

Jackson Ward Parking Study

February 20, 2002

Town of
Ashland
Counties of
Charles City
Chesterfield
Goochland
Hanover
Henrico
New Kent
Powhatan
City of
Richmond



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Jackson Ward Parking Study

Prepared for:

City of Richmond
Department of Economic Development
And
The Historic Jackson Ward Civic Association

February 19, 2002

Acknowledgement

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Jackson Ward Parking Study

Introduction

At the request of the City of Richmond, the Richmond Regional Planning District Commission (RRPDC) examined current parking resources and parking needs throughout the Jackson Ward neighborhood. The study was conducted to foster the development of long term strategies for the Jackson Ward neighborhood that meets the needs of residents, businesses, churches, and visitors.

Study Area

Jackson Ward is an historic community adjacent to the Richmond Central Business District. Long recognized as a vibrant, predominately African American community that has been a leader in fostering minority business growth and development, the neighborhood's proximity to the Central Business District has led to parking "spillover" into Jackson Ward. This spillover results from structures such as the Convention Center, Coliseum, Biotech Park, and buildings on Broad Street.

The study area is bounded by Broad Street to the south (a commercial corridor), 3rd Street to the east (which borders the new Richmond Convention Center complex), Interstate 95/64 to the north, and Belvidere Street (Route 1) to the west. Among the important historic structures in the neighborhood are the Maggie Walker House, the Black History Museum and Cultural Center of Virginia and the Bojangles Statue Park.

The study area consists of 40 blocks and covers approximately one square mile. An eclectic mix of residences, small businesses, churches, museums, and social service buildings are included in the Jackson Ward community. Like the make-up of the neighborhood, parking in the community is mixed. For the purposes of this study, the following definitions are used:

- ◆ commercial lots-privately held parking lots owned and maintained by a particular business
- ◆ public pay lots-privately or publicly owned spaces made available to the public for a fee
- ◆ residential spaces-private off-street parking spaces for use by residents (garages excluded)
- ◆ curb spaces-on-street spaces

Developing a Data Collection Method

To develop a profile of current parking conditions, the RRPDC began by creating a data collection process that would allow deficits and surpluses to be identified, project parking needs for future development, and allow for meaningful analysis if solutions to parking problems were needed. As is the case with most parking studies done in urban environments, the study area was divided into blocks for sub-area analysis. Beginning with the block bounded by Broad Street, Belvidere Street, Marshall Street, and Henry Street, blocks were sequentially numbered from 1-48. Map 1 shows the layout of block numbers in the Jackson Ward neighborhood. Originally, blocks were numbered between 3rd and 5th Streets for inclusion in the study. However, due to construction surrounding the Convention Center, all blocks between 3rd and 5th were excluded from the study. This was done because the streets were blocked-off, parking had been removed, or construction activities had obliterated parking spaces, thus making an accurate accounting of supply impossible.

The second step was to compile an inventory of existing spaces. Using aerial photographs obtained from the City of Richmond and by conducting field checks of each block, a complete inventory by space type by block was completed. Table 1 shows the parking inventory by type for each block in the Jackson Ward study area.

Jackson-Ward Parking Study

Block Identification

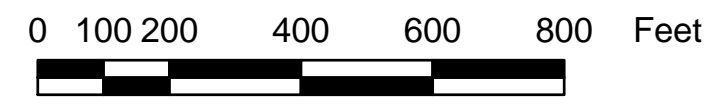
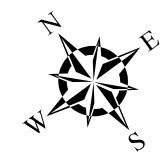
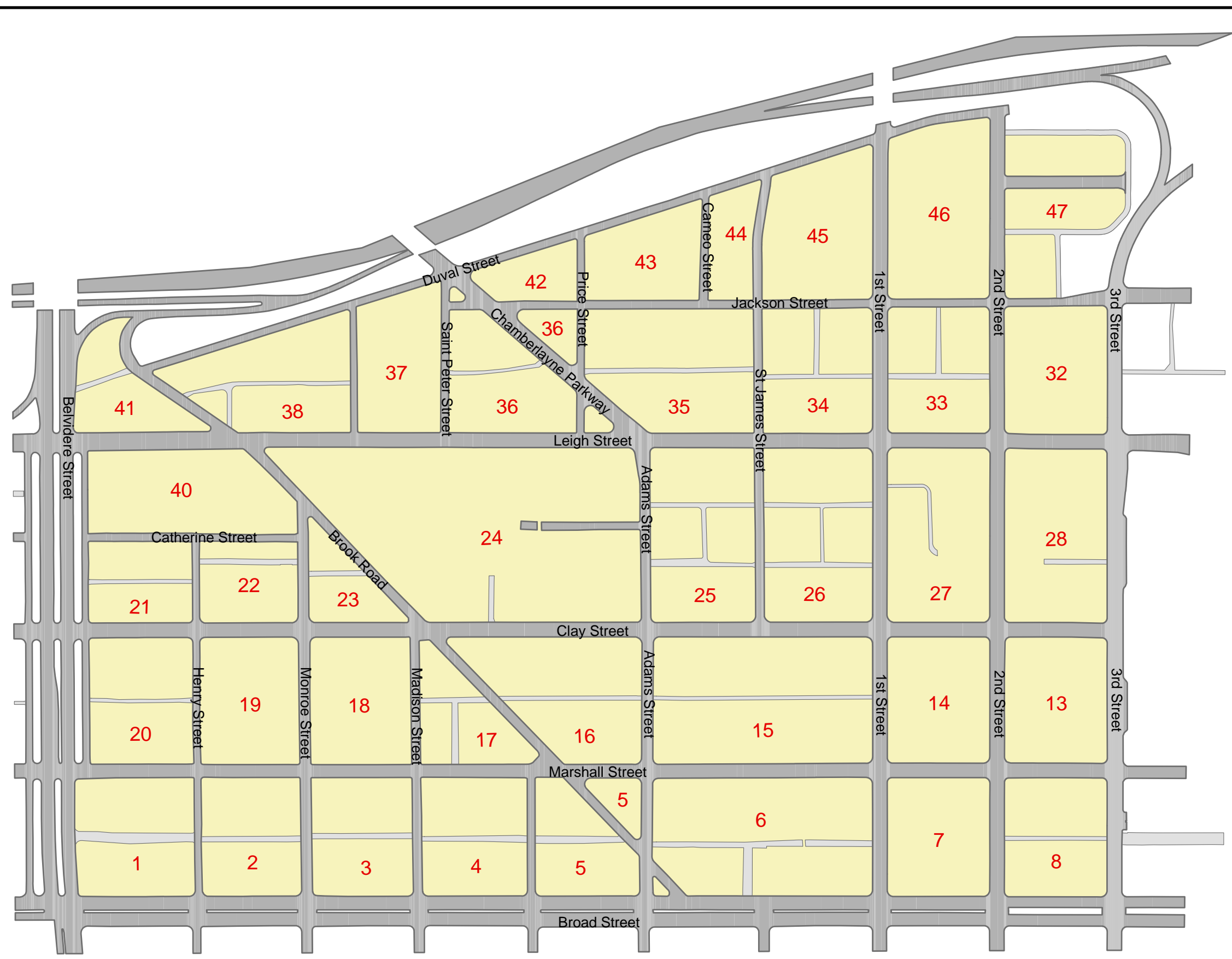


Table 1: Parking Spaces by Block and Type

Block #	Commercial Lots	Public Lots	Residential Spaces	Curb Spaces	Total
01	110	0	0	11	121
02	53	0	5	40	98
03	53	0	3	41	97
04	27	0	24	42	93
05	14	0	2	13	29
06	81	34	0	43	158
07	45	0	0	29	74
08	78	0	0	20	98
13	12	11	0	18	41
14	134	0	0	45	179
15	79	90	0	49	218
16	0	0	20	34	54
17	20	0	0	39	59
18	0	0	16	65	81
19	0	0	5	53	58
20	0	0	0	45	45
21	0	0	0	50	50
22	0	0	0	43	43
23	0	0	2	24	26
24	147	0	0	80	227
25	51	0	4	22	77
26	31	0	1	62	94
27	48	0	0	61	109
28	84	0	0	34	118
32	97	0	0	3	100
33	12	0	15	22	49
34	32	0	9	27	68
35	16	30	2	5	53
36	0	0	0	33	33
37	57	0	0	57	114
38	22	0	0	48	70
39/40	160	0	0	13	173
41	0	0	0	2	2
42	0	0	0	25	25
43	0	0	0	26	26
44/45	0	0	0	43	43
46	12	0	0	39	51
47	21	134	0	48	203
Total	1496	299	108	1462	3365

Once the number of spaces by type and block was determined and field checked, the RRPDC was ready to move on to the data collection and analysis phase.

Data Collection and Analysis

On two consecutive days, a team from the RRPDC conducted a field survey of parking occupancy for each block and type in the Jackson Ward neighborhood. For purposes of analysis, each block will be looked at separately. If a lot, curb spaces, or total parking for a block has a utilization rate of 80-89 percent, then the lot, curb spaces, or total parking for that block or block segment is considered to be constrained. If a lot, curb spaces, or total parking for a block has a utilization rate of 90 percent or greater, then the lot, curb spaces, or total parking for that block or block segment is considered to be of critical concern. The analysis by block is included below.

