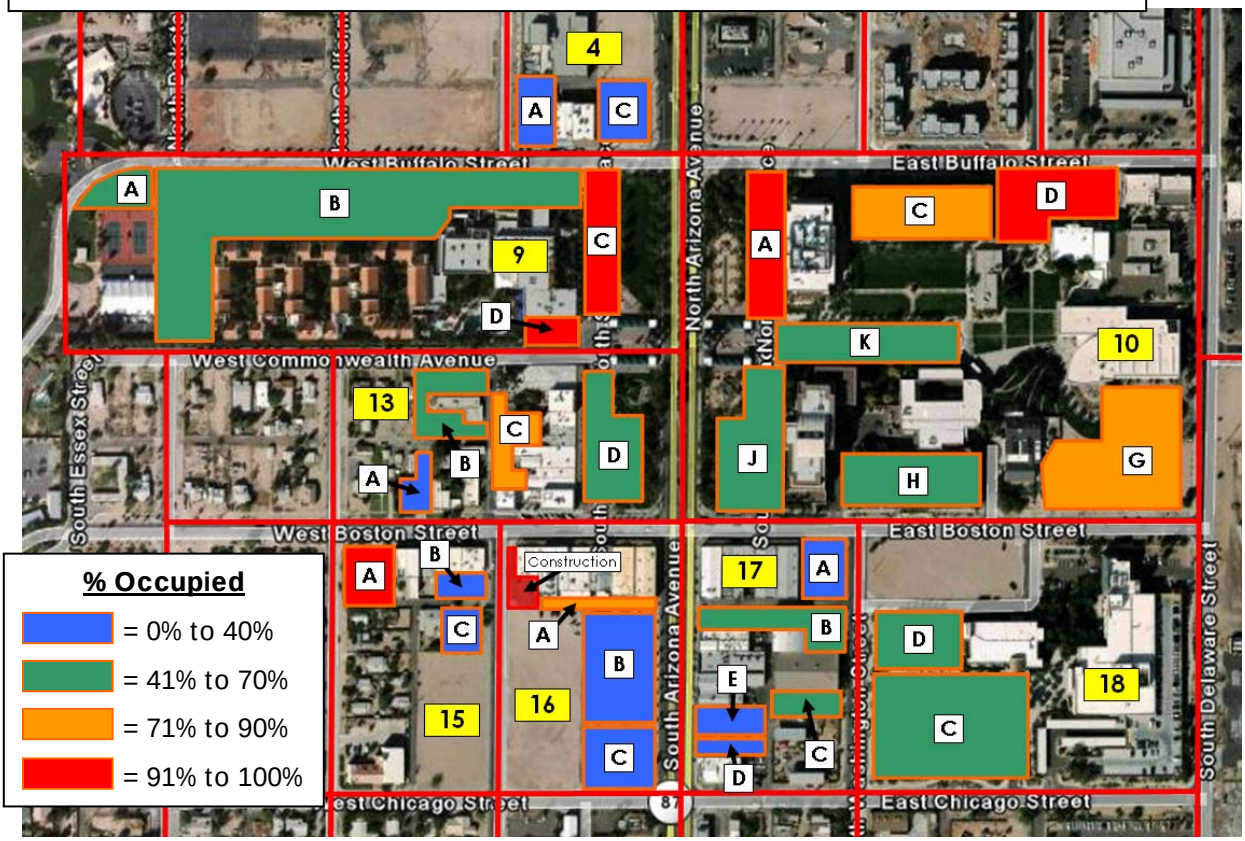


While the overall parking supply appears adequate for the study area, certain parking lots were more utilized than others. For example, the parking areas surrounding the San Marcos Hotel and nearby stores/restaurants had higher levels of utilization than many other parking facilities – especially during evening hours. The Library parking lot also had higher levels of parking occupancy than other parking facilities located in the study area.

The following figure illustrates the observed peak parking occupancies for the areas surrounding the San Marcos commercial area and the downtown office core (Downtown Core). This area is bounded roughly by Buffalo Street to the north, Chicago Street to the south, Delaware Street to the east, and Dakota Street to the west. The

blocks included in this area are 4 (portion), 9, 10, 13, 15, 16, 17, 18. The following figure illustrates parking occupancies on Wednesday, November 7 at 2:00 p.m. in significant parking lots/structures. The individual block numbers are shown in yellow.

Figure 8. Percentage of Parking Occupied in Core at Daytime Peak (11/7/07)



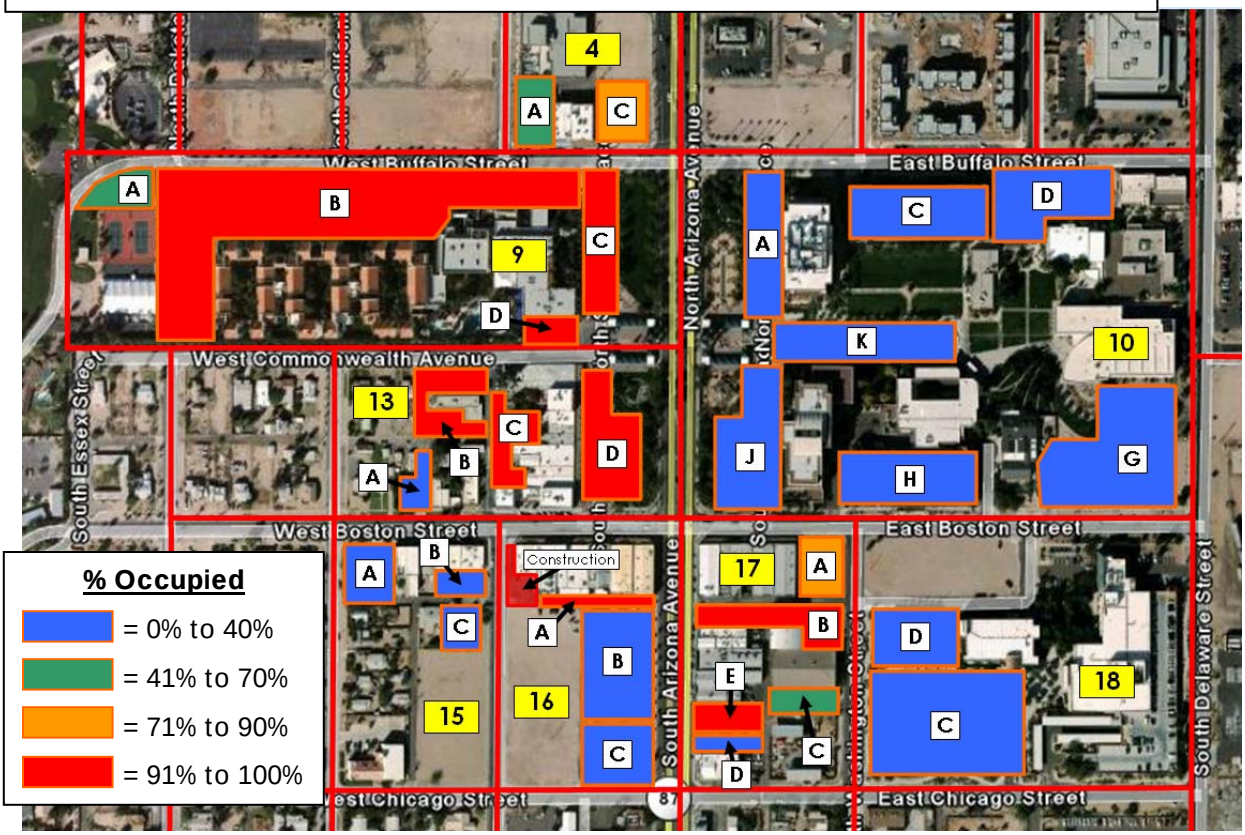
During the observed period of peak parking occupancy on Wednesday, November 7 at 2:00 p.m., there were approximately 1,654 occupied spaces. The parking areas shown in Figure 8 have an inventory of approximately 2,994 off-street and on-street parking spaces. Therefore, approximately 55.2% of the available parking supply in the Downtown Core was occupied at peak.

While approximately 1,340 parking spaces in the Downtown Core were unoccupied during the observed period of peak parking, a significant portion of the spaces were in private parking facilities and use was restricted. The Downtown Core has a publicly-controlled parking supply of 964 off-street spaces and 220 on-street spaces (total of 1,184 spaces or approximately 39.5% of the total parking supply). The private parking supply in this area is 1,810 spaces (or 60.5% of the total parking supply). During the observed period of peak parking occupancy, approximately 52.8% of the publicly-

controlled supply and 56.2% of the private supply was occupied. There were a total of 559 publicly-controlled parking spaces available during the peak period of parking occupancy. However, many of the available spaces may be at greater walking distances from primary demand generators than some people would tolerate.

Figure 9 illustrates the observed parking occupancies during the peak period of evening parking (Saturday, November 10 at 8:00 p.m.) During this time period, parking areas west of Arizona Avenue and in Block 17 were heavily utilized, while parking facilities in Blocks 10 and 18 were nearly vacant. Parking Lots 9B, 9C, 9D, 13B, 13C, 13D, 16A, 17B, and 17E were essentially full.

Figure 9. Percentage of Parking Occupied in Core at Evening Peak (11/10/07)



During the observed period of peak evening parking occupancy, approximately 35.8% of the publicly-controlled supply and 37.1% of the private supply was occupied. There were a total of 725 publicly-controlled parking spaces available during the peak period of parking occupancy. As stated previously, many of the available spaces may be at greater walking distances from primary demand generators than some people would tolerate (e.g., east of Arizona Avenue).

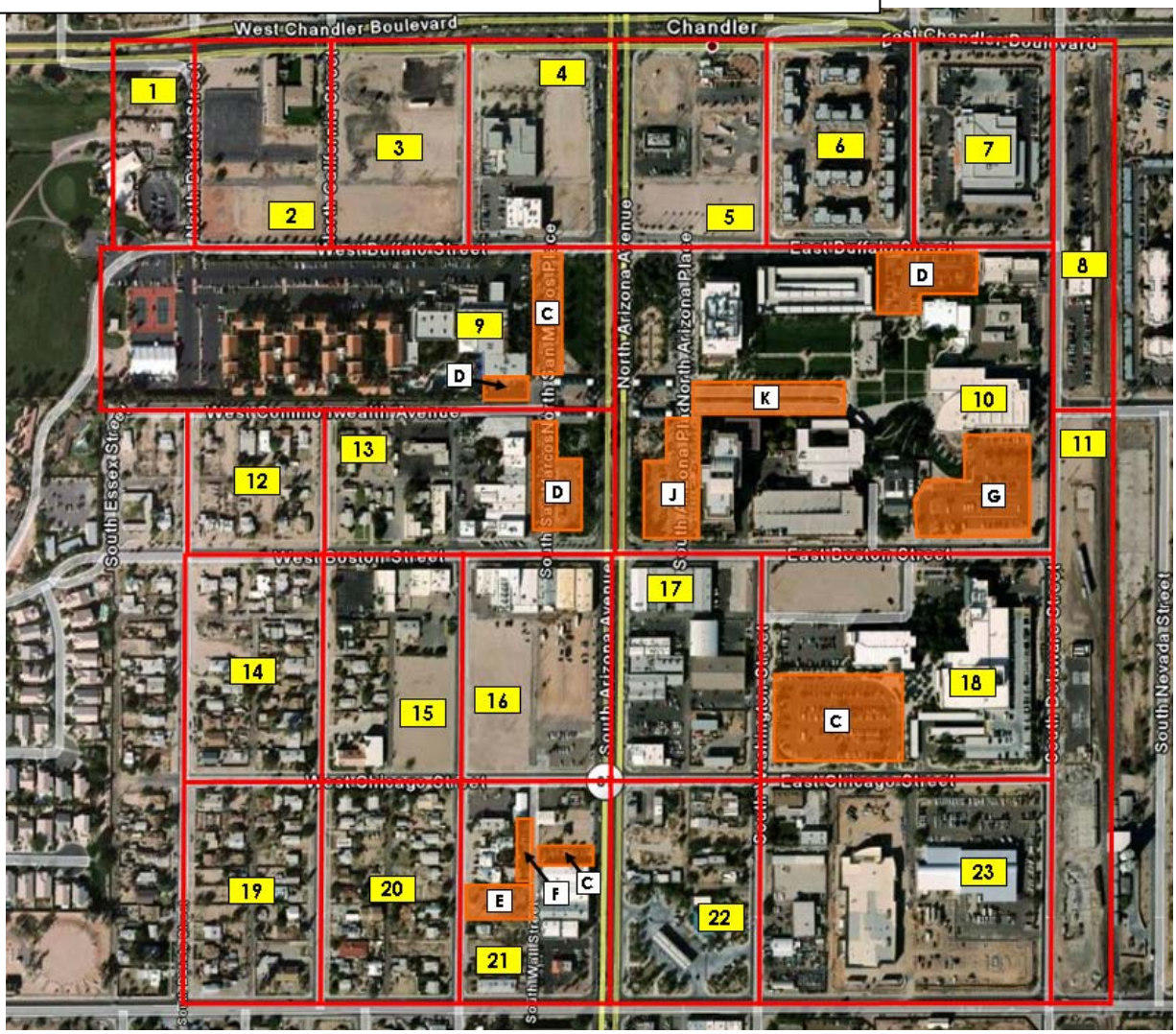
The public parking areas on San Marcos Place, as well as nearby on-street parking spaces, were very well utilized throughout each survey day. Parking areas providing public parking near San Marcos Place (e.g., Lots 9C, 9D, and 13D) were regularly full or near full from 10:00 a.m. to 10:00 p.m. each day.

While not shown with exceptionally high levels of utilization in the previous two figures, the Library parking lot (Lot 10G) had very high levels of utilization from 10:00 a.m. to 4:00 p.m. on weekdays. During these timeframes, the Library parking lot was close to full (approximately 75% to 98% occupied).

In addition to the parking inventory and occupancy counts, a parking duration survey was conducted in city-designated parking areas. The duration surveys were conducted in designated off-street parking lots, as well as select on-street spaces located in the study area. The last three digits of parked vehicle license plates were recorded every half-hour during each survey period. The parking duration and turnover surveys were conducted over a two-week period from November 7 through November 17, 2007. The turnover and duration surveys were conducted from 8:00 a.m. to 4:00 p.m. on one weekday (Wednesday), 4:00 p.m. to 10:00 p.m. one weekday night (Friday), and one weekend day (Saturday) from 10:00 a.m. to 10:00 p.m. Figure 10 (next page) illustrates the locations where the parking turnover and duration surveys were completed (areas highlighted in orange).

Observed parking durations in the designated areas ranged from .64 hours to 5.27 hours. The overall average amount of time vehicles were parked in designated areas was 2.26 hours. This is longer than the generally posted time limit of two hours for most general public parking spaces. In the areas that had the greatest observed demand for public parking spaces relative to the number of spaces provided (e.g., Blocks 9, 10, and 13), average parking durations were at or greater than two hours. Approximately half of the vehicles parking in these areas are parking longer than the posted time limits. Observed parking durations during the weekday surveys in Blocks 9 and 13 were between 1.66 and 3.05 hours, with approximately 32 of 146 spaces occupied by a vehicle for periods of five or more hours (22% of the available supply). Parking space turnover in Blocks 9 and 13 ranged between 2.65 and 6.62 vehicles per space. Observed parking durations during weekdays in Block 10 ranged from 2.65 and 3.34 hours. Approximately 46 of the 171 parking spaces in Lots 10D, 10K, and 10J were occupied by a vehicle for periods of five or more hours during the weekday surveys (27% of the available supply).

Figure 10. Parking Areas Included in Turnover/Duration Surveys



During weekends and evenings, parking durations in highly utilized parking areas in Blocks 9 and 13 were generally over two hours. While parking time limits are not in effect after 5:00 p.m. on weekdays and all day on weekends, it appears that a significant number of parking spaces are being used by nearby employees. During evening and weekend periods, parking durations in Blocks 9 and 13 ranged from 1.66 to 2.73 hours. The parking in Lot 13D was very well utilized during the weekend survey, with an average parking duration of 1.66 hours and an average turnover of 6.62 vehicles per space. However, approximately 53 of the available 146 parking spaces located in Blocks 9 and 13 were occupied by a vehicle for periods of five or more hours (36% of the available supply).

Parking durations in the Library Lot (Lot 10G) averaged 2.69 hours and vehicle turnover averaged 3.46 vehicles per space. While there is currently no posted parking time limit, it appears that most vehicles are parked by legitimate library visitors. However, there were a significant amount of city vehicles parked in the lot during each survey day. Approximately 12 to 14 city vehicles are currently stored in the Library Lot.

Parking durations in Block 21 (Lots 21C, 21E, and 21F) averaged 1.38 hours per vehicle, and turnover averaged 2.30 vehicles per space. Parking demand in these areas peaked during weekends, between 12:00 p.m. and 2:00 p.m. – although weekday parking demand during lunch hours was also high. It appears that a significant amount of the parking demand on weekends is generated by long-term visitors and/or employees. Of the 15 parking spaces located in Lot 21C, 9 of the spaces were occupied by a vehicle parked longer than three hours.

Parking durations and turnovers in Lots 10D, 10G, and 18C were not statistically significant during evenings and weekends when parking demand was nearly non-existent in these areas.

It is important to note that the average duration of vehicles parking in the study area may be slightly higher than what was recorded during the duration survey. This is due to vehicles that were parked before the survey was started, and vehicles that were still parked at the conclusion of the survey each day.

2.03. Current Parking Adequacy

In determining the current parking adequacy for the study area, it is important to define two terms typically used in analyzing parking adequacy: Effective Supply and Design Day Conditions. When a parking area's occupancy reaches 85-90% of the total capacity, depending on the user group, the area becomes effectively full. When parking lot occupancy exceeds effective capacity, users become frustrated as it becomes increasingly difficult to find an available parking space. Users will begin to either park illegally in the lot or leave the lot altogether and search for parking elsewhere. When visitors are faced with significant parking difficulties, they could choose to avoid the downtown altogether and shop in the suburbs. The accepted effective fill percentage for parking in the downtown study area is 90%. This 10% "cushion" of spaces is used to accommodate spaces lost temporarily due to construction, improper or illegal parking, and provides for shorter searches for available parking.

Design day parking conditions attempt to represent typical peak activity that may be exceeded only occasionally during the year. Due to the limited nature of the occupancy study for this project, as well as the time of the year the surveys were completed, design day adjustments will not be factored into the adequacy model. The occupancy survey that was conducted provided an adequate "snapshot" of parking conditions during a typical parking period.

Prior to calculating the overall parking adequacy for the study area, changes in the study area after the completion of the parking inventory and occupancy counts must be included. Based on information received from the City of Chandler, as well as additional field observations, the following adjustments were made to the parking inventory and occupancy data collected in November, 2007 (as of March 2008):

- Block 4: Approximately 2,000 square feet of restaurant space was added to this block (Sushi Eye Restaurant). Assuming a demand for up to 15.0 parking spaces per 1,000 square feet for restaurant (ratio from the Urban Land Institute's Shared Parking Model), a demand for up to 30 spaces will be added to Block 4.

- Block 9: Approximately 10 on-street parking spaces (south side of Block 9) have been designated "no parking" by the city. The on-street parking inventory for this block has been reduced by 10 spaces.

- Block 13: Approximately four on-street parking spaces were lost due the construction of a new outside seating area by the San Tan Brewery. The on-street parking inventory for Block 13 has been reduced by four spaces.

- Block 16: While no new parking supply was added, approximately 4,000 square feet of existing retail space and 6,000 square feet of existing restaurant space were occupied (Vivi's Clothing, Light Rain Images Photography, Urban Tea Loft Café, Latitude 8N Restaurant, and Kizake's Restaurant). Assuming a demand for up to 4.0 parking spaces per 1,000 square feet for retail and up to 15.0 parking spaces per 1,000 square feet for restaurant (Urban Land Institute ratios), a demand for up to 106 spaces will be added to Block 16.

The following table (Table 2) illustrates the total estimated parking adequacy for the entire study area. Current parking adequacy is based on the observed parking occupancy at the peak parking period (Wednesday at 2:00 p.m.) Overall, there is a substantial surplus of parking available in downtown Chandler.

Table 2. Overall Parking Adequacy

		Number of Spaces
Current Total Parking Supply[1]		4,120
Current Effective Parking Supply (90% of Total)		3,708
Adjusted Observed Parking Occupancy[2]	53.01%	2,184
Current Effective Parking Surplus/Deficit (Effective Supply minus Adjusted Observed Occupancy)		**1,524**

Notes:

1: Equals the total parking supply (4,134) minus 14 on-street spaces.

2: Equals the observed parking occupancy plus the estimated new demand of 136 spaces.

Based on the effective parking supply of the entire study area, there is currently a parking surplus of approximately 1,524 spaces or approximately 41% of the effective supply. Parking adequacy is based solely on observed parking demand as land-use data by block was not available for this report. Also, the adjustments made to observed parking demands likely reflect peak conditions for the new land uses and do not include potential demand reductions due to captive market effects and/or the use of alternative forms of transportation.

According to information provided by the City of Chandler, downtown vacancy rates appear minimal. It has been estimated that there is approximately 6,000 square feet of office space and 2,200 square feet of restaurant space currently vacant in areas with significant parking demand. Using the Urban Land Institute's Shared Parking Model, the amount of vacant space could result in the peak demand for up to 50 to 60 parking spaces if the vacant spaces were fully occupied. Obviously, this would impact the existing parking surpluses shown in Table 2.

It is important to note however that while a significant parking surplus exists in most areas, a substantial portion of the parking is private and use is restricted. Of the total off-street and on-street parking supply in the study area, approximately 45% is publicly-controlled parking (1,869 spaces), with the remaining 55% of the parking supply (2,265 spaces) restricted to a specific user group (e.g., building-specific employees and specific customers only). At the peak parking period, approximately 49% of the total public parking supply and 50% of the total private parking supply was utilized.

On a block-by-block basis, parking adequacies based on the adjusted observed parking demand range from zero spaces (Block 11) to 371 spaces (Block 10). Currently, there are no blocks with a calculated overall parking deficit during the overall peak period of parking. However, there are five blocks with estimated parking adequacies under 40% of the effective parking supply (Blocks 4, 9, 10, 13, and 16). Table 3 (next page) details the calculated parking adequacy for each block in the study area.

With respect to publicly-controlled parking supplies, parking surpluses on a block-by-block basis range from -12 spaces to 113 spaces. There are currently two blocks with estimated parking deficits (Blocks 4 and 16), and there are three additional blocks with estimated parking adequacies under 40% of the calculated effective publicly-controlled parking supply (Blocks 9, 10, and 13). Table 4 (page 22) details the publicly-controlled parking adequacy for each block in the study area based on the peak period of observed demand.

With respect to the heavily-utilized public parking areas located on San Marcos Place (areas 9C, 9D and 13D), most of the available public parking spaces were located on-street (e.g., on Commonwealth Avenue and on Boston Avenue). During evenings and weekends, the available off-street public parking located in Blocks 9 and 13 was essentially fully utilized.

Table 3. Overall Estimated Parking Adequacy by Block

Block	Current Parking Supply	Effective Parking Supply (90%)	Adjusted Parking Occupancy at Observed Peak	Estimated Adjusted Parking Adequacy
1	45	41	15	26
2	107	96	6	90
3	11	10	0	10
4	85	77	53	24
5	53	48	9	39
6	42	38	8	30
7	47	42	6	36
8	97	87	48	39
9	460	414	267	147
10	1,543	1,389	1,018	371
11	0	0	0	0
12	29	26	3	23
13	191	172	113	59
14	37	33	8	25
15	135	122	28	94
16	183	165	147	18
17	169	152	55	97
18	299	269	159	110
19	53	48	1	47
20	31	28	1	27
21	128	115	56	59
22	55	50	15	35
23	320	288	168	120
Overall	***4,120***	***3,708***	***2,184***	***1,524***

Note: Blocks highlighted in yellow have effective occupancies greater than 60%.

Table 4. Estimated General Public Parking Adequacy by Block

Block	Current Parking Supply	Effective Parking Supply (90%)	Adjusted Parking Occupancy at Observed Peak	Estimated Adjusted Parking Adequacy
1	9	8	0	8
2	7	6	1	5
3	11	10	0	10
4	46	41	53	-12
5	11	10	0	10
6	42	38	8	30
7	0	0	0	0
8	97	87	48	39
9	81	73	54	19
10	383	345	296	49
11	0	0	0	0
12	29	26	3	23
13	139	125	91	34
14	37	33	8	25
15	52	47	6	41
16	183	165	177	-12
17	30	27	8	19
18	299	269	159	110
19	33	30	1	29
20	31	28	1	27
21	12	11	5	6
22	17	15	6	9
23	306	275	162	113
Overall	***1,855***	***1,670***	***1,087***	***583***

Note: Blocks highlighted in yellow have effective occupancies greater than 60%.

It is important to note that not all of the vehicles observed in general public parking were parked by downtown visitors. While an occupancy count by user was not available, it is clear that a significant portion of the vehicles using public parking are parking longer than the posted time limits. This may mean that many of the vehicles belong to downtown employees or business owners.

2.04. Public Input Workshop

In order to solicit input from the downtown community, the City of Chandler organized several focus group input meetings. Focus group meetings were held on December 7

and 11, 2007, and included representatives from city staff, downtown business and property owners, developers, and other members of the general public. In addition to the focus group meetings, several members of the public provided input via emails sent to city staff and/or ***Carl Walker***.

Background issues, parking inventory/occupancy counts, and basic parking management concepts were discussed at each of the focus group meetings. Also, the attending community was provided an opportunity to voice their concerns and provide potential solutions. In order to provide structure for the discussion, five primary questions were asked of attendees. Some of the most common comments concerning the challenges of the current parking system included:

- *What is you general perception of parking in downtown Chandler (specifically in the study area)?*

    - There is a significant lack of parking in some parts of the downtown. Site specifically mentioned included the commercial area near San Marcos Place and the city library. There can also be significant shortages of parking during evenings and special events.

    - While there may be parking available in outlying areas, customer perceptions about parking are negatively impacting businesses. There are customer concerns with safety/security, lighting, signage and wayfinding, difficulties crossing Arizona Avenue, and parking near primary destinations.

    - It is too difficult to find available parking (e.g., issues with traffic, signage and wayfinding, and the location of some parking areas).

    - Parking enforcement is not sufficient. Posted time limits are not enforced by the city, so visitor parking spaces are being taken by downtown business owners and their employees.

    - Parking is always available if you are willing to look and walk a block.

    - Arizona Avenue is a significant barrier to pedestrian movement between the western and eastern halves of the study area (e.g., crosswalk timing is inadequate, traffic is heavy, and vehicle speeds are excessive).

    - While there may be parking available in the downtown, too much of the available parking supply is privately owned and access/use is restricted.

- The City of Chandler is not adequately planning for future parking needs. New businesses are opening, and some existing businesses are removing public parking spaces, and no new parking is being made available. The city is not requiring new developments to provide sufficient parking, straining the existing public parking supply.

- *What future developments will impact parking in the study area?*

  - There are several future developments in the study area that will significantly impact parking:

    - New commercial spaces planned for vacant land in the study area (e.g., Sites 1 through 7).

    - The construction of a new City Hall and Fire Administration building.

    - Renovations of existing buildings.

    - In-fill of vacant building space.

  - Any public parking planned as part of future development projects should be provided sooner rather than later.

  - Future transit initiatives could help reduce future parking demands (e.g., rapid bus transit in 2010 and future light rail construction).

  - The current parking requirements imposed by the city may be too low to adequately address parking demands.

  - The city needs to support shared parking in order to encourage new development in the study area.

- *What are the three most important parking related issues to you?*

  - There are too many employees parking in visitor parking spaces. The city needs to provide consistent enforcement of time limits. However, parking enforcement needs to be as "customer friendly" as possible.

  - Parking needs to be convenient to encourage use.

  - Parking related signage and wayfinding needs to be improved.

- Parking safety and security concerns need to be adequately addressed. Customers must believe the public parking is safe if they are going to be expected to use it.

- The city needs to ensure that existing parking supplies are adequately utilized prior to spending money on new parking supplies.

- The city needs to provide solutions for improving parking in the study area now, not just look at future parking needs.

- The parking system must be convenient, friendly, and easy to use.

- The city needs to find a way to adequately fund the parking system in order to construct new parking facilities and manage existing supplies.

- City vehicles should not be stored in the Library Lot.

- As the downtown continues to develop, steps need to be taken to ensure the proper interface between commercial and residential land uses.

- The city needs to designate desired employee parking areas.

- Stakeholders in the study area need to understand that people must walk further from available parking in order to support a more "urban" environment.

- *What opportunities do you see for improving parking?*

  - The safety and security of parking areas needs to be improved (e.g., lighting and security patrols).

  - The utilization of parking areas east of Arizona Avenue needs to be improved.

  - The city should find ways to incentivize parking in underutilized areas.

  - Parking system marketing/communications needs to be improved. Additional steps should be taken to make employees and visitors aware of places to park.

  - Valet parking could be one option for improving customer service, as well as the improving utilization of available parking areas.

- The parking in the study area should be managed as a system, instead of individual parking lots/areas.
- Parking staff could be provided during evenings and special events to help direct visitors to available parking areas.
- The city should provide some shorter-term parking spaces (e.g., loading zones).
- The city should provide parking for all downtown visitors/employees, not just city staff.
- Any new parking provided in the study should be in parking structures, not surface parking lots. The city should also investigate opportunities to put more of the parking underground.
- Downtown should be more pedestrian friendly.

- *What do you hope this study will achieve?*
  - A new direction for improving parking system utilization, management, and planning.
  - Provide reasonable suggestions for improving both current and future parking conditions.
  - A plan that will address the unique needs of the downtown study area.

In addition to the comments previously outlined, there were several concerns raised about how the city handles general parking planning in the downtown study area. There was a common perception voiced by attendees that the city is not effectively communicating parking-related planning goals and objectives, parking impacts related to developments, etc.

3.0 PROJECTION OF FUTURE PARKING CONDITIONS

3.01. Anticipated Future Development Projects

Currently, the City of Chandler has several anticipated future development projects in the construction or planning stages that will impact parking in the study area. These projects include residential, retail, restaurant, and office projects. The anticipated potential developments impacting the parking study area are:

- Sites 1, 2, and 3

    - This development (located on Blocks 2, 3, and 4) includes both residential and commercial land-uses. With portions currently under construction, the first two phases of the development will include 79 residential units (40 of which will be occupied by the summer of this year), 55,589 square feet of retail space, 28,154 square feet of restaurant space, and 67,916 square feet of office space. According to development drawings provided by the city and information provided by the developer, the development is anticipated to provide 158 residential spaces (in private parking garages), 102 surface spaces, 91 new on-street spaces, and a proposed 538-space parking structure.

      Using the Urban Land Institute (ULI) Shared Parking Model, and assuming that the residential components are not included in the shared parking calculation (residential parking is reserved), the development would be projected to need approximately 687 parking spaces to support the commercial space. As the development is projected to provide 731 non-resident parking spaces, it appears that sufficient parking is provided. In fact, some surplus parking may be available to help support other nearby land uses.

- Sites 4, 5, and 6

    - The development of Sites 4, 5, and 6 (Blocks 13 and 16) could include a number of land uses. The city is currently working on evaluating a couple of development scenarios, including a possible downtown hotel and conference center. The first scheme includes an 110,000 square foot conference center (approximately 70,000 square feet of exhibit, meeting, and pre-function space), approximately 250 hotel rooms (with a restaurant and lounge), and approximately 330 residential units. The first scheme would possibly include approximately 100 parking spaces under the conference center and two new parking structures (one reserved for residences and one for hotel/public parking). The second development

scheme is currently in design and was not ready to be included with this report. It is anticipated that construction on this development will occur within the next five years.

Using the ULI Shared Parking Model, and assuming that the residential parking is not available for shared parking, the development would be projected to need up to approximately 508 parking spaces for hotel and conference center land uses and 611 spaces for the residential units (1,119 total parking spaces). This assumes that the conference center caters more to regional and national shows, and that many of the conference center visitors stay in the attached hotel (or perhaps the San Marcos resort). The parking demand could be significantly higher if the conference center caters more to local shows (e.g., consumer shows and local meetings/conferences) – perhaps as many as 1,000 additional parking spaces may be needed. If the project does not include the convention center, a need for approximately 611 residential spaces for Sites 4 and 5 would be projected plus any parking needed for other constructed land uses on Site 6. More analysis will be needed once a preferred development concept is finalized.

This development will also likely result in the loss of a significant number of well-utilized existing parking spaces in Blocks 13 and 16. The exact number of spaces lost, and the net impact of parking space losses and additions, is not clear as development plans are still being formulated. However, based on available development information, up to 204 existing parking spaces could be lost – 152 of which are currently public parking spaces. Approximately 91 of the 152 public parking spaces that could be lost were utilized during the evening peak period of parking on November 11, 2007.

- Site 7
    - This development (located in Blocks 5 and 6) has been planned in two phases. The first phase of the development has been completed, with 54 new residential units constructed. The second phase of the project will include some mix of office and retail land-uses (exact square footages are not known at this time). Based on the first phase of the development, ***Carl Walker*** would project a need for approximately 101 parking spaces (using ULI parking demand ratios). As the development is providing 108 private parking garages (2 spaces per unit) and 8 surface parking spaces, it appears that the parking provided with Phase 1 is sufficient.

- Chandler City Hall

  - The city is currently considering the development of a new City Hall. Currently situated in Blocks 17 and 22, the new City Hall is expected to be approximately 120,000 square feet in size and may include a parking structure. It is anticipated that construction will begin by late 2008, with building occupancy in 2010.

    Using ULI parking demand ratios for office space, the new City Hall would be projected to need approximately 400 parking spaces for employees and visitors. As the city is currently considering constructing an approximate 400-space parking structure adjacent to the new City Hall, it would appear that sufficient parking is being provided for this development.

    Another important challenge with the new City Hall project could be the loss of city-employee parking in Area 10C. While many of the city employees that currently park in this structure will move to the new City Hall, those working in Public Works may lose access to the structure. If possible, the city should attempt to keep some parking available in the structure (at least 50 spaces) and direct the remaining demand to Lot 8A. Otherwise, at least 50 parking spaces will need to be provided elsewhere. Options could include space in a new parking structure in Blocks 17 or 18 or the creation of a small surface lot on Block 11.

- New City Museum

  - While currently in preliminary planning, the new City Museum is currently anticipated to be constructed north of the new City Hall on Washington Street. It is currently anticipated that the development would include approximately 25,000 to 30,000 square feet of museum space. It is estimated that approximately 75 spaces will be needed to support this development (approximately 3 spaces per 1,000 square feet). No new on-site parking is currently anticipated to be included with this development.

- Serrano's Office Building

  - This development (on the southwest corner of Boston Street and Washington Street – Block 17) is anticipated to include approximately 29,920 square feet of leasable retail and office space. The specific land use breakdown is approximately 10,489 square feet of retail space and 19,431 square feet of office space. Currently, no new parking is planned

for this development. This project is currently in the permitting process, and is anticipated to be completed in 2009.

Using the ULI Shared Parking Model, the estimated parking need for this project would be approximately 109 parking spaces. As no new parking is being constructed as part of this project, available surplus parking will need to be utilized until additional parking supplies are developed in the future (e.g., parking associated with the new City Hall or the Fire Administration Building). In addition to estimated new parking demands, the development will result in the loss of Lot 17A (26 parking spaces). During peak parking conditions, up to 23 parking spaces were utilized by existing land uses. This could result in a total need for approximately 132 spaces (new demand for 109 spaces and the demand for 23 spaces that is being displaced). Therefore, existing parking demands will need to be accommodated elsewhere.

