Final Report

Village of Lake Orion Parking Study

presented to:

Village of Lake Orion
EST 1859

Main Street
OAKLAND COUNTY
MICHIGAN

submitted by:

RICH & ASSOCIATES
PARKING CONSULTANTS
Southfield, Michigan

September, 2018

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INTRODUCTION

This parking study, prepared for the Village of Lake Orion, serves to examine the downtown existing parking system from both a qualitative and quantitative standpoint. The Main Street Oakland County program contracted with Rich & Associates on behalf of the Village of Lake Orion to prepare a Downtown Parking Master Plan which would inventory and review the existing parking and make recommendations regarding issues such as the development of potential future parking, operations, management and enforcement.

This plan will provide direction to help the Village know how to better manage the current parking and provide tools to help determine when new parking will be necessary as well as how much parking will be needed. The Village has had several parking studies completed in the past that were reviewed in the process of this study.

Previous Studies:

- 1984 Lake Orion Parking Study (Wzacny & McKenna Associates, Inc.)
- 2004 Lake Orion Parking Study (John D. Edwards, P.E Transportation Consultant, Inc.)
- 2013 Lake Orion Parking Analysis (Main Street Oakland County)
- 2017 Parking Observation Study (Village of Lake Orion DDA, Parking Committee)

STUDY AREA

The study area, as determined by the Village of Lake Orion, is illustrated in Map 1 located on page 2. Rich & Associates evaluated the parking conditions, supply and activity in the study area along with blocks just outside the study boundaries to determine potential impacts and parking supply opportunities. The focus of the downtown is found along Broadway Street up to Shadbot Street between Highway 24 and Anderson Street. There are a total of 25 blocks that are in the study area, though the focus of the study is on the Downtown Center District area found on blocks 17-22 and 25-26 (8 blocks).


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
1
2
3
7
8
9
10
11
12
13
16
17
18
19
20
21
22
23
24
25
26
Map 1
Parking Study Area
Core Study Area
Block References
N
0 .0125 .025 .05
Miles

ANALYSIS

This Analysis provides an assessment of how the existing parking system is operating, the current conditions that affect the parking system and how potential new developments may affect the parking system in the future. A primary goal of this analysis is determining if new parking may be required based on current and anticipated future developments. In completing this study, Rich & Associates compiled and reviewed turnover and occupancy data, parking inventories and building inventories to develop a working demand model. The analysis was further refined based on our previous experience with similar communities.

The process consisted of a two part analysis. The first part of the analysis included a determination of the current parking demand by block based on the building inventory provided by Main Street Oakland County staff and parking generation factors calculated per 1,000 square feet of gross floor area. The demand was compared to the available supply and the resulting surplus or deficit determined on a block-by-block basis.

The second part of the analysis involved comparing the parking surplus and deficit patterns to the observed conditions as determined by the turnover and occupancy data. This comparison offered a benchmark for calibration of the surplus and deficit data.

PARKING INVENTORY

Initial field work for this study entailed a review of the parking supply within the study area. Within the core downtown, the parking supply consists of a mix of on-street and off-street parking. The on-street spaces are free, with the majority limited to two hour parking and a few unrestricted. The off-street parking supply consists of surface lots primarily unrestricted (23 hour parking).

Table A on page 4, summarizes the existing parking supply in the study area. There are a total of 563 parking spaces in the core area. Of these spaces 156 (28%) are on-street spaces and 200 (36%) are public off-street spaces. The balance of 207 (37%) are privately controlled off-street spaces.

The Village of Lake Orion manages and controls 63% of the parking in the downtown core area. Based on Rich & Associates experience and best practices, we have found that to successfully manage municipal parking it is desirable for the municipality to have control of at least 50% of the supply. This allows the municipality to effectively manage the parking in terms of allocation, changing demand, potential market pricing, and allows the parking to be enforced with greater efficiency. Lake Orion exceeds this benchmark.

Table B on page 4 is a detailed supply listing types and durations of parking by each block, followed by **Map 2** which is a spatial view of the parking supply. In cases where parking spaces were not marked (on-street and off-street), the number of spaces was estimated.