Block By Block Analysis

Block One

For block one, bounded by Broad Street, Belvidere Street, Marshall Street, and Henry Street, no significant parking problems exist. There are 110 spaces in commercial lots, none in public lots, no residential spaces and 11 curb spaces. Commercial lot utilization rates are below 25 percent and only about half of curb spaces are occupied at any given one hour period during the day. With no public parking lots and no residential parking lots, this block has an overall parking surplus.

Peak utilization rates for commercial lots was around the lunch time hour, while curb space utilization peak periods were in the afternoon hours. With a total of 121 parking spaces in the block and a maximum usage of 35 spaces during any one hour period, no adjustments to parking supply or time limitations appear warranted at this time. A Parking Occupancy Survey table for block one appears in Appendix A.

Block Two

For block two, bounded by Broad Street Henry Street, Marshall Street, and Monroe Street, available public parking is not a concern. There are 53 commercial lot spaces none in public lots, five residential spaces and 40 curb spaces. For commercial lots, utilization rates exceeded 50 percent only once during the observation period. Curb spaces were well utilized, however only during one observation period did occupancy rates exceed 80 percent. Average usage for curb spaces was approximately 75 percent. This suggests that the amount of on-street parking is adequate for the block. However, a small residential lot was full almost the entire observation period. Any additional residential units added to this block will need to carefully consider off-street parking needs for future residents.

Peak utilization time for the commercial lots occurred during the noon time hour, however, only 55 percent of spaces were occupied. Peak occupancy period for curb spaces was 10:00 AM when 93 percent of spaces were used. With a total of 98 spaces on the block and a maximum occupancy rate of 66 percent, there is no need for the city to adjust parking availability or time limitations for this block. A parking occupancy survey table for the review period is included in Appendix A.

Block Three

Block three is bounded by Broad Street, Monroe Street, Marshall Street, and Madison Street. There are 53 commercial lot spaces, zero public lot spaces, three residential spaces, and 41 curb spaces. For commercial lots, the occupancy survey revealed that off-street parking is more than adequate. At no time during the survey period did commercial lot usage in this block exceed 50 percent of available spaces. A small gravel residential parking lot, containing three spaces, was never full and is too small to be a focus for this study. Curb spaces, on the other hand exceeded the 80 percent threshold to be considered constrained for all time periods except during the 4:00 and 5:00 time period. In fact, curb space occupancy exceeded 90 percent during five of the nine hour-long observation periods. A review of off-street parking in this block reveals that 35 of the 41 spaces have no time limits, which may be a cause of the on-street parking shortage. Overall, between 50 and 70 percent of all parking is occupied during daylight hours. For the purposes of this analysis, block three is considered as an area of concern and will need additional consideration for future improvements. Recommendations for these improvements are discussed in the recommendations section of this report.

Peak utilization periods for commercial lots in block three occurred during the 12:00-1:00 PM observation periods. However, both periods were below 50 percent of available capacity. Peak utilization periods for curb spaces occurred at the 1:00 PM observation period, however the 9:00 AM, 11:00 AM, 12:00 PM and 2:00 PM observation periods all had occupancy rates in excess of 90 percent. Parking availability and time restraint considerations will be discussed in the recommendations section. A parking occupancy survey table for block three is included in Appendix A.

Block Four

Block four is bounded by Broad Street, Madison Street, Marshall Street, and Jefferson Street. The block contains 27 spaces in commercial lots, none in public lots, 24 residential spaces and 42 curb spaces. Commercial lot space utilization did not exceed 80 percent during any observation period and the average utilization rate was approximately 55 percent. The number of residential spaces also appears adequate with occupancy rates not exceeding 70 percent during any observation period. Curb spaces (on-street parking) however, were at a premium during every observation period except the 11:00 AM period. Occupancy rates exceeded 80 percent during five of the nine observation periods and exceeded 90 percent in three of the remaining four observation periods. With 34 of the 42 curb spaces having no time limits, this block requires special consideration for upgrading parking availability. These upgrades will be discussed in the recommendations section.

Peak period occupancy for commercial lot spaces occurred during the lunch time observation period. The residential space peak period was at 9:00 AM. Curb spaces were completely occupied during the 9:00 AM time period as well. Parking availability and time restraint considerations will be discussed in the recommendations section. A parking occupancy survey table for block four is included in Appendix A.

Block Five

Block five is bounded by Broad Street, Jefferson Street, Marshall Street and Adams Street. Included as part of the block is a triangular area created by Brook Road, which bisects the block with intersections at Marshall Street and Adams Street. Within block five there are 14 commercial lot spaces, zero public lot spaces, two residential spaces, and 13 curb spaces. Occupancy in commercial lots was low, with no observation period showing a utilization rate in excess of 36 percent of available spaces. Residential spaces were also adequate with 50 percent occupancy reached on five of nine

observation periods. Curb space occupancy was adequate for the majority of the observation period; however the 4:00 PM and 5:00 PM observation periods both registered utilization rates in excess of 90 percent. This is probably explained by the limited number of curb spaces available on this block. Overall, total parking availability is adequate with an average occupancy rate of 45 percent.

Peak period for commercial lot spaces occurred at 9:00 AM and 1:00 PM when 36 percent of spaces were occupied. Because of an illegally parked vehicle, peak period for curb space occupancy was at 5:00 PM when 108 percent of available spaces were used. Parking availability and time restraint considerations will be discussed in the recommendations section. A parking occupancy survey table for block is included in Appendix A.

Block Six

Block six is bounded by Broad Street, Adams Street, Marshall Street, and 1st Street. A small triangular area is included in this block, which was created by Brook Road bisecting the block and intersecting at Adams Street and Broad Street. There are 81 spaces in commercial lots, 34 spaces in public lots, no residential spaces and 43 curb spaces. Commercial lot space is adequate with no observation periods showing occupancy rates in excess of 80 percent. Average commercial lot space usage was 52 percent. Public lots were underutilized, with less than 40 percent of the spaces ever occupied. Curb spaces were constrained (greater than 80 percent occupied) during three of the observation periods. Average occupancy was approximately 75 percent if the 9:00 AM observation period is excluded. The vast majority of curb spaces had two-hour parking limits. With overall parking occupancy approximately 50 percent, and with underutilized public lot space, parking space is considered adequate for block six.

Commercial lot occupancy was at its peak during the lunchtime observation period when 72 percent of spaces were occupied. Public lots were also at their highest occupancy rate during the lunchtime observation period when 36 percent of available spaces were used. The peak period for curb spaces was at 12:00 PM and 4:00 PM. A parking occupancy survey table for block six is included in Appendix A.

Block Seven

Block seven is bounded by Broad Street, 1st Street, Marshall Street, and 2nd Street. There are 45 spaces available in commercial lots, none in public lots, zero in residential parking lots, and 29 curb spaces. Parking availability in commercial lots is more than adequate. At no time during the observation periods did space occupancy exceed 38 percent. With the exception of the 9:00 AM observation period, all observation periods had occupancy rates in excess of 80 percent for on-street parking. On street-parking has more stringent time limits in block seven than other blocks with the majority having a one hour limit. Because of the premium on curb spaces and the lack of public lots, parking in block seven is considered constrained. This block requires special consideration for upgrading parking availability, and these upgrades will be discussed in the recommendations section.

Commercial lot occupancy was at its peak during the 10:00 AM observation period when 38 percent of spaces were occupied. The peak period for curb spaces was at 10:00 AM and 5:00 PM. Parking availability and time restraint considerations will be discussed in the recommendations section. A parking occupancy survey table for block seven is included in Appendix A.

Block Eight

Block eight is bounded by Broad Street, 2nd Street, Marshall Street, and 3rd Street. There are 78 commercial lot spaces available, zero public lot spaces, no residential parking spaces, and 20 curb spaces. Parking in commercial lot spaces (United Way) was at or above capacity from 9:00 AM to 1:00 PM. After 1:00 PM, occupancy rates remained above 70 percent until 4:00 PM when usage dropped to half of available spaces. Similar to commercial lot spaces, curb spaces were at capacity for a significant portion of the observation period. In addition, 80 percent of capacity was in use at the 5:00 PM observation period. Curb spaces in block eight are intended for high turnover and have 1 hour and 30 minute time limits depending on the location of the space. Overall, parking capacity is reached in five of the nine observation periods. Without public lot space to relieve some of the pressure on curb spaces, block eight is an area of special concern. Discussion of upgrades to parking availability is discussed in the recommendations section of this report.

Commercial lot occupancy was at its peak during the 9:00 AM observation period when 117 percent of spaces were occupied. Double parking was observed at some of the available spaces. The peak period for curb spaces was from 10:00 AM and 2:00 PM when 100 percent of spaces were occupied. Parking availability and time restraint considerations will be discussed in the recommendations section. A parking occupancy survey table for block eight is included in Appendix A.

