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MEMORANDUM

Date: September 30, 2011

To: Tim Loose, City of Jordan

From: Bryan Nemeth, P.E., PTOE
Jacob Bongard, E.I.T.

Subject: Jordan Downtown Parking Study
Study Results and Recommendations
Project No.: T14.103187

Introduction

As requested by the city of Jordan, a parking analysis was completed for the City of Jordan, MN regarding the occupancy of and need for additional parking spaces in the historic downtown area as shown below. To gain a complete understanding of the conditions currently present in the downtown area, a parking inventory was performed along with a parking generation study and parking use study. From these studies, the parking needs in downtown Jordan are determined and recommendations are posed to make effective use of the existing parking and add parking where needed.

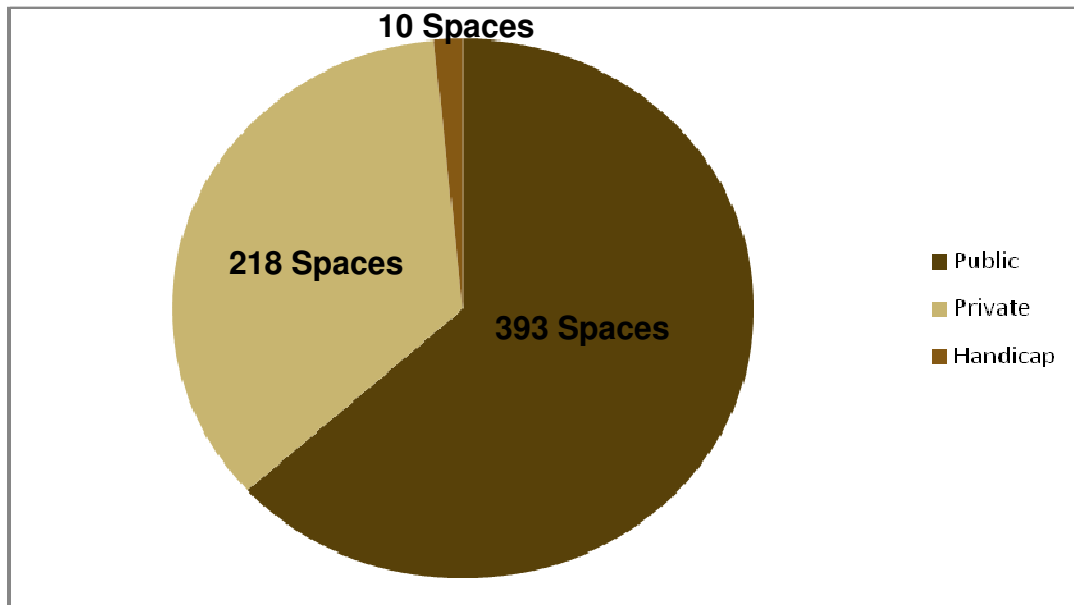


**STUDY
AREA**

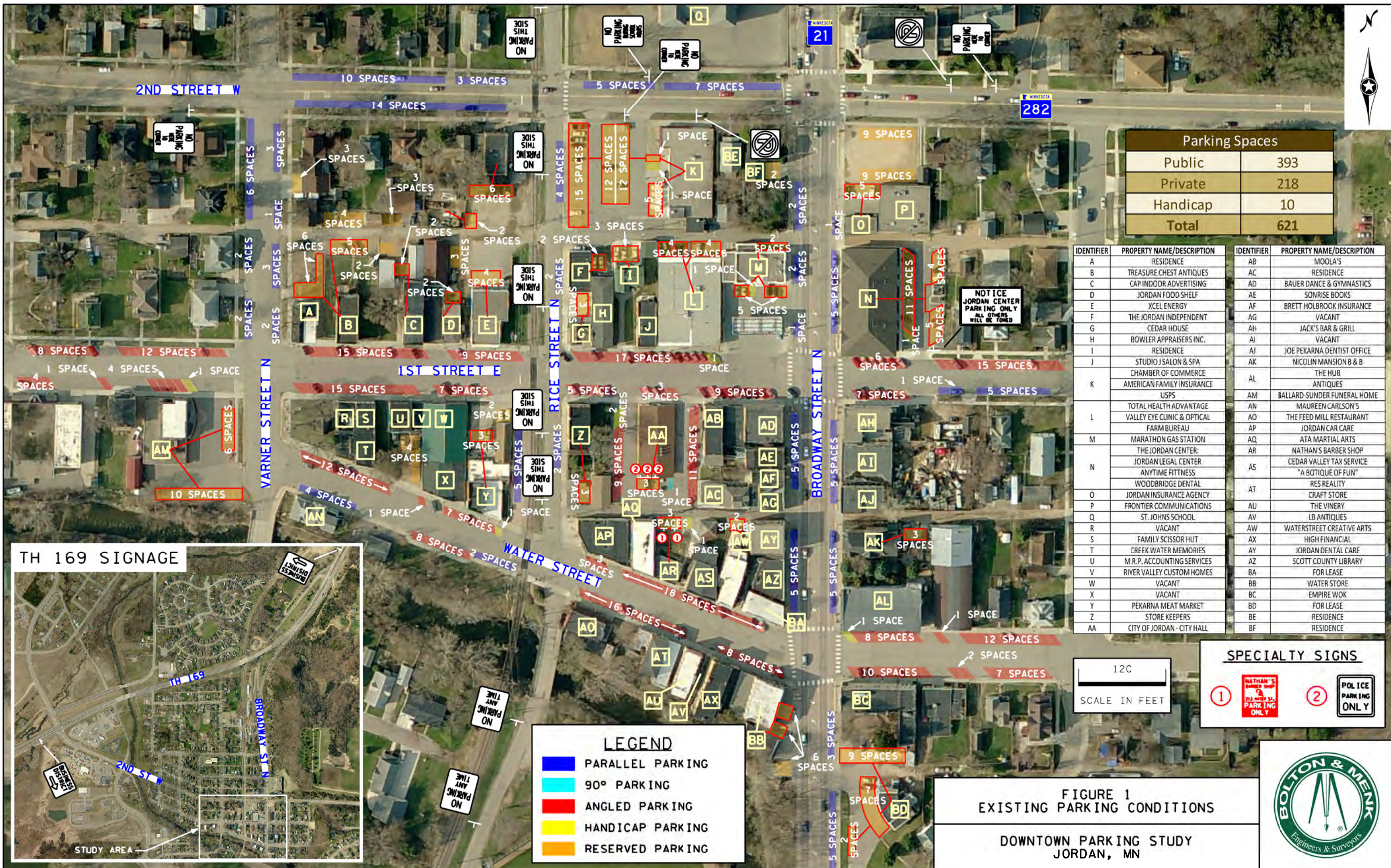


Parking Inventory

A preliminary study of the project area was performed to evaluate the quantity and use of parking spaces present in downtown Jordan. This includes an inventory of both public and private spaces with notes tying the private spaces to properties. This is used to determine where existing