- Fire Administration Building

  - The Fire Administration Building is anticipated to be constructed on the southeast corner of Boston Street and Washington Street (Block 18). The building will become the headquarters for the City of Chandler Fire Department and will include approximately 14,000 square feet of office space. This project is currently in the design process.

    The city currently anticipates that the new building will create the need for approximately 52 parking spaces. While the project does not have a defined parking supply associated with it, the development could include a parking facility.

- Public Works Expansion

  - The city is currently contemplating a 9,000 square-foot expansion of the existing Public Works building by 2012. While it is not yet clear exactly where the expansion will occur, it is anticipated that the expansion will provide office space for up to 45 additional city employees. Using ULI parking demand ratios, ***Carl Walker*** would estimate a need for approximately 35 parking spaces.

    There is a possibility that this project could be constructed on an existing parking lot (Lot 10D). During the parking occupancy counts, this parking lot was over 100% occupied at times (e.g., vehicles parked illegally) and was well-utilized during weekdays. A significant amount of the parking demand in Lot 10D may be due to employees (which should be

discouraged). If the expansion is constructed on the existing parking lot, the parking needed for this development would be the sum of the new demand and the number of parking spaces lost.

- Community Services Expansion

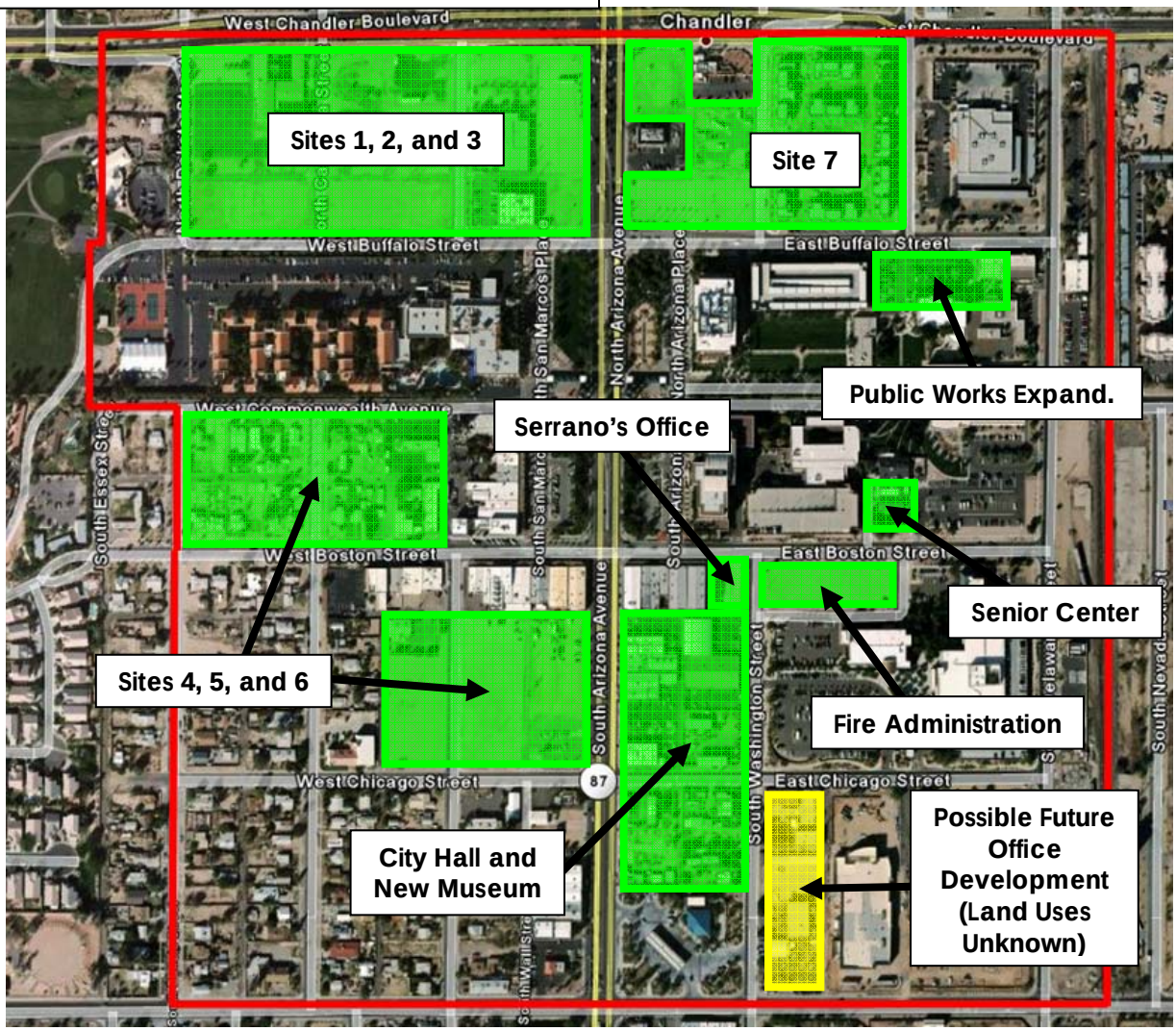
  - A study is currently underway to determine the opportunities to expand the existing downtown Senior Center. It is currently anticipated that an expansion of the Senior Center could include up to 3,000 square feet of new space. Construction on this project could begin in 2010.

    As parking can sometimes be tight for Senior Center events/activities, additional parking may be necessary. The parking needed for the expansion will depend on how the new space is used. If the new space is used for events/activities, parking demand could be between 5.50 and 20.0 parking spaces per 1,000 square feet (between 17 and 60 parking spaces). Additional parking resources will be needed for this development as no new parking is being provided.

In addition to the development projects previously described, other projects planned in the future could also impact parking in the study area. For example, improvements in transit service could help reduce parking demand in the study area, or possibly provide opportunities for multi-modal parking facilities. Changes in streets located in the study area could impact traffic flow and possible locations for public parking facilities (e.g., closing Oregon Street between Chandler Boulevard and Buffalo Street or allowing California Street to cut through the San Marco Resort). Finally, future development of sites located outside of the study area may also impact downtown parking (e.g., future expansions of the Chandler Center for the Arts).

Figure 11 illustrates the location of each of the anticipated development projects.

Figure 11. Anticipated Development Projects



3.02. Review of Projected Future Parking Adequacy

Each of the aforementioned development projects will impact existing parking supplies and demand. To project future parking adequacy, the anticipated parking demands for each development project were estimated using ULI parking demand ratios. The estimated parking demands were then compared to the available parking on each block and within the area each development is located (a one to two block radius around the development – assuming people could walk at least one or two blocks to the development).

Based on the information provided by the city concerning future projects, it appears that some developments will be providing sufficient parking to meet estimated demands. If parking is provided as anticipated, the projects slated for Sites 1-2-3, Site 7 (Phase 1), and the new City Hall should provide enough parking to meet estimated needs. In fact, these projects could result in a small amount of surplus parking spaces (based on projected land uses).

However, some projects could result in parking deficits or do not yet have defined parking components. The following projects have unresolved parking needs:

- Sites 4, 5, and 6: Estimated need for 1,219 to 2,219 parking spaces (depending on events at the proposed conference center). This includes the replacement of 100 public parking spaces that will be lost when the area is developed. If the project does not include the convention center, a need for approximately 611 residential spaces for Sites 4 and 5 would be projected, plus any parking needed for other constructed land uses on Site 6 and any public parking spaces lost.

- New City Museum: Estimated need for 75 parking spaces.

- Serrano's Office Building: Estimated need for 132 parking spaces, including the replacement of existing supplies lost to construction.

- Fire Administration Building: Estimated need for 52 parking spaces.

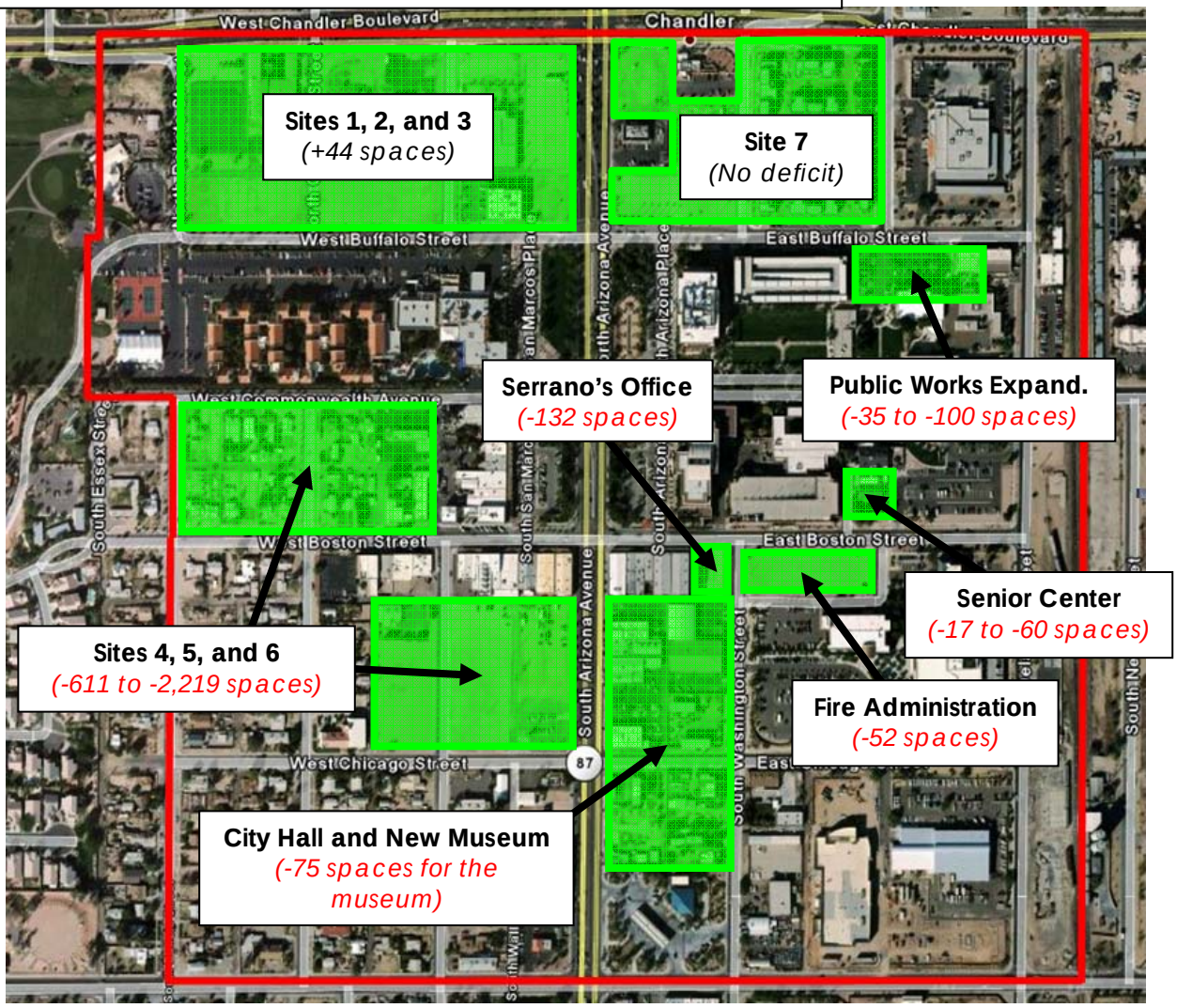
- Public Works Expansion: Estimated need for 35 to 100 parking spaces (if Lot 10D is lost).

- Community Services Expansion: Estimated need for between 17 and 60 parking spaces.

Taken in total, the projects with unresolved or undetermined parking demands could need between approximately 922 and 2,638 parking spaces. The estimated parking demands for these projects could be met through a combination of strategies such as improving the utilization of existing parking resources, constructing additional parking facilities, or implementing new travel demand management strategies.

The following figure (Figure 12) illustrates the anticipated parking supply and demand changes due to the known future development projects. Estimated parking deficits are shown in red. The deficits shown do not include parking surpluses found during the November parking inventory and occupancy counts (these will be discussed in Section 3.3). Actual parking supply and demand conditions will depend on project timetables and development schedules, parking actually provided by future development projects, vacancy rates, etc.

Figure 12. Estimated Future Parking Supply/Demand Conditions



Overall, if these developments occur as currently planned, there would appear to be a parking need of approximately 1,500 to 2,700 parking spaces that will need to be addressed. It is anticipated that any parking constructed to address anticipated parking deficits, if located appropriately, would provide parking for existing parking demands as well as future needs.

It is important to note that this review only included those projects currently anticipated by the City of Chandler. There may be other renovation/construction projects proposed in the future that will alter parking demand in the study area. As the City of Chandler can reduce parking requirements for developments in the downtown study

area, the city must be prepared to address future parking needs with additional public parking supplies or require future development projects to provide sufficient parking.

In addition to the anticipated development projects, it is important to note the amount of vacant building space when planning for future parking needs. While the downtown study area is estimated to have an overall current parking surplus of approximately 1,500 parking spaces, the full occupancy of currently vacant building space would reduce the parking surplus to approximately 1,450 parking spaces (before any new developments occur). This could obviously create a perception of a lack of parking downtown in some areas and could lead to parking shortages on some blocks. This is especially true if all of the anticipated downtown developments occur.

3.03. Parking Supply/Demand Alternatives

To meet anticipated future parking demands, several parking supply alternatives are typically available to municipalities:

- The city could decide to improve the utilization of existing parking supplies. This could include working with parking lot owners within impact areas to better utilize private parking supplies. Using the concept of shared parking, existing resources could be maximized to meet anticipated needs.

- The city could create additional parking spaces in existing unimproved areas (either on-street or off-street) to provide additional parking. As most of the available land is currently planned to support buildings, there is likely insufficient space available to construct any significant surface parking in the downtown. However, structured parking could become a viable option (especially with improved management of downtown parking resources). The cost for providing parking could be covered through parking user fees and/or fees charged to developers, property owners, and/or downtown businesses (e.g., in-lieu fees, special assessments, development fees).

- The city could require new downtown developments to provide sufficient parking. New developments would provide their own parking for employees and visitors. This could result in higher costs for developers and possibly the overdevelopment of parking supplies. An alternative could be charging in-lieu fees or development fees to require developers to help fund needed public parking resources.

- The city could work to reduce parking needs in the study area through the implementation of various transportation demand management and parking supply management strategies. These strategies would be geared toward

reducing parking demands by encouraging the use of alternative modes of transportation and improving parking resource management.

- The city could utilize a combination of alternatives.

In the **First Alternative**, the city would attempt to better utilize available parking supplies. This would mitigate the need to construct additional parking. As sufficient parking is available in some areas where development is planned (based on the parking occupancy study), this alternative may have merit. Better utilization of the available supply would eliminate at least the need for near-term parking supply additions, maintain existing green space or future development space, encourage pedestrian movement through the downtown, and reduce city parking responsibilities (e.g., maintenance, signage). Ideally, long-term parkers would be directed to available off-street parking facilities and on-street parking would be held for short-term downtown visitors.

The improved utilization of existing parking areas is substantially less costly than creating new spaces. For example, the amount of currently underutilized parking observed in the First Credit Union Parking Garage could potentially provide all of the necessary parking for adjacent development projects. Based on the observed occupancy in the downtown, several options are available to better utilize existing parking resources. Options could include (in order of anticipated project completion):

- Serrano's Office Building
    - The estimated parking need of 132 parking spaces could be met through the improved utilization of the parking structure located to the north (Area 10H). During the parking inventory and occupancy counts, approximately 269 parking spaces were available in the First Credit Union Parking Garage. A portion of the underutilized spaces could be used to support Serrano's Office Building until additional parking is added in the future (e.g., City Hall parking structure). Also, the block on which the development will occur (Block 17) currently has a parking surplus of approximately 70 spaces during weekdays (not including Lot 17A as it will be lost to construction).
- Senior Center Expansion
    - The estimated parking need for the expansion could be met through the improved utilization of surplus parking. Available surplus parking in the First Credit Union Parking Structure could provide enough space (even after accommodating the demand for the Serrano's Building). With a need for

17 to 60 spaces, the parking demand for the Senior Center expansion could be accommodated in the parking structure.

- Public Works Expansion

  - The parking needed for the public works expansion will depend on where the expansion is located and if any parking is lost. If parking is not lost to construction, the demand for 35 additional parking spaces could be accommodated by using surplus parking in the nearby parking structure (Area 10C) or in Lot 8A. Based on the November occupancy counts, there could be as many as 135 available parking spaces in Area 10C and 46 spaces in Lot 8A. If the existing parking lot (Lot 10D) is lost to construction, approximately 100 parking spaces would be needed. This demand could also be accommodated in Area 10C and Lot 8A as well.

- Fire Administration Building

  - Assuming a parking need of 52 spaces, the parking demand for this development could be met in the First Credit Union Parking Structure (even after the Serrano's Office Building and the Senior Center Expansion), in Lot 18C (97 surplus spaces), or in Lot 18D (21 surplus spaces).

The Sites 1, 2, and 3 and Site 7 developments are currently estimated to provide sufficient parking, and will therefore not need any additional parking spaces. The development of Sites 4, 5, and 6 and the new City Hall will need additional parking facilities (insufficient surplus parking available).

The use of some of the underutilized parking areas will require the approval of the various property owners. In order to encourage the shared use of private parking facilities, the city could use one or more of the following techniques/incentives:

- The city could communicate the positives of shared parking to the private parking lot owners. The positives include increased pedestrian traffic near their businesses, continued downtown development, maintaining green spaces and other non-parking land-uses, easier to use parking for downtown visitors, the generation of income related to "selling" parking, etc.

- Shared parking could be limited to daytime, evenings, weekends and/or special event days if land uses permit.

- The city could provide periodic lot maintenance for private parking lot owners that agree to allow shared parking.

- The city could provide periodic trash pick-up for private parking lot owners that agree to allow the use of their lots for other visitors.

- The city could provide improved signage for private parking lots. The signage could denote parking restrictions and periods of open public parking.

- The city could help care for parking lot landscaping in private parking lots for owners that permit shared parking.

- The city could assist surplus parking space owners with the purchase and installation of parking access and revenue control equipment to help generate revenue and protect reserved parking areas.

As mentioned earlier, a significant amount of underutilized on-street parking exists on many streets. In order to better utilize the parking in these areas, all of the on-street parking in the study zone (except residential areas) should be marked, and angled parking could be provided in all areas with sufficient dimensions. The on-street parking could be marked when needed, as the new developments are constructed.

However, this approach to dealing with future parking needs may not adequately meet projected parking deficits. First, the number of parking lot owners willing to cooperate may not be sufficient to provide the necessary parking. Second, the location of available parking supplies may not provide "acceptable" parking to future downtown developments. The available parking supplies may not be within an acceptable walking distance, lot conditions could be poor, etc. Third, some of the currently underutilized parking areas may be lost to future development projects. Finally, the available parking supply may be insufficient to meet anticipated parking demands. Therefore, additional measures will be necessary to address future needs.

The **Second Alternative** available to the city is to create additional parking spaces, or improve the capacities of existing lots to provide sufficient parking to meet future demands. Improving parking efficiency would involve an analysis of existing parking lot physical layouts to determine if improvements could be made to increase capacities. Theoretically, both public and private parking supplies could be included in this analysis with the consent of private parking owners. After reviewing existing conditions, few substantial opportunities for improving parking efficiencies appear available (outside of delineating all on-street parking spaces to minimize improper parking). As several of the off-street parking lots will eventually be lost to development, improving efficiencies in these areas may only provide a limited benefit.

As a significant amount of parking would not be created through lot improvements, additional parking supplies could be constructed using available land. Currently, there are several locations within the study area that could support new parking facilities, and

some future developments are anticipated to include structured parking components. New parking facility opportunities would only include parking structures, as insufficient land is available for substantial surface parking lots.

Parking structures can provide several advantages over surface parking. First, a parking structure could provide needed parking closer to the central core (or a specific parking demand generator). This will provide downtown visitors and employees with more reasonable walking distances between the parking supply and their destination. Second, a parking structure could consolidate parking into one location. This could free other nearby surface parking lots for future economic development. Finally, parking structures would provide a stable parking supply. Surface parking will be lost to development over time, whereas it is unlikely that a downtown development would result in the removal of a parking structure.

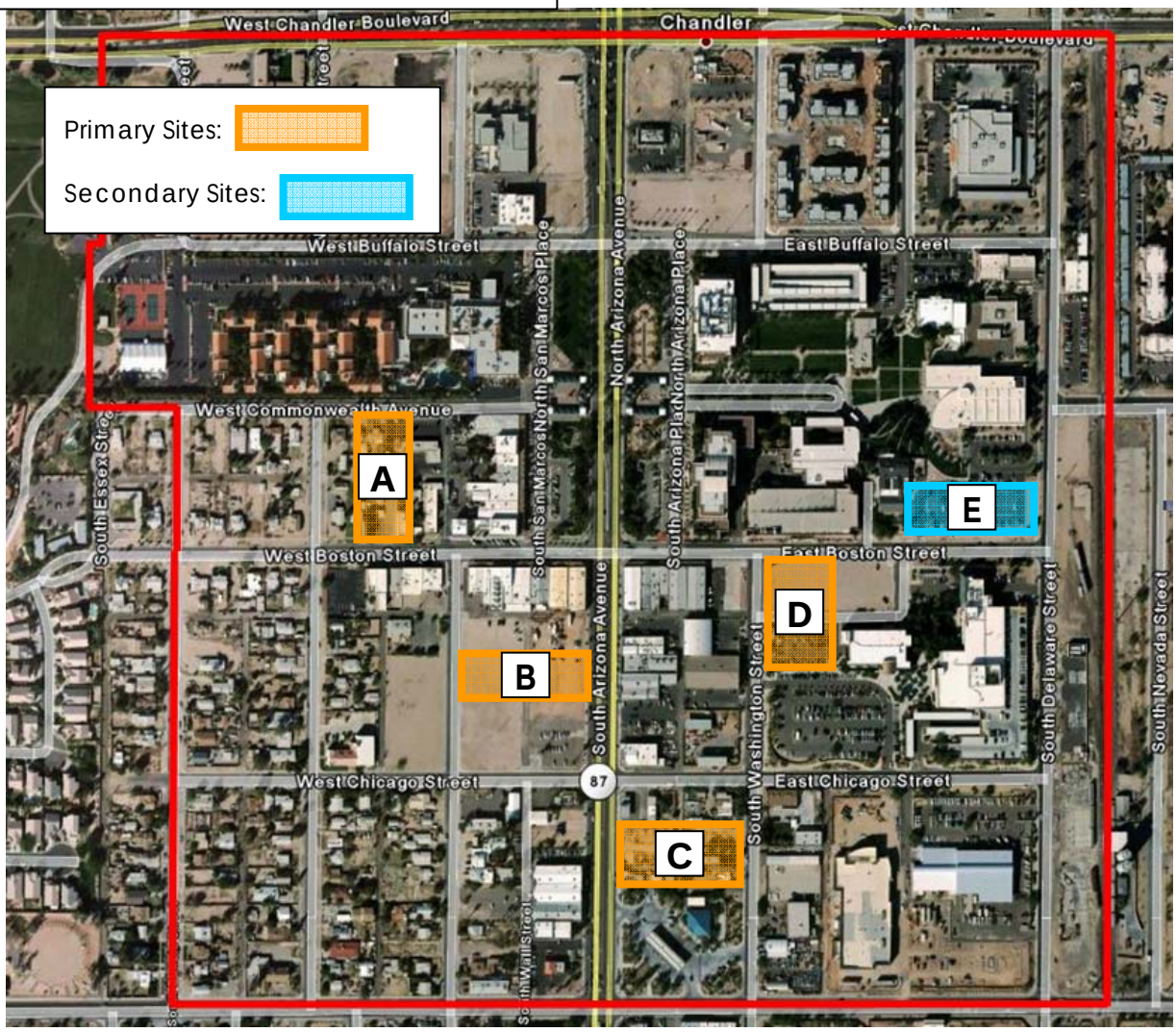
However, it is important to note the disadvantages to new parking facility construction. First, the city may have to pay for the construction of the new parking facilities, as well as annual maintenance and operating costs. While the current industry average construction cost per space for structured parking is approximately $14,000 to $15,000, the cost to construct surface parking is much less – approximately one-tenth that of structured parking. Annual operating and maintenance cost could be between $250 and $600 per space, per year.

A second potential challenge is that the anticipated parking demands for some known development projects may not be sufficient to warrant new structured parking supplies if other parking resources could be better utilized. This assumes the city works with private parking lot owners to improve overall utilization and downtown visitors and employees are willing to walk greater distances. Depending on the development of downtown over time (as well as the increased utilization of existing buildings), additional parking supplies may not be needed immediately.

A final challenge to the development of a public parking structure is that the construction of a public parking facility will necessitate generating enough revenue from parking (or related economic development revenues – e.g., fees, increased tax revenues) to financially justify the expense of building the parking. Many businesses, building owners, developers, and downtown employees/visitors may not support the institution of pay parking.

The following graphic (Figure 13) illustrates possible locations for future structures.

Figure 13. Possible Parking Structure Sites



Sites A and B could provide all of the parking needed for the Site 4, 5, and 6 developments (excluding possibly some large event days), as well as potentially provide public parking to replace the loss of Site 6. At this point, it is assumed that the developments on Sites 4, 5, and 6 would need to provide sufficient parking on-site. Assuming a site footprint of 122' x 300', these sites could provide approximately 109 parking spaces per level. Assuming a parking demand of approximately 1,320 spaces (including 100 public parking spaces), and that approximately 100 parking spaces are provided beneath the future conference center, these sites could provide the needed parking in one six-level parking structure each. The actual configuration of parking facilities on these sites will depend on future design efforts. The selected development

designs for this site could utilize three parking structures to reduce building heights and place parking closer to the residential units. Ideally, additional public parking should be incorporated into one of the parking structures to help support existing parking demands (approximately 100 parking spaces). The parking described for Sites A and B would only be necessary if the developments planned for Sites 4, 5, and 6 occur.

Site C could provide parking for the new City Hall, as well as other nearby land uses during non-peak hours. Assuming a site footprint of 122' x 330', this site could provide approximately 120 parking spaces per level. Based on anticipated parking needs of approximately 400 parking spaces, the needed parking could be provided in approximately 4 levels. The actual configuration of a parking facility on this site will depend on future design efforts.

Site D could provide parking for the proposed Fire Administration Building, the Serrano's Office Building, the new City Museum, the proposed Senior Center Expansion, and the loss of Lot 18D (57 spaces). Assuming a site footprint of 122' x 330', this site could provide approximately 120 parking spaces per level. Based on anticipated parking needs of approximately 333 to 376 parking spaces (for the previously mentioned projects and space losses), the needed parking could be provided in approximately 3 to 4 levels. The parking need could increase by 50 spaces if parking is lost in the existing garage used by City Hall. The actual configuration of a parking facility on this site will depend on future design efforts.

Finally, the secondary site (Sites E) could provide parking for the continued development of Block 10. A parking structure on this site could provide parking for the Senior Center, the Public Works expansion, nearby office buildings, existing land uses, and/or the Fire Administration Building.

Ideally, off-street parking facilities would provide long-term parking to area visitors and employees, leaving the on-street parking spaces for short-term visitors. If multiple locations are designated for structured parking, the facilities could be designated for a single user group or provide parking for both visitors and employees.

The **Third Alternative** available to the city would be to require new downtown developments to provide their own parking resources. This would involve setting parking requirements for new developments, based on projected land uses, and enforcing typical parking zoning codes. The main advantage to this alternative is that the city would not be required to construct, maintain, and operate new parking supplies in the downtown. While some towns and cities require developments to provide their own parking supplies, the majority of downtowns that are encouraging development reduce or eliminate parking requirements. Instead, the city works with the development to provide sufficient parking. A variation of this alternative could be requiring developers to pay a fee to cover the construction of new public parking

resources. This could be a development fee or an in-lieu fee. Also, special assessments could be levied to area commercial developments to help fund the construction and/or operation of parking supplies.

An in-lieu fee would allow developers to pay the city for the right to not construct a portion or all of the parking required for the development. The funds raised through parking in-lieu fees would help fund future public parking facilities constructed by the city. This could be a specific development fee or an in-lieu fee.

The use of in-lieu parking fees can have several advantages:

- Offering parking in-lieu fees provide developers with an option to providing expensive on-site parking. The cost of purchasing the necessary land and funding lot construction is typically more expensive than paying in-lieu fees.

- Parking in-lieu fees encourage shared parking. As developers stop constructing small private parking facilities, parking is consolidated into larger public parking supplies. This results in a more efficient use of available land, the creation of fewer parking spaces, and conditions that encourage pedestrian movement.

- The city would have more control over where parking resources are located and how they are operated and managed. This can help create a parking system that is easier to understand and use.

- As less parking is created, and the parking that is created is consolidated, more space is available for other land uses.

- The city would have greater control over downtown parking spaces, providing the opportunity for uniform parking operations and management.

While the use of in-lieu parking fees can provide many benefits to the city, there are also some drawbacks:

- Parking may have to be located less conveniently to primary destinations. As parking is consolidated into fewer locations, some primary destinations will be located further away than if they provided their own parking.

- As the city creates more public parking facilities, the city will have to cover annual operating, maintenance, and management costs.

- As shared parking would be used, fewer parking spaces would be created. This could mean more traffic and frustration during unusually high periods of parking demand, such as during special events.

- The use of these fees could discourage development of the downtown in favor of suburban locations with space for surface parking.

- Depending on how the construction of the facility is financed, the city could be limited in how the facility is used to provide parking for private developments.

The fees charged to developers are typically determined by either the cost of land or the typical construction cost of parking per parking space. Ideally, the construction cost per space would be set at the cost to provide structured parking. For example, the city could decide to charge the estimated construction costs of a structure parking space at $18,000 per space (based on anticipated development plans). A development that would typically be required to provide 50 parking spaces would therefore be charged $900,000 in lieu of providing the necessary parking. This fee could be converted into an impact fee of "X" dollars per square foot by dividing the total calculated parking in-lieu fee by the gross square footage of the development. Also, this fee could be charged up-front, or payments could be made to the city over time. ***Carl Walker*** would recommend setting development fees or in-lieu fees at a minimum of providing structured parking, or approximately $18,000 per space to help fund future parking construction (adjusted as needed each year). This fee would not be required, but would be another option that developers could use to provide parking.

The **Fourth Alternative** involves encouraging the use of alternative modes of transportation and using parking demand management strategies to reduce parking demands. Encouraging the use of alternative modes of transportation could include providing adequate pedestrian and bicycle linkages, providing sufficient mass transit alternatives, encouraging the use of carpools/vanpools, guaranteed ride home programs, telecommuting, parking cash-out programs (in future), etc. Some of these transportation options are already available in Chandler. Parking demand management strategies could include any of the following options (but not limited to):

- using shared parking concepts;
- instituting and enforcing parking time limit and user group restrictions;
- providing flexibility in determining development parking needs;
- using parking maximums to limit parking development;
- using car sharing programs to reduce or eliminate the need for some downtown residents to own vehicles;
- improved parking system information and marketing;
- charging for parking;
- improved parking enforcement.

The goal of each of the aforementioned parking demand management strategies is to spread parking demands to appropriate locations, improve the utilization of parking supplies, and/or reduce overall parking demand.

The **Final Alternative** is actually a combination of the previous four alternatives. This alternative would involve the city working with private parking lot owners to better utilize the existing parking surplus before adding additional parking supplies. If sufficient parking could not be secured using this approach, then the city would consider improving existing parking supplies and/or adding new supplies as appropriate. If new parking spaces were added, either through additional on-street spaces, new or improved parking lots, or parking structures, the city could look to developers to help defray a portion of the costs. Finally, the city would continue encouraging the use of alternative modes of transportation, as well as other parking demand management strategies, to reduce overall parking demands. ***Carl Walker*** recommends this alternative, as it provides a reasonable approach to dealing with future demands and should limit future parking expenses. Also, this approach will allow the city to show the community that all options were explored prior to expending any city funds for constructing parking facilities. The goal is to provide the "right" amount of parking; not too much and not too little.

While it appears that there is a significant opportunity to improve the utilization of available parking supplies before adding any parking facilities, it is important to note that the city may not be able to improve the utilization of available private parking facilities. Most, if not all, private parking lot owners may not cooperate with the city. Therefore, the city (or future developments) will most likely need to construct a public parking facility in the future if other alternatives are not available (e.g., incorporating public parking into other private developments).

Based on the projected parking needs, ***Carl Walker*** recommends the following:

- Improve the availability of public parking resources by enforcing parking time limits and/or instituting pay parking. Consistent enforcement of time limits will discourage downtown employees from parking in visitor parking areas. Parking enforcement should be friendly, and time limits could be increased to three hours to help reduce the perception of short time limits. However, enforcement hours may need to be increased to 8:00 p.m. in high demand areas (e.g., Blocks 9 and 13). Ideally, there should be a charge for public parking to discourage all-day parking, generate funds to operate/manage the parking system, and possibly eliminate parking time limits.

  Based on the turnover and duration surveys completed in November, 2007, consistent enforcement could help make up to 70 parking spaces more available to downtown visitors. Employee parking should not be provided in areas with high levels of visitor parking demand. In order for increased enforcement to be truly effective, sufficient off-street parking needs to be made available to downtown employees and long-term visitors. Long-term parking

should be made available in currently underutilized parking areas (e.g., Areas 10H, 10C, 16B, and 16 C).

- In addition to enforcing parking time limits or instituting pay parking, valet parking could provide a means to improve the utilization of underutilized parking areas. For example, valet parked vehicles could be stored Lot 16B and/or Lot 16C – improving the utilization of available parking resources without increasing patron walking distances.

- Another opportunity to improve the utilization of existing parking resources is to limit the amount of reserved parking. Ideally, reserved parking spaces should be minimized to encourage shared use. This recommendation would apply to both public and private parking facilities. For example, some of the underutilized parking in the First Credit Union Parking Structure is reserved for specific businesses and destinations. However, some of the reserved parking spaces were not used throughout the day, and other visitors were unable to use them.

- The storage of city vehicles in the Library Lot (Lot 10G) should be discouraged. Approximately 12 to 15 spaces could be made available to library visitors if city vehicle storage is relocated. For example, city vehicle storage parking could be relocated to Lot 18C or Lot 23D. Ideally, vehicle storage should be relocated to a secure location that does not impact downtown visitor parking.

- Utilize available surplus parking to support the Serrano's Office Building development until another nearby parking resource is constructed (e.g., Site D). Assuming the Serrano's Office Building is completed in 2009, there will be a need for a temporary parking solution until the Site D parking structure is ready. As mentioned previously, surplus parking is available in a number of locations (e.g., Areas 10H, 10C, and possibly 16B and/or 16C).

- Parking demand for the Senior Center expansion could be met using available parking surpluses in the First Credit Union Parking Structure. The city should investigate opportunities to secure additional parking in this facility.

- Continue planning and development efforts for the parking structure associated with the new City Hall. At least 400 spaces should be provided based on current development plans. As mentioned previously, the city should attempt to keep some parking available in the structure (at least 50 spaces) and direct the remaining demand to Lot 8A. Otherwise, at least 50 parking spaces will need to be provided elsewhere. Options could include space in a new parking structure in Blocks 17 or 18 or the creation of a small surface lot on Block 11.