Block Thirteen

For block thirteen, bounded by 3rd Street, Marshall Street, 2nd Street, and Clay Street, available public parking is not a problem. There are 12 spaces in commercial lots, 111 spaces in public pay lots, and 18 curb spaces. For commercial lots, there were no observed automobiles parked here at any time. In the public lot, only once did the usage rise above 50 percent during the observation period. Average usage for curb spaces was wide-ranging, from 39 percent at mid-day to over 100 percent for two hours in the morning. This means that cars were illegally parked during this time. This may be due to construction workers taking advantage of the close proximity to the Convention Center.

Peak utilization times for the public lots was at noon, but usage remained steady for the entire observation period. The lot was only half-full at its peak. The curb spaces were utilized all day, with the peak occurring between 10:00 AM and 12:00 PM. At these times the usage was over 100 percent. With a total of 41 spaces on this block and a maximum occupancy rate of 57 percent, there is no need for the city to adjust parking availability based on current usage. A parking occupancy survey table for block thirteen is included in Appendix A.

Block Fourteen

For block fourteen, bounded by 2nd Street, Marshall Street, 1st Street, and Clay Street, available public parking is not a problem. There are 134 spaces in public lots and 45 curb spaces. For public lots, the usage never rose above 40 percent during the observation period. Average usage for curb spaces ranged from 40 percent to 80 percent. Typical usage in curbside parking was roughly 55 percent.

There was no singular peak usage window for the public lots. Usage ranged between 37 percent and 40 percent during the entire observation period, with the most usage in the morning hours between 9:00 AM and 12:00 PM. The lots were less than half-full at their peak. The curb spaces were utilized all day, with the peak occurring between 10:00 AM and 11:00 AM. At these times the usage was 80 percent. With a total of 179 spaces on this block and a maximum occupancy rate of 50 percent, there is no need for the city to adjust parking availability based on current usage. Enforcement of

Map of blocks 1-20

curbside parking and education about pay lots may help to shift parking to off-street locations. A parking occupancy survey table for block fourteen is included in Appendix A.

Block Fifteen

For block fifteen, bounded by 1st Street, Marshall Street, Adams Street, and Clay Street, available public parking is not a problem. There are 79 spaces in commercial lots, 90 spaces in public lots and 49 curbside spaces. In the commercial lots, usage rises above 60 percent once. For public lots, the usage never rose above 17 percent during the observation period. Average usage for curbside spaces was roughly 75 percent.

In the commercial lot, the usage ranged from 32 percent in the morning to 61 percent in the afternoon. Most of the usage occurred after noon, ranging from 50 percent to 61 percent. The public lots never approached peak capacity. They ranged from 13 percent in the early morning to almost 17 percent in the afternoon. The curbside spaces were utilized all day, with the peak occurring between 11:00 AM and 12:00 PM. At these times the usage was 88 percent. With a total of 218 spaces on this block and a maximum occupancy rate of 45 percent, there is no need for the city to adjust parking availability based on current usage. Enforcement of curbside parking and education about pay lots may help to shift parking to off-street locations. A parking occupancy survey table for block fifteen is included in Appendix A.

Block Sixteen

For block sixteen, bounded by Adams Street, Marshall Street, Brook Road, and Clay Street, available public parking may prove to be a problem. There are 20 spaces in private residential lots and 34 curbside spaces. In the residential lots, usage rises above 80 percent at all times. Average usage for curbside spaces ranges between 52 percent and 85 percent.

In the residential parking areas, the usage ranged from 95 percent in the morning to 80 percent in the afternoon. Most of the usage occurred in the morning, with residents leaving in the middle of the day and returning in the later afternoon. The curbside spaces were utilized all day, with the peak occurring between 12:00 PM and 1:00 PM. At these times the usage was 85 percent. With a total of 54 spaces on this block and a maximum occupancy rate of 85 percent, there may be a need for the city to look at parking alternatives based on current usage. A parking occupancy survey table for block sixteen is included in Appendix A.

Block Seventeen

For block seventeen, bounded by Brook Road, Marshall Street, Madison Street, and Clay Street, available public parking may prove to be a problem. There are 20 spaces in commercial lots and 39 curbside spaces. In the commercial lots, usage only reaches 45 percent at any one time. Usage for curbside spaces ranges between 35 percent and 79 percent.

In the commercial parking lots, the usage ranged from 45 percent in the morning to 25 percent in the afternoon. Most of the usage occurred in the morning between the hours of 9:00 AM and 12:00 PM. The curbside spaces were utilized all day, with the peak occurring between 9:00 AM and 10:00 AM. At these times the usage was 79 percent. After this early morning peak, the usage declines until mid-day where it spikes again and then declines until the evening. With a total of 59 spaces on this block and a maximum occupancy rate of 67 percent, there may be a need for the city to look at morning parking alternatives based on current usage. A parking occupancy survey table for block seventeen is included in Appendix A.

Block Eighteen

For block eighteen, bounded by Madison Street, Marshall Street, Monroe Street, and Clay Street, available public parking may prove to be a problem in the future. There are 16 spaces in private residential lots and 65 curb spaces. In the residential areas, usage stays consistent near 60 percent. Usage for curb spaces ranges between 32 percent and 62 percent.

In the residential parking areas, the usage was steady between 50 percent and 60 percent for most of the study period. The only departure was a drop in usage between 3:00 PM and 4:00 PM, when it dipped to 43 percent. The curb spaces were utilized all day, with the peak occurring between 9:00 AM and 10:00 AM. At these times the usage was 62 percent. After this early morning peak, the usage declines until the evening. With a total of 81 spaces on this block and a maximum occupancy rate of 60 percent, there may be a future need for the city to look at morning parking alternatives based on current usage. Education about adjacent parking locations may help to shift some of the curbside parking needs to nearby off-street locations. A parking occupancy survey table for block eighteen is included in Appendix A.

Block Nineteen

For block nineteen, bounded by Monroe Street, Marshall Street, Henry Street, and Clay Street, available public parking should not be a concern in the future. There are 7 spaces in private residential lots and 53 curb spaces. In the residential areas, usage stays consistent above the available capacity. Usage for curb spaces ranges between 30 percent and 56 percent.

In the residential parking areas, the usage was steady between 71 percent and 100 percent for most of the study period. The maximum residential capacity was met from 9:00 AM until 12:00 PM. The curb spaces were utilized sparingly all day, with the peak occurring between 9:00 AM and 10:00 AM. At these times the usage was 57 percent. After this early morning peak, the usage declines until the evening. With a total of 60 spaces on this block and a maximum occupancy rate of 62 percent, there will probably not be a future need for the city to look at parking alternatives based on current usage. A parking occupancy survey table for block nineteen is included in Appendix A.

Block Twenty

For block twenty, bounded by Henry Street, Marshall Street, Smith Street, and Clay Street, available public parking should not be a concern in the future. There are 45 curb spaces on this block. It is solely residential, and usage stays consistently at or above 50 percent.

The curb spaces were utilized steadily all day, with the peak occurring between 11:00 AM and 12:00 PM. At these times the usage was 67 percent. After this morning peak, the usage remains steady and then after lunch declines until the evening. With a total of 45 spaces on this block and a maximum occupancy rate of 67 percent without any commercial or other business needs on the block, there will probably not be a future need for the city to look at parking alternatives based on current usage. A parking occupancy survey table for block twenty is included in Appendix A.

Block Twenty-One

For block twenty-one, bounded by Smith Street, Catherine Street, Henry Street, and Clay Street, available public parking does not appear to be a problem. There are 50 curb spaces with usage ranging between 16 percent and 26 percent.

Usage was steady between 20 percent and 26 percent for most of the study period. The only departure was a drop in usage between 10:00 AM and 12:00 PM, when it dipped to 16 percent. The

curb spaces were utilized all day, with the peak occurring in the late afternoon. With a total of 50 spaces on this block and a maximum occupancy rate of 26 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-one is included in Appendix A.

Block Twenty-Two

For block twenty-two, bounded by Monroe Street, Catherine Street, Henry Street, and Clay Street, available public parking does not appear to be a problem. There are 43 curb spaces with usage ranging between 26 percent and 49 percent.

Usage was steady between 30 percent and 40 percent for most of the study period, with departures of 49 percent at 9:00 AM, 28 percent at 10:00 AM, and 26 percent at 5:00 PM. The curb spaces were utilized all day, with the peak occurring in the early morning. With a total of 43 spaces on this block and a maximum occupancy rate of 49 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-two is included in Appendix A.

Block Twenty-Three

For block twenty-three, bounded by Monroe Street, Brook Road, and Clay Street, available public parking does not appear to be a problem. There are 24 curb spaces with usage ranging between 21 percent and 50 percent. There are two residential spaces, but only one of them was in use at the 9:00 AM and 5:00 PM periods.

Curb space usage was steady between 33 percent and 38 percent for most of the study period, with departures of 21 percent at 9:00 AM and 12:00 PM, and 50 percent at 5:00 PM. The curb spaces were utilized all day, with the peak occurring in the late afternoon. With a total of 26 spaces on this block and a maximum occupancy rate of 50 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-three is included in Appendix A.

Block Twenty-Four

For block twenty-four, bounded by Adams Street, Brook Road, Leigh Street, and Clay Street, availability of public parking does not appear to be a problem; however, commercial parking spaces are scarce in the morning hours. There are 80 curb spaces with usage ranging between 0 percent and 14 percent and 147 commercial spaces with usage ranging between 46 percent and 97 percent.