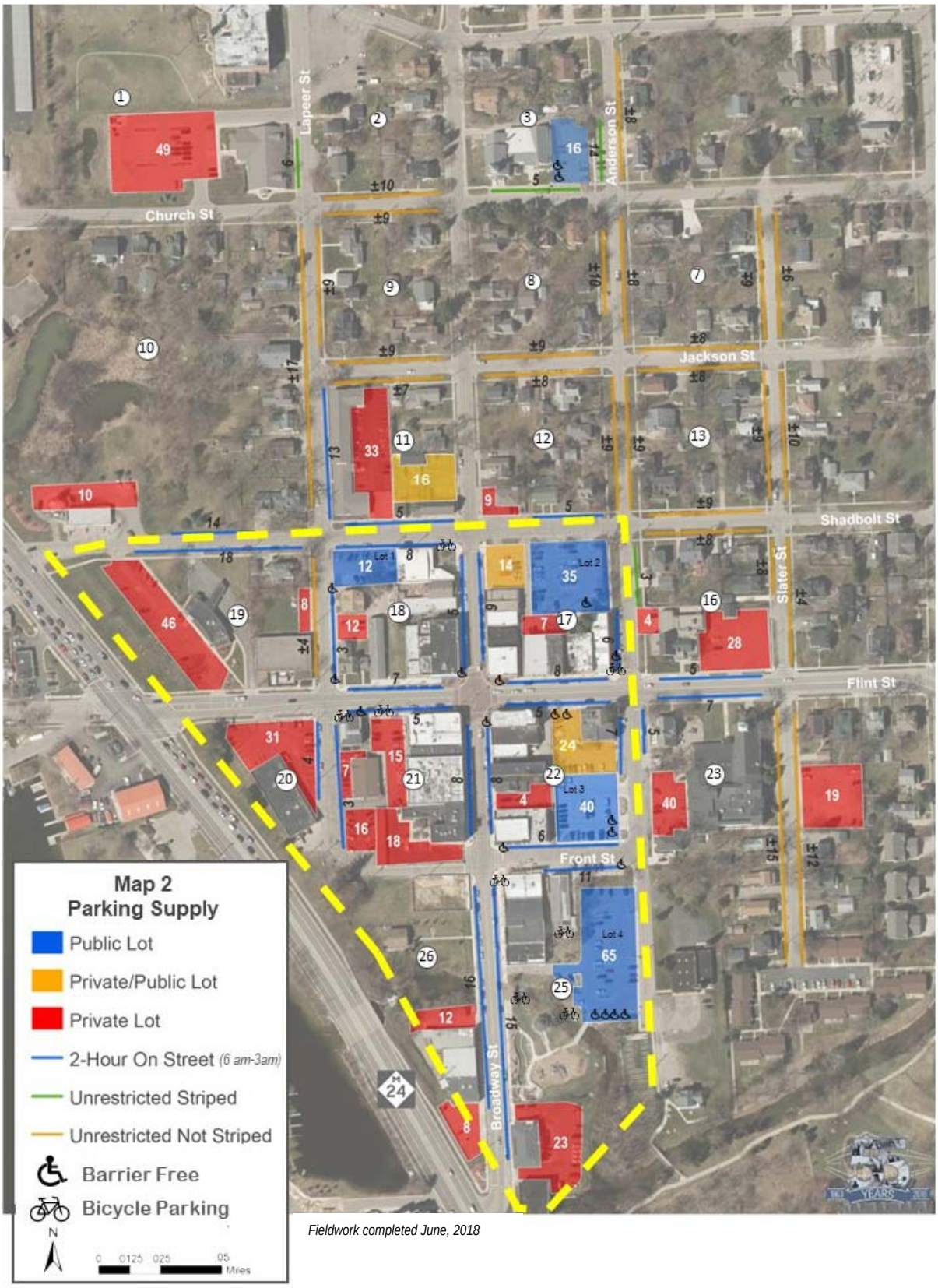
Table A

PUBLIC PARKING SUPPLY			
	ON-STREET	156	28%
	OFF-STREET	200	36%
	PUBLIC PARKING TOTALS	356	63%
PRIVATE PARKING SUPPLY			
	PRIVATE PARKING TOTALS	207	37%
TOTAL PARKING SUPPLY		563	

Table B

PARKING SUPPLY BY BLOCK									
BLOCK >	17	18	19	20	21	22	25	26	TOTALS
PUBLIC ON-STREET									
2 HOUR	23	23	18	4	16	26	26	16	152
UNMARKED			4						4
									156
PUBLIC OFF-STREET									
PUBLIC	36	13				42	69		160
PRIVATE/PUBLIC AGREEMENT	14					26			40
									200
PRIVATE									
OFF-STREET	7	12	54	31	56	4	23	20	207
									207
SUMMARY	80	48	76	35	72	98	118	36	563

Source: Rich and Associates Spring 2018



Fieldwork completed June, 2018

TURNOVER & OCCUPANCY ANALYSIS

As previously noted, Rich & Associates conducted a turnover and occupancy analysis in the study area. The turnover and occupancy study involved an examination of the on-street and off-street parking supply. Additionally, we observed vehicle movements throughout the day from morning until early evening. Observations occurred in both public and private parking areas in order to understand how the system was working. The goal of the turnover and occupancy analysis is to observe a large portion of the overall parking system, not necessarily the entire supply.