- A new parking structure on Site D could provide parking for the new City Museum, Serrano's Office Building, the Senior Center expansion, and the Fire Administration Building. A Site D parking structure could also provide evening and weekend parking for other downtown businesses and the nearby Inspirador. Assuming a 376-space parking structure were constructed, the estimated construction costs could approach $6.8 million, not including land costs, design fees, and financing costs. Including an additional 12% for development/design costs, as well as applicable financing costs, a 376-space parking structure could cost over $9.2 million and annual debt service could be approximately $670,000 at 6% for 30 years (2008 dollars). In addition to annual debt service, annual operating and maintenance costs could be between $250 and $600 per space, per year (depending on the operating methods employed) – or an additional $94,000 to $226,000 in expenses per year.

- New parking structures to meet the needs of Sites 4, 5, and 6 will be needed. One of the parking structures constructed with this project should include approximately 100 public parking spaces to replace existing public parking supplies that will be lost to development in the future. Additional portions of the constructed parking structure(s) could also provide additional shared parking during evenings and special events. The city should ensure that the 100 public parking spaces are constructed prior to removing any existing parking facilities for construction.

The development of any parking structures will depend on the timing of future development projects. However, the financial planning for a future parking facility should begin as soon as possible by including in-lieu fees, instituting pay parking, and/or exploring options for special assessments and other revenue streams.

3.04. Planning for Future Parking Needs

In order to address future parking needs not currently anticipated, ***Carl Walker*** recommends the following methodology:

- Ensure the land use information for the downtown is current. This will provide additional insight into existing parking demands. The land use data should be updated as new developments occur.

- The first step in planning for future parking needs is to determine typical parking demands. This is usually achieved by completing a parking supply and demand survey. This would entail maintaining current parking space inventories and conducting parking occupancy counts (ideally, at least annually – and updating counts as developments occur). This will provide a baseline of demand data from which to project future parking needs. These surveys will also help

determine the correct mix of short-term and long-term parking (based on the utilization of each type of parking). Long-term parking should be provided in off-street parking lots and on-street parking should be managed to ensure availability for downtown visitors.

- Project the parking needs of each proposed development using a shared parking model. Determine how parking demand for the new development will fluctuate during the day by using the shared parking model provided by ***Carl Walker*** as part of this study (based on Urban Land Institute data). Determine how parking demand for the proposed development will impact parking supplies during the period of greatest parking demand. Use the concept of shared parking to ensure the efficient use of available parking supplies.

- Once parking demands have been projected, determine how the development will impact existing conditions. If the development creates a parking deficit within the zone it is located (the zone would typically be a one-block radius surrounding the development), additional parking supplies may be necessary.

- While the parking demand for many land uses can be spread over greater distances, the creation of residential space in the downtown should include sufficient adjacent parking. Residential developments that lack sufficient parking are rarely marketable, and conflicts could arise should a significant use of public parking spaces be required to support residential projects. Unbundling residential parking could be an option in the future as public parking supplies are constructed and maintained.

- Future downtown developments should include sufficient ADA accessible parking on-site. The city should require developments to provide a suitable portion of their required parking on-site (or directly adjacent to the site) to ensure enough accessible parking is provided. This parking could be provided in a city parking facility adjacent to the development. Sometimes, parking demand for accessible parking may be larger than the minimum requirements. In order to ensure sufficient space is provided, periodic reviews of accessible parking demand should be part of larger parking inventory and occupancy surveys. Through periodic occupancy studies, and community input, the city will be in position to ensure sufficient accessible parking is provided.

- Future parking lots could include landscaping or structures that can provide shade to parked vehicles. This can be accomplished through the use of fast growing, low-water shade trees. These trees can be planted around existing parking lots and in internal landscaped islands. Pedestrian paths to/from parking facilities could also provide shade in a similar fashion. This will help make the off-street parking facilities more attractive to downtown parkers.

- It is also important to provide adequate timeframes when planning for future parking needs. It can take between 18 and 24 months to design and construct a parking facility. Therefore, it is important to remain "ahead of the curve" when planning for future parking facilities.

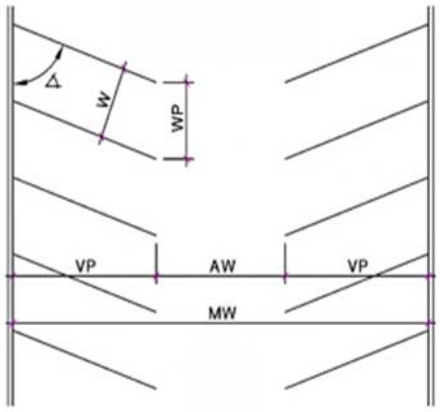
3.05. Review of Current Parking Zoning Code

As part of this parking study, ***Carl Walker*** reviewed the existing City of Chandler off-street parking zoning code (Chapter 35 - Article XVIII). Existing parking requirement ratios were compared to three industry standards (the National Parking Association, the Urban Land Institute, and the Institute for Transportation Engineers). The results of this review are detailed in the following subsections.

Parking Design Standards

The existing City of Chandler zoning code provides little guidance concerning parking design requirements. The opening portion of the code includes a requirement for parking space size (9'-0" wide by 19'-0" long) and lists minimum driveway widths. The existing code should be updated to include more detail concerning acceptable parking space dimensions, and should include required dimensions for accessible parking. The city should consider incorporating the following dimensions in the zoning code (W = 9'-0"):

Figure 14. Recommended Parking Dimensions



Parking Angle	Stall Width Projection (WP)	Module Width (MW)	Vehicle Projection (VP)	Aisle Width (AW)
45	12'-9"	48'-0"	17'-8"	12'-8"
50	11'-9"	49'-9"	18'-3"	13'-3"
55	11'-0"	51'-0"	18'-8"	13'-8"
60	10'-5"	52'-6"	19'-0"	14'-6"
65	9'-11"	53'-9"	19'-2"	15'-5"
70	9'-7"	55'-0"	19'-3"	16'-6"
75	9'-4"	56'-0"	19'-1"	17'-10"
90	9'-0"	60'-0"	18'-0"	24'-0"

In addition to providing further definition to parking space design standards, the city should consider appropriate parking structure design standards for inclusion in zoning codes (e.g., acceptable ramp slopes, height clearances).

Finally, the current city code does not permit the use of tandem parking spaces to meet off-street parking requirements. The city should reconsider this limitation with respect to residential developments and situations were attended parking (valet parking) is provided.

Accessible Parking Requirements

The existing parking code does not contain a requirement for accessible parking (although another city code may contain requirements for accessible parking). ***Carl Walker*** recommends updating the parking code to include the latest Americans with Disabilities Act (ADA) guidelines concerning accessible parking. Federal guidelines provide recommendations for the number of spaces to provide, parking space dimensions, etc. Table 5 illustrates current ADA parking requirement guidelines.

Table 5. Accessible Parking Space Requirements

Total Number of Parking Spaces Provided in Parking Facility	*Minimum Number of Required Accessible Parking Spaces*
1 to 25	*1*
26 to 50	*2*
51 to 75	*3*
76 to 100	*4*
101 to 150	*5*
151 to 200	*6*
201 to 300	*7*
301 to 400	*8*
401 to 500	*9*
501 to 1,000	*2 percent of total*
1,001 and over	*20, plus 1 for each 100, or fraction thereof, over 1,000*

In addition to the basic accessible parking requirements noted in Table 5, there are other ADA standards that should be incorporated into the existing parking code:

- Ten percent of patient and visitor parking spaces provided to serve hospital outpatient facilities should be accessible. Twenty percent of patient and visitor parking spaces provided to serve rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities should be accessible.

- For every six accessible parking spaces, or fraction of accessible spaces, at least one should be van accessible.

- Accessible parking spaces that serve a particular building should be located on the shortest accessible route from parking to an ADA-compliant entrance. In parking facilities that do not serve a particular building, accessible spaces should be located on the shortest accessible route to an accessible pedestrian entrance of the facility.

- Accessible car parking spaces should be a minimum of 8-feet-wide and van parking spaces should be a minimum of 11-feet-wide. Accessible parking spaces should have an adjacent access aisle with a minimum width of 5 feet. Access aisles should be at the same level as the parking spaces they serve, and changes in level with slopes steeper than 1:48 should not be permitted.

Parking Requirement Ratios

The existing off-street parking code provides parking requirements for 31 different land uses. Table 6 (next page) illustrates how the existing zoning code compares to three industry standards for typical downtown land uses. The parking requirement ratios used by the City of Chandler are generally similar to those contained in the three industry standards. The only recommended ratio changes at this point are:

- reduce the bank, personal service, and medical office requirement to 4.5 spaces per 1,000 square feet;

- removed the parking requirement for preparation space from the restaurant/café/bar/lounge requirement;

- reduce the general office parking requirement to 4 spaces per 1,000 s.f.;

- and, remove the shopping center parking requirement in favor of using the ULI Shared Parking Model for mixed-use developments and shopping centers.

Table 6. Parking Ratio Comparison by Land Use

City of Chandler	National Parking Association (2006)	Urban Land Institute (2005)	Institute of Transportation Engineers (2004) - (85% Percentile)
Residential			
Single-Family, Two-Family, and Townhomes Dwellings: 2 spaces per unit. Multi-family: 1.5 spaces per efficiency or one-bedroom unit; 2 spaces per two-bedroom or more unit, plus 1 guest space for each 4 dwelling units.	Single Family: 1 space per unit (less than 2,000 s.f.), 2 spaces per unit (2,000 to 3,000 s.f.), and 3 spaces per unit (over 3,000 s.f.) Multi-family: 1 space per efficiency unit; 1.5 spaces for the first bedroom for one or more bedrooms and .25 space for each additional bedroom.	Residential - Owned: 1.7 spaces per unit plus .15 spaces per unit for guests. Residential - Rented: 1.5 spaces per unit plus .15 spaces per unit for guests.	Single Family: 2.14 spaces per unit. Multi-family: 1.17 - 1.78 per unit.
Medical Office			
Medical Offices: 1 space per 150 s.f. (approximately 6.67 spaces per 1,000 s.f.)	4.0 to 4.5 spaces per 1,000 s.f. (depending on location of the Medical Office)	Medical Office: 4.5 spaces per 1,000 s.f.	4.74 spaces per 1,000 s.f.
Banks			
Banks and Personal Service: 1 space per 150 s.f. (approximately 6.67 spaces per 1,000 s.f.)	4.6 spaces per 1,000 s.f.	4.6 spaces per 1,000 s.f.	2.64 to 4.62 spaces per 1,000 s.f.
Hotel & Motel			
1.33 spaces per guest room.	1.25 spaces per room - plus 10 spaces per 1,000 s.f. of restaurant/bar, plus 20 - 30 spaces per 1,000 s.f. for meeting rooms and banquet space. (GLA)	Business Hotel: 1 space per guestroom PLUS .25 spaces per room for employees; Leisure Hotel: .9 spaces per guestroom PLUS .25 spaces per room for employees.	.71 to 1.86 spaces per room.
Restaurants			
1 space per 50 s.f. (20 spaces per 1,000 s.f.) GFA, plus 1 space per 200 s.f. of preparation space.	Fine Restaurant: 20 spaces per 1,000 s.f. Family Restaurant: 15 spaces per 1,000 s.f. Fast Food: 15 spaces per 1,000 s.f. Night Clubs: 19 spaces per 1,000 s.f.	Fine Restaurant: 20 spaces per 1,000 s.f. Family Restaurant: 15 spaces per 1,000 s.f. Fast Food: 15 spaces per 1,000 s.f. Night Clubs: 19 spaces per 1,000 s.f.	Quality Restaurant: 18.9 to 24.1 spaces per 1,000 s.f. Family Restaurant: 13.6 to 20.6 spaces per 1,000 s.f. Fast Food: 12.3 to 14.8 spaces per 1,000 s.f. No bar or night club ratio available
Office Building			
1 space per 200 s.f. (5 spaces per 1,000 s.f.) GFA.	General Office less than 25,000 s.f.: 3.8 spaces per 1,000 s.f.; scaled for 25,000 - 100,000, 3.4 spaces per 1,000 s.f.; scaled for 100,000 - 500,000, 2.8 spaces per 1,000 s.f. over 500,000 s.f.; Data Processing/Telemarketing: 6 spaces per 1,000 s.f.	General Office less than 25,000 s.f.: 3.8 spaces per 1,000 s.f.; scaled for 25,000 - 100,000, 3.4 spaces per 1,000 s.f.; scaled for 100,000 - 500,000, 2.8 spaces per 1,000 s.f. over 500,000 s.f.; Data Processing/Telemarketing: 6 spaces per 1,000 s.f.	General Office: 3.0 to 3.4 spaces per 1,000 s.f.
Retail Establishments			
1 space per 250 s.f. (4 spaces per 1,000 s.f.) GFA.	General Retail: 2.75 spaces per 1,000 s.f.; Grocery Store: 6.75 spaces per 1,000 s.f. (approx.); Heavy/Hard Goods Retail: 2 spaces per 1,000 s.f. (approx.); Shopping Centers: 4 spaces per 1,000 s.f. for centers up to 400,000 s.f., sliding scale between 400,000 and 600,000 s.f., and retail Space Over 600,000 s.f.: 4.5 spaces per 1,000 s.f.	Community Shopping less than 400,000 s.f.: 4 space per 1,000 s.f.; Regional Shopping (400,000 to 600,000 s.f.): Sliding scale between 400,000 and 600,000 s.f. ratios; Super-Regional Shopping (over 600,000 s.f.): 4.5 spaces per 1,000 s.f.	23 different retail categories. General Shopping: 5 spaces per 1,000 s.f.
Theater			
1 space per 200 s.f. (5 spaces per 1,000 s.f.) GFA , or 1 space per 5 seats (whichever is greater).	Theater (live performance): 0.4 space per seat. Single Cinema: 0.5 spaces per seat; 2 to 5 screens: 0.33 spaces per seat; Over 10 screens: .27 spaces per seat.	Up to .27 spaces per seat (or 1.08 spaces for every 4 seats).	.36 spaces per seat (or 1.04 spaces for every 3 seats, approx.)

Parking Requirement Reductions and Shared Parking

Existing code provides for the elimination of parking requirements if a development is located in certain zoning areas. For example, parking requirements for a development located in the City Center District could be reduced or eliminated. However, the code does not explicitly provide for any other parking requirement reductions. ***Carl Walker*** recommends the following code adjustments:

- Shared parking is defined as parking that can serve more than one single land use, without conflict. Shared parking is generally applied to mixed-use developments, or downtown developments composed of several different land uses (e.g., retail, office, theater) that are significantly integrated. Using the shared parking model reduces the amount of parking needed for a mixed-use development (or other groupings of adjacent land uses), as the effect of sharing parking requires fewer spaces than the sum of the parking needed for the individual land uses. It is recommended that the code be updated to utilize the latest ULI shared parking model (2005). A shared parking methodology and electronic model (based on the ULI model) have been provided to the city as part of this study.

- If developments will be allowed to use the parking contained within another property, and owned by another individual or group, it is important that sufficient documentation be provided that guarantees the parking will be available for the anticipated lifespan of the development. This documentation could be provided by way of a written parking agreement or property covenant. Additional provisions could be included in the agreement requiring the developer to either construct the necessary parking or pay an in-lieu fee to the city should the off-site/shared parking become unavailable.

- The city should consider the inclusion of alternate methods for calculating anticipated parking demands. This would allow developers and property owners to more accurately determine parking demand using either a shared parking model or a detailed parking supply and demand study completed by a professional parking planner or engineer.

- The development code should provide a parking credit for underutilized on-street parking located adjacent to a development. This will help reduce the possibility of providing too much off-street parking.

Parking In-Lieu Fees

The current city code does not include a provision for parking in-lieu fees for downtown developments. An in-lieu fee would allow developers to pay the city for the right to not construct a portion or all of the parking required by the development. The funds raised through parking in-lieu fees would help fund future downtown public parking facilities constructed by the city. This could be a specific development fee or an in-lieu fee.

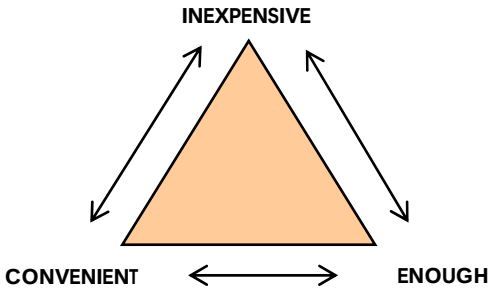
4.0 PARKING MANAGEMENT AND OPERATIONS STRATEGIES

The purpose of this section is to provide options for parking management and operations strategies that will help improve downtown parking conditions, both now and in the future. The parking management and operations options detailed in this section will help improve parking efficiency, increase utilization/turnover, and meet anticipated future parking needs.

4.01. Parking System Guiding Principles

When planning for parking there is a built-in conflict to which all stakeholders can easily relate. The conflict revolves around three primary factors: Cost, Convenience and Supply. Unfortunately, usually you can have only two of the three.

For example, parking can be inexpensive and convenient, but you won't have enough. This would assume close surface parking is provided, but, due to constraints on available land, not enough parking could be constructed. Or, you can have enough inexpensive parking, but it won't be convenient (building surface parking lots on the perimeter of downtown). Lastly you can have enough parking conveniently located, but it won't be cheap (constructing parking in close parking structures).



Given this basic problem, keeping all customers satisfied is an on-going challenge. As much as everyone would like, not everyone can park at the front door. Having well-defined parking principles is a good first step in attempting to balance this inherent conflict.

A statement of operating guidelines or principles is a worthwhile effort for any enterprise, but it seems especially useful for parking systems. Given the diverse base of customers that parking operations serve, defining operating philosophies and service parameters can help keep the operation focused on set goals and objectives. As the City of Chandler does not currently have a set of parking principles for the downtown parking system, taking a pro-active role in the development of these principles can provide significant benefits.

Having an approved set of parking principles protects the city from being perceived as unwilling to provide services that are clearly outside of the approved parking guidelines. When faced with a new development proposal which will cause the elimination of parking spaces, having a predefined and approved policy to address the funding of replacement parking can help the city meet operational budgets and avoid unexpected capital expenses.

Another advantage to having a well-defined set of parking principles is that it provides city planners with a concise set of guidelines, within which they are free to be creative and resourceful in providing development services to their various clienteles. It also gives them boundaries so that they know when a request falls outside the approved scope of the parking guidelines.

Having a well-crafted set of parking principles establishes the goals and objectives that will ultimately define the character of the downtown. Having established these principles, the community will know what is expected and, hopefully, will have had the opportunity to be involved in the definition of the downtown parking principles. Community involvement and consensus is crucial to the development of strong guiding principles.

Parking principles are not intended to replace traditional policies and procedures. In general, the parking principles should be kept short and concise, a maximum of one or two typed pages. Some of the items typically incorporated in such a document by other communities include:

- **Mission Statement/Statement of Purpose** – Describes how the parking operation contributes to the success or mission of the downtown community and/or economic development.

- **Operations/Funding Strategies** – Describes how parking facilities and/or operations are to be funded and also whether the operation is intended to be a self-supporting entity, a profit/revenue center, or a support service sustained through other primary revenue sources.

- **Interdepartmental Relationships** – Defines relationships between various departments with respect to downtown parking, especially other support departments such as Public Works, Police, Communications, Development, etc.

- **Responsibility for Parking Operations** – Is parking to be managed by the city or another ancillary organization? Are all parking operations to be managed through a centralized operation or can other departments be involved in limited parking management?

- **Rate Setting Guidelines** – Should parking require a charge/fee? If yes, how are the parking rates set? This is generally done in conjunction with the annual budget planning cycle. Should rates be set to cover operational costs? Should parking rates cover bond debt?

- **Options for Allocating Parking** – Defining how parking is allocated goes to the heart of parking operations, due to the prioritization process that is required. How much short-term parking should be provided? How much long-term?

- **Inclusion of Parking in Strategic and Master Planning Processes** – One of the most important outcomes of having a parking principles document is getting city administration buy-in of the importance of having parking represented in strategic and master planning processes.

- **Procedures for Managing Losses of Parking Supply (both temporary and long-term)** – Having procedures/guidelines in place for the coordination and replacement of parking spaces lost due to new development is another benefit of establishing "parking planning" as a fundamental element of your parking principles.

- **Definition and Communication of Parking Rules and Regulations** – Having clearly defined parking rules and regulations is essential to any parking operation. How these rules and regulations are communicated can vary widely depending on the customer groups served and the environment. Having an effective communications plan can also keep your customers informed of changes brought on by construction and maintenance projects, implementation of new technologies, rate changes, new policies, etc. Additionally, a good communications plan can act as a marketing and public relations tool for downtown parking. Parking departments are often criticized because of misperceptions or a lack of information about the performance and contributions made by parking.

- **Enforcing and Adjudicating Parking Rules and Regulations** – Will parking enforcement be provided in the downtown, and by whom? Defining who is

responsible for day-to-day parking enforcement and adjudication is an important operational decision. Other key parking enforcement issues that should be defined include: Who defines parking enforcement policies? Who administers the adjudication process? Who sets the rates for parking fines?

- **Defining Parking Facility Maintenance Responsibilities** – Parking facility maintenance is something that is too easily cut from capital budgets. The result is often a larger price tag at a later date and can involve significant operational disruptions. Identification of parking facility maintenance as an important parking management principle should not be overlooked.

- **Special Events Parking** – If any one area requires a cooperative effort from the larger community, it is providing parking for special events/meetings. If parking supplies are tight, even small seminars or other functions can have a big impact on available parking. Having a well-defined system for the coordination of special events parking can provide improved service for all patrons.

- **Budgeting and Planning Cycles** – Because of the high costs associated with the development of new parking resources, and the lead-time required for design and construction of new facilities, parking budgets can benefit greatly by the development of extended budgeting and planning cycles.

In summary, Parking Principles add value in two primary areas:

- Establishing a set of approved operating guidelines, which help define the role and relationships of parking within the larger city government and community structure;

- Emphasizing the importance of planning for parking.

Establishing a set of "Parking Principles" for downtown Chandler is just one opportunity for improving the way downtown parking is perceived. Using this approach as a first step to parking management can build recognition and increase respect and support for parking goals and management. ***Carl Walker*** strongly recommends that the City of Chandler create and approve a set of guiding parking principles.

4.02. Twenty Characteristics of Effective Parking Programs

Whichever management and operations strategies are selected, there are significant functions that must be addressed to ensure the parking system is efficient and effective. Based on evaluating numerous municipal parking systems of various sizes and complexities, we have identified a set of twenty characteristics, that when combined

into an integrated, programmatic approach provides the foundation for a sound and well managed parking system. These characteristics include:

1. Clear Vision, Mission and Guiding Principles
2. Parking Philosophy
3. Strong Planning
4. Community Involvement
5. Organization
6. Staff Development
7. Safety, Security, and Risk Management
8. Effective Communications
9. Consolidated Parking Programs
10. Strong Financial Planning
11. Creative, Flexible and Accountable Parking Management
12. Operational Efficiency
13. Comprehensive Facilities Maintenance Programs
14. Effective Use of Technology
15. Parking System Marketing and Promotion
16. Positive Customer Service Programs
17. Special Events Parking Programs
18. Effective Enforcement
19. Parking and Transportation Demand Management
20. Awareness of Competitive Environment

The ultimate goal is to create a parking system that provides professional management, understands the role it plays in contributing to the larger objectives of its environment, and is responsive to the community to which it serves. The following sub-sections define each of the twenty characteristics.

Characteristic # 1: Clear Vision, Mission and Guiding Principles

Truly effective parking systems have a clear vision and well-defined mission. The development or periodic reassessment of the parking system vision/mission statements should be undertaken as an open and inclusive process involving a wide range of community stakeholders. In a municipal setting, it is recommended that the following groups be included in the public input process:

Characteristic #1
Opportunities for Chandler

- Define parking system guiding principles.
- Create parking system mission and vision statements.
- Provide opportunities for the community to be involved in the process.
- Communicate these items with downtown stakeholders.

- city officials (including elected officials, planning staff, transit agencies, etc.);
- downtown development agencies;
- downtown business associations;
- downtown property owners;
- downtown merchants;
- downtown residents;
- downtown employees.

The development of a parking system's vision and mission statements should have one overriding goal; to see that the parking system's purpose and direction are tied

to, and supportive of, the larger community's strategic development plan. There are a variety of ways that parking can support the health, vitality, and development of the environment it serves. Having a professionally managed parking program that presents clean, safe, attractive, and well-maintained facilities is perhaps the most visible dimension. Other attributes include providing an adequate supply of overall parking and ensuring appropriate allocation and management of those resources. The parking system exists to support the businesses that depend on convenient, well-managed parking for their success. Successfully meeting these goals promotes business success, retention, and attraction.

Characteristic # 2: Parking Philosophy

A succinct statement (or series of statements) reflecting your philosophical approach to parking can be a valuable tool for communicating to your patrons, stakeholders and staff.

Characteristic #2
Opportunities for Chandler

- Include these concepts when defining the parking system's mission, vision, and guiding principles.
- Communicate the parking philosophy with all downtown stakeholders.

Parking Isn't About Cars . . . It's About People
This statement reflects an understanding that parking is not simply the act of temporarily warehousing cars. It is, in fact, more about addressing people's needs during the transition from the vehicular to the pedestrian experience. Under this philosophy, issues such as facility cleanliness, safety, lighting, wayfinding and customer service move to the forefront. Functional design elements that directly impact user comfort such as stall widths, turn radii, walking distances, etc. also take on special importance.

People Don't Come Downtown to Park
This concept reinforces the reality that parking, while an important support function and critical infrastructure element, is not the reason people visit downtown. For the downtown to be successful there must be good restaurants, interesting retail, and other special attractions. Even the best-run parking system with state-of-the-art facilities will not "attract" people to come downtown. However, poorly-run operations, lack of convenient parking or dysfunctional facilities can definitely be excuses for people to avoid downtown. The fundamental principles behind this philosophy are three-fold: (1) The role of parking is to support other downtown activities; (2) Eliminate parking as a "reason not to come downtown;" (3) Recognize what parking is not, e.g., an attraction.

Parking Is the First and Last Experience
A customer's first and last impressions of any venue really begin and end with their parking experience. A customer might enjoy a great meal followed by a fabulous evening of entertainment, but their whole experience will be tainted if they had to search for extended periods for parking or if they encountered difficulties trying to leave a facility.

Parking Should Be Friendly, Not Free
There is no such thing as "free parking". One of the ongoing challenges that downtowns face when it comes to parking is cost. Because of land values, densities, and walking distance issues, parking structures are here to stay in the downtown environment and with them is the need to charge for parking in one form or another. The perception that parking is "free" at suburban malls doesn't help (even though it's not true). Even if you promote "free parking" as a marketing concept, someone is paying for that parking. This philosophy recognizes this reality and focuses instead on providing a friendly, well-managed parking experience.

Parking Is a Component of the Larger Transportation System
By considering parking in the larger context of a broad range of transit and transportation alternatives, demand management and shared parking strategies can be developed that help reduce the amount of parking required. This is especially true in urban areas where good bus transit, light-rail, taxi service, and increasingly popular urban residential developments can be found. Developing programs that integrate complementary parking and transportation strategies is a hallmark of this philosophy.

By adopting one or more of these (or other) overall parking philosophies, the parking system can be more effective in addressing one of its key roles: community education. This educational process begins with staff and extends to the community in one-on-one meetings with customers and stakeholders. The goal of educational outreach is to help the community better understand the contributions of the parking program with respect to supporting larger community goals and objectives.

Characteristic # 3: Strong Planning

One of the most important characteristics of well-managed and forward thinking parking programs is strong planning. The first step in developing a well-managed parking planning function is to have a solid understanding of, and excellent documentation for, existing parking resources. Documenting the basics is fundamental. Some basic planning elements that should be in place are:

- Parking inventory is complete and up-to-date (including both public and private parking).
- Parking inventories are sub-divided by type and use of space.
- Parking utilization and duration by type of space or user group is known, and trends tracked.
- Changes in supply are documented.
- Overall changes in utilization are tracked and understood.
- Periodic parking supply/demand studies are completed.
- Quality parking maps are available and up-to-date.

Characteristic #3
Opportunities for Chandler

- Update parking inventory and occupancy counts at least once a year.
- Update land-use data as needed.
- Develop parking maps, showing public and private parking supplies, and update them as needed.
- Update parking-related zoning codes to ensure development goals are encouraged.
- Work with downtown stakeholders to determine current and future parking needs.
- Involve future parking system staff in planning/development processes.

One of the key planning tools that parking departments often overlook is land-use data. Successful parking systems develop relationships with city or regional planning agencies so that valuable land-use data, information on proposed developments, downtown planning maps, etc. can be obtained and used in crafting parking planning strategies.

Having a strong planning function is a key to developing a superior parking program. The degree to which parking is involved in larger community strategic and master planning processes is a good indication of the strength of the parking planning function.

Characteristic # 4: Community Involvement

Successful parking programs understand that their larger purpose is to support the larger environment they serve. In a municipal environment, this means the businesses and residents that create and sustain downtown vitality. Parking systems should develop close and cooperative working relationships with other community groups such as economic development agencies, downtown

Characteristic #4
Opportunities for Chandler

- Involve downtown stakeholders in parking organization/planning efforts.
- Consider the creation of a downtown parking district, with leadership coming from downtown stakeholders.
- Communicate parking system goals, objectives, and issues with downtown business/property owners, downtown employees, and visitors.
- Partner with existing downtown organizations in parking planning and marketing/communications efforts.

business associations, planning and facilities departments, residents, etc.

This does not mean that the parking system exists simply as a tool to be manipulated by these organizations. The parking operation has its own goals and objectives. For example, if the parking system is operating under a mandate to be self-supporting, it may not be able to subsidize a downtown validation program, even though the local downtown business associations might desire this. However, acting as partners, mutually beneficial solutions can be devised to meet the overall objectives of both organizations whereby costs are shared or alternative funding sources are obtained.

Successful parking operations actively solicit public input in a variety of ways including: promotion of public forums, use of parking task force groups, and the development of a group of "parking advisors" – people who have demonstrated an interest in parking issues. The key to success is listening to the concerns of downtown stakeholders, act promptly to resolve the issues, and then follow up to make sure their needs have been satisfactorily met.

Characteristic # 5: Organization

When a parking program is started, it is usually a small function that is located within an area of an existing organization. As the parking program matures and is responsible for a larger number of capital assets and increasing revenue streams, a reassessment of how the program is organized and managed is a logical step in its evolution.

Characteristic #5
Opportunities for Chandler

- First, designate a city staff member or department as responsible for downtown parking management.
- Consider the creation of a downtown parking district.
- Consider the creation of a separate parking management organization (e.g., a parking authority or other community-based organization).
- Vertically integrate parking system responsibilities into one parking organization (e.g., enforcement, planning, and operations).
- Provide a funding mechanism to cover operations, maintenance, and future parking facilities.

Some basic questions to ask related to the issue of organizational structure include:

- Will all parking operations to be managed through a centralized operation or can other departments or agencies get involved in limited parking operations?
- Will parking be managed in-house?
- Should certain functions be out-sourced?
- Are there advantages to a hybrid approach?
- Does the anticipated organization/staffing plan provide the right mix of skills, talents and abilities?

- Is staffing as efficient as possible? Are there tools in place to evaluate staffing adequacy? Efficiency? Program effectiveness?

Characteristic # 6: Staff Development

Unlike other related disciplines, such as property management, public administration, etc., there are no formal educational programs related to parking. However, this is beginning to change. The International Parking Institute and the National Parking Association have developed parking professional certification programs that provide opportunities for people to broaden their parking knowledge.

Characteristic #6
Opportunities for Chandler

- Provide educational opportunities for staff assigned to parking operations/management.
- Consider joining a parking-industry organization.

One characteristic of successful parking programs is a recognition of the unique knowledge, complexity, and broad skill sets required to be successful in parking. These programs invest in the parking-specific training, networking, and educational opportunities to develop their staff into "parking professionals."

Characteristic # 7: Safety, Security and Risk Management

The importance of providing a safe environment in parking facilities cannot be overestimated. The actual and perceived security within parking facilities impacts the success not only of the parking operation, but also the businesses supported by those facilities.

The security planning process should begin during the design of new facilities. The concept of "Crime Prevention Through Environmental Design" (CPTED) provides useful tenets for architects, facility planners, designers, and law enforcement/security and parking professionals. Utilizing CPTED concepts helps create a climate of safety in a parking facility by designing a physical environment that positively influences human behavior. These concepts can also be used to retrofit environments to address specific security issues as they develop, or to address emerging concerns as conditions change.

CPTED design alternatives could include (but are not limited to):

- Higher floor-to-floor heights to improve openness.

- Glass backed elevators and glass enclosed or open elevator lobbies.
- Glass enclosed stairwells, perhaps open to the interior.
- "Blue Light" (or similar) security phones.
- Security screening on the ground level.
- Limit access to locations where patrons pass by the office or cashier booths.
- Eliminate potential hiding places (e.g., under stairs, within storage areas).
- Maintain low level landscaping.
- Insure that all your facilities are well lighted and meet or exceed the recommended minimums for parking facility lighting as established by the Illuminating Engineering Society of North America (IESNA).
- Integrate security offices, parking offices, retail shops, etc. into parking facilities to provide increased activity levels.
- Provide security patrols.

Characteristic #7
Opportunities for Chandler

- Ensure sufficient lighting is provided in public parking areas, and encourage private parking facility owners to do the same.
- Conduct a lighting study for downtown public parking facilities.
- Consider the installation of emergency call boxes in public parking areas, and encourage the use of call boxes in private parking facilities when warranted.
- Utilize CPTED strategies to improve safety/security perceptions.
- Consider providing "Downtown Parking Ambassadors" to provide parking, security, and directional assistance to visitors (could be part of another downtown business organization).
- Work with local law enforcement to evaluate downtown safety/security conditions and recommend other possible improvements.
- Consider additional police officer patrols in the downtown area to improve perceptions about safety and security.
- Consider hiring private security staff to patrol the downtown and public parking facilities, as well provide safety escort services.

Characteristic # 8: Effective Communications

It is not uncommon to find the parking system at odds with various stakeholder groups. Although there may be as many reasons for this "disconnect" as there are personalities involved, there appear to be at least two primary underlying reasons: Other groups are focused on their own specific goals such as downtown revitalization, business recruitment or retention, leasing office or retail space, etc. They see parking costs as one element that places them at a competitive disadvantage with suburban competition. At the same time parking system managers are being pushed to increase revenues and decrease operating expenses. They lack a shared vision, and therefore are pulling in opposite directions.

The second major issue typically has to do with service level expectations. For example, downtown associations tend to have higher expectations in the areas of

customer service, facility cleanliness, security, etc. It is not that the parking system administrators do not value these same qualities, but there is a cost associated with providing these programs and limited budgets to support them.

The first step towards resolving this problem is improved communications and the definition of a shared vision/mission. A clear understanding of the issues and potential solutions is the kick-off point for developing the needed mutually beneficial approach. Developing a set of guiding principles for the parking system (discussed earlier) is a good starting point for crafting a successful collaborative relationship. Successful programs also have well-defined relationships between various departments, key stakeholders, and parking customers.

Characteristic #8
Opportunities for Chandler

- Improve communications between city staff and downtown stakeholders concerning parking.
- As stated previously, define the mission, vision, and guiding principles of the parking system. Work with downtown stakeholders to develop parking system goals/objectives.
- Ensure the parking system works closely with downtown stakeholders and business organizations with respect to parking planning and management.
- Continue to keep downtown stakeholders informed of parking issues through periodic meetings, newsletters, emails, etc., as well as through a parking system annual report.