Curb space usage ascended throughout the day from 0 percent at 9:00 AM to 14 percent at 5:00 PM. Commercial space usage fluctuated throughout the day, peaking at 10:00 AM (97 percent) and reaching a low point at 5:00 PM (46 percent), averaging around 72 percent. With a total of 227 spaces on this block and a maximum occupancy rate of 64 percent, block 24 does not have a parking problem. A parking occupancy survey table for block twenty-four is included in Appendix A.

Block Twenty-Five

For block twenty-five, bounded by Adams Street, Saint James Street, Leigh Street, and Clay Street, availability of public, commercial, and residential parking does not appear to be a problem. There are 22 curb spaces with usage ranging between 5 percent and 50 percent, 51 commercial spaces with usage ranging between 27 percent and 41 percent, and four residential spaces with usage ranging between 0 percent and 75 percent.

Curb space usage ascended throughout the day from 9 percent at 9:00 AM to 50 percent at 5:00 PM. Commercial space usage fluctuated throughout the day, peaking at 5:00 PM (41 percent) and reaching the low point during the AM hours and at 2:00 PM (27 percent). With a total of 77 spaces on this block and a maximum occupancy rate of 45 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-five is included in Appendix A.

Block Twenty-Six

For block twenty-six, bounded by Saint James Street, Clay Street, Leigh Street, and 1st Street, availability of public, commercial, and residential parking does not appear to be a problem. There are 61 curb spaces with usage rates between 20 percent and 57 percent, one residential space that was occupied throughout the day, and 31 commercial spaces with usage ranging between 39 percent and 74 percent.

Commercial space usage fluctuated throughout the day, peaking at 5:00 PM and reaching the low point at 9:00 AM. Worth noting is that curb space usage reached the low point at 9:00 AM (20 percent) and peaked at 10:00 AM (57 percent), then mildly fluctuating for the remainder of the periods. This could be the result of an atypical circumstance affecting the 10:00 AM period. With a total of 93 spaces on this block and a maximum occupancy rate of 59 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-six is included in Appendix A.

Block Twenty-Seven

For block twenty-seven, bounded by 1st Street, 2nd Street, Leigh Street, and Clay Street, availability of public and commercial parking does not appear to be a problem. There are 61 curb spaces with usage ranging between 39 percent and 70 percent and 48 commercial spaces with usage ranging between 17 percent and 33 percent.

Curb space usage fluctuated throughout the day, exhibiting the low point of usage at 3:00 PM (39 percent) and peaking at 10:00 AM (70 percent). Commercial space usage also fluctuated throughout the day, peaking at 12:00 PM (33 percent) and reaching the low point at 2:00 PM (17 percent). With a total of 109 spaces on this block and a maximum occupancy rate of 50 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-seven is included in Appendix A.

Block Twenty-Eight

For block twenty-eight, bounded by 2nd Street, 3rd Street, Leigh Street, and Clay Street, availability of public and commercial parking does not appear to be a problem. There are 34 curb spaces with usage ranging between 21 percent and 74 percent and 84 commercial spaces with usage ranging between 48 percent and 58 percent.

Curb space usage widely fluctuated throughout the day, exhibiting the low point of usage at 3:00 PM (21 percent) and peaking at 12:00 PM (74 percent). Commercial space usage moderately fluctuated throughout the day, peaking at 10:00 AM (58 percent) and reaching the low point at 2:00 PM (48 percent). With a total of 118 spaces on this block and a maximum occupancy rate of 59 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block twenty-eight is included in Appendix A.

Map of blocks 21-48

Block Thirty-Two

For block thirty-two, bounded by 2nd Street, 3rd Street, Leigh Street, and Jackson Street, availability of public parking is limited, while the availability of commercial parking is more than adequate. There are only three curb spaces and, although they weren't used throughout the day, there were two periods in which all three were occupied. There are 97 commercial spaces with usage ranging between 35 percent and 44 percent.

Curb space usage fluctuated throughout the day, exhibiting the low point of usage in the early morning and mid-afternoon, while reaching peaks later in the morning and late in the afternoon. Commercial space usage moderately fluctuated throughout the day, peaking at 12:00 PM (44 percent) and reaching the low point at 4:00 PM (35 percent). With a total of 100 spaces on this block and a maximum occupancy rate of 45 percent, the analysis does not suggest a need for parking alternatives; however, there is a clear imbalance in the availability of public parking versus commercial parking. A parking occupancy survey table for block thirty-two is included in Appendix A.

Block Thirty-Three

For block thirty-three, bounded by 2nd Street, 1st Street, Leigh Street, and Jackson Street, availability of public and commercial parking is limited, while residential parking appears more than adequate. There are 22 curb spaces with usage ranging between 41 percent and 82 percent, 12 commercial spaces with usage ranging between 75 percent and 100 percent, and 15 residential spaces with usage ranging between 20 percent and 67 percent.

Curb space usage fluctuated throughout the day, exhibiting the low point of usage at 2:00 PM (41 percent) and peaking at 10:00 AM (82 percent). Commercial space usage peaked (100 percent) during the morning and early afternoon periods and descended to the low point at 5:00 PM (75 percent). Residential usage ascended from the early AM low point (20 percent) to the 5:00 PM peak (67 percent). The block's total of 49 spaces exhibits a maximum occupancy rate of 67 percent, but the residential data make this statement misleading, as the data offset the public and commercial parking inadequacies. As such, the analysis suggests a need for public and commercial parking alternatives. A parking occupancy survey table for block thirty-three is included in Appendix A.

Block Thirty-Four

For block thirty-four, bounded by Saint James Street, 1st Street, Leigh Street, and Jackson Street, availability of public, commercial, and residential parking does not appear to be a problem. There are 27 curb spaces with usage ranging between 15 percent and 48 percent, 32 commercial spaces with no usage throughout the day, and 9 residential spaces with usage ranging between 33 percent and 56 percent.

Curb space usage fluctuated throughout the day, exhibiting the low point of usage in the early morning and late afternoon, while peaking at 12:00 PM. Residential usage followed a U-curve, peaking in the early morning and late afternoon. With a total of 68 spaces on this block and a maximum occupancy rate of 24 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block thirty-four is included in Appendix A.

Block Thirty-Five

For block thirty-five, bounded by Saint James Street, Price Street, Leigh Street, and Jackson Street, availability of public curb space parking appears inadequate, while the availability of commercial, public lot, and residential parking does not appear to be a problem. There are 5 curb

spaces with usage ranging between 40 percent and 120 percent, 16 commercial spaces with usage ranging between 6 percent and 31 percent, 30 public lot spaces with usage ranging between 3 percent and 23 percent, and 2 residential spaces that were occupied throughout the day.

Curb space usage exhibited a bell-curve pattern, peaking at 1:00 PM. Commercial usage also followed a bell-curve pattern, peaking at 12:00 PM. Public lot usage peaked at 11:00 AM and gradually descended to the low point by the late afternoon. With a total of 53 spaces on this block and a maximum occupancy rate of 34 percent, the analysis suggests a need to encourage the use of the underused public lots instead of exceeding the curb space capacity. A parking occupancy survey table for block thirty-five is included in Appendix A.

Block Thirty-Six

For block thirty-six, bounded by Price Street, Saint Peter Street, Leigh Street, Jackson Street, as well as Chamberlayne Parkway, availability of public parking does not appear to be a problem. There are 33 curb spaces with usage ranging between 24 percent and 58 percent.

Curb space usage fluctuated throughout the day, peaking at 10:00 AM and descending to the low point at 3:00 PM and slightly increasing until the 5:00 PM period. With a total of 33 spaces on this block and a maximum occupancy rate of 58 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block thirty-six is included in Appendix A.

Block Thirty-Seven

For block thirty-seven, bounded by Duval Street, Saint Peter Street, Leigh Street, and Judah Street, availability of public and commercial parking does not appear to be a problem. There are 57 curb spaces with usage ranging between 2 percent and 12 percent and 57 commercial lot spaces with usage ranging between 7 percent and 23 percent.

Curb space usage fluctuated throughout the day, peaking at 2:00 PM and reaching the low point during the 10:00 AM and 4:00 PM periods. Commercial lot usage followed a bell-curve pattern, peaking at 1:00 PM. With a total of 114 spaces on this block and a maximum occupancy rate of 15 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block thirty-seven is included in Appendix A.

Block Thirty-Eight

For block thirty-eight, bounded by Duval Street, Brook Road, Leigh Street, and Judah Street, availability of public parking does not appear to be a problem; however, the commercial lots are being used in excess of their intended capacity. There are 48 curb spaces with usage ranging between 6 percent and 19 percent and 22 commercial lot spaces with usage ranging between 91 percent and 132 percent.

Curb space usage fluctuated throughout the day, peaking at 5:00 PM and reaching the low point during the 9:00 AM period. Commercial lot usage was in excess of 100 percent in all periods, with the exception of the 5:00 PM period (91 percent), and usage was consistent throughout the day, with a slight peak at 2:00 PM. There are 70 spaces on this block with a maximum occupancy rate of 53 percent; however, the number of commercial spaces is inadequate. As such, the analysis suggests a need to encourage commercial lot users to utilize the excess curb space capacity on this block. A parking occupancy survey table for block thirty-eight is included in Appendix A.