The occupancy study occurred on Thursday, June 7, 2018 between the hours of 10:00AM and 10:00PM. Thursday was chosen to conduct the analysis because Thursdays are most often an overall average day to provide a typical benchmark of activity for the study.

TURNOVER

The turnover portion of the analysis, where license plate numbers were recorded, applied to portions of the on-street spaces in the Downtown Core and were observed during each two-hour circuit. This is done to determine how long specific vehicles were parked in the premium customer spaces and to see if anyone was parked for long periods of time in these spaces. At the same time, the turnover information also yields occupancy results for the parking area, and therefore, for each circuit a composite occupancy can be derived.

Turnover is an indicator of how often a parking stall is being used by different vehicles throughout the course of the day. Turnover is most relevant to the short-term customer trying to find parking for a quick errand. If this customer is unable to find a convenient space, they might not stop to patronize the business. **Table C** on the following page summarizes the results of the turnover findings. There were 156 on-street parking spaces observed for turnover between the hours of 10:00AM to 10:00PM.

The turnover for this day was just over 2.5. Rich is of the opinion that this number is low. Turnover can be low for two reasons: 1) when vehicles are parking for extended periods in the same space, or 2) the overall on-street occupancy is low. Although vehicles stayed beyond two hours, there are not any signs posting a time limit and thus there is not a reason for vehicles to move. We are of the opinion that the turnover is low because of low occupancy. There were areas with higher occupancy, though the overall occupancy for 156 observed spaces was not high.

There were a total of 59 vehicles parked beyond two hours. There were 41vehicles that stayed between two and four hours, 11 vehicles were observed in the same space between four and six hours and seven additional vehicles were observed parked in the same space for over six hours. This means that during the course of the day approximately 14% of the 427 vehicles observed in on-street spaces stayed beyond two hours.

Table C

CORE PARKING TURNOVER SUMMARY THURSDAY JUNE 7, 2018		
A SAMPLE OF ON-STREET SPACES IN THE CORE		
VEHICLES REMAINING LESS THAN 2 HOURS	368	86%
VEHICLES REMAINING BETWEEN 2 AND 4 HRS	41	10%
VEHICLES REMAINING BETWEEN 4 AND 6 HRS	11	3%
VEHICLES REMAINING BETWEEN 6 AND 8 HRS	4	less than 1%
VEHICLES REMAINING BETWEEN 8 AND 10 HRS	1	less than 1%
VEHICLES REMAINING BETWEEN 10 AND 12 HRS	2	less than 1%
TOTAL NUMBER OF VEHICLES OBSERVED	427	
TOTAL NUMBER OF STALLS OBSERVED FOR TURNOVER	156	

Source: Rich and Associates Field Observations


Shadbolt St
Lapeer St
Anderson St
Flint St
Front St
Broadway St
M 24
19
18
17
20
21
22
26
25
Map 3
Overtime Parking
Violation Locations
June 7, 2018
Core Study Area
Block References
Number of Overtime
Parkers by Block Face
N
0 .0125 .025 .05
Miles

OCCUPANCY

Occupancy is an important aspect of parking because it helps us to understand the dynamic of how demand fluctuates throughout the day. The occupancy data is used by Rich & Associates to understand how the parking is operating and to calibrate the parking demand model. **Graph 1**, **2, Table D** and **Maps 4, 4.1, 4.2, 4.3, 4.4 and 4.5** are the summary results of Rich & Associates occupancy findings. **Map 4.4** on **page 19** is the peak occupancy map for the 6:00PM circuit. The full occupancy counts can be found in tabular form on **page 14**.