Characteristic # 9: Consolidated Parking Programs

Taking a systems approach to parking is an important dimension to creating a comprehensive and effective parking program. Having control of all or most aspects of parking can contribute to a more effective operation, because of the interactive nature of parking as a system. For example, controlling off-street, but not on-street parking, can lead to problems if the rates for the various types of parking are not kept in the proper balance or relationship. Another example might be not having control over parking enforcement practices. This can hamper efforts to promote or improve turnover to support downtown retail or support special downtown events.

Characteristic #9
Opportunities for Chandler

- Create a downtown parking district.
- Create a vertically-integrated parking management system. Incorporate off-street parking operations, on-street parking operations, enforcement, parking planning, etc. into one organization.
- Consider a community-lead management organization (e.g., downtown parking authority). This could also involve putting parking responsibilities under an existing downtown business organization.
- Provide mechanisms for the parking system to generate sufficient funds to operate and maintain public parking resources, as well as to fund future parking needs.

Ideally, the parking system should control all aspects of a parking system, including off-street, on-street and parking enforcement operations. In many cases parking systems also operate components of a complementary transportation program as well such as the downtown parking shuttle. All parking related revenues should first go to fund parking programs, including preventative maintenance, maintenance reserves, parking system marketing, planning and new parking resource development.

Characteristic # 10: Strong Financial Planning

The parking system's financial expectations should be well-defined and clearly understood. For example, is the parking system expected to be a self-supporting entity, a profit/revenue center or a support service sustained by other primary revenue sources?

Characteristic #10
Opportunities for Chandler

- Sufficient funding is necessary for the parking system to improve and grow:
  - Consider instituting pay parking.
  - Consider instituting parking in-lieu fees.
  - Consider special assessments to fund parking needs.
  - Consider increasing parking enforcement and using citation revenues to fund parking operations/management.
- Any funds generated by the downtown parking district must be used to fund parking or other designated initiatives within the district (e.g., façade grants, landscaping, cleaning programs, and transit initiatives).

With the exception of airports, some university systems, and some very large municipalities, most parking programs are not self supporting. Many factors, including market rates for parking, parking mix (percentage of transient vs. monthly parkers), availability of on-street parking revenues, availability of parking enforcement revenues, politics, economic development policies, etc. have an impact on whether a parking program can be self-supporting. For systems that cannot achieve true financial self sufficiency, a common goal is for the parking system to cover all operational costs, excluding debt service costs. Debt service costs are typically subsidized by the general fund, tax increment financing revenues, in-lieu parking fees, or other sources.

Characteristic # 11: Creative, Flexible, and Accountable Parking Management

A one-size-fits-all approach to parking management rarely works. A variety of parking management strategies are required to address different needs, such as:

- visitor parking;
- employee parking;
- on-street parking;
- reserved parking;
- residential parking;

- special use permits;
- event parking;
- accessible parking (ADA);
- shared parking;
- parking allocation plans;
- loading/unloading zone parking.

It is important to understand all the components of the parking access and revenue control system and utilize them to their full potential. Many parking systems purchase expensive systems and use less than 10% of the system's capabilities. Using standard parking access and revenue control system reports, and creating customized reports, can provide enhanced management information. This information can improve the understanding of operational dynamics, and ultimately, increase system utilization and efficiency. An emphasis on training is a key to unlocking the system's capabilities.

Characteristic #11
Opportunities for Chandler

- Designate parking areas for long-term parking and provide sufficient parking enforcement in short-term parking areas.
- Look for opportunities to improve parking system management by using available parking technologies.
  - o Secure long-term parking areas as necessary with control gates and access cards/tags.
  - o Utilize computerized parking enforcement technologies.
  - o Incorporate more automated controls of short-term parking (e.g., pay-by-space machines).
  - o Incorporate parking access and revenue control technologies into future parking facility designs.
  - o Consider variable-message signs in the future to help direct patrons to available parking.
- Develop necessary policies and procedures.

Another characteristic of effective parking programs is that they have well-defined audit trails and processes to provide acceptable levels of control and accountability. Because of the large revenues generated, revenue control and accountability are key parking management issues.

Other parking management elements include:

- Well defined parking policies and procedures
- Development and maintenance of parking facility operations manuals
- Well defined and implemented facility maintenance programs
- Parking system marketing/branding programs
- Effective parking and wayfinding and signage programs

Characteristic # 12: Operational Efficiency

Parking system efficiency has several dimensions, depending on how the system is managed. The first area to be scrutinized is the management responsibilities of the system (e.g., what programs is the department or organization responsible for implementing). Once this has been defined, organizational structure and staffing plans will be determined.

Other operational areas can also yield significant savings in terms of reducing costs. For example, by placing the exterior bay and roof top lights on separate circuits with photo-cells, 25 – 35% of the facility's lights can be turned off during the day – saving significant amounts of electricity on an annual basis. Another area worthy of investigation is staffing costs in the late evening hours when the income generated is less than the staffing costs incurred. In these situations, the use of pay-on-foot applications or automated cashier units can be effective alternatives.

Characteristic #12
Opportunities for Chandler

- Define the organization of the parking system, and designate individuals/departments responsible for parking.
- Consider the possibility of creating a community-lead downtown parking district.
- Look for opportunities to incorporating cost-saving features into future parking facility designs.
- Periodically evaluate parking system expenses to ensure funds are spent effectively.
- Consider outsourcing some portions of parking system operations if efficiency can be improved.
- Build relationships with other similarly sized and situated communities to share parking management information and experiences.

Characteristic # 13: Comprehensive Facilities Maintenance Program

Few things make a greater impression on first time visitors than the cleanliness and maintenance of your parking facilities. Beyond first impressions, however, few areas provide a greater potential return on investment than a comprehensive parking system maintenance program.

A few best practices related to parking facility appearance and maintenance are noted below.

- Completion of basic "housekeeping" duties (e.g., trash removal, sweeping).
- Adequate maintenance of parking facility systems, signage, landscaping, etc.

Characteristic #13
Opportunities for Chandler

- Set-up and adequately fund a parking system maintenance reserve to help pay for future maintenance needs. This is especially crucial for public parking structures.
- Perform periodic maintenance reviews of parking facilities and equipment.
- Work to ensure parking facilities are kept clean.

- Paint interior garage surfaces white to enhance the perception of cleanliness and safety and to improve lighting levels.
- Develop a comprehensive preventative maintenance program for all essential systems.
- Clean, well maintained elevators.
- Organize and track parking facility warranties in a binder. Schedule warranty inspections six months prior to warranty expiration. Document inspections with digital photos (ideally with time/date stamps) and written reports.
- Regularly schedule facility condition appraisals by an experienced parking consultant and develop a prioritized program of facility maintenance repairs.
- Set aside adequate maintenance reserve funds based on a prioritized facility maintenance action plan developed as part of a regular condition appraisal assessment.

Characteristic # 14: Effective Use of Technology

Successful parking operations almost always have a comprehensive and integrated parking access and revenue control system that offers the following benefits:

- Consistent operations and features for customers.
- Simplified/consistent training for staff and auditors.
- Similar equipment and models that provide for simplified maintenance and less costly parts stocking.
- Consolidated system-wide reporting and management information.

Characteristic #14
Opportunities for Chandler

- As mentioned previously, consider using parking technologies to help control parking facilities.
- Funds should be set aside to fund periodic technology upgrades and replacements.
- Provide sufficient training to ensure the equipment is used to its fullest potential.

Staying informed of new technologies can help provide the parking system with the best tools available to achieve its specific goals. Customer service levels can also be enhanced through the use of AVI systems, web-based permit renewal programs, pay-on-foot payment stations, etc.

Characteristic # 15: Parking System Marketing, Branding, and Promotion

In general, this is one of the most neglected and undervalued aspects of parking system management. The following is a list of potential action items that can help launch a new parking program:

- Develop a consistent parking system "brand".

- The brand should promote the image you want people to have of the system.
- A "brand" is more than a logo or tag-line.
- The brand should reinforce the positive aspects of the system.
- Use consistent external signage to tie the system together.
- Have a parking tie-in to most promotional materials.
- Develop new employee/tenant parking brochures or information packets.
- Develop parking "E-Bulletins" to be distributed to monthly/contract parkers.
- Develop strategies for regular contact with customers.
- Look for practical opportunities to connect the parking program to community initiatives, for example: develop parking deck floor identification (themed graphics, music, etc.) as an extension of a local public arts program.
- Use your monthly parking billing system to distribute system info and promotional materials.

Characteristic #15
Opportunities for Chandler

- Consider providing a recognizable brand for the parking system (e.g., Downtown Tempe Community's "ParkiT" program).
- Incorporating the designated brand in parking-related signage and wayfinding will help visitors find public parking spaces.
- Incorporate the parking system brand in all parking-related marketing materials.
- Work with downtown business organizations to distribute parking-related marketing information in other downtown marketing efforts.
- Create a downtown parking map.
- Recruit downtown businesses to help disseminate parking-related marketing information.

Characteristic # 16: Positive Customer Service Programs

All communities and organizations benefit when the parking system functions at a high level and contributes to positive customer experiences. Because parking is often the first and last impression customers have of a downtown, providing a high level of customer service is important not only to the parking program, but also to the business interests it serves.

Recommended customer service strategies can include (but not be limited to):

Characteristic #16
Opportunities for Chandler

- As mentioned previously, consider creating a Downtown Parking Ambassador program to provide parking enforcement and customer assistance.
- Consider providing safety escort services for businesses located in the commercial core.
- Consider providing other services (e.g., tire inflation) or contract with a local towing company to provide these services at a reduced cost.
- Consider creating a downtown parking website to provide parking information.
- Consider implementing a tiered parking enforcement fine schedule to reduce the impact of parking enforcement on downtown visitors.

- Focus on employee training and good hiring practices.
- Institute performance measurements and utilize the results for company and employee incentives.
- Create and implement a parking services program (battery jumps, lock-outs, flat-tires, safety escorts, audio book check-out, etc.)
- Improve website and links (e.g., provide opportunities to pay fines, obtain information such as downloadable maps, rate schedules, and special event info).
- Measure program effectiveness (customer surveys, etc.)
- Implement a secret shopper program to evaluate customer service.

Characteristic # 17: Special Events Parking

Coordinating parking for special events, almost more than any other parking management activity, requires a coordinated and cooperative effort with the larger community. Some of the keys to success in this area include the development of a well-defined special events policy and detailed systems for the coordination of special events.

Characteristic #17
Opportunities for Chandler

- Work closely with special event venues and sponsors to ensure all needs are addressed.
- Consider using temporary event signage to direct patrons to designated parking areas.
- Consider using parking staff during large events to help direct visitors to parking.
- If possible, hold events in areas other than parking lots to maximize available parking.
- If needed, consider using parking facilities located outside of the study area to provide additional parking (e.g., parking lots north of Chandler Boulevard).

An important dimension is the development of strong relationships with key stakeholder groups that are active in the downtown. Providing practical incentives for other groups to communicate with the parking system in their planning processes is critical. Also, be consistent in providing those that work with the parking system a high level of service. Conversely, provide disincentives for those that ignore the special events parking policy or chose to not include parking in their planning.

Characteristic # 18: Effective Enforcement

Having an effective parking management program requires that the rules and regulations be enforced. The key to an effective parking enforcement program is clearly defined and communicated regulations, attitude, consistency, and fairness. Successful parking operations have adopted the philosophy of being customer focused, not revenue or violator focused.

The following are enforcement program elements that help assure that the program avoids some common challenges.

- Define who sets enforcement policies, and have an approved process for occasional review of assessment of enforcement policies.
- Make sure your parking enforcement policies are developed to achieve the specific issues that need to be addressed.
- Evaluate the legal issues and specific laws or ordinances that support your enforcement policies.
- Define who is responsible for day-to-day parking enforcement. Have a central number that all customers and affected parties know to call for info regarding parking enforcement.
- Assure that parking rules, regulations, and consequences are clearly posted.
- Assure that staff understands, and can articulate, the intent behind enforcement policies and regulations.
- Clearly define and communicate how enforcement revenues are to be collected and used.
- Have a clearly stated process for adjudicating parking citations.
- Make paying for parking citations as easy as possible.
- Provide incentives for early citation payment and disincentives for late or non-payment.

Characteristic #18
Opportunities for Chandler

- Parking enforcement must be consistent to be effective. Consider more consistent enforcement of short-term public parking.
- Instead of relying on police for parking enforcement, consider using Downtown Parking Ambassadors.
- Consider using computerized parking enforcement technologies.
- If the responsibility for parking enforcement is pulled from the police, additional work will be needed to provide a citation appeals process, citations collections, billings, etc.
- Enforcement should be focused on encouraging conformity with parking regulations, not revenue generation.

Characteristic # 19: Parking and Transportation Demand Management

Because the cost of providing parking can be very high, strategies to manage parking demand are an important consideration in parking system planning. Incorporating parking and transportation demand management also ties into environmental goals and objectives such as the desire to reduce pollution, decrease traffic congestion, reduce reliance on single occupant vehicles, etc.

When evaluating options to reduce parking demand, one effective strategy is to integrate transportation/parking demand management strategies into your parking program philosophy. A few best practices in this area include:

- Use parking rates as a tool to promote desired behaviors.

- Take advantage of employer-paid and employee-paid pre-tax benefit options.
- Promote carpool/vanpool programs.
- Provide preferential parking for carpools/vanpools.
- Subsidize transit passes for downtown employees.
- Provide a guaranteed ride home program for those who participate in transportation alternative programs.
- Integrate bicycle racks and storage lockers in parking facilities.
- Show transit stops on parking maps.
- Provide remote parking options and promote park and ride alternatives.

Characteristic #19
Opportunities for Chandler

- Institute pay parking.
- Encourage the use of alternative modes of transportation:
  - o Subsidize transit passes for private business employees in the downtown.
  - o Set-up a carpool matching service.
  - o Provide sufficient bicycle paths.
  - o Make the downtown more pedestrian friendly.
- The development of a downtown transit station will help improve transit use.
- Improve transit service and headways.
- Use development zoning codes to encourage the use of alternative modes of transportation, as well as reduce parking needs and traffic.
  - o Provide for parking reductions based on shared parking, carpooling, bicycle racks, transportation demand management initiatives.
  - o Limit the amount of new parking provided in the downtown (parking caps) when possible.

Characteristic # 20: Awareness of the Competitive Environment

Another characteristic of effective parking programs is that they are aware of their competitive environment. One of the most fundamental practices that all parking programs should engage in is a formalized process for evaluating parking market rates. It is recommended that parking market rate surveys be conducted annually to help maintain an awareness of the competitive climate. This information can also be valuable during annual budget planning.

Characteristic # 20
Opportunities for Chandler

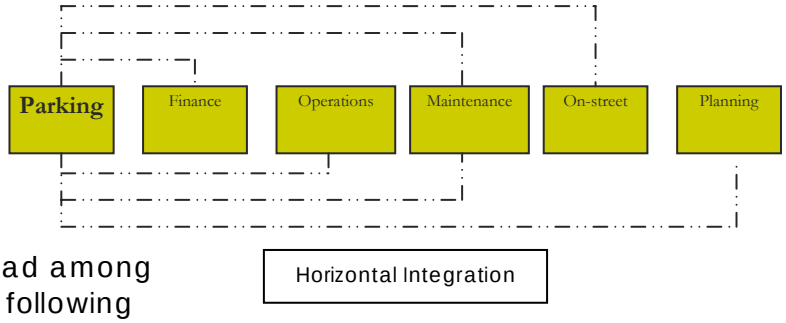
- Periodically review parking management practices in nearby communities, as well as other similarly sized/situated communities to determine best practices.
- Ensure that the parking in downtown is managed in a manner that encourages visits and maximizes the utilization of available parking supplies. Provide:
  - o consistent enforcement;
  - o fair parking rates;
  - o sufficient long-term parking;
  - o and, adequate signage and wayfinding.

Another dimension to staying competitive is being aware of what parking systems in other municipalities are doing. What has been tried? What has worked? What hasn't? Participating in national, regional, and state parking associations, as well as sending key staff to parking conferences, are good ways of developing a network of contacts to help you stay up-to-date on the latest technologies and management practices.

The importance of parking as one of the most visible and often controversial elements of a downtown's infrastructure is often underestimated. Parking, when well managed, can be a key component in attracting and supporting new development, and is essential to sustaining a wide range of healthy and vibrant environments. Future parking system strategies and guiding principles must address each of the twenty characteristics addressed in this section in order to provide an effective parking program.

4.03. Parking System Organization and Management

City involvement in parking management is currently limited to designating on-street parking locations, cleaning and maintenance of existing publicly-owned parking facilities, and parking enforcement. There is currently no single city department responsible for parking management. Parking related responsibilities are currently distributed among several departments (e.g., police are responsible for enforcement, traffic deals with on-street parking spaces, planning deals with parking requirements).



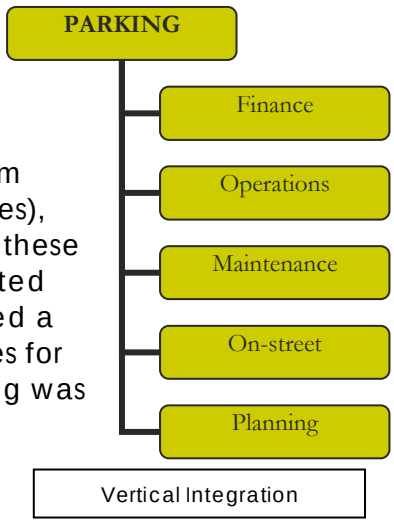
Many parking systems, especially in municipal or district environments have evolved over time into organizational structures that ***Carl Walker*** has termed "horizontally integrated". This means that various parking system components are spread among multiple departments or entities. The following example illustrates how many municipal parking systems evolved:

- There was a need to establish a parking function. The initial need was to manage on-street parking supplies. Because the Public Works Department already managed the streets, this function was located under Public Works. In some communities, the city's traffic department was initial responsible for on-street public parking.

- When the need for an enforcement function achieved critical mass, this was logically assigned to the Police Department.

- Over time, off-street lots and parking structures were added. The management of these resources was placed under the Facilities Management Division, because they managed the city's other real estate assets and facilities.

- Soon there was enough revenue being generated that an audit/accounting function was established to ensure the accurate accounting of revenues and expenses. This function was placed under the Finance Division.



In a horizontally integrated parking program, where each department only manages one aspect of the parking system (such as on-street parking, enforcement, or parking structures), no one has responsibility, or the perspective, to manage all these interrelated components as a system. In one study completed by ***Carl Walker***, where different departments each managed a small amount of the parking supply along with responsibilities for several other areas, the observation was made that "parking was everyone's part-time job, but no one's full-time job".

While it may not be necessary, or even desirable, to completely integrate all parking and transportation functions under a single "vertically-integrated" model, at least consolidating all parking functions under one management structure is recommended for long-term system management.

As the parking profession has evolved, several very effective parking system organizational models have emerged. Each of these models has its own strengths and weaknesses depending on several factors including the parking system's size, degree of development, programs offered, political landscape, community goals, etc. Four successful and commonly utilized organizational models are:

- A Consolidated ("vertically-integrated") City/District Department model;

- The Parking Authority model;

- The "Contract" or Business District model;

- The Parking District model.

There are of course several variations and hybrids of these models, but these are the four primary alternatives commonly seen across the country. Each of these models

will be detailed in more depth in the following sub-sections, but they all have one common factor that contributes to their success: They all address the major problem associated with the "horizontally integrated model" previously described.

When evaluating which organizational option will work best in a specific community, it is important to ask community stakeholders to create a prioritized set of evaluation criteria. A typical list of criteria would include determining which organizational option:

- best supports economic development;
- best reflects the image and personality of the community;
- is most efficient/cost effective;
- is most customer-friendly;
- is most politically feasible;
- is most focused on the vision;
- is easiest to achieve;
- is most responsive to businesses and stakeholders;
- is most financially viable;
- provides the most effective coordination.

The following is a brief description of parking system organizational models that have shown demonstrated success in recent years. Each description is illustrated by an example of a specific program based on that model.

Consolidated ("Vertically Integrated") City/District Department Model

A Consolidated "Vertically Integrated" City/District Department Model is essentially a typical department – lead by a department head and a varying assortment of support staff. The defining characteristic of this model is that the department director has complete responsibility for the management of all parking related program elements. The primary elements of these being:

- off-street parking facilities;
- on-street parking resources;
- parking system planning;
- parking enforcement.

There are numerous other related areas that can become involved including (but not limited to):

- Transportation demand management (Trip Reduction Programs, Preferential Parking for Car/Van Pools, transit programs, etc.)
- Parking system branding, marketing, and community outreach.

- Implementation of new technologies.
- Parking system planning (e.g., zoning, financial planning).
- Residential permit parking programs.
- Interface with downtown redevelopment and economic development.

The City of Fort Collins, Colorado has a consolidated parking management program that incorporates off-street parking (parking structures and surface lots), on-street parking (time-limited on-street spaces), and parking enforcement. The city's parking manager also has developed a program to promote effective coordination and collaboration with the owners of private parking to better support evening restaurant parking and special event demands. Another initiative arising from this integrated approach was that the city embarked on a parking technology assessment. A key feature of this assessment was to identify technology options that could link on-street/enforcement systems (Auto-Vu LPR enforcement technology/T-2 systems software) with the next generation of off-street parking equipment. This type of creative and integrated thinking is more common in systems with a vertically-integrated organizational structure.

The Parking Authority Model

Parking authorities typically operate with a small staff and engage a private parking operator to manage day-to-day operations. One advantage of the Parking Authority model, especially in a municipal setting, is that it puts all the major parties at the same table. This helps stakeholders gain a deeper appreciation for the competing agendas between constituents.

The defining characteristics of a Parking Authority Model can include:

- It has a defined mission and vision.
- It is governed by a detailed management agreement.
- Often has bonding capability.
- Most often has responsibility for all aspects of parking operations (off-street, on-street, and enforcement).
- It is typically headed by a President or Executive Director.
  - Because of this, they tend to attract the highest caliber parking management personnel.
- The President or Executive Director reports to a board (Typically 7 – 15 members).
- The board is comprised of influential and invested downtown stakeholders.
  - Board composition typically includes:
    - High level city staff.
      - Mayor or City Manager (or appointee).

  - Director of Finance.
  - Director of Public Works.
- Property owners/developers.
- Downtown association members.
- Chamber of Commerce representative.
- Large downtown employers.

Although the authority may not control all of the parking in a downtown area, that does not mean they cannot affect the entire downtown. In Toledo, Ohio, the Downtown Toledo Parking Authority (DTPA) so dramatically transformed the operations in its three facilities that all the other private parking operations were forced to follow suit. Now virtually all downtown parking facilities have attendants in new uniforms, customer service training for front-line staff, parking structure interiors are painted white, new customer friendly parking technologies and programs are being installed/instituted – all following the DTPA's lead.

The "Contract" or Business District Model

In a surprising number of communities across the United States, downtown business improvement districts or downtown associations are taking operational responsibility for parking. Similar to the Parking Authority Model, the Contract or Business District Model is governed by a well defined operating agreement that sets specific expectations and limits on the use of parking assets. These contracts or agreements must typically be reauthorized every 3 – 5 years based on whether the defined contract goals were met. If reauthorized, it is not uncommon for new goals and program objectives to be set for the next contract period.

In Boise, Idaho the off-street parking program is professionally managed by the Capital City Development Corporation – the city's urban renewal agency. Through the aggressive use of tax increment financing combined with a strategy of leading other desired development with parking infrastructure investment, downtown Boise has become a national model of downtown resurgence.

Another example of this model can be found in Tempe, Arizona. The City of Tempe does not own any significant parking facilities, only a few small surface parking lots. In Tempe, the need for a coordinated parking system solution to provide a more user friendly experience for visitors drove the downtown organization – the Downtown Tempe Community, Inc. (DTC) – to create what amounts to a parking management overlay program. Working with the owners of the off-street parking assets, they created a parking system management plan. Through creative signage, a common parking validation program, and extensive marketing, they branded the parking system to such an extent that it

appears that Tempe has a well managed and comprehensive parking program, although they do not own all of the individual assets. DTC acts, in essence, as a private parking management firm. They manage all parking staff and programs themselves, and return all profits to the facility owners (keeping a modest management fee). The DTC also manages the city's on-street parking resources and reinvests on-street parking revenues back into the downtown.

The Parking District Model

The Parking District Model is slightly different than the previously defined model, but as mentioned earlier, the one common element of all of these successful models is the goal of creating a "comprehensive parking management function" under the control of one leader ("vertical integration").

The characteristics of a parking district include:

- They typically have a defined area with set boundaries.
- They may have a special assessment that applies to all properties within the district.
  - This revenue generally goes toward defined district improvements, but could be restricted to parking or transportation related projects.
- They are generally run by an Executive Director or President (although some are run by city department heads).
- All revenues are collected and managed by the district for reinvestment in the district.
  - In some cases, if revenues exceed operational or capital program needs, the additional funds or returned to the city's general fund.
  - In other cases, the city assesses the district a fee based on a percentage of net revenues in-lieu of not assessing property taxes on the parking facilities. This money goes to the city's general fund.
- Revenue sources typically include:
  - Special assessment revenue (if applicable).
  - Off-street parking revenue.
    - Could include miscellaneous revenue sources such as: advertising (in parking structures), vending machines or retail space rental (mixed-use parking facilities).
    - Could also include special event parking revenue.
  - On-street parking revenue.
  - Parking enforcement revenue.

Parking Districts have made some significant contributions to the communities they serve. For example, in Boulder, Colorado, the Downtown and University Hill

Management District/Parking Services can boast the following list of accomplishments (all paid for with parking district revenues):

- Funding of the Eco-Pass Program - $700,000 for 2006.
  - This program gives all downtown employees a free bus pass and contributes to a 62% modal split among downtown employees (reducing parking demand).
- Repayment of a $3.4 million Mall Improvement Bond - $500,000/yr.
  - This is a good example of the parking program contributing to community economic development.
- Payment of Parking Structure Debt Service Obligations.
  - Parking district revenues fund the development costs of downtown public parking structures as well as all parking operating and maintenance costs.
  - One of the more impressive parts of this program has been the leadership in defining appropriate design guidelines for parking structures.
    - Only mixed-used structures are permitted.
    - They must incorporate street level retail and be architecturally consistent with the downtown fabric. Some have been multi-modal in nature – integrating transit functions with parking.

Carl Walker strongly recommends that the City of Chandler work to create a vertically-integrated downtown parking system, whether it is a city department, a newly created parking authority, or some other entity. The process of organizing the management of the parking system will take time and should be set up to maximize the benefits of a coordinated parking system into the future, not just appeasing the needs of today. All downtown public parking assets should be incorporated into the parking system including off-street parking lots, on-street spaces, enforcement, and fine collection. All parking revenues should flow toward the goals of the parking system, in concert with the designated parking guiding principles. If the system is financially stable and achieving its goals, then revenue could be diverted to other associated needs. The parking system can also serve the following functions:

- A clearinghouse for downtown parking information.
- Provide support for private parking owners/operators.
- Participate in the planning and development process within downtown.
- Develop policies and procedures based on approved guiding principles.
- Develop parking system mission and vision statements to reflect alignment with downtown development programs strategic goals.

With respect to a preferred management organization, ***Carl Walker*** recommends that the city strongly consider the creation of a downtown parking district managed by

either a parking authority (or at least an advisory parking commission) or a downtown business organization (similar to Tempe and Mesa). If a parking authority is used, the Board of Directors is a critical element of this model and should be made up of 7 – 11 members including representation from the City of Chandler (e.g., council members, city traffic department, community development) and other downtown town stakeholders (e.g., private parking lot owners, business owners, property owners, residents). The Board of Directors is an effective means of making sure that the needs of all downtown stakeholders are represented and that the policy direction detailed in the guiding principles are being translated into practical procedures and operational improvements.

Whichever management organizational model is ultimately selected, ***Carl Walker*** strongly recommends that a person within the city be designated (or perhaps an experienced parking management professional be hired) as responsible for coordinating downtown parking planning and management efforts. This would provide a single point of contact for parking related issues, and help begin to widen the city's perspective of overall parking issues/challenges. This person would be responsible for parking planning and management until a preferred management structure has been selected.

Prior to organizing a new management structure for parking, the city will need to delineate where the management organization will focus their efforts. The newly created downtown parking management organization would be tasked with managing parking in the "Downtown Chandler Parking District." The borders for this district could initially match the study area for this report (see page 2 for a graphic of the study area). While issues such as residential permit programs could apply to surrounding areas, the parking management organization will focus on parking issues within the downtown parking district.

In addition to defining district boundaries and selecting a preferred management structure, the city will need to determine what revenue streams will be available to fund parking operations, management, and new facilities. Ideally, the parking system should be provided with the following revenue streams (but not limited to):

- Pay Parking Revenues: Pay parking revenues would include monthly parking in public parking lots, as well as pay visitor parking in off-street and on-street areas.

- Parking Enforcement Revenue: If parking enforcement responsibilities are incorporated into a larger downtown parking system, revenues generated from parking fines should be used to fund parking needs.

- Advertising Revenue: The parking system may be able to generate additional revenue through advertising local businesses and/or events on parking tickets or in parking facilities.

- Parking In-Lieu Fees: The amount generated using this option will ultimately depend on how often the alternative is used. However, the fee should be set to cover at least the projected construction cost of new parking structures.

- Special Assessments: Within the downtown parking district, the city (or Parking Authority) could decide to institute special assessments to generate additional funds to pay for parking operations, management, and future construction.

- Transfers from Other City Sources: The city may designate other funds to support the downtown parking system (e.g., other taxes or assessments).

- Tax Increment Financing (TIF): If available in Arizona in the future, the city could explore opportunities to fund new parking construction using tax increment financing.

Financing the construction of future parking facilities could be accomplished in a number of ways. Common options for financing public parking facilities include:

- Bonds: The city could issue bonds backed by tax revenues or special assessments to finance parking facility construction. The bonds could be either tax-exempt or taxable. Tax-exempt bonds would cost less to repay (due to lower interest rates), but would limit how much of the parking could be reserved for specific land uses. Taxable bonds would be more expensive, but the city would have more flexibility in how the new parking is managed.

  Revenue bonds would not be an option as the parking system does not generate any revenue to cover bond debt. However, in the future, sufficient parking-related revenues could be generated to cover bond debts. Also, the city could pledge more than one revenue stream to repay revenue bonds (double-barreled bonds).

- In-Lieu Fees: As previously mentioned, in-lieu fees could be collected from downtown developments and reserved for the construction of new facilities.

- Federal/State Programs: If a new parking facility incorporates an alternative transportation component (e.g., bus transfer center), or is constructed to support an economic development initiative, federal or state funds may be available to support construction.

- Public/Private Partnership: The formation of a public/private partnership in the construction of a parking facility could allow the city to construct a structure while minimizing funds needed. This option could work in a number of ways. First, the city and a private developer could split the cost of the parking facility. This would allow the municipality to construct needed spaces while saving on design, equipment, and other consulting/environmental costs. Second, the city could offer land it owns for the construction of a private parking structure that would in turn provide some amount of public parking. In this instance, the city would have the parking spaces it needs without having to construct them. Finally, the city could incentivize private parking construction by providing a development with tax abatements or other development incentives. The developer would then be required to provide their own parking, with the municipality in effect subsidizing its construction.

4.04. Pay Parking and System Management Technologies

Once parking management and operations alternatives have been decided, the city will need to determine what technologies will be implemented to ensure parking is efficient, effective, and accountable. Applicable parking technologies will depend on the user groups served, where the parking spaces are located (e.g., on-street vs. off-street), and whether or not pay parking is implemented.

Parking management technology exists to help parking asset owners and managers do their jobs more efficiently. In the following sections, this report will introduce and discuss parking management technology options for the City of Chandler. In general, only technologies that address the current and future issues described elsewhere in this report are presented.

The concept of pay parking will be an important component in the future management of the downtown Chandler parking system. In order to generate the funds necessary to effectively plan, manage, and operate the downtown parking system, sufficient revenues will need to be generated through some combination of in-lieu fees, special assessments, and/or pay parking. As a significant amount of time may be necessary for in-lieu fees to make an impact on funds available to the parking system, instituting pay parking for on-street and off-street public parking may be a necessity. Instituting pay parking in the downtown parking district will also help improve parking turnover and encourage the use of other modes of transportation. Therefore, most of the parking technologies reviewed for this study are geared toward pay parking alternatives.

The following technologies are used across the county by municipal parking systems and can be successful depending on the specific operating requirements of the

environment. Typical methods of operation are described in the following sub-sections, along with pros and cons relevant to potential downtown Chandler parking needs:

Off-Street Parking Facilities

Most off-street parking technologies provide options for collecting and auditing revenues, tracking facility utilization data, and operating control equipment. An additional feature that many of these systems can incorporate are variable message signs that can be used to direct patrons to available parking supplies, or even available supplies within individual parking facilities. These signs would be controlled using a comprehensive parking management system, and could display parking space counts, lot closed/open text, and/or other directional information.

The technologies discussed in this section would be most applicable to a future public parking structure (or existing private facilities). The existing surface parking lots would most likely incorporate another on-street technology (e.g., pay-and-display, pay-by-space, pay by cell phone) to collect parking fees, but could use an access card technology for any designated permit parking areas.

The following technologies are used in larger off-street parking lots and parking structures:

Traditional Exit Cashiering

For cashiered exit lanes, a fee computer would be employed to compute parking fees and track transactions. A parking fee computer is a standard point of sale terminal that includes a ticket validator and printer. When a patron enters the parking facility, they would take a ticket from a ticket dispenser. The central computer system would then record the ticket number of the ticket issued for processing at exit (usually using a bar-code), or the data would be stored on the ticket's magnetic stripe. When the patron was ready to exit, they would first present their ticket to the cashier. The cashier would insert or swipe the ticket through a reader/verifier, at which point the system would compute the parking fee. The cashier would then collect the fee from the patron and the exit gate would open after the fee is collected.

These systems typically cost approximately $45,000 to $55,000 per set of entry and exit lanes, depending on the options selected (not including shipping, handling, and conduit needs). A cost of a centralized control system, including

a control computer and necessary software, may depend on the number of devices connected to the system or the services included with the software. The cost of a centralized management system could be approximately $20,000 to $40,000, plus the cost to install necessary communications and power conduit to each parking lane device.

Advantages to traditional exit cashiering include:

- Familiar to most parkers.
- Human response to problems and equipment malfunctions.
- Person to answer questions and provide directions.
- Can provide a higher level of customer service.
- Typically lower initial equipment costs.
- Flexibility in dealing with special parking needs or other situations that may arise.
- Customers would be able to park as long as they like, without having to make another payment to a parking meter or similar device.
- Less parking enforcement would be required.

Disadvantages could include:

- Increased labor costs.
- Increased supervision required.
- Increased management and administrative costs.

Central Cashiering
The same type of equipment used for exit cashiering could be configured in a central cashier format. In this situation, instead of paying a cashier at exit, customers would pay at a central cashier point before walking to their vehicles. For this to work, parkers must keep their parking tickets with them so they will have them to pay at exit. This setup works similarly to a pay-on-foot machine setup, described later. At exit, the customer would insert their paid ticket into an exit verifier machine that would confirm the fee has been properly paid. If the fee has not been paid, the customer would either be asked to pay at the central cashier or could be asked to insert a credit card for payment.

The cost of implementing this method of operation would be similar to the traditional exit cashiering option, although additional equipment would be necessary. The cost of providing exit verifiers in each lane would be $15,000 to $20,000 per exit verifier (plus shipping, handling and installation).