parking is located for use by the community. Existing parking signing and striping was also documented to gain an overall understanding of the parking available in downtown Jordan. Figure 1 displays the collected information and provides the names of businesses currently serving the area. Handicap spaces are identified on the existing parking conditions figure but the handicap parking signs have been omitted to reduce clutter. There are a total of 621 parking spaces currently available in the study area, split among public, private, and handicapped spaces.



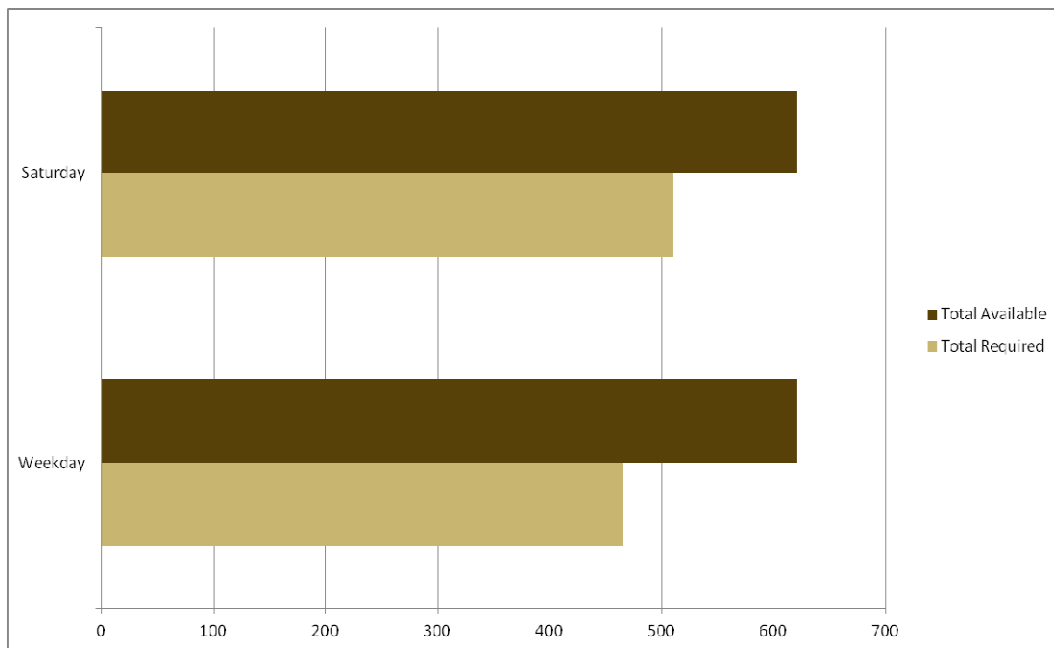
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Parking Generation

A study was completed to estimate the number of parking spaces required to accommodate the number of local businesses and apartments within the project area. Methodology from the Parking Generation Manual 4th Edition was used to analyze both occupied and unoccupied buildings to ensure results are compatible with a fully occupied downtown. The parking needs estimates were obtained from the approximate square footage of each businesses and the number of residences. Initial results indicate that there is adequate parking available downtown but there are parking issues in certain areas.