Blocks Thirty-Nine and Forty

For blocks thirty-nine and forty, bounded by Smith Street, Catherine Street, Leigh Street, Brook Road, Monroe Street, and Henry Street, availability of public and commercial parking does not appear to be a problem. There are 13 curb spaces that were not being used and 160 commercial spaces with usage ranging between 36 percent and 47 percent.

Commercial lot usage fluctuated throughout the day, peaking at 11:00 AM and reaching the low point at 5:00 PM. With a total of 173 spaces on this block and a maximum occupancy rate of 43 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for blocks thirty-nine/forty is included in Appendix A.

Block Forty-One

For block forty-one, bounded by Brook Road, Belvidere Street, Leigh Street, and Duval Street, availability of public parking may be a problem. There are only 2 curb spaces and they were occupied for most of the day.

Given the block's proximity to block thirty-eight, which is being used beyond its capacity, block forty-one might be able to absorb some of the excess demand on block thirty-eight if more curb space parking is created. A parking occupancy survey table for block forty-one is included in Appendix A.

Block Forty-Two

For block forty-two, bounded by Jackson Street, Duval Street, Price Street, and Chamberlayne Parkway, availability of public parking does not appear to be a problem. There are 25 curb spaces with usage ranging between 8 percent and 16 percent.

Curb space usage was relatively constant throughout the day, mildly peaking at 12:00 PM. As such, the analysis does not suggest a need for parking alternatives. However, the block's proximity to block thirty-five makes it a candidate for accommodating block thirty-five's excess parking demand. A parking occupancy survey table for block forty-two is included in Appendix A.

Block Forty-Three

Block forty-three, bounded by Price Street, Duval Street, Chamberlayne Parkway, and Jackson Street, contains 26 curb parking spaces; however, none of the spaces were in use throughout the day.

Blocks Forty-Four and Forty-Five

For blocks forty-four and forty-five, bounded by Jackson Street, Duval Street, 1st Street, and Cameo Street, availability of public and commercial parking does not appear to be a problem. There are 43 curb spaces with usage ranging between 35 percent and 58 percent and 12 commercial spaces with usage ranging between 17 percent and 50 percent.

Curb space usage was relatively constant throughout the day, peaking at the 2:00 and 3:00 PM periods. Commercial space usage exhibited a bell-curve pattern, peaking at 1:00 PM. With a total of 55 spaces on this block and a maximum occupancy rate of 53 percent, the analysis does not suggest a need for parking alternatives; however, for reasons previously mentioned, this block could handle some of block thirty-five's excess capacity. A parking occupancy survey table for blocks forty-four/forty-five is included in Appendix A.

Block Forty-Six

For block forty-six, bounded by Jackson Street, Duval Street, 1st Street, and 2nd Street, availability of public parking does not appear to be a problem. However, the availability of commercial spaces is limited during certain periods. There are 39 curbside spaces with usage ranging between 33 percent and 56 percent and 12 commercial spaces with usage ranging between 58 percent and 92 percent.

Curbside space usage peaked in the early morning and was relatively constant for the remainder of the day. Commercial space usage peaked at 10:00 AM and gradually descended for the remainder of the day. With a total of 51 spaces on this block and a maximum occupancy rate of 63 percent, the analysis does not suggest a need for parking alternatives. A parking occupancy survey table for block forty-six is included in Appendix A.

Block Forty-Seven

For block forty-seven, bounded by 2nd Street, Jackson Street, 3rd Street, and I-64/95, availability of commercial and curbside space parking does not appear to be a problem; however, the public lot spaces are being used at full capacity. There are 48 curbside spaces with usage ranging between 23 percent and 33 percent, 134 public lot spaces with usage ranging between 96 percent and 100 percent, and 21 commercial lot spaces with usage ranging between 38 percent and 48 percent.

Curbside space usage was relatively constant throughout the day, mildly peaking at 1:00 PM and reaching the low point during the 5:00 PM period. Commercial lot usage was also constant with no notable peaks. Public lot usage was at full capacity throughout the day. There are 203 spaces on this block with a maximum occupancy rate of 78 percent. As such, the analysis suggests a need for parking alternatives on block forty-seven. A parking occupancy survey table for block forty-seven is included in Appendix A.

Block Forty-Eight

Block forty-eight does not have any available parking spaces.

Projecting Future Parking Demand

In examining potential parking demand in the Jackson Ward neighborhood, an analysis of parking generation rates must be divided into internal and external influences. Internal influences refer to parking demand generation caused by development and land use change within the Jackson Ward neighborhood. External parking demand generation refers to parking needs that may be created by properties adjacent to, or within very close proximity to, the Jackson Ward neighborhood. Each of these potential parking generation influences is examined below.

Future Parking Demand Generated Within Jackson Ward

Jackson Ward is historically a center for African American culture and enterprise within the City of Richmond. While residents and businesses come and go, the commercial and residential activity and building space has remained relatively constant over the last 20 years. Thus, any projected increase in parking demand as a result of land use change or development activity must be viewed within its historical context.

One way that parking generation rates can be determined is through a survey of existing parcels to determine use and square footage. Since this data was not available from the city, and a survey to

collect such data is beyond the scope of this study, this method could not be used. However, in the Jackson Ward neighborhood, major changes in the type of commercial activities and/or residential uses have been minimal over the last 20 years. Any significant traffic generator that has been developed in the Jackson Ward neighborhood has tempered the impact on parking demand by constructing some off-street parking. Therefore, this method of estimating future demand does not apply well to the Jackson Ward neighborhood. As such, estimating future demand by projecting parking generation rates through land use surveys would probably yield a result that would show little impact on parking needs within the Jackson Ward neighborhood.

A second method for predicting parking demand within the Jackson Ward neighborhood is by examining development potential within the neighborhood. An examination of the Jackson Ward neighborhood shows that the 2nd and 3rd street corridors are experiencing development pressure from spin-off businesses associated with the convention center expansion. In addition, some pressure may extend along short sections of Marshall, Clay, and Leigh streets. If all of this property were to be developed, an additional 250,000-500,000 square feet of leasable commercial space could be added to the neighborhood. This would generate, based on Urban Land Institute Parking Generation Rate figures of 2.5 to 3 spaces needed for each 1,000 square feet of leasable area, a need for between 625 and 1500 parking spaces. This total far exceeds the existing supply in surface parking lots and nearby parking structures, and could force drivers seeking parking further into the Jackson Ward neighborhood. This could lead to a battle for existing residential on-street parking spaces and/or potential lost customer revenue because all parking is being used when potential customers come to shop.

Future Parking Demand Generated by Development Adjacent to Jackson Ward

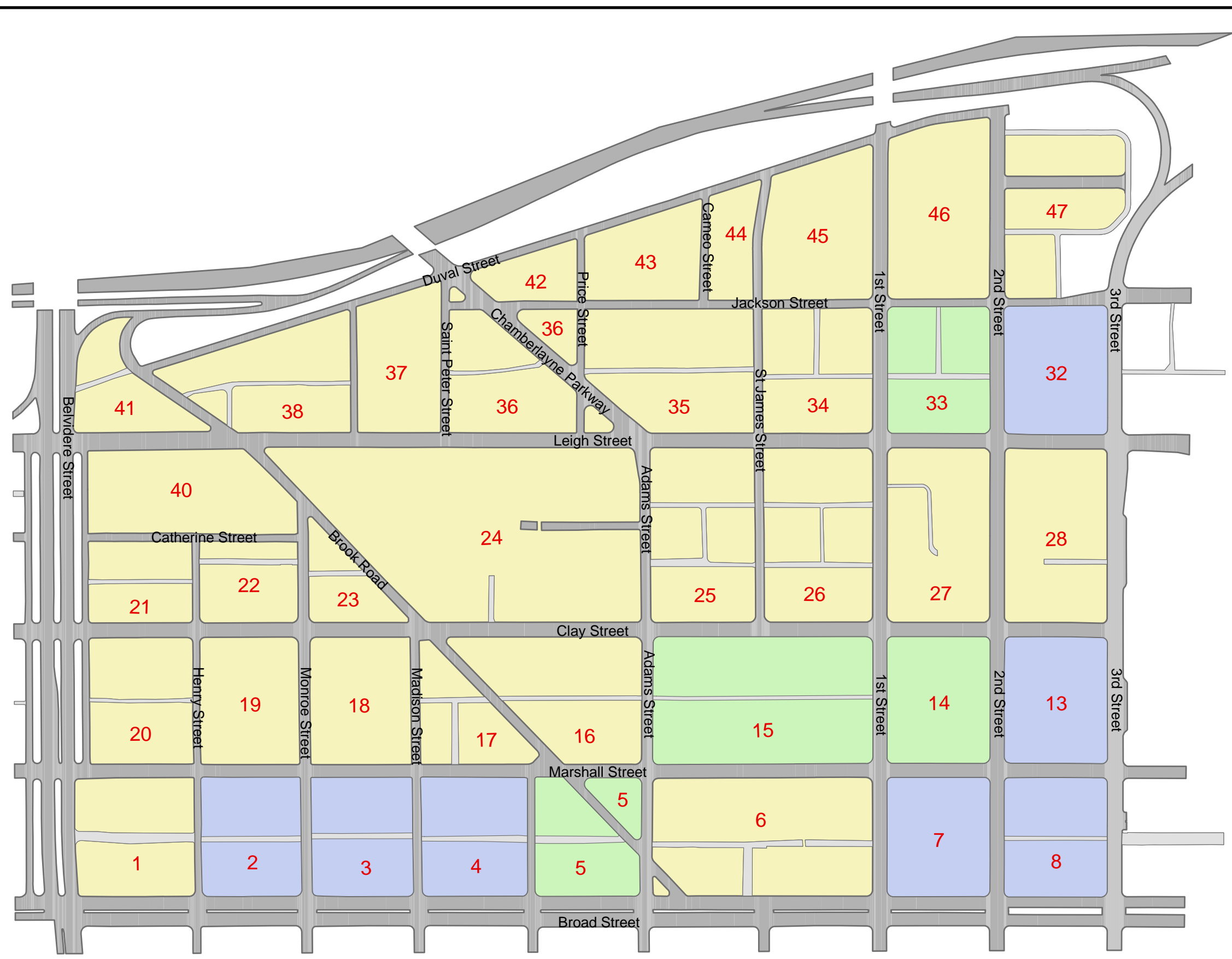
Much like the Jackson Ward neighborhood itself, adjacent properties south of Broad, West of Belvidere, and north of I-95/64 have similar development patterns as Jackson Ward. Residential and commercial development has been somewhat limited and what development does take place usually offsets parking demand generation by developing off-street parking. However, the same cannot be said for property immediately adjacent to Jackson Ward on the east side of the neighborhood.