Central cashiering advantages include:

- Human response to problems and equipment malfunctions.
- Person to answer questions and provide directions.
- Can provide a higher level of customer service compared to automated equipment.
- Typically lower initial equipment costs than pay-on-foot machines.
- Flexibility in dealing with special parking needs or other situations that may arise.
- Customers would be able to park as long as they like, without having to make another payment to a parking meter or similar device.
- Less parking enforcement would be required.

Disadvantages to central cashiering could include:

- Increased labor costs (over fully automated systems).
- Increased supervision required.
- Increased management and administrative costs.
- No attendant presence on lanes (increased response time to lane equipment malfunctions)
- Requires customers to take tickets with them after they park.
- Additional signage is required to remind customers to take their tickets with them when after they park.

Pay-on-Foot Machines

Pay-on-foot machines can provide the quickest parker exit times, as payment is taken away from the exit lanes. This equipment allows patrons to pay for parking before they get to their vehicles and enter an exit lane. Patrons would take a parking ticket from a ticket dispenser as they enter the facility. Then, they would take the ticket with them, instead of leaving it in their vehicle. When they are ready to leave, they must first insert their parking ticket into an automated pay machine. The machine(s) would be located in the facility, adjacent to pedestrian entrances (e.g. stair entry points, elevator lobbies, etc.) The machine would compute the parking fee, collect payment from the parker, and then return the ticket to the parker. The parker will then have a set amount of time to exit the parking facility before additional parking fees are assessed. At exit, the parker simply inserts their parking ticket into an exit verifier and they leave the facility. The exit verifier could also be configured to accept credit cards if the patron fails to pay at the pay-on-foot machine.

This equipment costs approximately $50,000 to $80,000 per machine, depending on the equipment options selected (not including the cost for a centralized system management, exit verifiers, other equipment, or installation). Also, additional signage is required to alert parkers to take their tickets with them. An escape lane may be required at exit for those that forget to pay for their parking at the pay-on-foot machine. The escape lane would permit the vehicles to repark, without exiting the facility.

Advantages to pay-on-foot machines include:

- Reduced labor costs.
- Flexible payment options.
- 24-hour automated cashiering capability.
- Flexible parking fee programming.
- Faster vehicle exit times.
- As fee collection would be controlled by the system, cashier mistakes/theft less likely.
- Customers would be able to park as long as they like, without having to make another payment at a meter or similar device.

Disadvantages of pay-on-foot could include:

- Can be more difficult for customers to use. The implementation of pay-on-foot would require a significant customer education effort.
- Equipment is more expensive.
- Customers may forget to take their parking tickets with them, or lose their tickets.
- May require the creation of escape lanes at the exit of each facility, to provide a means for customers to clear exit lanes if they failed to pay their fee at the pay-on-foot station.
- If a machine fails, patrons could be severely inconvenienced.
- Lack of a direct human response to questions or concerns. This disadvantage could be reduced through the use of roaming "parking ambassadors"; however, labor expense savings would be reduced.
- Additional signage is required to remind customers to take their tickets with them when after they park.

Pay-in-Lane Machines

Pay-in-lane machines can allow for the collection of parking fees without a cashier being present. The machine is placed in an exit lane, and would collect the parking fee from the parker directly. An exiting parker would insert their parking ticket into the machine, and the machine would compute the parking fee and collect the payment. While this equipment reduces the need for

cashiers (saving payroll expenses), it increases parker exit times as each transaction takes longer to process.

This equipment costs approximately $30,000 to $50,000 per machine, depending on the equipment options selected (not including the cost for a centralized system management, exit verifiers, other equipment, or installation). While this equipment reduces the need for cashiers (saving payroll expenses), it increases parker exit times as each transaction takes longer to process.

Advantages to pay-in-lane machines include:

- Reduced labor costs.
- Flexible payment options.
- 24-hour automated exit lane coverage.
- Flexible parking fee programming.
- As fee collection would be controlled by the system, cashier mistakes/theft is less likely.
- Customers would be able to park as long as they like, without having to make another payment at a meter or similar device.
- As payment is made at exit, there is no worry of customers forgetting to pay their fee at a central point before exiting.

Pay-in-lane disadvantages could include:

- Can substantially increased exit times. This can be a significant concern during periods of high exiting traffic.
- More difficult for customers to use. The implementation of pay-in-lane would require a significant customer education effort.
- Equipment is more expensive.
- If a machine fails, customers could be stuck in exit lanes.
- Similar to the pay-on-foot option, there is a lack of direct human responses to concerns. This disadvantage could be reduced by using roaming "parking ambassadors"; however, labor savings would be reduced.

Credit Card In and Out

Credit card in – credit card out equipment allows parkers to use a credit card to enter a parking facility, and then use the same card at exit to pay for their parking fees. For example, at the facility entrance a parker would insert their credit card into a reader. The reader would record the credit card number for vehicle duration tracking. This system would not require the parker to pull a ticket from a ticket dispenser. Then, when the parker is ready to leave, they would insert the same credit card into a reader at exit. The credit card number would be retrieved from the system to determine how long the vehicle was

parked, and the appropriate fee would be charged to the credit card. The system could also be configured to accept credit cards are exit only, using a parking ticket pulled by the customer at entry. This equipment is most popular in airport environments; however, they could provide an auxiliary solution for municipal operations as well.

The credit card payment could be batched for nightly processing, or it could be processed while the vehicle is in the exit lane. Batched processing provides a quicker exit, although a small percentage of cards may be declined later. Batch processing can also lead to greater fees charged by the bank, as more risk is involved with processing credit cards after the sale has been completed.

This equipment costs approximately $70,000 per entry lane/exit lane configuration (not including the cost for centralized system management, other equipment, or installation).

Credit card in – credit card out advantages include:

- Reduced labor costs.
- 24-hour automated cashiering capability.
- Flexible parking fee programming.
- Faster vehicle exit times.
- As fee collection would be controlled by the system, cashier mistakes/theft is less likely.
- Using the option of accepting credit cards at exit could help augment traditional exit cashiering.
- Customers would be able to park as long as they like, without having to make another payment at a meter or similar device.

Disadvantages could include:

- A full card in and card out system would require parkers to use the same card at entry and exit. This can cause some confusion if the customer uses multiple credit/debit cards.
- The equipment can be more expensive in some cases.
- If a machine fails, patrons could be severely inconvenienced and stuck in an exit lane.
- If card processing is batched, some cards will be declined after customers have gone.
- This system cannot completely replace cash payment.

- Would require an escape lane and alternative payment strategy for patrons unable to use the equipment.
- Similar to the previous two options, there is a lack of direct human responses to questions or concerns. This disadvantage could be reduced through the use of roaming "parking ambassadors"; however, labor expense savings would be reduced.

Access Card Technology
Access cards are used by monthly parking customers to gain access to the parking facility. There are several access card technologies typically utilized by municipalities. Typical access card technologies would include bar-code, magnetic stripe, proximity card, and automatic vehicle identification (AVI) tags.

The first two alternatives (bar-code and magnetic stripe) function in a similar fashion relative to the parking customer. The customer pulls into an entry/exit lane and swipes their access card through a card reader. The reader then reads the bar-code or magnetic stripe and determines if the card is valid. Both card technologies can provide both general card access and parking debit card capabilities. A significant advantage to these technologies is that they can provide an extra level of flexibility in providing low cost parking management options. For example, each system could allow for preprinted paper parking passes for special events, valet parking, special parking passes, etc. Some disadvantages to these technologies are that they require a card swipe at the reader, bar-code cards can be duplicated, the action of swiping a card can wear readers and dirty reading surfaces, and they can take longer to process at entry/exit points.

Another technology is based on proximity access cards. This technology requires parking patrons to present their parking access cards to a card reader, but not swipe them through the reader. Once a card is presented to a reader, the system will determine the validity of the card. Like the first two technologies, proximity cards can provide standard parking access and parking debit cards.

The final access card technology is AVI (Automatic Vehicle Identification), and uses radio frequency identification tags. As the monthly parker approaches the entry/exit lane, the AVI reader sends a signal that detects the tag (typically placed on the lower driver-side portion of the vehicle windshield), with the tag responding with the necessary identifying information. The system then determines the validity of the tag and performs the necessary functions (e.g., open entry/exit gates). The main advantages of AVI technology are increased entry/exit throughput and better customer service (e.g. customers don't have to roll down their windows and present a card, faster entry/exit, etc.) However, the

installation of an AVI system can be more costly than the other access card technologies, and the cost of access tags can be higher.

The costs of implementing these systems range from $2,000 to $5,000 per card reader and $2.00 (bar-code and magnetic stripe cards) to $20.00 (high-end AVI tags) per access card/tag.

On-Street Parking Spaces

On-street parking technologies will generally provide assistance in two areas: enforcing posted parking time-limits and collecting parking fees. While the institution of pay parking will be an integral part of future parking management in downtown Chandler, not all on-street parking spaces will have a level of utilization in the foreseeable future that would justify an investment in pay parking equipment. Therefore, some on-street spaces in the downtown study area would be recommended for pay parking (e.g., in core areas or spaces with high levels of utilization), while other on-street spaces would utilize time-limits. Recommendations on where to implement pay parking versus time-limited parking are discussed at the conclusion of this section.

Time Limit Enforcement Technology

Parking time limits can be a useful tool for encouraging turnover. While state-of-the-art parking management principals suggest using duration-sensitive pricing instead of time limits (e.g., the first hour is $0.50, the second hour is $1.00, and the third hour is $2.00), it is likely that some time-limited parking will remain in Chandler for the foreseeable future. Time limits have traditionally been enforced by one of two methods: tire chalking and license plate inventories. New technologies, including Mobile License Plate Recognition and wireless parking sensors, can dramatically increase parking enforcement efficiency.

To compare various parking technologies, they are generally measured against their potential "enforcement efficiency". This is a measure of the average amount of time spent by a Parking Enforcement Officer (PEO) to identify a parking time limit violator. Higher efficiencies can result in either more citations being issued by the same number of PEO hours, or the same number of citations being issued in fewer PEO hours.

Traditional Time Limit Enforcement Methods

With tire chalking, PEOs pass by parked vehicles and mark their tires using a piece of chalk on the end of a metal rod. PEOs then return to the area after the posted time limit has elapsed and check for tire marks – if they are present, the parked vehicles are assumed to have not moved and are issued citations

With license plate inventories, PEOs pass through the area and record license plate numbers on paper or in a handheld computer. Again, once the time limit has elapsed, the PEO returns and checks for the presence of vehicles with the same license plates – if they are present, they are assumed to have not moved and are issued citations.

Both of these "low-tech" methods have a number of problems, though they also have some benefits. Problems include:

- Vehicles citied may not in fact be in violation – tire chalk can remain on tires after a short drive (a block or two) and a vehicle that has moved a few spaces may be in compliance with the law, but found to be in violation by either method.

- Both methods fundamentally require two or more "passes" – the first to mark or record occupying vehicles, and the second to check for their continued presence. This means that the first citation of each day cannot be issued until at least the minimum time limit period has passed since the start of the PEO's shift – and if all spaces use two-hour limits, that means at least a quarter of each PEO's typical shift is spent not issuing citations.

- Tire chalking is subject to driver "interference" – if a driver notices a chalk mark on their car's tire, they can simply rub it off to "reset" their time of occupancy and avoid getting a citation on the next pass by the PEO.

- Tire chalking is difficult in diagonal and parallel parking spaces due to the extra distance from the PEO location to the marked tire – generally PEOs must move on foot, instead of in a vehicle, when marking non-parallel parked cars, which significantly decreases enforcement efficiency.

- Tire chalking and license plate inventories put PEOs at risk of Repetitive Strain Injuries (RSI) and other workplace hazards. Reaching out the door of a moving vehicle to chalk tires, or repeatedly keying plate numbers into a handheld device, both have the potential to cause workplace injuries and the resultant insurance claims, increased insurance rates, and lost productivity.

Possible benefits of tire chalking or license plate inventories can include:

- Both methods are relatively inexpensive to implement and are very flexible to accommodate changing parking rules.

- Both methods are well understood and accepted by the courts and the public.

- Parking enforcement officers are more available to the downtown community and more aware of their surroundings.

New Time Limit Parking Enforcement Technologies

A couple of technologies to improve time limit enforcement efficiency have recently become available. These include Mobile License Plate Recognition (MLPR) and Wireless Parking Sensors (WPS). Both technologies are more expensive to implement that the "low-tech" methods discussed above, but both offer dramatic efficiency increases that can easily pay for the extra implementation expenses.

An MLPR system is essentially a semi-automated, vehicle-mounted version of the license plate inventory approach previously discussed. Instead of manually entering license plate numbers, the MLPR system uses cameras, computers, and a GPS receiver to quickly read the license plate of each parked car that is passed by the MLPR vehicle and note the location of that plate number. Then, when the PEO drives past the same area on a subsequent pass, the plate numbers and locations are again read and compared to the previously recorded data. If the same plate is seen in the same location, the PEO is alerted and a citation may be issued.

Numerous variations of MLPR systems exist: some identify cars by color, shape, and size, others record plate numbers for issuance of citations by mail instead of by the PEO, and others are handheld instead of vehicle-mounted. All MLPR systems share the same problems and benefits. Problems include:

- MLPR systems are expensive. Vehicle-mounted systems start at about $50,000, without the vehicle, and go up to over $100,000 including the vehicle. Handheld systems start at about $10,000 for the first handheld, and at least $5,000 for each additional handheld.

- MLPR systems don't catch as many violators as manual license plate inventories. Testing of a leading vendor's vehicle-mounted MLPR system

found that only about 80% of plates were recognized correctly on each pass. In subsequent passes, the unrecognized plates varied, requiring some operator input to correct misreads and to identify time limit violators. Plate recognition was especially poor on older and weathered license plates.

- Vehicle-mounted MLPR systems are generally set-up for either parallel or diagonal/perpendicular parking, but not both. To accommodate all types of parking, additional costs are incurred for extra cameras and mountings, and enforcement efficiency may decrease as PEOs switch the system between parked car types.

- MLPR systems still require two or more passes to identify time limit violators, like tire chalking and manual license plate inventories. This has the same problem discussed above of making the first hour or two of each day's PEO time un-productive in terms of citation issuance.

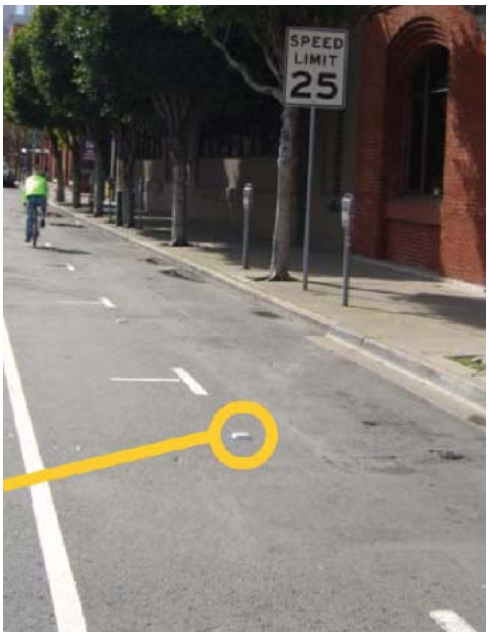
- Parking enforcement officers may spend more time in vehicles, and will be perceived to be less available for visitor questions, etc.

However, MLPR benefits can include:

- Despite the "multi-pass" problem noted above, MLPR systems can offer significant increases in PEO efficiency. Vehicle-mounted systems can be driven at up to 25 M.P.H. while recording plates, allowing a PEO to patrol a larger area. However, if the MLPR vehicle is constantly stopping to issue citations, the enforcement efficiency will increase only somewhat over manual methods.

- MLPR systems can be loaded with various license plate databases, including parking ticket scofflaws and stolen vehicles. When a plate in the databases is identified, the PEO is alerted and appropriate action may be taken.

Wireless Parking Sensors (WPS) are the very latest in parking time limit enforcement technology. As such, they offer the greatest potential parking enforcement efficiency gains, but they also have the shortest history of use by parking systems. Unlike all of the other parking enforcement technologies presented herein, they also have significant benefits for parking management outside of enforcement, which makes them beneficial to more stakeholders and may reduce their effective cost.



WPS systems include sensors, receivers, enforcement interfaces, and reporting interfaces. Sensors are small, simple electronic devices that are installed within each parking space. They are either permanently adhered to the pavement surface, or they are installed in a small hole drilled into the pavement. Each sensor includes a detector (typically magnetic), a battery (typically lasting 4-6 years), and a radio to communicate parking events. Sensors detect when vehicles enter and exit each parking space – they don't identify the vehicles, but they do identify the spaces and the time of events. Sensors may also include memory to store parking events when no wireless communications are available.

Receivers are either permanently installed on light poles and other elevated positions around the sensors, or are integrated into enforcement devices – regardless, the receivers collect the parking event data from the sensors and relay it to a database server on the internet.

The enforcement interface is a dedicated handheld device, or an interface on a general-purpose handheld (like a mobile phone or a parking enforcement handheld) that allows PEOs to quickly identify which vehicles are violating parking regulations.

The reporting interface is typically a secure web page that allows parking managers, and even city residents, to view aggregated parking behavior data, regardless of violations. This last point is important – unlike all the other parking enforcement technology described in this report, WPS systems collect parking behavior data for every parking event, not just for violations – this means that the WPS system is useful for making decisions on parking rules, requirements, and other management decisions that might be made by planners, traffic engineers, economic development staff, even local chambers of commerce and merchants.

WPS systems, like all of the technologies previously described, have problems and benefits. Problems include:

- Wireless parking sensors must be installed in each individual parking space. This means that if the number of spaces monitored is to double, the sensor

costs will roughly double. With other technologies, expansion to cover additional areas may occur at little or no incremental cost beyond additional PEO time.

- WPS systems typically require delineated spaces for accurate enforcement. While parking behavior can be collected from unmarked spaces, issuing citations based on sensor data requires the spaces to be marked. In parking lots this is not an issue, but some on-street spaces are not currently marked.

- WPS systems are a relatively new technology. As such, there are few long-term or widespread deployments to consider when reviewing WPS systems and vendors. Additionally, all new law enforcement technologies must be reviewed and "approved" by a court of law, and in most jurisdictions this review of WPS systems has not yet occurred.

Potential WPS benefits can include:

- Most WPS systems are sold as services – instead of customers buying the hardware and related implementation services, vendors will install and service the systems in return for a subscription fee. This reduces the up-front costs to the city, and greatly reduces the risk exposure due to new technology. If the system fails to perform as promised, the city can simply stop paying the service fees. Many parking technologies are sold as a system, with large upfront payments required - regardless of how well the system actually works in the field.

- In addition to capturing parking violation data, WPS systems capture and report all parking behavior. As noted above, this parking survey information can be very useful to many stakeholders in improving the management of the parking resources.

- In a wirelessly connected WPS, the city may use real-time violation information, available via a web browser, to dispatch PEOs to where they are required. By replacing patrols with directed, optimal dispatch, PEO efficiency can be increased dramatically.

- In all WPS systems, regardless of their real-time data capabilities, highly accurate historical violation reporting can be used to optimize parking enforcement beats, routes, and PEO scheduling. For instance, if historical data shows that violations on the west side of town don't typically start occurring until after 11am, then the PEO responsible for that area could be

redeployed early in the morning, or their shift could be rescheduled. These adjustments can result in large enforcement efficiency improvements.

WPS systems, unlike all of the other time limit enforcement systems previously described, allow "one-pass" time limit enforcement. The first time a PEO passes a given parking space on a given day, they can issue a citation. There is no need to come by earlier in the day to chalk tires or record license plates. This single factor presents the largest opportunity for parking enforcement efficiency improvements.

Pay Parking Technologies

The following technologies are used to collect fees for on-street parking spaces, but can also be used in smaller off-street parking lots:

Traditional Parking Meters

Parking meters are very common, and most customers will find them easy to use. Electronic meters are now available that almost never jam and can alert parking enforcement when overtime parking has occurred. These parking meters are relatively inexpensive and easy to maintain. Also, they can now provide additional customer conveniences such as payment using smartcards and prepaid cash keys. However, they are prone to vandalism and can detract from the aesthetics of the downtown. Also, as they rely on the honor of customers paying them, the installation of parking meters will require sufficient parking enforcement to encourage people to pay to park.

Traditional parking meter advantages include:

- Ease of use.
- Simple setup and management.
- Can be less expensive to purchase and install than multi-space meters, depending on the number of spaces covered (e.g., typically $500 to $750 per meter, depending on options).
- Software is available to improve the auditing of funds and help provide additional utilization data.
- Can accept coins, smart cards, and "meter keys".

Disadvantages include:

- Limited to the types of payment accepted.

- Requires coin collection and counting time.
- Less esthetically appealing than other options.
- Requires sufficient parking enforcement.
- Mentally limits customer stays, as they have to either leave or continue feeding a parking meter.

In-Vehicle Parking Meters
An in-vehicle parking meter is a small electronic device that parking customers can purchase or rent from the municipality to use in designated on-street parking spaces. The customer pre-pays for parking, and the time-value is loaded into the in-vehicle meter. When the user parks in a designated area, they turn on the meter and typically hang it from the vehicles rearview mirror. The appropriate amount of time is deducted by the parking meter until the customer returns to their vehicle and turns the meter off. Parking enforcement officers can see the meter as they patrol the area and determine if the vehicle is parking appropriately.

In-vehicle parking meter advantages include:

- Relatively easy to use, although some time is spent monitoring use and purchasing more time.
- Relatively simple to setup and management.
- Reduces coin counting and revenue auditing.
- Software is available to improve the auditing of funds and help provide additional utilization data.
- No need for the user to carry change.
- Reduces the impact of stay limits, as the unit will deduct time until all time has been exhausted (although parking time limits could also limit stays).

Disadvantages include:

- Used primarily by frequent downtown visitors or employees, not periodic (occasional) visitors.
- Units can be lost or stolen, and can be costly to replace.
- Requires sufficient parking enforcement.

Pay-by-Space or Pay-and-Display
Pay-and-display and pay-by-space machines can be used in situations where the visitor parking area consists of on-street spaces or a set number of parking spaces in a lot. These

machines are placed on block faces (typically mid-block), and customers pay their fees to the machine after parking their vehicles. For example, after a customer has parked his/her vehicle, they walk up to a pay machine. They pay for the amount of parking they think they will need by inserting the payment into the machine. Payment could be accepted using cash, debit, credit, or some other prepaid card.

The difference between the two machine types is simple. Pay-and-display machines require parkers to take a receipt from the machine after making payment and put it on the dashboard of their vehicle to prove they paid. Pay-by-space machines require parkers to note which space number they parked in before reaching the pay machine. They then enter the space number into the machine and pay their fee. Parkers using a pay by space machine are not required to display a receipt in their vehicle.

Additional parking meter technologies could include cell phone payment options and warning notices before overtime parking occurs.

Pay-and-display and pay-by-space machine advantages include:

- Simple setup and management (although enforcement is needed).
- They can accept multiple forms of payment.
- Flexible in setting parking rates.
- Can be less expensive than other parking equipment options (depending on the number of spaces covered). Systems range from $12,000 to $15,000 per unit.
- They can be more aesthetically pleasing than traditional parking meters.
- They can incorporate other features, such as pay-by-cell phone.

Disadvantages include:

- Requires sufficient parking enforcement.
- Mentally limits customer stays, as they have to either leave or pay at the machine again.
- Slightly more difficult to use than traditional parking meters.
- Pay-and-display machines require patrons to go back to their vehicles to display receipts.
- Pay-by-space machine could result in patrons having to go back to their vehicles if they did not note their space number.
- Additional signage would be required to help patrons park properly.
- The use of these technologies may prove cumbersome for large visitor areas.

- If a machine malfunctions, the revenue for an entire block face can be lost.
- There is a lack of direct human responses to questions or concerns. This disadvantage could be reduced through the use of roaming "parking ambassadors"; however, labor expense savings would be reduced.

Parking by Cell Phone
This technology would work similarly to a pay-by-space machine, but instead of paying the fee at a nearby machine, the customer would call a phone number using their cell phone. After calling the number, the customer would enter the space number on the space/meter, and the parking fee would be billed to an associated credit card. A sensor could even be located in the space that would determine when the vehicle has left, and the proper fee would be charged. This technology can eliminate some of the negatives of meter and multi-space meter technology, such as returning to meters to pay for more time, machine malfunctions, mentally limiting stays, and displaying receipts. Also, the costs to implement a pay-by-cell system can be very low. However, payment options could be significantly reduced, depending on the set-up of the system.

With respect to off-street parking facilities, future public parking lots/structures should incorporate pay parking – or at least the capability of providing pay parking (e.g., equipment islands and conduit). Existing off-street surface lots could incorporate multi-space meter technologies to collect fees (for visitor parking spaces) and possibly access card technologies (for permit spaces) in some areas, assuming the lots will remain in existence long enough to justify the expense of the investment. Larger parking facilities constructed in the future could incorporate exit cashiering, pay on foot, or other similar technologies.

Based on existing and anticipated future parking demands, on-street parking will likely be a mix of pay parking and time limited parking. Implementing pay parking on specific block faces would be a function of parking demand. On-street spaces with consistent parking demands greater than 85% at peak would be potential locations for pay parking. Multi-space parking meters would be recommended (e.g., pay by space), and they could incorporate pay by cell phone. Parking rates would be set to encourage a parking utilization of 85% to 90% per area.

Based on the parking occupancy counts completed in November, there are several areas that either currently exhibit a substantial level of utilization or will in the future. The possibility of instituting pay parking in Lots 9C, 9D, 10A, 10D, 10J, 10K, 13D, the on-street parking on the south side of Block 13, and the on-street parking on the north side of Block 16 should be explored. Other on-street parking spaces could remain time limited, providing a level of choice for downtown parkers. Streets not mentioned could provide longer time limited parking (greater than four hours); especially the spaces located

around blocks 17, 18, and 16 (until future development occurs). Pay parking on other streets would be implemented when parking demand and turnover conditions dictate.

If pay parking is implemented in the future, it will be necessary to improve the control of other parking areas. This could be accomplished through permit enforcement and/or installing access control equipment.

With respect to possible future parking rates, on-street parking should be more expensive than off-street parking. On-street parking provides a higher level of convenience to most parkers; therefore, it generally has a higher level of demand. Also, structuring parking rates to encourage the use of off-street parking will help keep on-street parking available for short-term downtown visitors.

To help alleviate the burden on downtown visitors, the city (or parking management organization) could create some sort of parking validation program. Parking validation program alternatives would depend on revenue control equipment options selected. For example, if parkers pay for parking fees as they leave a parking facility (post-pay operation), local businesses could purchase validation stamps or use electronic validators, to help cover some portion of a customers parking charge. If customers pre-pay for parking, businesses could reduce the cost of purchases made by customers in relation to some portion of the parking charge. Finally, while not a parking validation program per se, the city could decide to offer some amount of free parking in off-street parking facilities to reduce parking fees paid by customers (e.g., first hour of parking free).

4.05. Parking Enforcement Strategies

The success of any parking management program requires an effective enforcement component. Regulations are intended to produce parking patterns that utilize the on- and off-street parking inventory efficiently; this will only happen if on-street rate structures, time restrictions, and other rules are enforced with sufficient frequency so that drivers see an advantage to parking legally. Building an enforcement program requires making many critical strategic and tactical decisions which can greatly impact a program's success and ability to adapt with changing conditions. This sub-section addresses several of those key decision areas.

Parking Enforcement Goals

The vast majority of people believe that revenue generation is the primary goal of enforcement. Quite the opposite is true. It is critical that all associated with the parking program recognize that enforcement is intended to contribute to achieving the desired mix of parking behaviors. As such, key customer service values such as education and fairness must be stressed. It follows, therefore, that key measures of

performance should include parking indicators such as occupancy and turnover, violation and capture rates, as well as public acceptance of the program.

This is not to say that the successful collection of fines and penalties is not one among many legitimate goals. Parking citations will only have a deterrent effect if they are issued correctly, processed in a timely manner, and the resulting fines and penalties collected. Furthermore, citation revenues are a favorable byproduct of enforcement, and are particularly valuable if used to support and enhance the parking program.

Responsibility for Parking Enforcement

Responsibility for parking enforcement in Chandler currently rests with the Police Department. Placement of enforcement within the local Police Department is typical of many jurisdictions, especially smaller cities and towns. It can have a number of advantages:

- Reliance on an existing command structure.
- Use of existing communications networks.
- Availability of Parking Enforcement Officers (PEOs) for emergency duties, such as intersection control, as needed.
- Greater respect for PEOs as members of the Police organization.

However, there can also be disadvantages:

- Second class status, with enforcement not viewed as "real" Police work.
- Excessive diversion to non-enforcement activities.
- Separation from the larger parking management program, including failure to relate enforcement activities to other parking-related goals.
- Police departments are not often experienced in managing the "backend" collection programs necessary to achieve high citation closure rates.

A popular alternative to Police oversight of parking enforcement is to place the function in the governmental unit with responsibility for the overall parking mission. For Chandler, this could be another city department, a future Parking Authority, a downtown business organization, or some other parking management entity.

Benefits of this approach include:

- Directly linking enforcement activities and personnel to the larger parking mission.
- Greater likelihood that performance will be evaluated in conjunction with parking goals and actual parking dynamics.

- Devotion of all PEO hours to parking-related duties.
- Citation fines and penalties become one component of a larger accounts receivable system managed by the responsible unit (especially if an Authority model is chosen).

Disadvantages include:

- A need to build new organizational structure within the "owning" department or authority.
- A need to share Police resources (such as communications networks) or build them from the ground up.
- Potential lowering of public respect for PEOs.

As noted in Sections 4.02 and 4.03, ***Carl Walker*** recommends that the city transfer responsibility for parking enforcement to a vertically-organized department or authority responsible for the downtown Chandler parking program. However, we believe that Police officers should continue to enforce health and safety regulations. As suggested above, transfer of the enforcement responsibilities would increase the likelihood that enforcement goals and performance are aligned with overall parking goals, and facilitate the coordination of all parking related resources.

Transferring parking enforcement responsibilities would also provide the opportunity to transform the responsibilities of the PEOs from only parking enforcement to "Downtown Parking Ambassadors". Instead of only enforcing parking regulations or assisting with traffic direction, the Parking Ambassadors could also provide visitors with information and directions, as well as provide a level of additional security in and between parking facilities. This will improve perceived security in the downtown area and will help improve overall customer service.

Defining Parking Enforcement Policies/Practices/Staffing

If the city's parking plan is to be successful, it is essential that enforcement activity not be driven by anecdotal evidence or become a response to the loudest voices. Rather, there must be a consistent thread running through the larger goals of the program, the policies established and strategies used to achieve those goals, the regulations which govern their application, the application of enforcement to achieve the goals, and how success is evaluated. That common thread is data, collected at regular intervals, on occupancy, turnover, violation rates and capture rates, and the collection of direct parking revenues and citation fines. Thus, for example, when the city determines that it needs to meet a particular level of parking demand on certain blocks, it would decide on a policy and approach (time limits, meters with time limits, etc.), make sure the proper regulations and signage are in place, assign PEOs to enforce those regulations, measure the impact against

a desired goal (such as occupancy of 85-90%), and then adjust meter rates, patrol assignments, fines, etc. to reach parking goals.

To be most useful, industry "standards" should be adapted to local conditions and needs. The following standards are presented as possible starting points for setting goals for downtown Chandler:

- Overall occupancy rate: 85-90%;
- Meter occupancy rate: 90-95%;
- Paid meter occupancy rate: 70-85%;
- Unpaid legal meter occupancy rate (disabled, official business, etc.): up to 15%;
- Meter violation rate: 5-7%;
- Meter capture rate (unpaid): 30-40%;
- Overtime capture rate: 20-25%;
- Average duration of stay: 67-140% of time posted limits.

Ideally, the program's goals and policies would be developed through a formalized process led by the lead department or authority, but also incorporating input from local businesses, residential communities, city development staff, and staff involved in parking management. Additionally, as suggested above, such goals should be reflected in specific, measurable targets for parking in the downtown and adjacent areas which might be impacted by development and an increase in parking demand.

Following this model has a number of key benefits:

- It allows enforcement activity to be directly linked to clear, non-monetary goals.
- By documenting reality, it moves discussion from "what is happening" to what should be happening and how to move things in the proper direction.
- It provides elected officials with specific data to evaluate complaints from residents, businesses, etc.
- It supports better-informed decisions regarding the number of enforcement personnel needed and how/where they should be deployed.

In our experience, the existence of hard data and analysis often produces greater support for enforcement and other parking management strategies. For example, some merchants will oppose time limits or adequate enforcement until shown clear evidence that their customers cannot park near their stores because employees and/or other owners park all day along retail curbsides. For this reason, ***Carl Walker*** strongly recommends that the entity managing the parking program have sufficient resources to conduct such analyses on a regular basis. This can be done by a city

or authority analyst (perhaps using technology such as MLPR or in-ground sensors as discussed in previous sections), by use of consultants, or a combination of the two.

One issue that often arises during the discussion of parking enforcement is the fear that increased parking enforcement will discourage people from visiting downtown, or will unfairly inconvenience those that do visit. In order to help mitigate this fear, ***Carl Walker*** recommends an approach that reduces the impact on downtown visitors and increases the penalties on continual parking policy violators. This is typically achieved through the use of an escalating fine structure. For example, the first ticket for a specific offense received within a certain timeframe (e.g., every six months or per year) is an automatic warning. The second ticket received within the set timeframe would result in a fine, perhaps $20. The third ticket received for the same offense within the set timeframe would result in a higher fine, perhaps $40. The fine would continue to escalate to a maximum fine to discourage breaking the same regulation. This would reduce the impact on visitors, as it is less likely they will continually break the rules. However, the penalties will continue to grow for downtown employees abusing set parking time-limits or failing to pay parking meters.

With respect to staffing, one on-duty PEO should be sufficient to provide consistent coverage to the core downtown areas with significant parking demand (e.g., Blocks 9, 10, 13, and 16). PEO coverage should begin at 8:00 a.m. each weekday and end at 8:00 p.m. Weekend coverage should also be provided if parking time limits or pay parking times are in effect.

Citation Issuance and Processing Technology

The selection of sound citation issuance and processing technology/services can be a difficult task, and it may be getting more complicated. That is because the integration of meter, handheld, and processing technologies has greatly increased in recent years. Currently, a number of vendors now offer a vertical suite of technologies based on wireless communication. For example, this allows the latest pay-by-space multi-space meters to communicate with in-ground sensors to identify vehicles improperly occupying a space, and then communicate with the enforcement office or a passing PEO via a handheld issuance device so that a citation can be issued. In the past few years, a more recent trend has companies integrating off-street revenue collection/control equipment with on-street multi-space meters. As a result, purchasing technology is increasingly becoming a matter of choosing a system rather than individual components.

In procuring new technology, the city has several options, but some are more theoretical than others. The first option is to purchase individual components (handhelds, processing software, meters if used, and other technologies - such as

wireless parking sensors (WPS) or MLPR equipment) and take responsibility for integrating it into a working system. While this would allow the city to pick the best available technology in each category, it is highly risky because it requires a high degree of specialized knowledge and experience to integrate the pieces correctly. This can also expose the city to finger-pointing among the suppliers if integration is not successful.

The second option is to purchase a comprehensive hardware and software solution from a single vendor who becomes responsible for successful integration. This is becoming an increasingly attractive option, but also has pros and cons. The advantages include:

- Requirement of a single procurement process and decision.
- Better projections of costs since purchases are made at one time.
- Greater ability to check solution performance with existing users.
- Vendor is experienced in integrating the components.
- Single provider makes contract management easier.
- Ability to implement unified solution at one time.