Graph 1

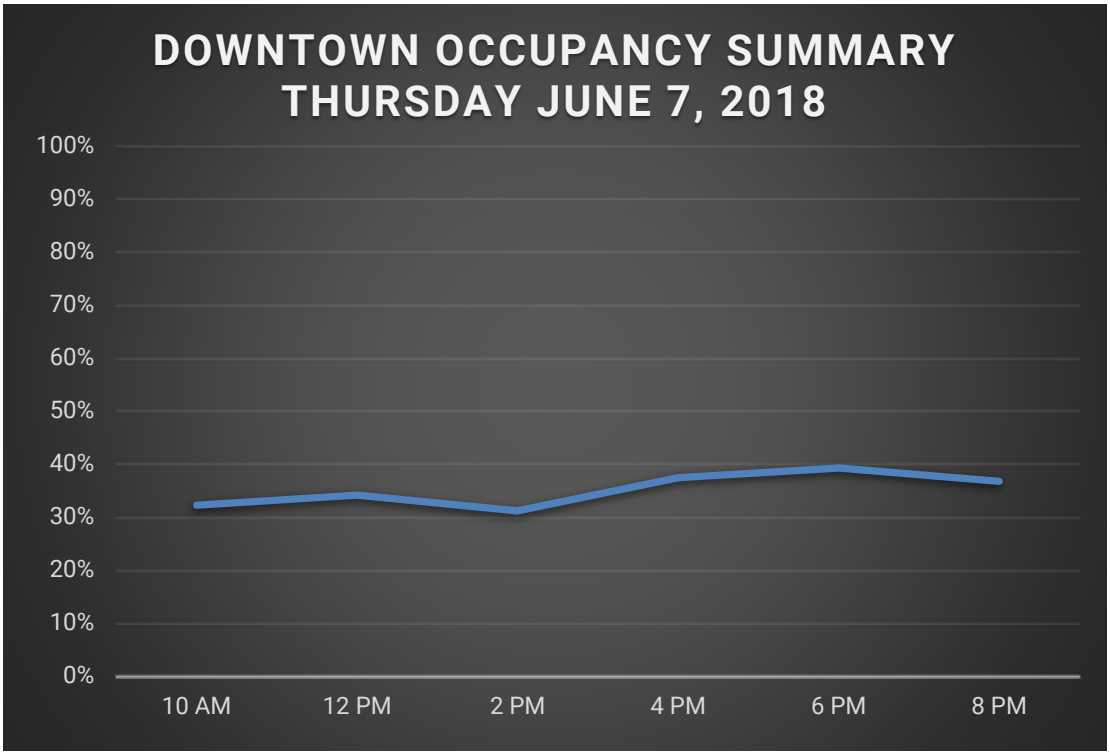
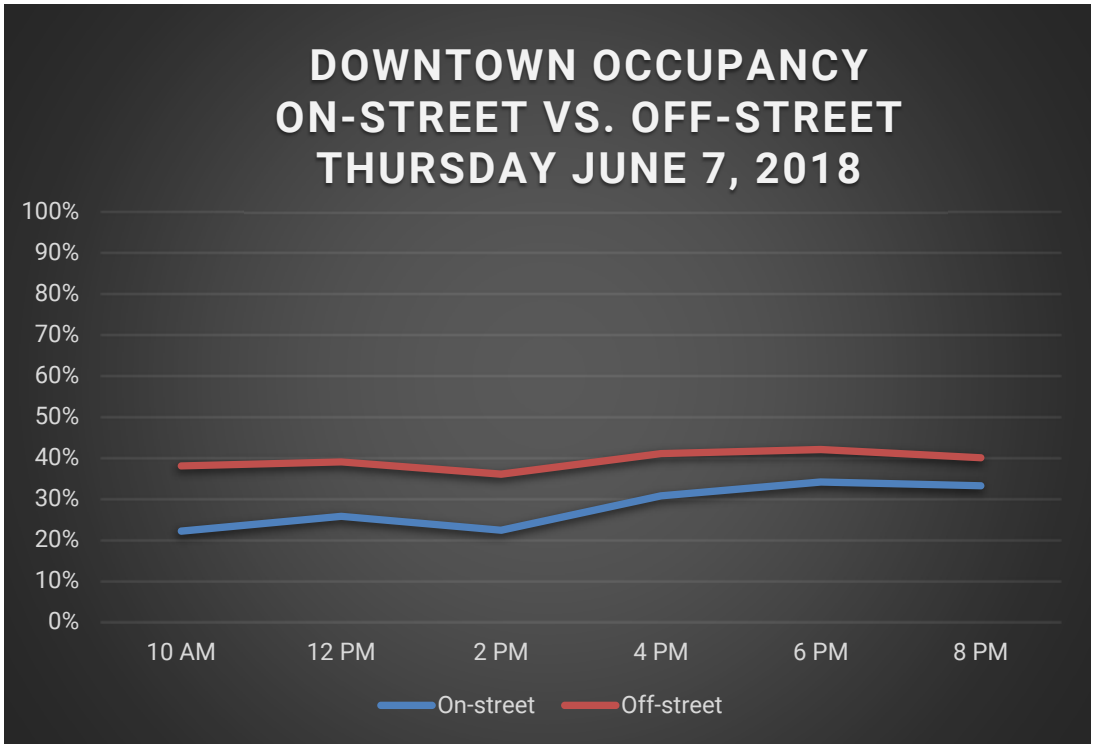