The study indicates that 1st Street E from Rice Street to Broadway Street (Block D), Water Street from Rice Street to Broadway Street (Block G), Broadway Street from Water Street to 1st Street (Block N), and Broadway Street From 1st Street to 2nd Street (Block M) may benefit from the implementation of additional parking spaces as shown in Tables 1 and 2.

Both weekday and weekend studies indicate that action may be needed to better manage existing parking issues by informing motorists of alternate parking locations. There is an excess of 156 and 111 parking spaces during weekdays and Saturdays that are not used.

Blocks are designated as shown in Figure 2.



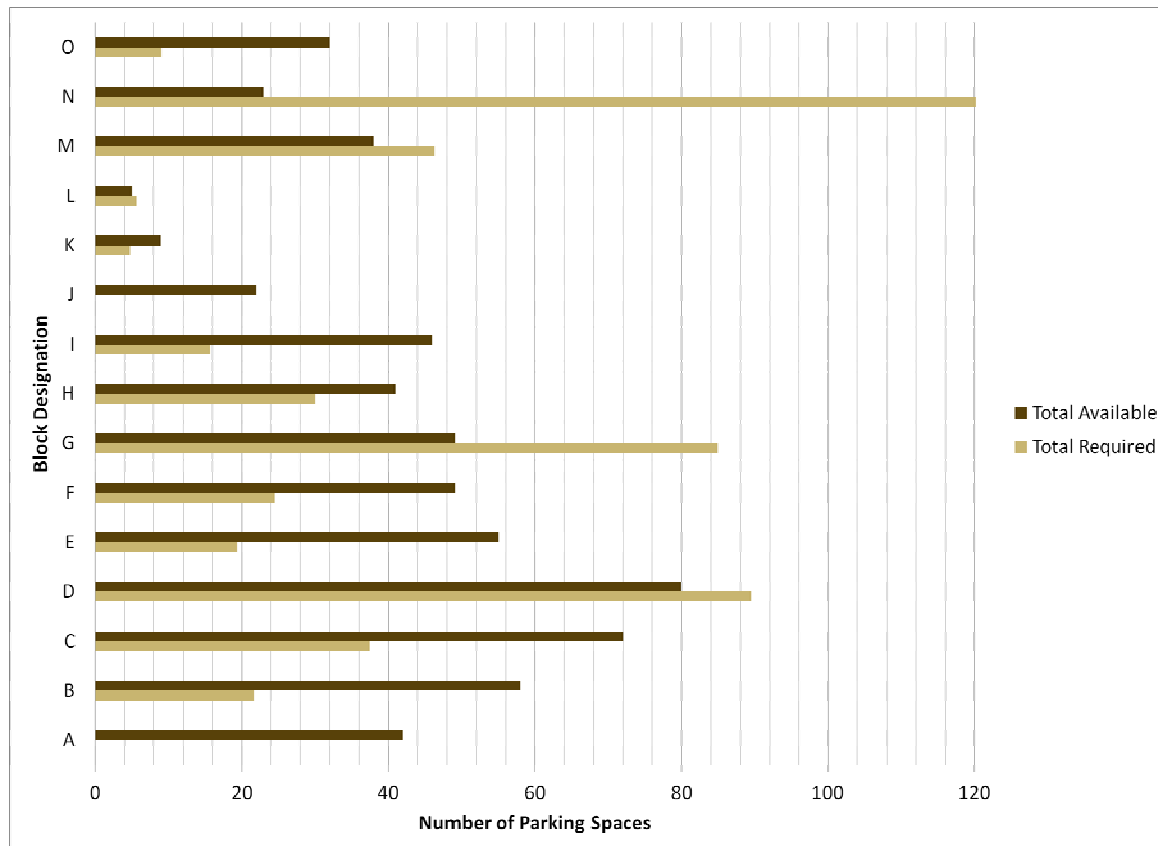
Table 1: Weekday Parking Generation

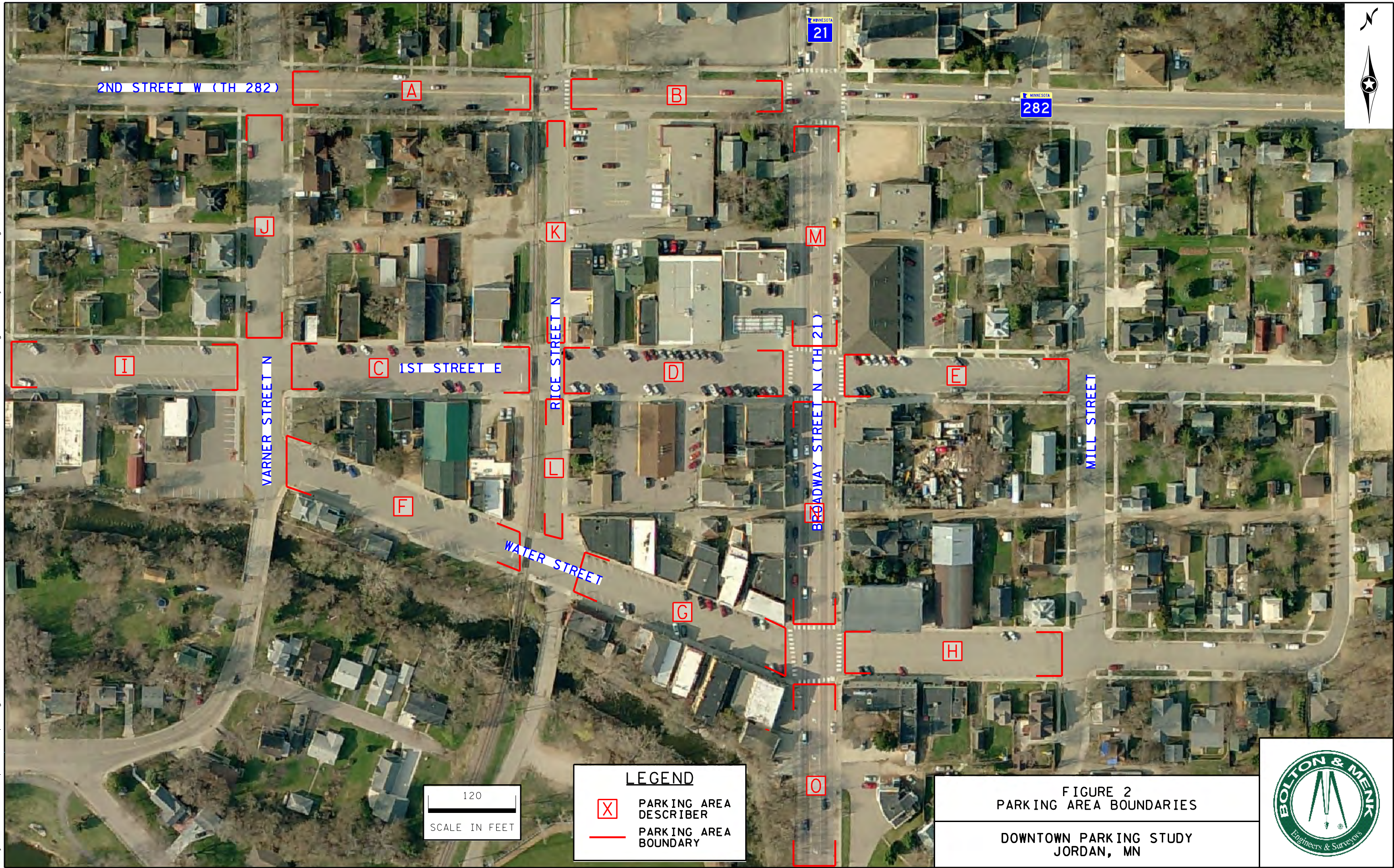
Downtown Jordan Parking Spaces (Weekday)			
Block	Total Required	Total Available	Difference
A	0	42	42
B	22	58	36
C	34	72	38
D	80	80	0
E	18	55	37
F	22	49	27
G	77	49	-28
H	27	41	14
I	14	46	32
J	0	22	22
K	4	9	5
L	5	5	0
M	41	38	-3
N	110	23	-87
O	9	32	23
Total	465	621	156

Table 2: Saturday Parking Generation

Downtown Jordan Parking Spaces (Saturday)			
Block	Total Required	Total Available	Difference
A	0	42	42
B	22	58	36
C	37	72	35
D	89	80	-9
E	19	55	36
F	25	49	24
G	85	49	-36
H	30	41	11
I	16	46	30
J	0	22	22
K	5	9	4
L	6	5	-1
M	46	38	-8
N	121	23	-98
O	9	32	23
Total	510	621	111

The bar graphic below visually shows the Saturday (highest use day) block-by-block analysis of total parking spaces available versus total required. As indicated, many blocks do not use all the spaces available but certain blocks show additional parking space need.