Disadvantages include:

- Unified solutions usually include components of varying quality; no single vendor has the "best" of everything.
- Potential to become vendor-captive if performance is sub-par or vendor does not keep pace with competitors.
- Risk of implementing solution all at once.

The third option is really a blend of the first two—selecting a vendor responsible for recommending industry leading and compatible components and then integrating the technologies that the city chooses. The advantages of this option include:

- Ability to choose best option in each category.
- City staff not directly responsible for integration.
- Vendor has experience with different brands of equipment and software.
- Ability to check vendor performance with existing clients.
- Ability to implement unified solution at one time.

Disadvantages include:

- Cost of entire solution may be higher than single-vendor solution.
- Greater potential for problems during integration.
- Difficulty in passing sole responsibility for solution to the prime vendor.
- Longer timeframe for implementation.

Because so many decisions remain to be made in Chandler, it is neither possible nor practical to make firm recommendations regarding how the city should pursue improved technology at this time. Decisions regarding the introduction of pay on-street parking, the extent of time limits, the use of permits, etc., will materially impact the type of technology needed and the sophistication needed to integrate that technology. Moreover, the technology is advancing rapidly in both capability and potential for integration, so that the available solutions and options for implementation may be very different in as little as six months. However, the use of computerized parking enforcement equipment would be recommended when feasible.

Administration of the Adjudication Process

Adjudication is an important aspect of parking enforcement. Even the best enforcement programs issue some citations for which the vehicle owner is not ultimately liable. Thus it is critical that the public have a fair, accessible process by which they can contest a citation. In truth, a sound, fair adjudication process helps validate the entire enforcement effort.

Ideally, citation recipients wishing to contest a fine should be offered an administrative review by email, regular mail, or by telephone prior to more formal action being required. Parking system staff would be authorized to dismiss certain citations based on specific documentary evidence (such as a disabled placard). If the citation is upheld and the recipient remains unsatisfied, he or she could be required to post the fine and have a hearing before an appeals officer, board, or city court. If still unhappy, he or she can pay a fee and schedule a hearing in higher level court. At the last two stages, all posted fines and fees would be returned if the citation is dismissed.

Carl Walker recommends that if responsibility for enforcement is transferred to another department or an authority, the hearing process be separated organizationally from enforcement. This could be done in several ways. One option, followed by many cities, is to use a per diem attorney as a hearing officer. This would probably require two days a month, perhaps less. Another option is to choose someone from the parking program with sufficient subject matter expertise, but not directly associated with parking enforcement staff or duties.

Collection of Fines and Penalties

In the discussion of enforcement goals, it was stressed that revenue should not be the primary goal of parking enforcement. While this is true, parking managers must also do everything practical to collect all fines and penalties once imposed on

violators. Citations lose their deterrent value if the jurisdiction collects only a small percentage of the citations for which the vehicle owner is found liable.

Fortunately, the collection tools and supporting technology available to cities have improved in recent years, and the city can employ additional tactics.

Imposition of late penalties
If citations remain unpaid or uncontested for a certain amount of time, the fine is amount is increased. However, the longer one has to make up his or her mind about a parking citation, the greater the chance it will be forgotten or ignored. ***Carl Walker*** believes that a 15-day window is ample and fair.

Noticing
Additional notices could be sent to parking violators concerning outstanding parking tickets.

Registration Non-Renewal
If allowed under Arizona law, vehicle owners could be required to satisfy outstanding parking citation debt before renewing his or her registration.

Booting/Towing
Vehicles found with a certain number of outstanding parking citations (perhaps five or more) could be immobilized (booted) and/or towed. While booting and towing programs can be very effective, they can also be labor intensive (since enforcement staff must also be assigned to release the boot once the debt is paid). In addition, if the owners of booted vehicles do not come forward within a reasonable period of time (usually 24 to 48 hours) the city must be prepared to tow the vehicles to a secure storage location. Many cities contract out this service to a tow vendor who provides both towing and storage services.

Carl Walker recommends that the City of Chandler consider utilizing a consistent booting/towing program, even if it were operated only several days a month. This would not only provide some direct revenue from the booted/towed vehicles, but would also generate publicity that would probably cause other scofflaws to pay voluntarily.

Credit Bureau Reporting
Many cities are now reporting outstanding parking fines to one or more of the national credit reporting agencies. In today's economic climate, a poor credit report will usually not prevent an individual from getting credit, but may well increase the interest rate he or she must pay. Therefore, most vehicle owners have a strong incentive to protect their credit rating. However, this tool must be used carefully. Many cities consider it too harsh, and its use can lead to

numerous complaints. It is important that the parking system obtain the informed consent and support of elected officials before starting such a program.

Use of Collection Agencies
The city could contract with a collection firm specializing in parking fines. Such firms know the issues associated with parking citations, and have programming in place to accept vehicle-based referrals and report payments for application to the correct plate/citation. The city must be careful, however, to structure any such contract so that the vendor is not rewarded for collections which they did not actually produce. Many such contracts, for example, do not pay the agency a fee for payments following the booting of a vehicle or on payments made for citations while filed at DMV for registration non-renewal. If the city does opt for additional collection services, the city could pass on the collection fees to the violator as an additional penalty.

By enhancing its citation collection efforts, the City of Chandler can both boost its revenues and increase the deterrent impact of citations in modifying parking behavior.

4.06. Parking Signage and Wayfinding

Currently, parking signage in the downtown is limited to no parking signage, time limit signage, standard public parking directional signs, and private parking/tow away signage. In order to better direct visitors to available parking, the city should provide adequate wayfinding signage to locate public parking facilities as well as parking facility regulations. Ideally, parking signage should be part of a larger downtown wayfinding system. Directional signage should be provided to help visitors locate parking resources within the downtown, depending on the type of parking they need. Then, signs should be located in each parking lot that provides a name for the lot, who can park there, as well as any specific restrictions. For example, signage should be located on Arizona Avenue to direct visitors to appropriate public parking lots or on-street supplies. Then, signage in each parking lot would identify the public parking lot, as well as any necessary restrictions. Parking signage should be simple to read, and match the basic design of other wayfinding signage being designed by the city.

Directional signage should be placed on local streets to direct visitors to both on-street and off-street parking options. Additional parking identification signs should be placed at the entrances to each significant public parking location to denote public parking and any applicable restrictions (e.g., fees, time limits). A possible sign design for on-street parking could include a “P” with a circle around it and the following wording: “Visitor Parking – 2-Hour Limit” or “Public Parking - $1.00 per Hour”. This signage will simultaneously reinforce visitor parking and a specified time limit.

Some of the no-parking signage currently in private parking lots can discourage visitor use, as they are fairly threatening and not clear as to who is authorized to park. While reserved parking signs are common, they should clearly denote which business the parking serves. Ideally, parking located behind businesses should first be used by employees, in order to keep the spaces reserved and open more on-street or other public parking for visitors.

Parking directional signage could be installed in the following locations:

Figure 15. Possible Parking Directional Signage Locations

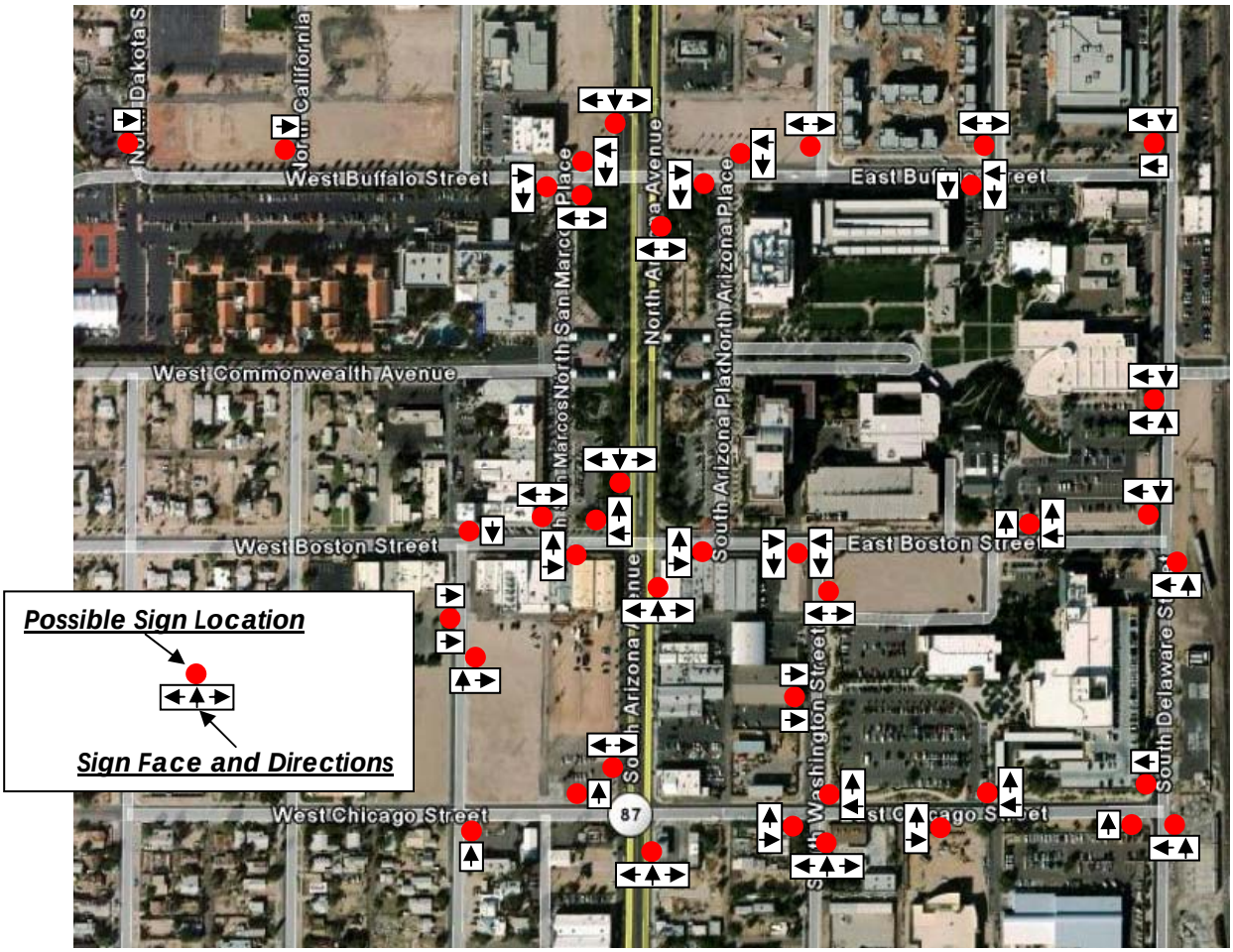


Figure 16 illustrates parking signage used by other communities:

Figure 16. Sample Parking Signage

4.07. Parking Security and Lighting

A common concern in many communities is the need to improve security and lighting in parking lots and on pedestrian paths to/from parking areas. This section will provide options for improving parking facility security and lighting.

There are basically two types of parking facility security options: passive security and active security. Passive security refers to designing a facility to create a secure environment, without the need for an active human security response. This typically includes eliminating potential hiding places, appropriate lighting levels, low-level landscaping around the parking facility perimeter, etc. These elements promote a secure environment.

Active security refers to the addition of systems that require a human response, such as panic alarms, closed-circuit television, etc. While passive security creates an environment that deters criminal activity, sometimes additional steps are necessary to further discourage crime or to improve perceived facility security.

Clearly, all public facilities should embody the concepts of Crime Prevention through Environmental Design (or CPTED), and parking is no exception. According to the National Crime Prevention Institute, CPTED is "... the proper design and effective use of the built environment which may lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life." Parking facilities should be properly landscaped, lines of sight should be unobstructed, potential hiding places should be eliminated, and adequate lighting should be provided. Local law enforcement should be able to provide a CPTED review of city parking facilities and provide additional security design recommendations.

Several active security methods could be included in public parking facilities to improve real and perceived security. First, panic alarms could be installed in parking areas. These alarms would generate a loud noise when activated, and could also incorporate a pulsating light to indicate where help is needed. Several types of alarm systems are available including wireless systems with intercom features. The intercoms could provide a voice connection directly to local police in the event of an emergency. Ideally, the alarms should be placed within a 100-foot walking distance from anywhere in the parking area. Other active security measures, such as closed-circuit television, would not be recommended at this time due to costs and/or the lack of personnel to continually monitor the system (liability concern).

Parking facility lighting should be sufficient to help avoid vehicle accidents, provide visibility of pedestrian hazards, deter criminal activity and meet parking industry lighting standards. A minimum horizontal illuminance of 0.5 footcandles (measured on the parking surface, without any shadowing effect from parking vehicles, trees, etc.) is recommended for enhanced security in parking lots by the Illuminating Engineering Society of North America (IESNA RP-20-98). The recommended minimum vertical illuminance (measured at 5.0' above the parking surface) is also 0.5 footcandles. In order to reduce the amount of light scatter, fixtures that direct light downward onto the parking lot (cutoff luminaire) are recommended. For parking structures, ***Carl Walker*** recommends a minimum illuminance of 1 to 2 footcandles as measured on the parking surface. In order to determine if lighting is sufficient in parking areas and pedestrian pathways, ***Carl Walker*** recommends that the city conduct parking-facility specific and larger downtown lighting studies in the future.

4.08. Loading and Delivery Parking

During the parking inventory and occupancy counts, ***Carl Walker*** did not observe any occurrences of delays or inconveniences associated with delivery vehicles in the downtown. Currently, delivery vehicles park on-street, in off-street parking facilities and/or in no parking areas to deliver products and services to downtown businesses. There are currently no designated loading zones in the downtown.

Delivery vehicles can impede traffic flow, block alleyways, block visitor parking spaces, and inhibit pedestrian visibility. Deliveries can often create an environment in conflict with visitor and employee parking, pedestrians, and other groups. However, delivery vehicles are an inevitable component of downtown business. Obviously, the loading/unloading needs of delivery vehicles will increase as the downtown continues to develop.

Although delivery vehicles cannot be removed from downtown, their impact can be minimized through coordinated efforts among area businesses. Potential strategies for addressing delivery vehicle challenges could include the following:

- Delivery vehicles should be discouraged from parking on narrow streets and in no parking zones. Delivery parking in these areas can cause traffic delays, cause visitors to wait to enter or exit the on-street public parking and can cause pedestrian obstacles.

- The city should consider the creation of delivery loading zones in strategic locations. The loading zones would provide time-limited parking for delivery vehicles, and provide a designated loading area. The zones should be appropriately marked, typically with yellow curb paint and stenciling or signage. These loading zones should be developed with assistance from downtown businesses and future developments in order to mitigate delivery problems as demand grows.

- The city should identify specific delivery vehicle concerns and work with downtown businesses to encourage deliveries during off-peak parking periods (e.g., mornings), as well as encourage the use of smaller delivery vehicles whenever possible.

4.09. Parking Communications and Marketing

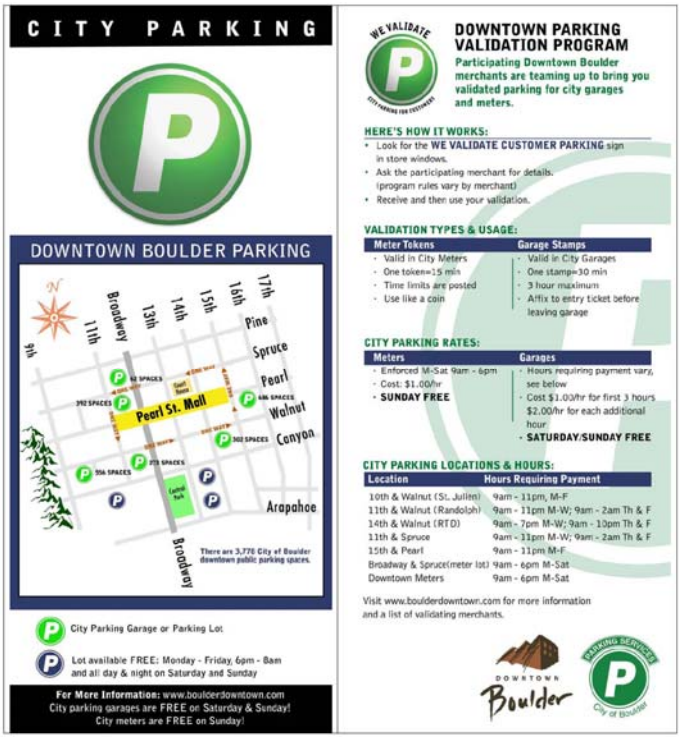
While the current downtown parking system is not overly complex, a breakdown in communications can foster a perception of parking problems. Parking communications and marketing refer to two key issues. First, communicating parking policies, regulations and services to parking customers. Second, communicating

parking system issues, challenges and improvements to downtown community stakeholders.

Communicating parking policies and regulations to parkers is typically done through the use of parking maps and the city (or future parking organization) website. One-page parking maps could be created to show the locations of public parking supplies, provide downtown parking policies and regulations, provide contact information for questions and provide other downtown information (see Figure 17). These maps would be available at city offices, the Chamber of Commerce, and at downtown businesses. The map would also be available for download from the city website. Other downtown marketing materials, either developed by the city or other organizations, should include parking information for visitors.

In addition to communicating parking system issues to the downtown community, the parking system needs an easily identifiable "brand". The city (or parking organization) will need to develop a branding strategy and incorporate these concepts into downtown parking marketing efforts (see Characteristic #15 on page 68).

Figure 17. Sample Parking Map



Improving communications with downtown stakeholders could be accomplished through periodic parking-specific input meetings (perhaps twice per year), annual parking system reports, and parking staff involvement in appropriate downtown organizations (e.g., Downtown Chandler Community Partnership, other business groups, Chamber of Commerce). All of these options provide opportunities for the parking system to provide information concerning downtown parking conditions to stakeholders, in addition to gaining valuable public input.

4.10. Incorporating Parking and Transportation

The concept of integrating transportation and parking elements as part of the larger strategic vision for the downtown supports the adoption of a "Park Once – Pedestrian First" planning concept. This concept encourages employees and visitors to park their vehicles in one location and then use another form of transportation to move around the downtown with excellent pedestrian, transit, parking, and bicycle facilities. This concept will become very important as the downtown develops.

Several key action elements are needed to achieve this vision and are outlined below:

- Provide adequate transportation options for people visiting/working downtown. A possible future downtown transit center could provide improved mass transit options for downtown visitors and employees. As parking management changes in the future (e.g., improved parking enforcement, increased utilization, implementation of pay parking) other transportation options will become more attractive. As previously mentioned, options could include (but not be limited to):
    - Encouraging telecommuting programs.
    - Preferential parking for carpools/vanpools (e.g., prime parking spaces, reduced parking fees/rates)
    - Future parking cash-out programs – requiring employers that subsidize employee parking to provide the benefit in cash as well.
    - Ensuring sufficient bus routes and headways.
    - Adequate bicycle racks/lockers.
    - Using available funds generated by the parking program to fund reduced cost or free transit passes for downtown employees.

- Institute pay parking for all visitors and employees to improve the utilization and turnover of existing parking supplies, encourage the use of alternative modes of transportation, and generate funds that can be used to improve streetscapes, transportation options, etc.

- Ensure downtown streets and sidewalks adequately serve the needs of pedestrians, transit users, bicyclists, and vehicles with the focus on serving pedestrians first. This element can be supported by:

    - The creation of safe, attractive, shaded, and inviting pedestrian linkages to connect downtown destinations and parking facilities. Sidewalks are currently provided throughout the downtown, and other planning projects (e.g., the South Arizona Avenue Corridor Study) provide guidance to improve linkages in the future.

    - Ensuring pedestrian crossings across local streets provide sufficient time for people to cross. For example, this will be important if parking supplies on the east side of Arizona Avenue are used to support the businesses located on the west side or for special events throughout downtown.

    - Where necessary, using traffic calming strategies such as speed humps, lower speed limits, on-street parking, etc. This could be especially important on active streets, such as San Marcos Place, Arizona Place, and Boston Street.

    - Where possible, including bicycle paths on roadways. In some cases on-street angled parking may make bicycle lanes less safe, as vehicles must back out of the spaces (e.g., drivers not seeing bicycles).

    - Providing amenities such as improved lighting, signage, street furniture, landscaping, etc. in public right-of-ways to support and encourage pedestrian activity.

Figure 18. Pedestrian Amenities

    - Bicycle racks, lockers or other bicycle friendly facilities should be provided throughout the downtown.

- Developing, managing, and operating parking as an essential civic infrastructure and reducing overall parking ratios over time to create a “Park Once” environment. This concept can be supported by:

- The usage of in-lieu fees for developments planned in the downtown to support the funding of strategically located parking resources.

- Encouraging the "Park-Once" strategy through shared parking for both public and private parking resources.

- Ensuring all public parking resources are efficiently and effectively designed and managed. Encourage efficient design and management in private parking resources as well.

- Maximizing on-street parking throughout the downtown and monitoring vehicle duration and turnover. Encourage the turnover of short-term parking resources by monitoring activities, communicating with downtown business owners, as well as through other means such as parking enforcement, pay parking, etc.

- Locating long-term parking facilities on the perimeter of the downtown (except possible parking structures) and locate short-term parking throughout the downtown. Ensure the proper mix of parking through periodic parking occupancy counts and duration/turnover surveys.

- Incorporating ground floor commercial activity into parking facility designs (where appropriate) when a parking structure is developed in the future.

- Where necessary, improving existing surface parking lots in the downtown (e.g. paving, landscaping, lighting, identification signage, etc.)

• Modifying the identity of the downtown to make it more understandable and attractive to infrequent users. This element is supported by:

  - Actively promoting new downtown attractions and developments including parking availability/locations and alternative transportation options. This can be done using printed materials and a city website.

  - Developing and implementing a downtown informational and directional (wayfinding) signage program with a special emphasis on available parking resources.

5.0 ACTION PLAN AND RECOMMENDATION SUMMARY

Currently, approximately 50% of the available parking supply in the downtown study area is unused during the typical peak parking period. However, future developments in downtown Chandler could lead to significant parking supply deficits in some areas. Therefore, future downtown development will necessitate the construction of additional parking resources – both on-street and off-street. With this in mind, ***Carl Walker*** recommends the following action plan:

Short-Term (Within the Next 24 Months):

1. Improve the utilization of existing parking supplies in the downtown. There is clearly an immediate need to improve parking conditions in Blocks 9 and 13. The utilization of available parking resources can be improved through one or more of the following measures:

    A. Improve parking-related signage and wayfinding in the downtown. First, concentrate on improving signage on Arizona Avenue and near primary public parking areas (e.g., Lots 9C, 9D, 10A, 10J, 10K, 13D, and 16 B/C). This should improve the utilization of available parking resources (e.g., while busy during daytime hours, the public parking areas on Block 10 are significantly underutilized during evening hours and could provide overflow parking). The signage should be distinctive, incorporating a unique and consistent design. Signage for short-term parking areas should reinforce the goal of providing parking for visitors.

    B. Improve the timing of the crosswalk across Arizona Avenue (at Buffalo Street and Boston Street) to make it more pedestrian friendly. Sufficient time should be provided to allow pedestrians to cross, and the frequency of "walk" signals should be increased.

    C. Provide long-term parking for downtown employees and long-term visitors in underutilized areas. For example, employees working in Blocks 13 and 16 should be directed to park behind businesses and/or in Lots 16B and 16C, instead of parking in short-term visitor parking areas. Ensure sufficient long-term parking is provided and require downtown employees to use appropriate parking spaces/facilities.

    D. Consider providing a centralized valet parking service during periods of heavy parking activity to help make parking more convenient. Ideally, this service would be provided in a location convenient to most downtown businesses located in Blocks 13 and 16. One possible location would be the south side of Block 13 on Boston Street. Valet vehicle

storage could be located in Block 16. This would help improve the utilization of available parking, as well as minimize customer walking distances. The cost of providing valet parking could be covered by charging customers for the service or funded by local businesses/organizations.

E. Create downtown parking maps that can be distributed to visitors and employees through the city and local businesses/organizations that illustrate the locations of public parking supplies and long-term parking areas, as well as basic parking policies and regulations. Parking maps should also be available on the Internet.

F. The city should discontinue the storage of city/public vehicles in the Library parking lot. Relocating city/public vehicle storage will help make up to 14 additional parking spaces available to library and downtown visitors.

G. During special events, several opportunities are available to improve existing conditions. First, require special events to provide sufficient directional signage on streets to guide visitors to designated special event parking areas. Second, provide signs in each event parking lot to denote availability and any designated restrictions. Third, minimize the use of parking areas for event staging wherever possible. Fourth, provide some event parking staff to help direct visitors to parking areas, change signage as needed to redirect visitors, and monitor parking activities. Finally, attempt to use off-site parking areas (e.g., the parking associated with the Chandler Center for the Arts) for overflow event parking.

2. While Chandler Police bicycle patrols were very visible during the parking inventory and occupancy counts, additional steps may be necessary to improve safety/security perceptions. Work with community stakeholders to improve both real and perceived safety levels in parking areas and on pedestrian pathways. Parking areas should provide the minimum footcandles per square foot noted in this report. Utilize CPTED design principles in parking areas. Also, local businesses could work together to provide private security patrols and safety escort services.

3. Conduct a maintenance review of existing public parking lots/spaces. Ensure parking surfaces are well maintained, parking space stripes are visible, signage is maintained, landscaping is appropriate, etc.

4. Begin the process to site and design a parking structure for the new City Hall development.

5. Attempt to better utilize existing parking supplies prior to constructing new parking areas. There is currently enough unused parking to accommodate current and projected parking needs in the near-term. The city and the downtown community should work with private parking lot owners to better utilize existing supplies. The continued development of the downtown will warrant the addition of parking supplies within reasonable walking distances of the downtown core.

6. Begin investigating opportunities to create a downtown Chandler parking district, using the study area for this project as the initial district boundary. The creation of the district should incorporate the ability to collect parking fees for both on-street and off-street parking, prepare for the creation of a downtown parking organization to manage the parking system, and provide the necessary authority to begin incorporating related parking functions (e.g., downtown parking operations and management, parking enforcement, parking planning) into a vertically-oriented management structure. All parking-related revenues generated in the district (including enforcement fines) would be designated to cover parking system costs, and if possible, other programs (e.g., transit programs, street/sidewalk cleaning).

    A. Until the downtown parking organization is created, designate a single city department as responsible for downtown parking planning and management. While the actual operation, maintenance, and planning of the system may be handled by several city departments in the near future, the system will appear to have a single responsible department. This department should work closely with the downtown community (as well as nearby neighborhoods) to ensure community concerns are addressed.

    B. Develop and approve a set of guiding principles for the downtown Chandler parking district, using the provided information as a starting point (see Section 4.01). The guiding principles will guide the future development of the district parking system, as well as provide reasonable constraints within which future parking issues can be addressed. The process to define parking system guiding principles should include significant public input.

    C. Decide how parking will be operated in downtown. Begin the process to determine a preferred method of parking operations (e.g., self-operated or outsourced operations).

D. Investigate opportunities to improve customer service by instituting additional service programs, such as battery jumps, lock-out assistance, tire inflation, etc. Vehicles provided to parking enforcement officers (or downtown ambassadors) could be equipment to provide these services.

E. Once the parking district is created, consider completing an annual report. The annual report would detail accomplishments, challenges, anticipated needs, parking supply/demand issues, financial issues, etc. This report would serve as a historical record of the year's activities, as well as a way to provide additional information to the downtown community.

7. Investigate opportunities to improve parking enforcement in the study area, especially in the Downtown Core. Parking time limits in Blocks 9, 10, and 13 should be consistently enforced. Parking time limits could be two to three hours. Parking enforcement time periods could be from 8:00 a.m. to 8:00 p.m. Monday through Saturday in Blocks 9, 13, and 16, and 8:00 a.m. to 5:00 p.m. Monday through Friday in other blocks. Improved parking enforcement could improve the utilization of approximately 70 to 80 downtown parking spaces. One PEO could be provided in the study area during enforcement periods. The PEO could also help provide additional security, as well as provide information to downtown visitors.

   A. Begin the process to discuss and investigate pay parking opportunities in downtown. This process should include both short-term and long-term parking areas. The city should work closely with downtown stakeholders to ensure parking goals/objectives are met.

   B. Begin to designate where pay parking could be implemented. Initially, consider the primary locations for public pay parking noted in this report. For most public parking areas, ***Carl Walker*** recommends multi-space meters – preferably pay-by-space meters (with a pay by cell phone option). If desired, the city could also consider purchasing access control equipment for off-street long-term lots to improve service and reduce enforcement needs.

8. In order to more proactively plan for parking, conduct an update of the parking inventory and occupancy surveys contained in this report. These counts should be updated as necessary (when new developments occur), and updates should be conducted annually (at a minimum). Evaluate the impacts of downtown development on nearby neighborhoods, and authorize the creation of residential permit programs as needed.

9. Ensure the city has sufficient land use data for the downtown parking district, and update annually or as necessary.

Mid-Term (Years Three to Five):

1. Develop a parking marketing program to include information for downtown visitors and businesses. Continue to improve lines of communication between the city and district businesses concerning parking issues. This information should incorporate information on alternative modes of transportation as well. Utilize the existing downtown newsletter to communicate parking goals and issues, as well as upcoming/ongoing construction projects and special events, to the downtown community.

2. Update the city parking zoning code to institute an approved shared parking model/methodology (using the shared parking model provided as part of this study), as well as acceptable parking design criteria. Also, update the parking zoning code, as well as existing municipal codes, to include the following issues:

    A. Allowing in-lieu fees and setting requirements.
    B. Improved lighting standard (using the recommendation included in this report).
    C. Specific requirements for bicycle parking (typically a percentage of vehicle parking requirements).
    D. Provide options for tandem parking (situations where one space blocks another) for residential parking and/or valet parking, if desired.
    E. Ensure ADA parking standards adhere to federal ADA guidelines.

3. Work with downtown businesses to determine loading and delivery needs. For example, loading and delivery zones may be needed around the businesses located in Blocks 9, 13, and 16. Where possible, designate specific loading zones and determine adequate hours for delivery vehicle parking. Loading zones could be used for short-term visitor parking after designated loading zone hours.

4. Provide sufficient support for alternative modes of transportation. Provide adequate bicycle racks, comfortable pedestrian paths, bike paths, etc. in the district to encourage a pedestrian-first mentality. A marketing campaign could be created to encourage people (especially employees located in the district) to walk, bike, carpool, vanpool, or use public transit to travel to the district.

5. Conduct a downtown lighting study to ensure lighting levels support safety and security goals and objectives.

Long-Term (after Year Five):

1. Additional parking supplies should be placed and sized appropriately, using the parking supply and demand analysis methodology detailed in this parking study. When designing additional parking facilities, ensure pedestrian paths to/from the parking encourage use by providing stable walking surfaces, shading, pedestrian amenities (e.g. benches, etc.), and traffic calming measures as needed.

2. Ideally, the development of a parking garage should be closely related with the development(s) it is serving or based on growing parking demands in the downtown. Building a parking garage on pure speculation, with the hope of attracting development, should only occur if sufficient district development demand warrants. Should developments not occur, a garage built on speculation could result in a severely underutilized facility. If a developer is interested in developing a portion of the district, and sufficient parking supplies cannot be provided using other methods, then the city could propose providing the necessary parking along with the construction of the development. In-lieu fees could be used to provide/supplement the funds necessary for parking facility design and construction.

3. Investigate opportunities to incorporate additional parking technologies to improve downtown parking operations and management. This could include variable message systems (to direct parkers to available supplies), MLPR enforcement systems, wireless parking sensors, etc.