The new Richmond Convention Center and ancillary development will have a pronounced impact on parking demand in the eastern portion of Jackson Ward. Studies conducted by the Institute of Transportation Engineers (ITE) and the Urban Land Institute (ULI) suggest that the area of impact will extend to a walking distance of 600 feet from the trip generator. The distance is assumed to be the maximum amount of space a person with an automobile will walk before they feel the distance is too far and will then give up and attempt to drive to a closer location. For the purposes of this analysis, the impact area for the new convention center is anticipated to be limited to blocks 7, 8, 13, 14, 27, 28, 32, 33, 46, 47, and 48.

According to Richmond North CBD Parking Study, prepared for the City of Richmond by Wilbur Smith Associates in January of 2001, significant development around the new convention center and the Virginia Biotechnology Research Park will lead to a net loss of 688 spaces near Jackson Ward. New and existing development near Jackson Ward is expected to generate a net parking demand of 6,585 spaces leaving a north CBD shortfall of 2,500 spaces. Of that total, about 10 percent is expected to seek parking within the eastern section of Jackson Ward, or about 250 spaces. Add an additional 5 percent of convention center attendees who are expected to look for lower cost parking alternatives than parking garages and the total shortfall of parking in blocks 8, 13, 28, 32, 47, and 48 is approximately 300 spaces. Additionally, some impact will be felt in blocks 7, 14, 27, 33, and 46.

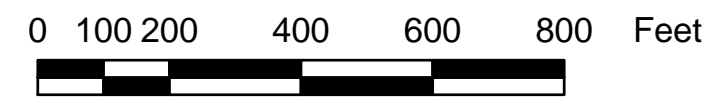
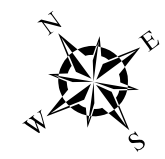
Jackson-Ward Parking Study

Curb Spaces
Before 12pm



Parking Usage

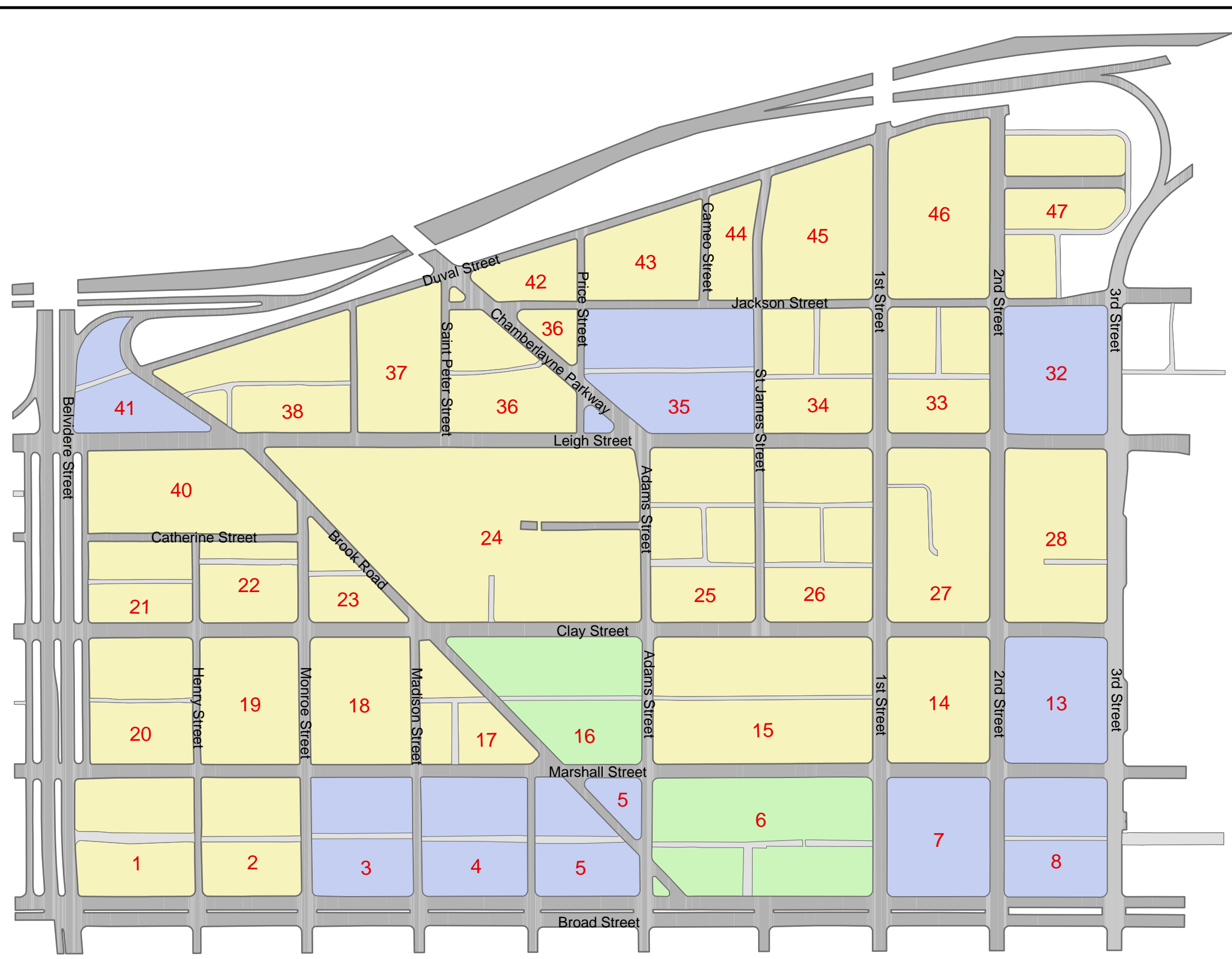
- 80% and above
- 90% and above



Prepared by: Richmond Regional PDC,
February 2002.

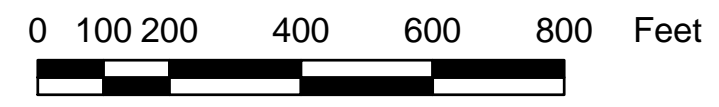
Jackson-Ward Parking Study

Curb Spaces
12pm and later



Parking Usage

- 80% and above
- 90% and above



Prepared by: Richmond Regional PDC,
February 2002.

Parking Recommendations for Jackson Ward

Based on the parking occupancy survey and parking need projections as a result of future development, there is a need to develop additional parking strategies for the Jackson Ward neighborhood. The parking recommendations below are broken down into three categories:

- ◆ Area-wide Recommendations
- ◆ Recommendations That Apply To Multiple Blocks
- ◆ Specific Recommendations for Specific Blocks.

The recommendations for specific blocks identify which of the solutions that apply to multiple blocks should be considered for that specific block. A discussion of each parking recommendation is discussed in brief below.

The recommendations are intended to protect the existing residents, businesses, and churches within Jackson Ward and provide the city with parking tools that can be used to stimulate economic development within the neighborhood. If implemented collectively, the suggestions contained in this report will mitigate parking problems on specific blocks without causing spillover into adjacent blocks.