Parking Use

Field studies performed July 9 and July 26, 2011 reveal that the number of parking spaces available to customers and residents may be adequate for current conditions present in the area. The downtown section regularly featuring the highest occupancy rates are Broadway Street between 1st Street and 2nd Street (Block N) and Water Street between Rice Street and Broadway Street (Block G). During the two hour period (12:00 PM – 2:00 PM) on a Saturday, the parking spaces of these sections had an average occupancy rate over 60%. Table 3 displays these results.

Table 3
Study Parking Observation and Generation

Block	Field Study	
	Parking Spaces (% Occupied)	
	Weekday	Weekend
D	41%	22%
E	43%	21%
G	38%	67%
H	42%	38%
M	21%	13%
N	58%	69%
O	13%	17%

The results also indicate that there is a low turnover of some spaces on Broadway Street and on Water Street and First Street just east and west of Broadway Street. Over a four hour study period, many vehicles did not move from their parking space.



Conclusions and Recommendations

To better orientate the parking downtown for the building locations and needs, additional parking or signing to the existing underutilized parking may be needed. The goal is to provide additional parking for the central area by surrounding Downtown Jordan with parking, similar to what Northfield has accomplished. The main parking areas to serve downtown are defined in Figure 3.

Area 1:

Parking spaces west of the railroad tracks

- Existing parking spaces are underutilized.
 - Railroad tracks are a barrier to use.
 - Increase use of parking spaces through additional signing.
 - 68 spaces available.

Area 2:

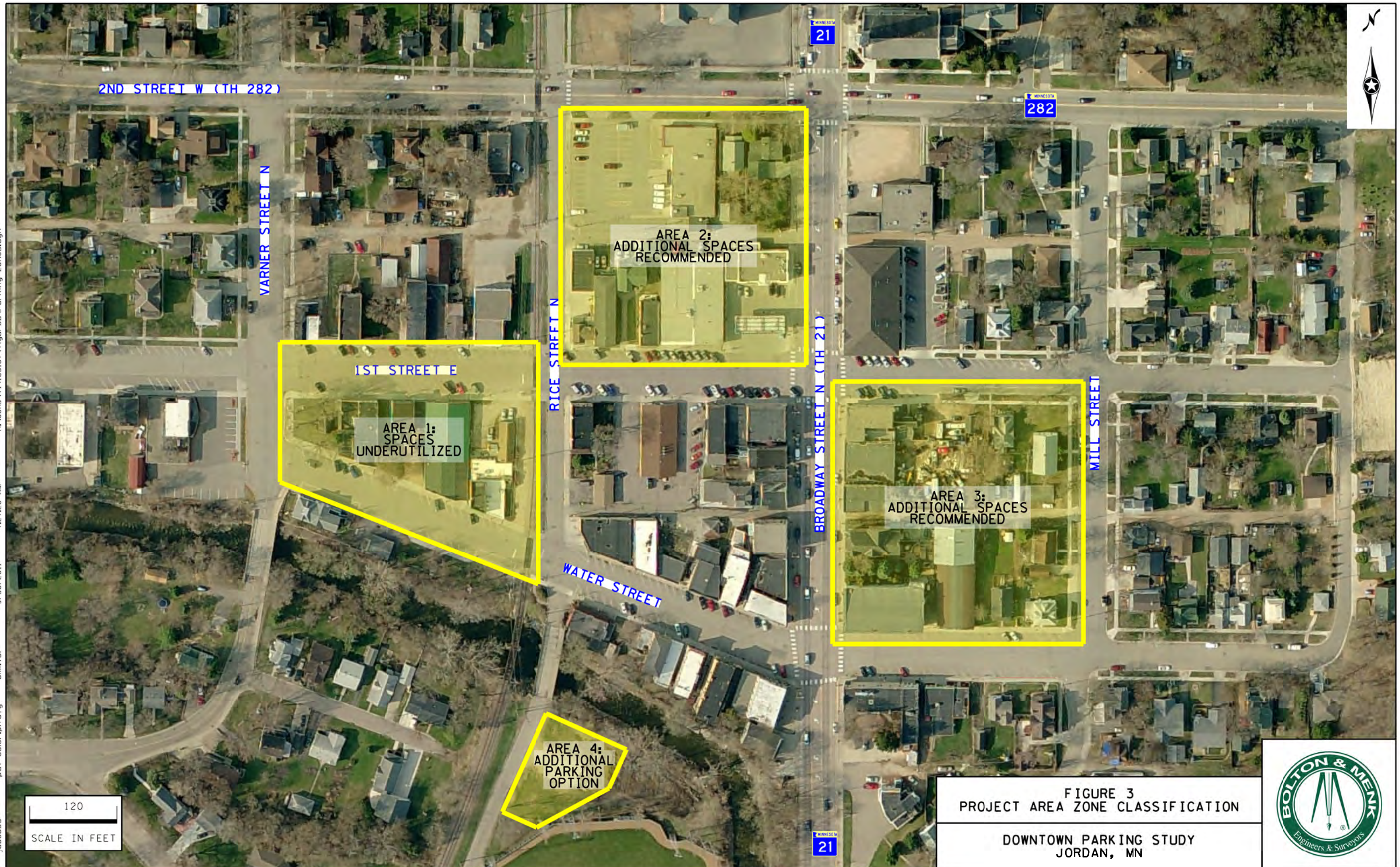
North of First Street

- Additional parking recommended.
 - Difficult to construct a new lot.
 - Current lack of available space may require demolition of an existing building prior to construction of new parking.
 - Work with owner of Jordan Executive Office Suites to allow some public parking in private lot.
 - Change of signing would be needed.
 - Only need a maximum of 17 additional spaces in the area.

Area 3:

East of Broadway Street

- Additional parking recommended.
 - Demolition and cleanup of an existing building would be required to provide the necessary space for construction of a new parking lot.
 - Pedestrian facilities and access to and from the west side of Broadway is key to lot being used.
 - Additional study recommended to better accommodate pedestrians crossing Broadway Street.





- Figure 4 shows some of the difficulty in crossing Broadway. The sight lines of pedestrians are highlighted to indicate areas where the pedestrian cannot easily see traffic from the curb.
 - Curb bump-outs, reduce parking to clear sight lines, or additional signing may increase driver awareness but may also distract the driver more. Pedestrian traffic is light for most of the day so some type of pedestrian signal will not be justified
 - Public Works Staff is opposed to curb bump-outs due to the obstacle they present during plowing, requires extra time and effort to clear snow
 - Need to work with Mn/DOT on any changes proposed.
 - A pedestrian gap study may need to be completed depending on changes proposed.
- Need around 100 additional spaces to meet fully occupied needs, 85 spaces to meet existing needs.

Area 4:

Gravel Lot South Of River

- Parking lot is available for use by the public.
 - Pedestrian facilities across Sand Creek are key to lot being used.
 - Upgrade from gravel to a paved bituminous parking lot that is striped and signed may increase use.
 - Implement guide signs to inform public of parking lot location.
 - Approximately 20 spaces available.