APPENDIX A

Parking Occupancy Count Data – Counts Conducted November 7-10, 2007

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
1	A	36	8	15	19	15	7
	Total Off-Street	***36***	***8***	***15***	***19***	***15***	***7***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***36***	***8***	***15***	***19***	***15***	***7***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	9	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***9***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***45***	***8***	***15***	***19***	***15***	***7***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		22.2%	41.7%	52.8%	41.7%	19.4%
	Total Off-Street Parking Occupancy %		22.2%	41.7%	52.8%	41.7%	19.4%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		17.8%	33.3%	42.2%	33.3%	15.6%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
2	A	100	12	14	11	5	0
	Total Off-Street	***100***	***12***	***14***	***11***	***5***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***100***	***12***	***14***	***11***	***5***	***0***
	On-Street North	0	1	1	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	7	0	1	0	1	0
	Total On-Street	***7***	***1***	***2***	***0***	***1***	***0***
	Total Block Parking	***107***	***13***	***16***	***11***	***6***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		12.0%	14.0%	11.0%	5.0%	0.0%
	Total Off-Street Parking Occupancy %		12.0%	14.0%	11.0%	5.0%	0.0%
	Total On-Street Parking Occupancy %		14.3%	28.6%	0.0%	14.3%	0.0%
	Total Parking Occupancy %		12.1%	15.0%	10.3%	5.6%	0.0%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
3	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	0	1	1	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***11***	***0***	***1***	***1***	***0***	***0***
	Total Block Parking	***11***	***0***	***1***	***1***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	9.1%	9.1%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	9.1%	9.1%	0.0%	0.0%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
4	A	23	1	5	4	3	5
	B	16	10	8	7	7	4
	C	32	2	9	9	12	8
	Total Off-Street	***71***	***13***	***22***	***20***	***22***	***17***
	Total Off-Street Public	***32***	***2***	***9***	***9***	***12***	***8***
	Total Off-Street Private	***39***	***11***	***13***	***11***	***10***	***9***
	On-Street North	0	0	0	0	0	0
	On-Street South	3	1	2	2	1	1
	On-Street East	0	0	0	0	0	0
	On-Street West	11	0	4	0	0	0
	Total On-Street	***14***	***1***	***6***	***2***	***1***	***1***
	Total Block Parking	***85***	***14***	***28***	***22***	***23***	***18***
	Total Off-Street Public Occupancy %		6.3%	28.1%	28.1%	37.5%	25.0%
	Total Off-Street Private Occupancy %		28.2%	33.3%	28.2%	25.6%	23.1%
	Total Off-Street Parking Occupancy %		18.3%	31.0%	28.2%	31.0%	23.9%
	Total On-Street Parking Occupancy %		7.1%	42.9%	14.3%	7.1%	7.1%
	Total Parking Occupancy %		16.5%	32.9%	25.9%	27.1%	21.2%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
5	A	18	7	5	6	3	1
	B	24	3	5	14	6	5
	Total Off-Street	***42***	***10***	***10***	***20***	***9***	***6***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***42***	***10***	***10***	***20***	***9***	***6***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	0	0	2	0	1
	On-Street West	0	0	0	0	0	0
	Total On-Street	***11***	***0***	***0***	***2***	***0***	***1***
	Total Block Parking	***53***	***10***	***10***	***22***	***9***	***7***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		23.8%	23.8%	47.6%	21.4%	14.3%
	Total Off-Street Parking Occupancy %		23.8%	23.8%	47.6%	21.4%	14.3%
	Total On-Street Parking Occupancy %		0.0%	0.0%	18.2%	0.0%	9.1%
	Total Parking Occupancy %		18.9%	18.9%	41.5%	17.0%	13.2%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
6	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	13	3	7	3	6	10
	On-Street East	14	0	1	0	0	1
	On-Street West	15	1	4	1	2	1
	Total On-Street	***42***	***4***	***12***	***4***	***8***	***12***
	Total Block Parking	***42***	***4***	***12***	***4***	***8***	***12***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		9.5%	28.6%	9.5%	19.0%	28.6%
	Total Parking Occupancy %		9.5%	28.6%	9.5%	19.0%	28.6%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
7	A	47	3	17	11	6	8
	Total Off-Street	***47***	***3***	***17***	***11***	***6***	***8***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***47***	***3***	***17***	***11***	***6***	***8***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***47***	***3***	***17***	***11***	***6***	***8***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		6.4%	36.2%	23.4%	12.8%	17.0%
	Total Off-Street Parking Occupancy %		6.4%	36.2%	23.4%	12.8%	17.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		6.4%	36.2%	23.4%	12.8%	17.0%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
8	A	53	3	6	6	7	7
	B	44	23	43	31	41	39
	Total Off-Street	***97***	***26***	***49***	***37***	***48***	***46***
	Total Off-Street Public	***97***	***26***	***49***	***37***	***48***	***46***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***97***	***26***	***49***	***37***	***48***	***46***
	Total Off-Street Public Occupancy %		26.8%	50.5%	38.1%	49.5%	47.4%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		26.8%	50.5%	38.1%	49.5%	47.4%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		26.8%	50.5%	38.1%	49.5%	47.4%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
9	A	33	12	14	14	20	12
	B	346	151	150	143	193	124
	C	39	36	32	37	36	37
	D	11	2	8	10	10	5
	Total Off-Street	***429***	***201***	***204***	***204***	***259***	***178***
	Total Off-Street Public	***50***	***38***	***40***	***47***	***46***	***42***
	Total Off-Street Private	***379***	***163***	***164***	***157***	***213***	***136***
	On-Street North	0	0	1	0	0	0
	On-Street South	41	1	3	3	8	4
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***41***	***1***	***4***	***3***	***8***	***4***
	Total Block Parking	***470***	***202***	***208***	***207***	***267***	***182***
	Total Off-Street Public Occupancy %		76.0%	80.0%	94.0%	92.0%	84.0%
	Total Off-Street Private Occupancy %		43.0%	43.3%	41.4%	56.2%	35.9%
	Total Off-Street Parking Occupancy %		46.9%	47.6%	47.6%	60.4%	41.5%
	Total On-Street Parking Occupancy %		2.4%	9.8%	7.3%	19.5%	9.8%
	Total Parking Occupancy %		43.0%	44.3%	44.0%	56.8%	38.7%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
10	A	44	44	44	43	40	36
	B	2	0	1	1	0	0
	C	603	410	468	418	454	434
	D	64	53	53	42	66	64
	E	1	2	1	2	1	1
	F	7	7	6	7	7	5
	G	155	45	151	145	115	124
	H	555	255	286	261	268	227
	I	6	1	5	1	4	5
	J	62	28	46	52	36	33
	K	44	12	36	30	27	38
	Total Off-Street	***1,543***	***857***	***1,097***	***1,002***	***1,018***	***967***
	Total Off-Street Public	***383***	***192***	***343***	***323***	***296***	***306***
	Total Off-Street Private	***1,160***	***665***	***754***	***679***	***722***	***661***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***1,543***	***857***	***1,097***	***1,002***	***1,018***	***967***
	Total Off-Street Public Occupancy %		50.1%	89.6%	84.3%	77.3%	79.9%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		55.5%	71.1%	64.9%	66.0%	62.7%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		55.5%	71.1%	64.9%	66.0%	62.7%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
11	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
12	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	7	4	3	3	3	4
	On-Street South	8	0	0	0	0	0
	On-Street East	7	0	0	0	0	0
	On-Street West	7	0	1	0	0	0
	Total On-Street	***29***	***4***	***4***	***3***	***3***	***4***
	Total Block Parking	***29***	***4***	***4***	***3***	***3***	***4***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		13.8%	13.8%	10.3%	10.3%	13.8%
	Total Parking Occupancy %		13.8%	13.8%	10.3%	10.3%	13.8%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
13	A	21	8	10	7	7	5
	B	31	4	11	10	15	15
	C	33	19	24	29	24	18
	D	72	11	20	70	49	43
	Total Off-Street	***157***	***42***	***65***	***116***	***95***	***81***
	Total Off-Street Public	***105***	***30***	***44***	***99***	***73***	***61***
	Total Off-Street Private	***52***	***12***	***21***	***17***	***22***	***20***
	On-Street North	12	3	4	5	5	6
	On-Street South	20	7	18	16	13	15
	On-Street East	0	0	0	0	0	0
	On-Street West	6	0	0	0	0	0
	Total On-Street	***38***	***10***	***22***	***21***	***18***	***21***
	Total Block Parking	***195***	***52***	***87***	***137***	***113***	***102***
	Total Off-Street Public Occupancy %		28.6%	41.9%	94.3%	69.5%	58.1%
	Total Off-Street Private Occupancy %		23.1%	40.4%	32.7%	42.3%	38.5%
	Total Off-Street Parking Occupancy %		26.8%	41.4%	73.9%	60.5%	51.6%
	Total On-Street Parking Occupancy %		26.3%	57.9%	55.3%	47.4%	55.3%
	Total Parking Occupancy %		26.7%	44.6%	70.3%	57.9%	52.3%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
14	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	1	1	1	3	3
	On-Street South	8	0	0	1	0	0
	On-Street East	11	7	3	3	4	6
	On-Street West	10	1	2	1	1	4
	Total On-Street	***37***	***9***	***6***	***6***	***8***	***13***
	Total Block Parking	***37***	***9***	***6***	***6***	***8***	***13***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		24.3%	16.2%	16.2%	21.6%	35.1%
	Total Parking Occupancy %		24.3%	16.2%	16.2%	21.6%	35.1%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
15	A	22	22	21	20	20	4
	B	20	1	3	3	2	5
	C	17	0	2	0	0	0
	D	24	0	0	1	0	0
	Total Off-Street	***83***	***23***	***26***	***24***	***22***	***9***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***83***	***23***	***26***	***24***	***22***	***9***
	On-Street North	18	3	9	5	3	2
	On-Street South	8	0	0	0	0	0
	On-Street East	14	0	3	0	2	2
	On-Street West	12	2	2	1	1	2
	Total On-Street	***52***	***5***	***14***	***6***	***6***	***6***
	Total Block Parking	***135***	***28***	***40***	***30***	***28***	***15***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		27.7%	31.3%	28.9%	26.5%	10.8%
	Total Off-Street Parking Occupancy %		27.7%	31.3%	28.9%	26.5%	10.8%
	Total On-Street Parking Occupancy %		9.6%	26.9%	11.5%	11.5%	11.5%
	Total Parking Occupancy %		20.7%	29.6%	22.2%	20.7%	11.1%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
16	A	21	2	9	15	18	19
	B	81	0	0	1	5	10
	C	50	14	15	15	13	13
	Total Off-Street	***152***	***16***	***24***	***31***	***36***	***42***
	Total Off-Street Public	***152***	***16***	***24***	***31***	***36***	***42***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	9	3	8	8	3	6
	On-Street South	8	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	14	0	5	2	2	3
	Total On-Street	***31***	***3***	***13***	***10***	***5***	***9***
	Total Block Parking	***183***	***19***	***37***	***41***	***41***	***51***
	Total Off-Street Public Occupancy %		10.5%	15.8%	20.4%	23.7%	27.6%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		10.5%	15.8%	20.4%	23.7%	27.6%
	Total On-Street Parking Occupancy %		9.7%	41.9%	32.3%	16.1%	29.0%
	Total Parking Occupancy %		10.4%	20.2%	22.4%	22.4%	27.9%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
17	A	26	3	8	13	5	4
	B	46	15	20	36	25	41
	C	24	4	7	10	12	13
	D	14	0	0	0	0	0
	E	29	0	1	5	5	3
	Total Off-Street	***139***	***22***	***36***	***64***	***47***	***61***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***139***	***22***	***36***	***64***	***47***	***61***
	On-Street North	10	3	8	7	3	6
	On-Street South	0	0	0	0	0	0
	On-Street East	11	0	0	1	0	0
	On-Street West	9	2	5	6	5	3
	Total On-Street	***30***	***5***	***13***	***14***	***8***	***9***
	Total Block Parking	***169***	***27***	***49***	***78***	***55***	***70***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		15.8%	25.9%	46.0%	33.8%	43.9%
	Total Off-Street Parking Occupancy %		15.8%	25.9%	46.0%	33.8%	43.9%
	Total On-Street Parking Occupancy %		16.7%	43.3%	46.7%	26.7%	30.0%
	Total Parking Occupancy %		16.0%	29.0%	46.2%	32.5%	41.4%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
18	A	14	9	14	14	15	14
	B	15	11	10	10	16	14
	C	199	65	102	63	100	110
	D	57	25	36	26	27	23
	Total Off-Street	***285***	***110***	***162***	***113***	***158***	***161***
	Total Off-Street Public	***285***	***110***	***162***	***113***	***158***	***161***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	14	1	1	1	1	2
	Total On-Street	***14***	***1***	***1***	***1***	***1***	***2***
	Total Block Parking	***299***	***111***	***163***	***114***	***159***	***163***
	Total Off-Street Public Occupancy %		38.6%	56.8%	39.6%	55.4%	56.5%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		38.6%	56.8%	39.6%	55.4%	56.5%
	Total On-Street Parking Occupancy %		7.1%	7.1%	7.1%	7.1%	14.3%
	Total Parking Occupancy %		37.1%	54.5%	38.1%	53.2%	54.5%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
19	A	20	0	0	0	0	0
	Total Off-Street	***20***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***20***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	1	0	1	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	12	8	0	1	0	2
	On-Street West	13	1	0	1	1	3
	Total On-Street	***33***	***10***	***0***	***3***	***1***	***5***
	Total Block Parking	***53***	***10***	***0***	***3***	***1***	***5***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		30.3%	0.0%	9.1%	3.0%	15.2%
	Total Parking Occupancy %		18.9%	0.0%	5.7%	1.9%	9.4%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
20	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	12	0	2	0	1	2
	On-Street West	11	1	2	0	0	1
	Total On-Street	***31***	***1***	***4***	***0***	***1***	***3***
	Total Block Parking	***31***	***1***	***4***	***0***	***1***	***3***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		3.2%	12.9%	0.0%	3.2%	9.7%
	Total Parking Occupancy %		3.2%	12.9%	0.0%	3.2%	9.7%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
21	A	16	0	1	0	5	0
	B	7	0	0	1	2	2
	C	15	0	3	11	9	2
	D	22	2	1	15	16	17
	E	26	0	0	0	2	1
	F	18	0	2	9	5	2
	G	12	0	0	11	12	5
	Total Off-Street	***116***	***2***	***7***	***47***	***51***	***29***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***116***	***2***	***7***	***47***	***51***	***29***
	On-Street North	6	0	0	3	2	1
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	1	2	0
	On-Street West	6	0	2	0	1	2
	Total On-Street	***12***	***0***	***2***	***4***	***5***	***3***
	Total Block Parking	***128***	***2***	***9***	***51***	***56***	***32***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		1.7%	6.0%	40.5%	44.0%	25.0%
	Total Off-Street Parking Occupancy %		1.7%	6.0%	40.5%	44.0%	25.0%
	Total On-Street Parking Occupancy %		0.0%	16.7%	33.3%	41.7%	25.0%
	Total Parking Occupancy %		1.6%	7.0%	39.8%	43.8%	25.0%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
22	A	10	0	0	0	0	0
	B	3	2	1	3	2	3
	C	25	7	11	9	7	4
	Total Off-Street	***38***	***9***	***12***	***12***	***9***	***7***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***38***	***9***	***12***	***12***	***9***	***7***
	On-Street North	5	4	2	1	1	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	2	6	7	5	7
	On-Street West	1	0	0	0	0	0
	Total On-Street	***17***	***6***	***8***	***8***	***6***	***7***
	Total Block Parking	***55***	***15***	***20***	***20***	***15***	***14***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		23.7%	31.6%	31.6%	23.7%	18.4%
	Total Off-Street Parking Occupancy %		23.7%	31.6%	31.6%	23.7%	18.4%
	Total On-Street Parking Occupancy %		35.3%	47.1%	47.1%	35.3%	41.2%
	Total Parking Occupancy %		27.3%	36.4%	36.4%	27.3%	25.5%

Count Data – Wednesday, November 7, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
23	A	2	0	0	0	0	0
	B	43	26	33	22	38	20
	C	77	53	60	51	52	45
	D	166	28	56	46	65	47
	E	12	8	8	10	6	10
	Total Off-Street	***300***	***115***	***157***	***129***	***161***	***122***
	Total Off-Street Public	***286***	***107***	***149***	***119***	***155***	***112***
	Total Off-Street Private	***14***	***8***	***8***	***10***	***6***	***10***
	On-Street North	9	2	3	2	2	3
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	11	1	9	5	5	8
	Total On-Street	***20***	***3***	***12***	***7***	***7***	***11***
	Total Block Parking	***320***	***118***	***169***	***136***	***168***	***133***
	Total Off-Street Public Occupancy %		37.4%	52.1%	41.6%	54.2%	39.2%
	Total Off-Street Private Occupancy %		57.1%	57.1%	71.4%	42.9%	71.4%
	Total Off-Street Parking Occupancy %		38.3%	52.3%	43.0%	53.7%	40.7%
	Total On-Street Parking Occupancy %		15.0%	60.0%	35.0%	35.0%	55.0%
	Total Parking Occupancy %		36.9%	52.8%	42.5%	52.5%	41.6%

TOTAL ALL BLOCKS

Block #	Parking Type/Location	Parking Inventory	8am	10am	12pm	2pm	4pm
ALL	Off-Street Public	1,390	521	820	778	824	778
	Off-Street Private	2,265	948	1,097	1,082	1,137	963
	Total Off-Street	***3,655***	***1,469***	***1,917***	***1,860***	***1,961***	***1,741***
	On-Street North	100	25	40	36	25	31
	On-Street South	109	12	30	25	28	30
	On-Street East	123	17	16	16	14	21
	On-Street West	147	10	38	18	20	29
	Total On-Street	***479***	***64***	***124***	***95***	***87***	***111***
	Total Area Parking	***4,134***	***1,533***	***2,041***	***1,955***	***2,048***	***1,852***
	Total Off-Street Public Occupancy %		37.5%	59.0%	56.0%	59.3%	56.0%
	Total Off-Street Private Occupancy %		41.9%	48.4%	47.8%	50.2%	42.5%
	Total Off-Street Parking Occupancy %		40.2%	52.4%	50.9%	53.7%	47.6%
	Total On-Street Parking Occupancy %		13.4%	25.9%	19.8%	18.2%	23.2%
	Total Parking Occupancy %		37.1%	49.4%	47.3%	49.5%	44.8%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
1	A	36	10	14	20	16	10
	Total Off-Street	***36***	***10***	***14***	***20***	***16***	***10***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***36***	***10***	***14***	***20***	***16***	***10***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	9	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***9***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***45***	***10***	***14***	***20***	***16***	***10***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		27.8%	38.9%	55.6%	44.4%	27.8%
	Total Off-Street Parking Occupancy %		27.8%	38.9%	55.6%	44.4%	27.8%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		22.2%	31.1%	44.4%	35.6%	22.2%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
2	A	100	12	16	17	11	1
	Total Off-Street	***100***	***12***	***16***	***17***	***11***	***1***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***100***	***12***	***16***	***17***	***11***	***1***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	7	0	0	0	0	0
	Total On-Street	***7***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***107***	***12***	***16***	***17***	***11***	***1***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		12.0%	16.0%	17.0%	11.0%	1.0%
	Total Off-Street Parking Occupancy %		12.0%	16.0%	17.0%	11.0%	1.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		11.2%	15.0%	15.9%	10.3%	0.9%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
3	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	1	1	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***11***	***1***	***1***	***0***	***0***	***0***
	Total Block Parking	***11***	***1***	***1***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		9.1%	9.1%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		9.1%	9.1%	0.0%	0.0%	0.0%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
4	A	23	1	2	2	3	3
	B	16	6	5	5	6	5
	C	32	3	8	7	9	9
	Total Off-Street	***71***	***10***	***15***	***14***	***18***	***17***
	Total Off-Street Public	***32***	***3***	***8***	***7***	***9***	***9***
	Total Off-Street Private	***39***	***7***	***7***	***7***	***9***	***8***
	On-Street North	0	0	0	0	0	0
	On-Street South	3	1	1	2	2	2
	On-Street East	0	0	0	0	0	0
	On-Street West	11	0	0	0	0	0
	Total On-Street	***14***	***1***	***1***	***2***	***2***	***2***
	Total Block Parking	***85***	***11***	***16***	***16***	***20***	***19***
	Total Off-Street Public Occupancy %		9.4%	25.0%	21.9%	28.1%	28.1%
	Total Off-Street Private Occupancy %		17.9%	17.9%	17.9%	23.1%	20.5%
	Total Off-Street Parking Occupancy %		14.1%	21.1%	19.7%	25.4%	23.9%
	Total On-Street Parking Occupancy %		7.1%	7.1%	14.3%	14.3%	14.3%
	Total Parking Occupancy %		12.9%	18.8%	18.8%	23.5%	22.4%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
5	A	18	6	8	5	5	4
	B	24	3	4	17	9	7
	Total Off-Street	***42***	***9***	***12***	***22***	***14***	***11***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***42***	***9***	***12***	***22***	***14***	***11***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	0	0	0	1	1
	On-Street West	0	0	0	0	0	0
	Total On-Street	***11***	***0***	***0***	***0***	***1***	***1***
	Total Block Parking	***53***	***9***	***12***	***22***	***15***	***12***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		21.4%	28.6%	52.4%	33.3%	26.2%
	Total Off-Street Parking Occupancy %		21.4%	28.6%	52.4%	33.3%	26.2%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	9.1%	9.1%
	Total Parking Occupancy %		17.0%	22.6%	41.5%	28.3%	22.6%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
6	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	13	4	11	7	7	4
	On-Street East	14	0	1	1	1	0
	On-Street West	15	0	2	4	3	2
	Total On-Street	***42***	***4***	***14***	***12***	***11***	***6***
	Total Block Parking	***42***	***4***	***14***	***12***	***11***	***6***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		9.5%	33.3%	28.6%	26.2%	14.3%
	Total Parking Occupancy %		9.5%	33.3%	28.6%	26.2%	14.3%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
7	A	47	3	8	14	12	7
	Total Off-Street	***47***	***3***	***8***	***14***	***12***	***7***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***47***	***3***	***8***	***14***	***12***	***7***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***47***	***3***	***8***	***14***	***12***	***7***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		6.4%	17.0%	29.8%	25.5%	14.9%
	Total Off-Street Parking Occupancy %		6.4%	17.0%	29.8%	25.5%	14.9%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		6.4%	17.0%	29.8%	25.5%	14.9%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
8	A	53	2	5	4	5	7
	B	44	27	46	33	41	40
	Total Off-Street	***97***	***29***	***51***	***37***	***46***	***47***
	Total Off-Street Public	***97***	***29***	***51***	***37***	***46***	***47***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***97***	***29***	***51***	***37***	***46***	***47***
	Total Off-Street Public Occupancy %		29.9%	52.6%	38.1%	47.4%	48.5%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		29.9%	52.6%	38.1%	47.4%	48.5%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		29.9%	52.6%	38.1%	47.4%	48.5%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
9	A	33	14	21	15	11	10
	B	346	139	128	135	124	139
	C	39	32	35	38	28	30
	D	11	2	6	10	6	10
	Total Off-Street	***429***	***187***	***190***	***198***	***169***	***189***
	Total Off-Street Public	***50***	***34***	***41***	***48***	***34***	***40***
	Total Off-Street Private	***379***	***153***	***149***	***150***	***135***	***149***
	On-Street North	0	1	1	0	0	0
	On-Street South	41	3	4	9	6	4
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***41***	***4***	***5***	***9***	***6***	***4***
	Total Block Parking	***470***	***191***	***195***	***207***	***175***	***193***
	Total Off-Street Public Occupancy %		68.0%	82.0%	96.0%	68.0%	80.0%
	Total Off-Street Private Occupancy %		40.4%	39.3%	39.6%	35.6%	39.3%
	Total Off-Street Parking Occupancy %		43.6%	44.3%	46.2%	39.4%	44.1%
	Total On-Street Parking Occupancy %		9.8%	12.2%	22.0%	14.6%	9.8%
	Total Parking Occupancy %		40.6%	41.5%	44.0%	37.2%	41.1%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
10	A	44	40	40	39	45	43
	B	2	0	2	0	2	1
	C	603	365	463	422	456	390
	D	64	52	61	42	67	64
	E	1	1	2	2	1	1
	F	7	7	7	8	7	7
	G	155	47	121	142	138	127
	H	555	164	262	238	265	217
	I	6	3	3	3	3	4
	J	62	33	49	57	35	31
	K	44	6	37	25	17	26
	Total Off-Street	***1,543***	***718***	***1,047***	***978***	***1,036***	***911***
	Total Off-Street Public	***383***	***189***	***322***	***318***	***315***	***304***
	Total Off-Street Private	***1,160***	***529***	***725***	***660***	***721***	***607***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***1,543***	***718***	***1,047***	***978***	***1,036***	***911***
	Total Off-Street Public Occupancy %		49.3%	84.1%	83.0%	82.2%	79.4%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		46.5%	67.9%	63.4%	67.1%	59.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		46.5%	67.9%	63.4%	67.1%	59.0%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
11	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
12	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	7	1	2	3	2	3
	On-Street South	8	1	1	0	0	0
	On-Street East	7	0	0	0	0	0
	On-Street West	7	0	0	0	0	1
	Total On-Street	***29***	***2***	***3***	***3***	***2***	***4***
	Total Block Parking	***29***	***2***	***3***	***3***	***2***	***4***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		6.9%	10.3%	10.3%	6.9%	13.8%
	Total Parking Occupancy %		6.9%	10.3%	10.3%	6.9%	13.8%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
13	A	21	5	4	3	3	3
	B	31	3	7	18	17	12
	C	33	24	26	33	25	19
	D	72	14	27	53	44	53
	Total Off-Street	***157***	***46***	***64***	***107***	***89***	***87***
	Total Off-Street Public	***105***	***38***	***53***	***86***	***69***	***72***
	Total Off-Street Private	***52***	***8***	***11***	***21***	***20***	***15***
	On-Street North	12	1	2	8	2	3
	On-Street South	20	5	10	18	18	19
	On-Street East	0	0	0	0	0	0
	On-Street West	6	0	0	0	0	0
	Total On-Street	***38***	***6***	***12***	***26***	***20***	***22***
	Total Block Parking	***195***	***52***	***76***	***133***	***109***	***109***
	Total Off-Street Public Occupancy %		36.2%	50.5%	81.9%	65.7%	68.6%
	Total Off-Street Private Occupancy %		15.4%	21.2%	40.4%	38.5%	28.8%
	Total Off-Street Parking Occupancy %		29.3%	40.8%	68.2%	56.7%	55.4%
	Total On-Street Parking Occupancy %		15.8%	31.6%	68.4%	52.6%	57.9%
	Total Parking Occupancy %		26.7%	39.0%	68.2%	55.9%	55.9%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
14	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0	0
	On-Street South	8	0	0	0	1	1
	On-Street East	11	2	2	3	5	5
	On-Street West	10	1	1	1	0	2
	Total On-Street	***37***	***3***	***3***	***4***	***6***	***8***
	Total Block Parking	***37***	***3***	***3***	***4***	***6***	***8***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		8.1%	8.1%	10.8%	16.2%	21.6%
	Total Parking Occupancy %		8.1%	8.1%	10.8%	16.2%	21.6%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
15	A	22	23	23	10	22	7
	B	20	2	4	5	5	3
	C	17	0	1	1	0	0
	D	24	1	2	1	1	2
	Total Off-Street	***83***	***26***	***30***	***17***	***28***	***12***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***83***	***26***	***30***	***17***	***28***	***12***
	On-Street North	18	3	4	10	9	9
	On-Street South	8	0	0	0	0	0
	On-Street East	14	0	1	1	2	1
	On-Street West	12	1	1	2	2	4
	Total On-Street	***52***	***4***	***6***	***13***	***13***	***14***
	Total Block Parking	***135***	***30***	***36***	***30***	***41***	***26***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		31.3%	36.1%	20.5%	33.7%	14.5%
	Total Off-Street Parking Occupancy %		31.3%	36.1%	20.5%	33.7%	14.5%
	Total On-Street Parking Occupancy %		7.7%	11.5%	25.0%	25.0%	26.9%
	Total Parking Occupancy %		22.2%	26.7%	22.2%	30.4%	19.3%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
16	A	21	2	17	19	21	17
	B	81	1	3	5	9	8
	C	50	13	14	15	16	14
	Total Off-Street	***152***	***16***	***34***	***39***	***46***	***39***
	Total Off-Street Public	***152***	***16***	***34***	***39***	***46***	***39***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	9	2	6	12	6	6
	On-Street South	8	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	14	1	3	1	1	3
	Total On-Street	***31***	***3***	***9***	***13***	***7***	***9***
	Total Block Parking	***183***	***19***	***43***	***52***	***53***	***48***
	Total Off-Street Public Occupancy %		10.5%	22.4%	25.7%	30.3%	25.7%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		10.5%	22.4%	25.7%	30.3%	25.7%
	Total On-Street Parking Occupancy %		9.7%	29.0%	41.9%	22.6%	29.0%
	Total Parking Occupancy %		10.4%	23.5%	28.4%	29.0%	26.2%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
17	A	26	6	8	10	6	5
	B	46	23	26	42	23	14
	C	24	3	5	15	14	14
	D	14	0	0	0	0	0
	E	29	2	2	10	2	2
	Total Off-Street	***139***	***34***	***41***	***77***	***45***	***35***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***139***	***34***	***41***	***77***	***45***	***35***
	On-Street North	10	7	9	3	2	1
	On-Street South	0	2	0	0	0	0
	On-Street East	11	0	0	2	0	0
	On-Street West	9	2	1	4	1	1
	Total On-Street	***30***	***11***	***10***	***9***	***3***	***2***
	Total Block Parking	***169***	***45***	***51***	***86***	***48***	***37***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		24.5%	29.5%	55.4%	32.4%	25.2%
	Total Off-Street Parking Occupancy %		24.5%	29.5%	55.4%	32.4%	25.2%
	Total On-Street Parking Occupancy %		36.7%	33.3%	30.0%	10.0%	6.7%
	Total Parking Occupancy %		26.6%	30.2%	50.9%	28.4%	21.9%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
18	A	14	10	13	14	15	13
	B	15	10	10	6	13	17
	C	199	40	67	54	79	69
	D	57	22	33	26	34	30
	Total Off-Street	***285***	***82***	***123***	***100***	***141***	***129***
	Total Off-Street Public	***285***	***82***	***123***	***100***	***141***	***129***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0
	On-Street South	0	1	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	14	1	1	1	1	1
	Total On-Street	***14***	***2***	***1***	***1***	***1***	***1***
	Total Block Parking	***299***	***84***	***124***	***101***	***142***	***130***
	Total Off-Street Public Occupancy %		28.8%	43.2%	35.1%	49.5%	45.3%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		28.8%	43.2%	35.1%	49.5%	45.3%
	Total On-Street Parking Occupancy %		14.3%	7.1%	7.1%	7.1%	7.1%
	Total Parking Occupancy %		28.1%	41.5%	33.8%	47.5%	43.5%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
19	A	20	0	0	0	0	0
	Total Off-Street	***20***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***20***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0	2
	On-Street South	0	0	0	0	0	0
	On-Street East	12	0	2	0	0	0
	On-Street West	13	1	1	1	0	0
	Total On-Street	***33***	***1***	***3***	***1***	***0***	***2***
	Total Block Parking	***53***	***1***	***3***	***1***	***0***	***2***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		3.0%	9.1%	3.0%	0.0%	6.1%
	Total Parking Occupancy %		1.9%	5.7%	1.9%	0.0%	3.8%
Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
20	NA	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0	0
	On-Street South	0	0	0	0	0	0
	On-Street East	12	0	0	1	1	1
	On-Street West	11	0	0	0	0	0
	Total On-Street	***31***	***0***	***0***	***1***	***1***	***1***
	Total Block Parking	***31***	***0***	***0***	***1***	***1***	***1***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	3.2%	3.2%	3.2%
	Total Parking Occupancy %		0.0%	0.0%	3.2%	3.2%	3.2%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
21	A	16	0	9	10	8	8
	B	7	0	1	2	2	2
	C	15	0	8	9	5	4
	D	22	12	19	19	17	17
	E	26	3	3	8	8	1
	F	18	0	4	5	7	5
	G	12	1	7	8	9	6
	Total Off-Street	***116***	***16***	***51***	***61***	***56***	***43***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***116***	***16***	***51***	***61***	***56***	***43***
	On-Street North	6	0	2	0	1	2
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	1	3	2	0
	On-Street West	6	0	0	1	0	0
	Total On-Street	***12***	***0***	***3***	***4***	***3***	***2***
	Total Block Parking	***128***	***16***	***54***	***65***	***59***	***45***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		13.8%	44.0%	52.6%	48.3%	37.1%
	Total Off-Street Parking Occupancy %		13.8%	44.0%	52.6%	48.3%	37.1%
	Total On-Street Parking Occupancy %		0.0%	25.0%	33.3%	25.0%	16.7%
	Total Parking Occupancy %		12.5%	42.2%	50.8%	46.1%	35.2%

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
22	A	10	0	0	0	0	0
	B	3	2	1	3	1	3
	C	25	7	4	5	8	4
	Total Off-Street	***38***	***9***	***5***	***8***	***9***	***7***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***38***	***9***	***5***	***8***	***9***	***7***
	On-Street North	5	3	2	1	2	0
	On-Street South	0	0	0	0	0	0
	On-Street East	11	1	3	4	5	4
	On-Street West	1	0	0	0	0	0
	Total On-Street	***17***	***4***	***5***	***5***	***7***	***4***
	Total Block Parking	***55***	***13***	***10***	***13***	***16***	***11***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		23.7%	13.2%	21.1%	23.7%	18.4%
	Total Off-Street Parking Occupancy %		23.7%	13.2%	21.1%	23.7%	18.4%
	Total On-Street Parking Occupancy %		23.5%	29.4%	29.4%	41.2%	23.5%
	Total Parking Occupancy %		23.6%	18.2%	23.6%	29.1%	20.0%

Count Data – Thursday, November 8, 2007

Block #	Parking Lot	Parking Inventory	8am	10am	12pm	2pm	4pm
23	A	2	0	0	0	0	1
	B	43	31	31	10	34	19
	C	77	54	61	58	57	48
	D	166	30	62	51	60	53
	E	12	8	11	7	8	8
	Total Off-Street	***300***	***123***	***165***	***126***	***159***	***129***
	Total Off-Street Public	***286***	***115***	***154***	***119***	***151***	***120***
	Total Off-Street Private	***14***	***8***	***11***	***7***	***8***	***9***
	On-Street North	9	0	0	0	0	1
	On-Street South	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0
	On-Street West	11	3	10	6	5	6
	Total On-Street	***20***	***3***	***10***	***6***	***5***	***7***
	Total Block Parking	***320***	***126***	***175***	***132***	***164***	***136***
	Total Off-Street Public Occupancy %		40.2%	53.8%	41.6%	52.8%	42.0%
	Total Off-Street Private Occupancy %		57.1%	78.6%	50.0%	57.1%	64.3%
	Total Off-Street Parking Occupancy %		41.0%	55.0%	42.0%	53.0%	43.0%
	Total On-Street Parking Occupancy %		15.0%	50.0%	30.0%	25.0%	35.0%
	Total Parking Occupancy %		39.4%	54.7%	41.3%	51.3%	42.5%

TOTAL ALL BLOCKS

Block #	Parking Type/Location	Parking Inventory	8am	10am	12pm	2pm	4pm
ALL	Off-Street Public	1,390	506	786	754	811	760
	Off-Street Private	2,265	824	1,080	1,081	1,084	914
	Total Off-Street	***3,655***	***1,330***	***1,866***	***1,835***	***1,895***	***1,674***
	On-Street North	100	18	28	37	24	27
	On-Street South	109	17	27	36	34	30
	On-Street East	123	4	11	15	17	12
	On-Street West	147	10	20	21	13	20
	Total On-Street	***479***	***49***	***86***	***109***	***88***	***89***
	Total Area Parking	***4,134***	***1,379***	***1,952***	***1,944***	***1,983***	***1,763***
	Total Off-Street Public Occupancy %		36.4%	56.5%	54.2%	58.3%	54.7%
	Total Off-Street Private Occupancy %		36.4%	47.7%	47.7%	47.9%	40.4%
	Total Off-Street Parking Occupancy %		36.4%	51.1%	50.2%	51.8%	45.8%
	Total On-Street Parking Occupancy %		10.2%	18.0%	22.8%	18.4%	18.6%
	Total Parking Occupancy %		33.4%	47.2%	47.0%	48.0%	42.6%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
1	A	36	7	1	0	0
	Total Off-Street	***36***	***7***	***1***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***36***	***7***	***1***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	9	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***9***	***0***	***0***	***0***	***0***
	Total Block Parking	***45***	***7***	***1***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		19.4%	2.8%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		19.4%	2.8%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		15.6%	2.2%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
2	A	100	0	0	0	1
	Total Off-Street	***100***	***0***	***0***	***0***	***1***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***100***	***0***	***0***	***0***	***1***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	7	0	0	0	0
	Total On-Street	***7***	***0***	***0***	***0***	***0***
	Total Block Parking	***107***	***0***	***0***	***0***	***1***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	1.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	1.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.9%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
3	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	11	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***11***	***0***	***0***	***0***	***0***
	Total Block Parking	***11***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
4	A	23	4	9	8	6
	B	16	3	2	2	2
	C	32	7	11	14	6
	Total Off-Street	***71***	***14***	***22***	***24***	***14***
	Total Off-Street Public	***32***	***7***	***11***	***14***	***6***
	Total Off-Street Private	***39***	***7***	***11***	***10***	***8***
	On-Street North	0	0	0	0	0
	On-Street South	3	2	2	2	2
	On-Street East	0	0	0	0	0
	On-Street West	11	0	0	0	0
	Total On-Street	***14***	***2***	***2***	***2***	***2***
	Total Block Parking	***85***	***16***	***24***	***26***	***16***
	Total Off-Street Public Occupancy %		21.9%	34.4%	43.8%	18.8%
	Total Off-Street Private Occupancy %		17.9%	28.2%	25.6%	20.5%
	Total Off-Street Parking Occupancy %		19.7%	31.0%	33.8%	19.7%
	Total On-Street Parking Occupancy %		14.3%	14.3%	14.3%	14.3%
	Total Parking Occupancy %		18.8%	28.2%	30.6%	18.8%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
5	A	18	4	6	3	7
	B	24	10	37	32	5
	Total Off-Street	***42***	***14***	***43***	***35***	***12***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***42***	***14***	***43***	***35***	***12***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	11	0	1	1	0
	On-Street West	0	0	0	0	0
	Total On-Street	***11***	***0***	***1***	***1***	***0***
	Total Block Parking	***53***	***14***	***44***	***36***	***12***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		33.3%	102.4%	83.3%	28.6%
	Total Off-Street Parking Occupancy %		33.3%	102.4%	83.3%	28.6%
	Total On-Street Parking Occupancy %		0.0%	9.1%	9.1%	0.0%
	Total Parking Occupancy %		26.4%	83.0%	67.9%	22.6%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
6	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	13	6	1	1	1
	On-Street East	14	0	0	2	0
	On-Street West	15	1	2	8	2
	Total On-Street	***42***	***7***	***3***	***11***	***3***
	Total Block Parking	***42***	***7***	***3***	***11***	***3***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		16.7%	7.1%	26.2%	7.1%
	Total Parking Occupancy %		16.7%	7.1%	26.2%	7.1%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
7	A	47	12	4	0	0
	Total Off-Street	***47***	***12***	***4***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***47***	***12***	***4***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***47***	***12***	***4***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		25.5%	8.5%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		25.5%	8.5%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		25.5%	8.5%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
8	A	53	7	4	0	0
	B	44	28	12	9	9
	Total Off-Street	***97***	***35***	***16***	***9***	***9***
	Total Off-Street Public	***97***	***35***	***16***	***9***	***9***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***97***	***35***	***16***	***9***	***9***
	Total Off-Street Public Occupancy %		36.1%	16.5%	9.3%	9.3%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		36.1%	16.5%	9.3%	9.3%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		36.1%	16.5%	9.3%	9.3%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
9	A	33	16	2	1	1
	B	346	324	317	327	305
	C	39	38	39	39	36
	D	11	11	19	20	17
	Total Off-Street	***429***	***389***	***377***	***387***	***359***
	Total Off-Street Public	***50***	***49***	***58***	***59***	***53***
	Total Off-Street Private	***379***	***340***	***319***	***328***	***306***
	On-Street North	0	0	0	0	0
	On-Street South	41	9	20	19	15
	On-Street East	0	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***41***	***9***	***20***	***19***	***15***
	Total Block Parking	***470***	***398***	***397***	***406***	***374***
	Total Off-Street Public Occupancy %		98.0%	116.0%	118.0%	106.0%
	Total Off-Street Private Occupancy %		89.7%	84.2%	86.5%	80.7%
	Total Off-Street Parking Occupancy %		90.7%	87.9%	90.2%	83.7%
	Total On-Street Parking Occupancy %		22.0%	48.8%	46.3%	36.6%
	Total Parking Occupancy %		84.7%	84.5%	86.4%	79.6%