Jackson Ward Area-wide Parking Recommendations

Form a Jackson Ward Parking Authority/Downtown Parking Authority

The parking authority would manage all public parking lots and all on-street parking. All revenues generated by the parking spaces would be turned over to the parking authority for parking management activities. The authority would be charged by City Council to provide a strategic approach to the management of parking in Jackson Ward/downtown. In addition, the authority would:

- ◆ Manage all on- and off-street parking on behalf of the city based on the goals and objectives established in the strategic approach
- ◆ Work with the city in revitalizing Jackson Ward/downtown by establishing parking policy and working with the city, employers, developers, and merchants in parking supply and parking demand management activities
- ◆ Develop policies and plans related to parking facilities within the City's existing transportation and land-use plans
- ◆ Coordinate event parking for major events at the convention center and Coliseum when such events occur during normal work hours
- ◆ Assemble land, as necessary, with capital projects and land purchases subject to review and approval of City Council
- ◆ Establish performance criteria for parking and work with private operators in developing and meeting standards of performance
- ◆ Work with City police to establish enforcement programs
- ◆ Understand and distribute data on usage and performance of parking facilities
- ◆ Work with City Administration, GRTC, Ridefinders, and RMA to promote utilization of public transit and commuter choice options
- ◆ Work with Jackson Ward churches to identify and acquire space for a parking lot to be shared by local churches

The goals and objectives for the authority could initially be set through a series of public meetings held with Jackson Ward residents, merchants, churches, and developers.

Improved Enforcement

During the survey period, little enforcement activity was noted in the Jackson Ward area. The only enforcement seen was a “meter-maid” following a street cleaner, and issuing parking tickets to those vehicles not moved for the street cleaning operation. For any parking system to work properly, adequate enforcement is a necessity. Besides the normal ticketing of violators, enforcement efforts should include: building support through public awareness campaigns (parking turnover is good for business), conducting regular analysis of enforcement activities to target specific parking conditions, and better direction and monitoring by supervisors of enforcement activities.

Improved Parking Signage

Making sure that convention and other downtown visitors know where to find the correct parking is a well-identified urban economic development tool. In addition to more signs, and easier to read signs, many cities have developed innovative programs to improve parking through signage. Particularly successful parking programs have a common theme: color-coding to denote the length of time that a space can be occupied. Signs are mounted at key entrance points to the area to educate drivers about the color coding scheme. Once within the Jackson Ward/downtown area, color-coded signs would be mounted at long-term lots and along streets to show parking time limits. In addition, some communities have added color stripes to the asphalt surface to show drivers the time limits on meters and spaces along a street. Finally, downtown parking garages have variable message signs indicating the percent of spaces within the lot that are available.

In other examples, downtowns have been “flooded” with additional signage to clarify where parking is located. Syracuse, NY recently installed 71 new signs in its downtown area to show drivers where parking was available. Care should be taken, however, to prevent visual clutter.

Residential Parking Permit Program

Used in the other areas of Richmond, a residential parking permit program would allow residents to park in any curb space, regardless of time limits. The program could also be combined with the improved parking signage program to have all areas zoned for residential uses to have curb spaces signed for parking by permit only, except during church activities. (This would exclude Marshall Street for parking by permit only.) All other areas would have parking signage that limited parking to two hours except by permit. This provides a balance between the needs of residents and local merchants.

The drawbacks to residential parking permit programs are:

- ◆ Cost of permit to resident
- ◆ City’s administrative costs
- ◆ Need for church goers to park in residential areas
- ◆ Need for improved enforcement
- ◆ Concern that local residents must pay to park in front of their residence

In order to prevent these negative perceptions of a residential parking permit program, the city should work closely with the Jackson Ward Civic Association to develop a program comfortable to both parties. The civic association would then be responsible for community outreach to ease the transition into a permit program. The city would handle the permit process including acquisition of permits.

Coordination of Special Event Parking With Ridefinders

The biggest potential strain on parking in Jackson Ward will be major special events held during normal working hours. The Convention and Visitors Bureau should coordinate special events with Ridefinders, who keep track of parking space availability within the CBD (including Jackson Ward). Each time a special event is booked, Ridefinders' downtown parking guide should be given to the event coordinator for distribution to attendees. The parking guide should be used to suggest where visitors who may be unfamiliar with downtown can park and how much they can expect to pay.

In return for coordination with Ridefinders, Ridefinders can then use its employee transportation coordinators (ETC) network to inform downtown workers of upcoming special events that may impact parking. This approach has been extremely successful in downtown Tampa, where the local transportation management organization faxes out a weekly special events calendar to its downtown ETCs who then make copies and post them in conspicuous places within their employment site. The result is that employees can anticipate the loss of normal parking spaces and divert trips to alternative transportation modes or lots in different locations.

Through a contract with Ridefinders, the city could go one step further by creating a parking ambassador program. Basically, the city would contract with Ridefinders to staff a toll-free parking hotline. The staff would be the parking ambassadors who could then advise callers about their parking options for the specific event they are interested in. This number would be included with all materials provided by the convention center or Coliseum when special events are booked to market the availability of parking assistance. According to the City of Tempe, Arizona, hotline calls average about 30-35 calls per month and approximately 80 percent of callers claim they are extremely satisfied with the assistance. Tempe also noted that callers usually asked for a copy of the parking map, though about 20 percent requested information on alternative mode options. Since Ridefinders is set up as a one-stop "shop" for commute services, the parking ambassadors would be available to provide that information as well.

Special Shuttle Service During Major Convention Center and Coliseum Events

Although not widely used in Richmond, large events (where attendance numbers in the thousands), often include a shuttle service from outlying hotels to the event site. The shuttle could connect other downtown hotels to the convention center/Coliseum and/or connect suburban hotels to the event site. Typically, this type of shuttle service is contracted with GRTC by the event coordinators, however, other transportation providers could be used as the need warrants. The need for a shuttle system would only apply when large events are being held at the same time as normal business hours (8-5).

Improvements That Are Recommended For Specific Sections of Jackson Ward

Education of Merchants That Parking Turnover is Good for Business

According to HyettPalma, Inc. of Alexandria, Virginia the value of a prime parking space is approximately \$150-\$300 in retail sales per day. Local merchants associations across the country have begun campaigns to try and reduce the amount of owner and employee parking in spaces better left for

customer use. This type of campaign would be extremely beneficial for merchants along the Broad Street, 2nd Street, and 3rd Street corridors, and would affect parking patterns on Marshall and 1st Streets.

An example of an effective campaign is provided by Paso Robles, California. Converted to a Jackson Ward business setting, the campaign would show that merchants are losing \$1,200 per day by employee/owner parking in spaces better left for customers. This is based on the assumption that there are 50 employees in the area and 20 percent (10 spaces) are being used by employees instead of potential customers; that each of those ten spaces would turnover eight times daily if used by customers (80 cars); that each car contains 1.5 customers (120 customers); each customer spends an average of \$10 each. That's equivalent to \$1,200 per day or \$36,000 per month or \$432,000 in lost revenue potential per year.

Reduction in Maximum Parking Time at Curb Spaces

In an area with mixed commercial and residential uses like Jackson Ward, eight-hour spaces are often viewed as a benefit by existing and potential residents. However, the lack of turnover when these spaces are within 600 feet of business establishments can hinder the growth of small to medium-sized merchants. Reducing eight-hour spaces to two-hour spaces at curb spaces within 600 feet of an area zoned for business uses can provide increased opportunities for customers. This would apply to some of the important travel corridors in Jackson Ward such as Marshall Street, 2nd Street, 3rd Street, and portions of Clay Street.

Employer Encouragement of Transit Use by Employees

The Jackson Ward area is well served by public transit. Broad Street is a major transit corridor with numerous bus routes traveling along Broad Street in the study area. In addition, bus routes travel along 2nd Street, 3rd Street, Leigh Street and Chamberlayne Parkway within the study area. Additional regular and express routes are within a ¼ to ½ mile distance from Jackson Ward. If employers can convince 10-20 percent of their employees to use transit then a significant reduction in curb space needs can be realized. The encouragement can range from making transit schedules available at time of hire to transit pass purchase for employees. If purchased and given to the employee, it is considered a non-taxable benefit to the employee if the amount of the pass does not exceed \$100 per month.

Shared Parking

Shared parking has been shown to be a very effective method for dealing with parking concerns in downtowns and adjacent neighborhoods. The idea behind shared parking is that not all businesses operate at the same hours thus parking needs are dispersed throughout the day. This allows flexibility in that parking needed by a bakery could be shared by a movie theater or church because peak operational hours are different. It also prevents neighborhoods and downtowns from becoming an ugly landscape of asphalt lots where space utilization does not nearly take up all of the spaces. In reviewing the commercial lot parking spaces by block in Jackson Ward, it is clear that some of the businesses have overbuilt parking which could be used for employee parking by other merchants.

Shared parking principles are an important consideration for Coliseum and Convention Center events, with weekday special events being the most critical concern. Many of the events held at these facilities are at night and/or on weekends. There are a number of parking lots near both facilities that are used by downtown employees during the day and by event goers at night. In the case of Jackson Ward, the city needs to ensure that special events at the convention center and the Coliseum during normal business hours do not take up valuable parking spaces needed by Jackson Ward customers and residents.