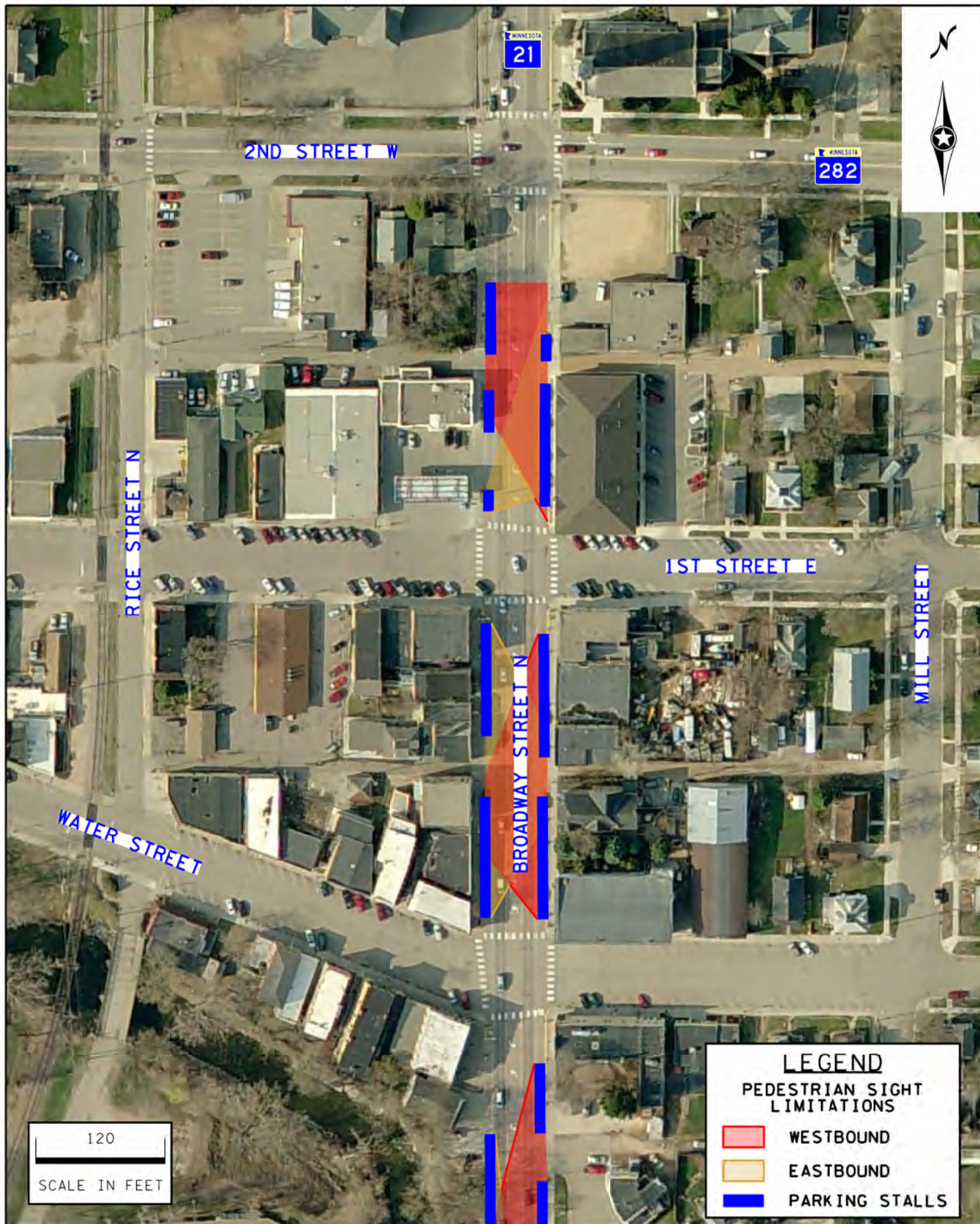


FIGURE 4 PEDESTRIAN SIGHT LIMITATIONS

DOWNTOWN PARKING STUDY

JORDAN, MN





Signing and Striping

Figure 5 displays a concept to provide better turnover for high demand parking spaces. The plan incorporates additional parking regulation signs at select locations within the study area to allow for more frequent turnover in locations where parking is at a premium. If instituted, regulatory parking signs could greatly increase availability of select parking spaces. The segments listed in Table 3 are the main focus of the study due to high occupancy and turnover rates observed during both weekdays and weekends. A combination of street signs and pavement markings are recommended to improve upon the current parking conditions in the downtown area. Shorter term parking is provided on high use blocks.

- Implement some 1 hour parking signs from 7:00 AM to 6:00 PM throughout the project area to make some spaces available for quicker trips.
- Implement some 10 minute parking signs from 7:00 AM to 8:00 PM at the beginning of blocks on Broadway Street to provide ample space for quick errands in the area. These spaces at the beginning of each block make it easy for traffic to load/unload while cars that are parking longer use the spaces further along the block.
- Implement three (3) additional handicap parking spaces throughout the project area to provide convenient access for all users. This results in at least one handicap space per block.

Aside from regulatory parking signs, additional signing and striping is recommended to better manage and optimize the number of available spaces.

- Design and implement “Additional Parking” signs intended to direct traffic to often overlooked parking spaces west across the railroad tracks (Area 1) and south across the bridge (Area 4).
- Directional signs are recommended at two locations along 2nd Street and along Broadway Street to guide vehicles to downtown Jordan. See Figure 3 for locations.
- Paint parking lines on Broadway Street to separate parallel parking spaces and ensure available space is fully utilized.

The intention of these recommendations is to develop a more organized and better performing parking environment. By implementing parking regulation and informational signs along with additional striping along Broadway Street, the availability of parking spaces should be ample to serve customers visiting the stores and shops of downtown Jordan and for the residents in downtown Jordan.

The signing and striping change recommendations along Broadway Street (TH 21) and Second Street (TH 282) may need to be approved by Mn/DOT as they are the roadway jurisdictional authority.





Summary

- There is enough parking available downtown.
- Based on the parking use study there is enough parking available at this time on each and every block.
- If the downtown area is fully occupied there is a significant shortage of parking on some blocks.
- Recommendations:
 - Implement on-street parking restrictions on some spaces (see Figure 3)
 - Water Street and First Street
 - 1 hour parking restrictions from 7 am to 6 pm
 - Implement based on community reaction and as needed
 - Broadway (more immediate)
 - Parking striping
 - 10 minute parking restrictions from 7 am to 8 pm
 - Construct additional parking lot(s) as downtown occupancy increases
 - Obtain new parking lot locations as properties become available
 - Improve the existing parking lot south of Sand Creek
 - Install parking directional signs
 - Work with private owner(s) of the lot next to the Post office on an agreement to allow some public parking
 - Improve pedestrian facilities that are needed in conjunction with parking lots