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
10	A	44	24	13	18	12
	B	2	0	0	0	0
	C	603	245	98	70	55
	D	64	57	9	8	7
	E	1	2	2	2	2
	F	7	8	2	2	2
	G	155	74	49	20	21
	H	555	149	45	38	38
	I	6	3	3	1	1
	J	62	33	9	13	6
	K	44	14	0	0	0
	Total Off-Street	***1,543***	***609***	***230***	***172***	***144***
	Total Off-Street Public	***383***	***215***	***87***	***64***	***51***
	Total Off-Street Private	***1,160***	***394***	***143***	***108***	***93***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***1,543***	***609***	***230***	***172***	***144***
	Total Off-Street Public Occupancy %		56.1%	22.7%	16.7%	13.3%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		39.5%	14.9%	11.1%	9.3%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		39.5%	14.9%	11.1%	9.3%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
11	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
12	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	7	2	3	5	4
	On-Street South	8	0	0	1	1
	On-Street East	7	0	0	0	0
	On-Street West	7	0	0	1	1
	Total On-Street	***29***	***2***	***3***	***7***	***6***
	Total Block Parking	***29***	***2***	***3***	***7***	***6***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		6.9%	10.3%	24.1%	20.7%
	Total Parking Occupancy %		6.9%	10.3%	24.1%	20.7%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
13	A	21	9	5	5	2
	B	31	23	29	28	23
	C	33	31	31	27	27
	D	72	67	73	74	67
	Total Off-Street	***157***	***130***	***138***	***134***	***119***
	Total Off-Street Public	***105***	***98***	***104***	***101***	***94***
	Total Off-Street Private	***52***	***32***	***34***	***33***	***25***
	On-Street North	12	10	15	16	13
	On-Street South	20	17	17	22	16
	On-Street East	0	0	0	0	0
	On-Street West	6	0	0	0	0
	Total On-Street	***38***	***27***	***32***	***38***	***29***
	Total Block Parking	***195***	***157***	***170***	***172***	***148***
	Total Off-Street Public Occupancy %		93.3%	99.0%	96.2%	89.5%
	Total Off-Street Private Occupancy %		61.5%	65.4%	63.5%	48.1%
	Total Off-Street Parking Occupancy %		82.8%	87.9%	85.4%	75.8%
	Total On-Street Parking Occupancy %		71.1%	84.2%	100.0%	76.3%
	Total Parking Occupancy %		80.5%	87.2%	88.2%	75.9%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
14	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	2	0	0	0
	On-Street South	8	0	0	0	0
	On-Street East	11	2	6	6	4
	On-Street West	10	2	2	4	3
	Total On-Street	***37***	***6***	***8***	***10***	***7***
	Total Block Parking	***37***	***6***	***8***	***10***	***7***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		16.2%	21.6%	27.0%	18.9%
	Total Parking Occupancy %		16.2%	21.6%	27.0%	18.9%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
15	A	22	5	0	0	0
	B	20	4	4	5	1
	C	17	0	0	2	0
	D	24	1	1	1	1
	Total Off-Street	***83***	***10***	***5***	***8***	***2***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***83***	***10***	***5***	***8***	***2***
	On-Street North	18	6	13	15	12
	On-Street South	8	0	0	0	0
	On-Street East	14	2	2	9	1
	On-Street West	12	2	1	3	2
	Total On-Street	***52***	***10***	***16***	***27***	***15***
	Total Block Parking	***135***	***20***	***21***	***35***	***17***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		12.0%	6.0%	9.6%	2.4%
	Total Off-Street Parking Occupancy %		12.0%	6.0%	9.6%	2.4%
	Total On-Street Parking Occupancy %		19.2%	30.8%	51.9%	28.8%
	Total Parking Occupancy %		14.8%	15.6%	25.9%	12.6%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
16	A	21	19	17	14	5
	B	81	12	7	5	3
	C	50	13	6	3	3
	Total Off-Street	***152***	***44***	***30***	***22***	***11***
	Total Off-Street Public	***152***	***44***	***30***	***22***	***11***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	9	6	10	9	5
	On-Street South	8	0	2	0	0
	On-Street East	0	0	7	0	0
	On-Street West	14	6	8	7	4
	Total On-Street	***31***	***12***	***27***	***16***	***9***
	Total Block Parking	***183***	***56***	***57***	***38***	***20***
	Total Off-Street Public Occupancy %		28.9%	19.7%	14.5%	7.2%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		28.9%	19.7%	14.5%	7.2%
	Total On-Street Parking Occupancy %		38.7%	87.1%	51.6%	29.0%
	Total Parking Occupancy %		30.6%	31.1%	20.8%	10.9%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
17	A	26	3	1	1	0
	B	46	9	29	28	6
	C	24	9	7	10	5
	D	14	0	0	0	0
	E	29	1	8	13	1
	Total Off-Street	***139***	***22***	***45***	***52***	***12***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***139***	***22***	***45***	***52***	***12***
	On-Street North	10	2	4	7	5
	On-Street South	0	0	0	0	0
	On-Street East	11	0	0	0	0
	On-Street West	9	2	7	4	4
	Total On-Street	***30***	***4***	***11***	***11***	***9***
	Total Block Parking	***169***	***26***	***56***	***63***	***21***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		15.8%	32.4%	37.4%	8.6%
	Total Off-Street Parking Occupancy %		15.8%	32.4%	37.4%	8.6%
	Total On-Street Parking Occupancy %		13.3%	36.7%	36.7%	30.0%
	Total Parking Occupancy %		15.4%	33.1%	37.3%	12.4%

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
18	A	14	12	7	6	4
	B	15	12	4	4	4
	C	199	64	19	22	22
	D	57	32	1	1	1
	Total Off-Street	***285***	***120***	***31***	***33***	***31***
	Total Off-Street Public	***285***	***120***	***31***	***33***	***31***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	14	0	0	0	0
	Total On-Street	***14***	***0***	***0***	***0***	***0***
	Total Block Parking	***299***	***120***	***31***	***33***	***31***
	Total Off-Street Public Occupancy %		42.1%	10.9%	11.6%	10.9%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		42.1%	10.9%	11.6%	10.9%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		40.1%	10.4%	11.0%	10.4%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
19	A	20	1	0	0	0
	Total Off-Street	***20***	***1***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***20***	***1***	***0***	***0***	***0***
	On-Street North	8	0	0	0	2
	On-Street South	0	0	0	0	0
	On-Street East	12	1	0	0	2
	On-Street West	13	1	1	0	0
	Total On-Street	***33***	***2***	***1***	***0***	***4***
	Total Block Parking	***53***	***3***	***1***	***0***	***4***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		5.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		5.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		6.1%	3.0%	0.0%	12.1%
	Total Parking Occupancy %		5.7%	1.9%	0.0%	7.5%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
20	NA	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	12	2	1	1	1
	On-Street West	11	0	0	2	2
	Total On-Street	***31***	***2***	***1***	***3***	***3***
	Total Block Parking	***31***	***2***	***1***	***3***	***3***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		6.5%	3.2%	9.7%	9.7%
	Total Parking Occupancy %		6.5%	3.2%	9.7%	9.7%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
21	A	16	6	3	1	1
	B	7	3	3	1	0
	C	15	6	9	1	0
	D	22	18	13	12	12
	E	26	2	2	2	2
	F	18	6	2	0	0
	G	12	6	3	1	1
	Total Off-Street	***116***	***47***	***35***	***18***	***16***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***116***	***47***	***35***	***18***	***16***
	On-Street North	6	2	0	1	0
	On-Street South	0	0	0	0	0
	On-Street East	0	2	0	0	0
	On-Street West	6	0	1	1	1
	Total On-Street	***12***	***4***	***1***	***2***	***1***
	Total Block Parking	***128***	***51***	***36***	***20***	***17***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		40.5%	30.2%	15.5%	13.8%
	Total Off-Street Parking Occupancy %		40.5%	30.2%	15.5%	13.8%
	Total On-Street Parking Occupancy %		33.3%	8.3%	16.7%	8.3%
	Total Parking Occupancy %		39.8%	28.1%	15.6%	13.3%
Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
22	A	10	0	0	0	0
	B	3	1	0	0	0
	C	25	5	4	3	2
	Total Off-Street	***38***	***6***	***4***	***3***	***2***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***38***	***6***	***4***	***3***	***2***
	On-Street North	5	0	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	11	6	4	0	0
	On-Street West	1	0	0	0	0
	Total On-Street	***17***	***6***	***4***	***0***	***0***
	Total Block Parking	***55***	***12***	***8***	***3***	***2***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		15.8%	10.5%	7.9%	5.3%
	Total Off-Street Parking Occupancy %		15.8%	10.5%	7.9%	5.3%
	Total On-Street Parking Occupancy %		35.3%	23.5%	0.0%	0.0%
	Total Parking Occupancy %		21.8%	14.5%	5.5%	3.6%

Count Data – Friday, November 9, 2007

Block #	Parking Lot	Parking Inventory	4pm	6pm	8pm	10pm
23	A	2	2	2	0	0
	B	43	9	3	1	1
	C	77	40	40	40	40
	D	166	33	1	0	0
	E	12	12	12	12	12
	Total Off-Street	***300***	***96***	***58***	***53***	***53***
	Total Off-Street Public	***286***	***82***	***44***	***41***	***41***
	Total Off-Street Private	***14***	***14***	***14***	***12***	***12***
	On-Street North	9	1	0	0	0
	On-Street South	0	0	0	0	0
	On-Street East	0	0	0	0	0
	On-Street West	11	11	3	0	0
	Total On-Street	***20***	***12***	***3***	***0***	***0***
	Total Block Parking	***320***	***108***	***61***	***53***	***53***
	Total Off-Street Public Occupancy %		28.7%	15.4%	14.3%	14.3%
	Total Off-Street Private Occupancy %		100.0%	100.0%	85.7%	85.7%
	Total Off-Street Parking Occupancy %		32.0%	19.3%	17.7%	17.7%
	Total On-Street Parking Occupancy %		60.0%	15.0%	0.0%	0.0%

TOTAL ALL BLOCKS

Block #	Parking Type/Location	Parking Inventory	4pm	6pm	8pm	10pm
ALL	Off-Street Public	1,390	650	381	343	296
	Off-Street Private	2,265	906	658	607	489
	Total Off-Street	***3,655***	***1,556***	***1,039***	***950***	***785***
	On-Street North	100	31	45	53	41
	On-Street South	109	34	42	45	35
	On-Street East	123	15	21	19	8
	On-Street West	147	25	25	30	19
	Total On-Street	***479***	***105***	***133***	***147***	***103***
	Total Area Parking	***4,134***	***1,661***	***1,172***	***1,097***	***888***
	Total Off-Street Public Occupancy %		46.8%	27.4%	24.7%	21.3%
	Total Off-Street Private Occupancy %		40.0%	29.1%	26.8%	21.6%
	Total Off-Street Parking Occupancy %		42.6%	28.4%	26.0%	21.5%
	Total On-Street Parking Occupancy %		21.9%	27.8%	30.7%	21.5%
	Total Parking Occupancy %		40.2%	28.4%	26.5%	21.5%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
1	A	36	22	21	10	12	7	6	4
	Total Off-Street	***36***	***22***	***21***	***10***	***12***	***7***	***6***	***4***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***36***	***22***	***21***	***10***	***12***	***7***	***6***	***4***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	9	0	0	0	1	0	0	0
	On-Street West	0	0	0	0	0	1	0	0
	Total On-Street	***9***	***0***	***0***	***0***	***1***	***1***	***0***	***0***
	Total Block Parking	***45***	***22***	***21***	***10***	***13***	***8***	***6***	***4***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		61.1%	58.3%	27.8%	33.3%	19.4%	16.7%	11.1%
	Total Off-Street Parking Occupancy %		61.1%	58.3%	27.8%	33.3%	19.4%	16.7%	11.1%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	11.1%	11.1%	0.0%	0.0%
	Total Parking Occupancy %		48.9%	46.7%	22.2%	28.9%	17.8%	13.3%	8.9%
Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
2	A	100	32	39	0	0	2	0	0
	Total Off-Street	***100***	***32***	***39***	***0***	***0***	***2***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***100***	***32***	***39***	***0***	***0***	***2***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	7	0	0	0	0	0	2	2
	Total On-Street	***7***	***0***	***0***	***0***	***0***	***0***	***2***	***2***
	Total Block Parking	***107***	***32***	***39***	***0***	***0***	***2***	***2***	***2***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		32.0%	39.0%	0.0%	0.0%	2.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		32.0%	39.0%	0.0%	0.0%	2.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	28.6%	28.6%
	Total Parking Occupancy %		29.9%	36.4%	0.0%	0.0%	1.9%	1.9%	1.9%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
3	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	11	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***11***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***11***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
4	A	23	0	0	2	8	9	10	8
	B	16	1	2	0	3	2	3	3
	C	32	5	7	8	7	11	24	12
	Total Off-Street	***71***	***6***	***9***	***10***	***18***	***22***	***37***	***23***
	Total Off-Street Public	***32***	***5***	***7***	***8***	***7***	***11***	***24***	***12***
	Total Off-Street Private	***39***	***1***	***2***	***2***	***11***	***11***	***13***	***11***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	3	0	0	0	2	2	2	0
	On-Street East	0	0	2	2	0	0	0	0
	On-Street West	11	0	0	0	0	0	0	0
	Total On-Street	***14***	***0***	***2***	***2***	***2***	***2***	***2***	***0***
	Total Block Parking	***85***	***6***	***11***	***12***	***20***	***24***	***39***	***23***
	Total Off-Street Public Occupancy %		15.6%	21.9%	25.0%	21.9%	34.4%	75.0%	37.5%
	Total Off-Street Private Occupancy %		2.6%	5.1%	5.1%	28.2%	28.2%	33.3%	28.2%
	Total Off-Street Parking Occupancy %		8.5%	12.7%	14.1%	25.4%	31.0%	52.1%	32.4%
	Total On-Street Parking Occupancy %		0.0%	14.3%	14.3%	14.3%	14.3%	14.3%	0.0%
	Total Parking Occupancy %		7.1%	12.9%	14.1%	23.5%	28.2%	45.9%	27.1%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
5	A	18	7	3	6	2	7	5	1
	B	24	2	9	11	11	25	21	6
	Total Off-Street	***42***	***9***	***12***	***17***	***13***	***32***	***26***	***7***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***42***	***9***	***12***	***17***	***13***	***32***	***26***	***7***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	11	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***11***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***53***	***9***	***12***	***17***	***13***	***32***	***26***	***7***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		21.4%	28.6%	40.5%	31.0%	76.2%	61.9%	16.7%
	Total Off-Street Parking Occupancy %		21.4%	28.6%	40.5%	31.0%	76.2%	61.9%	16.7%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		17.0%	22.6%	32.1%	24.5%	60.4%	49.1%	13.2%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
6	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	13	2	1	1	1	1	1	1
	On-Street East	14	0	0	0	0	1	0	1
	On-Street West	15	2	2	2	2	1	1	1
	Total On-Street	***42***	***4***	***3***	***3***	***3***	***3***	***2***	***3***
	Total Block Parking	***42***	***4***	***3***	***3***	***3***	***3***	***2***	***3***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		9.5%	7.1%	7.1%	7.1%	7.1%	4.8%	7.1%
	Total Parking Occupancy %		9.5%	7.1%	7.1%	7.1%	7.1%	4.8%	7.1%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
7	A	47	12	23	6	4	1	0	0
	Total Off-Street	***47***	***12***	***23***	***6***	***4***	***1***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***47***	***12***	***23***	***6***	***4***	***1***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***47***	***12***	***23***	***6***	***4***	***1***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		25.5%	48.9%	12.8%	8.5%	2.1%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		25.5%	48.9%	12.8%	8.5%	2.1%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		25.5%	48.9%	12.8%	8.5%	2.1%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
8	A	53	1	1	1	1	0	0	0
	B	44	8	8	8	8	8	8	8
	Total Off-Street	***97***	***9***	***9***	***9***	***9***	***8***	***8***	***8***
	Total Off-Street Public	***97***	***9***	***9***	***9***	***9***	***8***	***8***	***8***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***97***	***9***	***9***	***9***	***9***	***8***	***8***	***8***
	Total Off-Street Public Occupancy %		9.3%	9.3%	9.3%	9.3%	8.2%	8.2%	8.2%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		9.3%	9.3%	9.3%	9.3%	8.2%	8.2%	8.2%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		9.3%	9.3%	9.3%	9.3%	8.2%	8.2%	8.2%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
9	A	33	25	39	35	33	19	18	8
	B	346	268	328	361	346	336	351	327
	C	39	41	39	37	38	39	39	35
	D	11	9	11	6	14	24	24	16
	Total Off-Street	***429***	***343***	***417***	***439***	***431***	***418***	***432***	***386***
	Total Off-Street Public	***50***	***50***	***50***	***43***	***52***	***63***	***63***	***51***
	Total Off-Street Private	***379***	***293***	***367***	***396***	***379***	***355***	***369***	***335***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	41	5	15	21	10	19	18	19
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***41***	***5***	***15***	***21***	***10***	***19***	***18***	***19***
	Total Block Parking	***470***	***348***	***432***	***460***	***441***	***437***	***450***	***405***
	Total Off-Street Public Occupancy %		100.0%	100.0%	86.0%	104.0%	126.0%	126.0%	102.0%
	Total Off-Street Private Occupancy %		77.3%	96.8%	104.5%	100.0%	93.7%	97.4%	88.4%
	Total Off-Street Parking Occupancy %		80.0%	97.2%	102.3%	100.5%	97.4%	100.7%	90.0%
	Total On-Street Parking Occupancy %		12.2%	36.6%	51.2%	24.4%	46.3%	43.9%	46.3%
	Total Parking Occupancy %		74.0%	91.9%	97.9%	93.8%	93.0%	95.7%	86.2%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
10	A	44	39	15	11	10	6	7	8
	B	2	0	0	0	0	0	0	0
	C	603	162	153	108	94	79	64	52
	D	64	11	9	6	12	9	8	8
	E	1	1	1	1	1	2	2	2
	F	7	2	2	2	1	2	4	2
	G	155	67	68	88	93	36	20	22
	H	555	50	57	42	40	37	37	37
	I	6	1	3	1	1	1	1	1
	J	62	33	27	11	5	11	21	16
	K	44	32	10	5	1	1	0	0
	Total Off-Street	***1,543***	***398***	***345***	***275***	***258***	***184***	***164***	***148***
	Total Off-Street Public	***383***	***186***	***135***	***125***	***124***	***68***	***63***	***59***
	Total Off-Street Private	***1,160***	***212***	***210***	***150***	***134***	***116***	***101***	***89***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***1,543***	***398***	***345***	***275***	***258***	***184***	***164***	***148***
	Total Off-Street Public Occupancy %		48.6%	35.2%	32.6%	32.4%	17.8%	16.4%	15.4%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		25.8%	22.4%	17.8%	16.7%	11.9%	10.6%	9.6%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		25.8%	22.4%	17.8%	16.7%	11.9%	10.6%	9.6%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
11	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	0	0	0	0	0	0	0	0
	Total On-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
12	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	7	3	2	4	3	2	6	5
	On-Street South	8	1	0	2	0	0	0	0
	On-Street East	7	0	0	2	1	0	0	0
	On-Street West	7	2	0	0	1	1	2	1
	Total On-Street	***29***	***6***	***2***	***8***	***5***	***3***	***8***	***6***
	Total Block Parking	***29***	***6***	***2***	***8***	***5***	***3***	***8***	***6***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		20.7%	6.9%	27.6%	17.2%	10.3%	27.6%	20.7%
	Total Parking Occupancy %		20.7%	6.9%	27.6%	17.2%	10.3%	27.6%	20.7%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
13	A	21	9	2	2	4	3	1	1
	B	31	13	16	14	17	14	30	23
	C	33	5	17	24	14	22	32	27
	D	72	57	72	72	60	71	72	69
	Total Off-Street	***157***	***84***	***107***	***112***	***95***	***110***	***135***	***120***
	Total Off-Street Public	***105***	***62***	***89***	***96***	***74***	***93***	***104***	***96***
	Total Off-Street Private	***52***	***22***	***18***	***16***	***21***	***17***	***31***	***24***
	On-Street North	12	3	14	20	9	11	18	14
	On-Street South	20	14	16	15	13	12	18	17
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	6	0	2	1	1	2	1	1
	Total On-Street	***38***	***17***	***32***	***36***	***23***	***25***	***37***	***32***
	Total Block Parking	***195***	***101***	***139***	***148***	***118***	***135***	***172***	***152***
	Total Off-Street Public Occupancy %		59.0%	84.8%	91.4%	70.5%	88.6%	99.0%	91.4%
	Total Off-Street Private Occupancy %		42.3%	34.6%	30.8%	40.4%	32.7%	59.6%	46.2%
	Total Off-Street Parking Occupancy %		53.5%	68.2%	71.3%	60.5%	70.1%	86.0%	76.4%
	Total On-Street Parking Occupancy %		44.7%	84.2%	94.7%	60.5%	65.8%	97.4%	84.2%
	Total Parking Occupancy %		51.8%	71.3%	75.9%	60.5%	69.2%	88.2%	77.9%
Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
14	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	1	0	3	2	3	3
	On-Street South	8	0	0	0	0	0	0	0
	On-Street East	11	1	6	4	4	7	4	4
	On-Street West	10	0	2	3	5	3	6	6
	Total On-Street	***37***	***1***	***9***	***7***	***12***	***12***	***13***	***13***
	Total Block Parking	***37***	***1***	***9***	***7***	***12***	***12***	***13***	***13***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		2.7%	24.3%	18.9%	32.4%	32.4%	35.1%	35.1%
	Total Parking Occupancy %		2.7%	24.3%	18.9%	32.4%	32.4%	35.1%	35.1%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
15	A	22	0	0	0	0	0	0	0
	B	20	4	6	7	5	8	2	0
	C	17	0	0	2	0	2	1	0
	D	24	1	3	2	1	2	2	1
	Total Off-Street	***83***	***5***	***9***	***11***	***6***	***12***	***5***	***1***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***83***	***5***	***9***	***11***	***6***	***12***	***5***	***1***
	On-Street North	18	0	9	13	5	15	14	11
	On-Street South	8	3	0	0	0	0	0	0
	On-Street East	14	1	4	6	1	6	8	5
	On-Street West	12	3	1	2	3	2	3	1
	Total On-Street	***52***	***7***	***14***	***21***	***9***	***23***	***25***	***17***
	Total Block Parking	***135***	***12***	***23***	***32***	***15***	***35***	***30***	***18***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		6.0%	10.8%	13.3%	7.2%	14.5%	6.0%	1.2%
	Total Off-Street Parking Occupancy %		6.0%	10.8%	13.3%	7.2%	14.5%	6.0%	1.2%
	Total On-Street Parking Occupancy %		13.5%	26.9%	40.4%	17.3%	44.2%	48.1%	32.7%
	Total Parking Occupancy %		8.9%	17.0%	23.7%	11.1%	25.9%	22.2%	13.3%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
16	A	21	12	13	18	16	23	29	18
	B	81	0	1	3	20	23	29	22
	C	50	9	6	3	3	2	2	2
	Total Off-Street	***152***	***21***	***20***	***24***	***39***	***48***	***60***	***42***
	Total Off-Street Public	***152***	***21***	***20***	***24***	***39***	***48***	***60***	***42***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	9	5	9	10	6	9	8	8
	On-Street South	8	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	2	3	0
	On-Street West	14	0	5	8	4	6	6	4
	Total On-Street	***31***	***5***	***14***	***18***	***10***	***17***	***17***	***12***
	Total Block Parking	***183***	***26***	***34***	***42***	***49***	***65***	***77***	***54***
	Total Off-Street Public Occupancy %		13.8%	13.2%	15.8%	25.7%	31.6%	39.5%	27.6%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		13.8%	13.2%	15.8%	25.7%	31.6%	39.5%	27.6%
	Total On-Street Parking Occupancy %		16.1%	45.2%	58.1%	32.3%	54.8%	54.8%	38.7%
	Total Parking Occupancy %		14.2%	18.6%	23.0%	26.8%	35.5%	42.1%	29.5%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
17	A	26	17	13	6	6	20	23	16
	B	46	35	31	27	28	42	43	11
	C	24	2	4	5	8	20	18	12
	D	14	0	0	0	0	0	3	1
	E	29	3	5	3	2	20	29	7
	Total Off-Street	***139***	***57***	***53***	***41***	***44***	***102***	***116***	***47***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***139***	***57***	***53***	***41***	***44***	***102***	***116***	***47***
	On-Street North	10	9	7	6	5	10	9	8
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	11	1	0	1	0	9	9	17
	On-Street West	9	0	0	2	3	9	8	3
	Total On-Street	***30***	***10***	***7***	***9***	***8***	***28***	***26***	***28***
	Total Block Parking	***169***	***67***	***60***	***50***	***52***	***130***	***142***	***75***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		41.0%	38.1%	29.5%	31.7%	73.4%	83.5%	33.8%
	Total Off-Street Parking Occupancy %		41.0%	38.1%	29.5%	31.7%	73.4%	83.5%	33.8%
	Total On-Street Parking Occupancy %		33.3%	23.3%	30.0%	26.7%	93.3%	86.7%	93.3%
	Total Parking Occupancy %		39.6%	35.5%	29.6%	30.8%	76.9%	84.0%	44.4%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
18	A	14	2	2	2	2	1	1	1
	B	15	5	5	5	4	4	4	4
	C	199	29	24	17	20	19	18	18
	D	57	6	2	2	2	1	1	1
	Total Off-Street	***285***	***42***	***33***	***26***	***28***	***25***	***24***	***24***
	Total Off-Street Public	***285***	***42***	***33***	***26***	***28***	***25***	***24***	***24***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	0	0	1	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	14	0	0	0	0	7	8	6
	Total On-Street	***14***	***0***	***1***	***0***	***0***	***7***	***8***	***6***
	Total Block Parking	***299***	***42***	***34***	***26***	***28***	***32***	***32***	***30***
	Total Off-Street Public Occupancy %		14.7%	11.6%	9.1%	9.8%	8.8%	8.4%	8.4%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		14.7%	11.6%	9.1%	9.8%	8.8%	8.4%	8.4%
	Total On-Street Parking Occupancy %		0.0%	7.1%	0.0%	0.0%	50.0%	57.1%	42.9%
	Total Parking Occupancy %		14.0%	11.4%	8.7%	9.4%	10.7%	10.7%	10.0%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
19	A	20	1	0	0	4	3	3	3
	Total Off-Street	***20***	***1***	***0***	***0***	***4***	***3***	***3***	***3***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***20***	***1***	***0***	***0***	***4***	***3***	***3***	***3***
	On-Street North	8	0	1	1	2	2	1	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	12	1	0	2	1	1	1	0
	On-Street West	13	0	0	0	1	4	2	2
	Total On-Street	***33***	***1***	***1***	***3***	***4***	***7***	***4***	***2***
	Total Block Parking	***53***	***2***	***1***	***3***	***8***	***10***	***7***	***5***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		5.0%	0.0%	0.0%	20.0%	15.0%	15.0%	15.0%
	Total Off-Street Parking Occupancy %		5.0%	0.0%	0.0%	20.0%	15.0%	15.0%	15.0%
	Total On-Street Parking Occupancy %		3.0%	3.0%	9.1%	12.1%	21.2%	12.1%	6.1%
	Total Parking Occupancy %		3.8%	1.9%	5.7%	15.1%	18.9%	13.2%	9.4%
Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
20	NA	0	0	0	0	0	0	0	0
	Total Off-Street	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	On-Street North	8	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	12	2	0	2	1	1	1	1
	On-Street West	11	0	0	0	0	0	0	1
	Total On-Street	***31***	***2***	***0***	***2***	***1***	***1***	***1***	***2***
	Total Block Parking	***31***	***2***	***0***	***2***	***1***	***1***	***1***	***2***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total On-Street Parking Occupancy %		6.5%	0.0%	6.5%	3.2%	3.2%	3.2%	6.5%
	Total Parking Occupancy %		6.5%	0.0%	6.5%	3.2%	3.2%	3.2%	6.5%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
21	A	16	2	4	3	4	2	1	0
	B	7	1	3	3	4	4	2	1
	C	15	7	9	9	0	2	0	0
	D	22	9	8	9	13	12	12	12
	E	26	2	16	8	2	2	2	2
	F	18	12	17	12	7	1	0	0
	G	12	10	9	5	9	1	1	1
	Total Off-Street	***116***	***43***	***66***	***49***	***39***	***24***	***18***	***16***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***116***	***43***	***66***	***49***	***39***	***24***	***18***	***16***
	On-Street North	6	0	0	1	1	2	2	0
	On-Street South	0	1	0	0	0	0	0	0
	On-Street East	0	1	2	1	0	0	0	0
	On-Street West	6	1	1	1	1	0	0	1
	Total On-Street	***12***	***3***	***3***	***3***	***2***	***2***	***2***	***1***
	Total Block Parking	***128***	***46***	***69***	***52***	***41***	***26***	***20***	***17***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		37.1%	56.9%	42.2%	33.6%	20.7%	15.5%	13.8%
	Total Off-Street Parking Occupancy %		37.1%	56.9%	42.2%	33.6%	20.7%	15.5%	13.8%
	Total On-Street Parking Occupancy %		25.0%	25.0%	25.0%	16.7%	16.7%	16.7%	8.3%
	Total Parking Occupancy %		35.9%	53.9%	40.6%	32.0%	20.3%	15.6%	13.3%

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
22	A	10	0	0	0	0	0	0	0
	B	3	0	0	0	0	0	0	0
	C	25	10	10	9	3	8	3	6
	Total Off-Street	***38***	***10***	***10***	***9***	***3***	***8***	***3***	***6***
	Total Off-Street Public	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Off-Street Private	***38***	***10***	***10***	***9***	***3***	***8***	***3***	***6***
	On-Street North	5	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	11	0	1	1	0	0	0	0
	On-Street West	1	0	0	0	0	0	0	0
	Total On-Street	***17***	***0***	***1***	***1***	***0***	***0***	***0***	***0***
	Total Block Parking	***55***	***10***	***11***	***10***	***3***	***8***	***3***	***6***
	Total Off-Street Public Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Off-Street Private Occupancy %		26.3%	26.3%	23.7%	7.9%	21.1%	7.9%	15.8%
	Total Off-Street Parking Occupancy %		26.3%	26.3%	23.7%	7.9%	21.1%	7.9%	15.8%
	Total On-Street Parking Occupancy %		0.0%	5.9%	5.9%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		18.2%	20.0%	18.2%	5.5%	14.5%	5.5%	10.9%

Count Data – Saturday, November 10, 2007

Block #	Parking Lot	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
23	A	2	2	2	2	0	0	0	0
	B	43	0	0	0	0	0	0	0
	C	77	35	35	34	34	34	34	34
	D	166	0	0	0	0	0	0	0
	E	12	7	7	7	7	7	7	7
	Total Off-Street	***300***	***44***	***44***	***43***	***41***	***41***	***41***	***41***
	Total Off-Street Public	***286***	***35***	***35***	***34***	***34***	***34***	***34***	***34***
	Total Off-Street Private	***14***	***9***	***9***	***9***	***7***	***7***	***7***	***7***
	On-Street North	9	0	0	0	0	0	0	0
	On-Street South	0	0	0	0	0	0	0	0
	On-Street East	0	0	0	0	0	0	0	0
	On-Street West	11	0	0	0	0	0	0	0
	Total On-Street	***20***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
	Total Block Parking	***320***	***44***	***44***	***43***	***41***	***41***	***41***	***41***
	Total Off-Street Public Occupancy %		12.2%	12.2%	11.9%	11.9%	11.9%	11.9%	11.9%
	Total Off-Street Private Occupancy %		64.3%	64.3%	64.3%	50.0%	50.0%	50.0%	50.0%
	Total Off-Street Parking Occupancy %		14.7%	14.7%	14.3%	13.7%	13.7%	13.7%	13.7%
	Total On-Street Parking Occupancy %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Total Parking Occupancy %		13.8%	13.8%	13.4%	12.8%	12.8%	12.8%	12.8%

TOTAL ALL BLOCKS

Block #	Parking Type/Location	Parking Inventory	10am	12pm	2pm	4pm	6pm	8pm	10pm
ALL	Off-Street Public	1,390	410	378	365	367	350	380	326
	Off-Street Private	2,265	728	839	716	677	697	698	550
	Total Off-Street	***3,655***	***1,138***	***1,217***	***1,081***	***1,044***	***1,047***	***1,078***	***876***
	On-Street North	100	20	44	55	34	53	61	49
	On-Street South	109	26	32	39	26	34	39	37
	On-Street East	123	7	15	21	9	27	26	28
	On-Street West	147	8	13	19	21	36	39	29
	Total On-Street	***479***	***61***	***104***	***134***	***90***	***150***	***165***	***143***
	Total Area Parking	***4,134***	***1,199***	***1,321***	***1,215***	***1,134***	***1,197***	***1,243***	***1,019***
	Total Off-Street Public Occupancy %		29.5%	27.2%	26.3%	26.4%	25.2%	27.3%	23.5%
	Total Off-Street Private Occupancy %		32.1%	37.0%	31.6%	29.9%	30.8%	30.8%	24.3%
	Total Off-Street Parking Occupancy %		31.1%	33.3%	29.6%	28.6%	28.6%	29.5%	24.0%
	Total On-Street Parking Occupancy %		12.7%	21.7%	28.0%	18.8%	31.3%	34.4%	29.9%
	Total Parking Occupancy %		29.0%	32.0%	29.4%	27.4%	29.0%	30.1%	24.6%