Although the scope of this study did not extend to a review of parking conditions on Sunday's, several residents have expressed concern about lack of parking for church services. Of the two potential remedies, the least expensive option would be the use of underutilized commercial lots when the businesses are not open. There are four lots (blocks 1, 14, 24, and 39/40) which could accommodate over 100 vehicles each on Sundays. The individual churches would need to work out shared parking arrangements with each of the lot owners. The preferred, but more expensive option, is for churches in Jackson Ward to pool their limited resources and establish their own shared parking lot.

Merchant Provision of Employee Parking

Many cities across the United States have grappled with the balancing act between downtown business development and parking needs and requirements. This issue is especially important in Jackson Ward where lack of available parking for customers is exacerbated by employee and residential parking in prime parking spaces. In most of the Jackson Ward area, businesses are relatively small and the provision of off-street parking for customers and employees is prohibitively expensive. Therefore, most merchants do not have the financial capability to provide off-street parking.

The businesses in Jackson Ward may want to consider using the Jackson Ward Parking Task Force to find and construct a suitable off-street parking lot for owners and employees that would be accessible to all merchants that have bought into the program. While customers see 600 feet as a maximum walking distance to reach their shopping destination, owners and employees have been shown to be willing to walk 1200 feet to reach their shop or employment site. If the merchants decide to provide their own shared parking, the land could later be converted to a different use of higher economic value.

Parking Needs Assessment at Development Review Stage

As has been discussed earlier, development pressure along the 2nd and 3rd street corridors (and in the long-term 1st Street) in response to the new convention center will have an impact on the parking situation in Jackson Ward. For these three streets, as well as the section of Marshall Street between Madison and 4th streets, special attention should be paid to development proposals to ensure for the adequate provision of parking. In a downtown area, the rule of thumb for parking needs is between 2.5 and 3 spaces per 1,000 square feet of gross leasable area (Source: Urban Land Institute, "Realistic Parking Demands for Urban Development"). The city should decide how to best evaluate parking needs for new development and use these for all development projects in Jackson Ward, regardless of zoning category. In addition, a travel demand management plan should be required of the applicant. The plan should include a list of strategies and/or incentives that will be offered, an estimate on the number of spaces that would not be needed because of employee use of commute options, and a justification for where employees will park if the expected reductions are not met. Consideration should also be given in the travel demand management plan to the provision of bicycle amenities (lockers, shelters, racks, and employee showers) to encourage bicycle usage.

Conversion of Two-way Streets to One-way With Parking

In July of 2001, the City of Richmond Department of Public Works prepared *Proposed Traffic Calming Enhancements, Jackson Ward*. The report identifies seven locations where two-way streets could be converted to one-way streets with additional parking. After reviewing the parking occupancy

survey results and the proximity of some of these streets to blocks identified as those of concern, the following four streets should be considered for conversion to address parking:

- ◆ Brook Road from Adams to Monroe (assists with problem on blocks four and sixteen)
- ◆ St. James Street from Clay to Duval (assists with problem on block thirty-five)
- ◆ Price Street from Duval to Chamberlayne (assists with problem on block thirty-five)
- ◆ Cameo Street from Jackson to Duval (assists with problem on block thirty-five)

St. James and Price should be converted to northbound-only streets. Brook Road and Cameo should be converted to southbound-only segments.

Reduction or Relocation of On-Street Loading Zones

Loading zones provide an important service to downtown merchants. However, they can unnecessarily take-up large amounts of on-street parking while going unused for most of the business day. Other communities have dealt with loading zones in one of two ways:

- ◆ Reducing the amount of time loading zones can be used by merchants. The remaining time is converted to a parking space;
- ◆ Requiring relocation of on-street loading zones to off-street locations.

The second of these two options is unrealistic for Jackson Ward. However, either a Jackson Ward merchants association or parking authority could develop a schedule for merchant use of loading zone space and limit their usage as loading zones to the prescribed scheduled time. In exchange, short duration (less than five minutes) loading and unloading would be allowed through double parking provided such double parking does not infringe on traffic through movements.

The key to a successful program such as this is careful coordination. Initially, this will take a great deal of effort and salesmanship. Once the new program is in place, an amnesty period is also necessary until merchants become more comfortable with the approach. The key to selling the program is that the loading zone spaces are intended for high turnover and customer convenience. Finally, in combination with other parking strategies listed above, a comprehensive approach to parking deficits reduces the need to rely heavily on loading zone reductions.

Specific Block Recommendations

According to the parking occupancy survey analysis, the following blocks are in specific need of attention to address parking concerns. They are:

- ◆ Block Three
- ◆ Block Four
- ◆ Block Seven
- ◆ Block Eight
- ◆ Block Thirteen
- ◆ Block Thirty-five
- ◆ Block Thirty-eight
- ◆ Block Forty-seven

Each of these blocks is examined below.

Block Three

The parking concern on block three deals with the high occupancy rates at curb spaces. To address this issue, it is recommended that the city adopt the following changes:

- ◆ Two-hour parking limit on Marshall Street from 8 a.m.-6 p.m.
- ◆ Education of merchants on the value of street parking within 600 feet of the business
- ◆ Improved signage, geared at customers, to park off-street in underutilized commercial lots
- ◆ Employer encouragement of transit usage by employees
- ◆ Potential for working with other Broad Street merchants to develop a shared off-site employee parking area

Block Four

The parking concern in block four is identical to the concerns for block three. Therefore the following is recommended:

- ◆ Two-hour parking limit on Marshall Street from 8 a.m.-6 p.m.
- ◆ Education of merchants on the value of street parking within 600 feet of the business
- ◆ Improved signage, geared at customers, to park off-street in underutilized commercial lots
- ◆ Employer encouragement of transit usage by employees
- ◆ Potential for working with other Broad Street merchants to develop a shared off-site employee parking area
- ◆ Conversion of nearby two-way street segments to one-way streets with additional on-street parking

Block Seven

The parking concern for block seven is similar to blocks three and four plus the additional concerns of convention center spillover and the potential for new development. The recommendations for block seven are:

- ◆ Two-hour parking limit on Marshall Street from 8 a.m.-6 p.m.
- ◆ Education of merchants on the value of street parking within 600 feet of the business
- ◆ Improved signage, geared at customers, to park off-street in underutilized commercial lots
- ◆ Employer encouragement of transit usage by employees
- ◆ Potential for working with other Broad Street merchants to develop a shared off-site employee parking area
- ◆ Parking needs assessment at Development Review Stage
- ◆ Reduction or Relocation of On-Street Loading Zones

Block Eight

Block eight has parking concerns for both the existing commercial lots and for curb spaces. The problem is most severe during morning hours. To address the concerns on block eight, the following actions are recommended:

- ◆ Two-hour parking limit on Marshall Street and 2nd Street from 8 a.m.-6 p.m.
- ◆ Education of merchants on the value of street parking within 600 feet of the business

- ◆ Employer encouragement of transit usage by employees
- ◆ Potential for working with other Broad Street merchants to develop a shared off-site employee parking area
- ◆ Parking needs assessment at Development Review Stage
- ◆ Reduction or Relocation of On-Street Loading Zones

Block Thirteen

Parking concerns on block thirteen are similar to block eight. The difference is that block thirteen's parking problem is limited to curb spaces. To address the parking concerns on block thirteen the following is recommended:

- ◆ Two-hour parking limit on Marshall Street and Clay Street from 8 a.m.-6 p.m.
- ◆ Education of merchants on the value of street parking within 600 feet of the business
- ◆ Improved signage, geared at customers, to park off-street in underutilized commercial lots
- ◆ Employer encouragement of transit usage by employees
- ◆ Potential for working with other merchants to develop a shared off-site employee parking area
- ◆ Parking needs assessment at Development Review Stage
- ◆ Reduction or Relocation of On-Street Loading Zones

Block Thirty-five

To address the 12:00-1:00 peak period parking problem the following action is recommended:

- ◆ Improved signage, geared at customers, to park off-street in underutilized commercial and public lots
- ◆ Conversion of nearby two-way street segments to one way streets with additional on-street parking

Block Thirty-eight

The primary problem with block 38 is a series of small, overused commercial lots. To address this problem it is recommended that:

- ◆ Underutilized curb spaces receive improved signage

Block Forty-seven

The primary problem with block 47 is a set of grass parking lots that are 100 percent utilized for most of the day. The primary parkers are those seeking inexpensive parking for work destinations outside of Jackson Ward. With some available curb spaces and commercial spaces, no recommendations are made for this block. Until a full-scale downtown parking study is completed, it will be difficult to find alternative parking for those using these spaces.

Special Consideration for Blocks That Will Be Affected by Convention Center Activities

With the completion of the Richmond Convention Center project, and the potential for spin-off development created by the convention center, there are specific blocks in Jackson Ward that require

special attention. These blocks are: 7, 8, 13, 14, 27, 28, 32, 33, 46, 47, and 48. Specific recommendations for consideration are:

- ◆ Improved enforcement of parking regulations
- ◆ Improved signage, including color-coding by time limit, and variable message signs at major entrance points to downtown from I-64 and I-95
- ◆ Coordination of special event parking with Ridefinders
- ◆ Development of a shuttle service from outlying hotels to the convention center when major daytime events are scheduled

Appendix A

The following pages provide block-by-block assessments of parking occupancy by space.