Appendix A

Weekday Trip Generation Values										
Section	Identifier	FT ²	Business FT ²	Parking Spaces	Residential Units	Parking Spaces	Total Required Spaces	Current Public Spaces	Current Private Spaces	Current Handicap Spaces
A								27	15	
B	Q BE K	9114 864 8000	- - 8000	- 20	- 1 0	- 1	- 22	- 12	- 45	1
C	A B C D E R S U / V W	1500 3900 5556 4360 3250 6647 3104 4720	1950 2778 2180 1170 1552	25	1 3 1 1 2	10	34	46	26	
D	G H J L Z AA AB AC AD	1426 5264 5556 10200 6180 4704 3336 2064 7235	713 3948 4167 10200 1545 4704 1668 1205.833	72	1 1 1 2 1 1	9	80	55	21	4
E	N	19880	3313.333	8	8	10	18	34	20	1
F	T U / V X Y AN	6647 2925 4527	1661.75 2925 2263.5	17	1 1 1 1	5	22	39	9	1
G	AO AP AQ AR AS AT AU AV AW AX BA BB	2446 2360 6647 1075 2550 4136 1098 2376 4183 7615 1652 6643	2446 2360 3323.5 1075 1275 2068 1098 1188 2091.5 3807.5 826 3321.5	63	2 1 1 2 2 3	14	77	45	3	1
H	AL BC	12576 8756	6288 2918.667	23	3	4	27	40	0	1
I	AM	6708	5031	13	1	1	14	29	16	1
J								19	3	
K	F	1662	1662	4			4	6	3	
L	Z	6180	1545	4	1	1	5	2	3	
M	BF M O P N	3779 968 4326 19880	3779 968 4326 6626.667	40	1 0	1	41	11	27	
N	AD AE AF AG AY AZ BA AH AI AJ AK AL	7235 3118 800 2064 4368 2137 1652 7766 3944 4292 1827 12576	2411.667 1559 400 1032 2184 2137 826 3883 3944 2146 913.5 12576	87	4 1 1 1 3 5 3 1	23	110	20	3	
O	BC BD	8756 3269	1459.333 1634.5	4	1 3	5	9	7	24	
				381	68	84	465	392	218	10

Saturday Trip Generation Values

Section	Identifier	FT ²	Business FT ²	Parking Spaces	Residential Units	Parking Spaces	Total Required Spaces	Current Public Spaces	Current Private Spaces	Current Handicap Spaces
A								27	15	
B	Q BE K	9114 864 8000	- 8000	- 20	- 1 0	- 1	- 22	- 12	- 45	1
C	A B C D E R S U / V W	1500 3900 5556 4360 3250 6647 3104 4720	1950 2778 2180 1170 1552	28	1 3 1 1 2	10	37	46	26	
D	G H J L Z AA AB AC AD	1426 5264 5556 10200 6180 4704 3336 2064 7235	713 3948 4167 10200 1545 4704 1668 1205.833	81	1 1 1 2 1 1	9	89	55	21	4
E	N	19880	3313.333	10	8	10	19	34	20	1
F	T U / V X Y AN	6647 2925 4527	1661.75 2925 2263.5	20	1 1 1 1	5	25	39	9	1
G	AO AP AQ AR AS AT AU AV AW AX BA BB	2446 2360 6647 1075 2550 4136 1098 2376 4183 7615 1652 6643	2446 2360 3323.5 1075 1275 2068 1098 1188 2091.5 3807.5 826 3321.5	71	2 1 1 2 2 3	14	85	45	3	1
H	AL BC	12576 8756	6288 2918.667	26	3	4	30	40	0	1
I	AM	6708	5031	14	1	1	16	29	16	1
J								19	3	
K	F	1662	1662	5			5	6	3	
L	Z	6180	1545	4	1	1	6	2	3	
M	BF M O P N	3779 968 4326 19880	3779 968 4326 6626.667	45	1 0	1	46	11	27	
N	AD AE AF AG AY AZ BA AH AI AJ AK AL	7235 3118 800 2064 4368 2137 1652 7766 3944 4292 1827 12576	2411.667 1559 400 1032 2184 2137 826 3883 3944 2146 913.5 12576	98	4 1 1 1 3 5 3 1	23	121	20	3	
O	BC BD	8756 3269	1459.333 1634.5	4	1 3	5	9	7	24	
				426	68	84	510	392	218	10

Jordan Downtown Parking Study Counts						
	Average # Occupied			# of Spaces	% Occupied (Weekend)	% Occupied (Weekday)
	July 9th, 2011	Weekday	Average			
A	3	N/A	3	27	11%	N/A
B	0	N/A	0	12	0%	N/A
C	10	9	10	46	22%	20%
D	12	22	18	55	22%	41%
E	7	15	11	34	21%	43%
F	4	2	3	39	11%	5%
G	30	17	23	45	67%	38%
H	15	17	16	40	38%	42%
I	4	N/A	4	29	14%	N/A
J	4	N/A	4	19	21%	N/A
K	0	N/A	0	6	0%	N/A
L	0	1	1	2	0%	68%
M	1	2	2	11	13%	21%
N	14	12	13	20	69%	58%
O	1	1	1	8	17%	13%