Table D
Occupancy Summary
Thursday June 7, 2018

TYPE OF PARKING	# OF SPACES	10AM	% Occ.1	12PM	% Occ.2	2PM	% Occ.3	4PM	% Occ.4	6PM	% Occ.5	8PM	% Occ. 6
ON-STREET	442	98	22%	114	26%	99	22%	136	31%	151	34%	147	33%
OFF-STREET	641	245	38%	250	39%	233	36%	262	41%	268	42%	257	40%
TOTALS	1083	343	32%	364	34%	332	31%	398	37%	419	39%	404	37%

Graph 2



Key observations from the occupancy counts:

- Occupancy counts were taken in some areas outside the study area to see if the use of residential parking was being abused by employees or customers. From our observations this is not occurring.
- Off-street parking had higher percentage occupancies than the on-street parking throughout the day when looking at the entire study area.
- The peak occupancy was observed between the hours of 6:00PM-8:00PM at 39% occupancy or 419 vehicles parked in the 1,083 spaces observed.

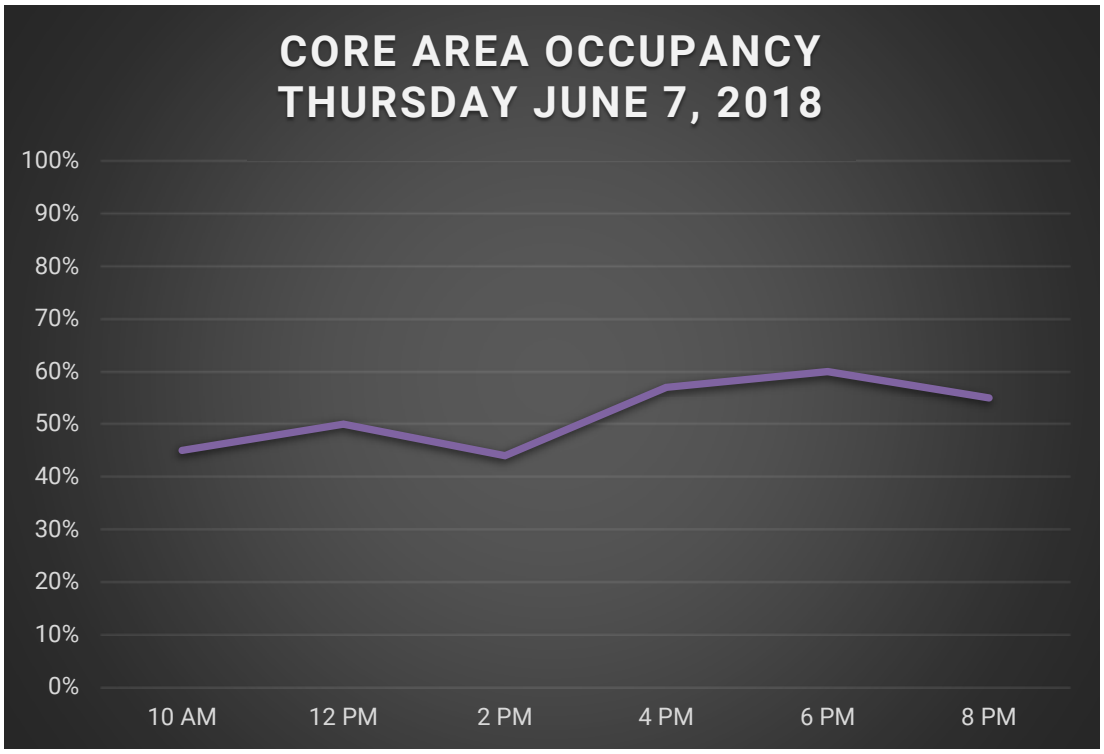
When considering the downtown core (Blocks 17-22 and 25-26) the proportion of spaces occupied is higher during all circuits compared to the total study area. The peak time within the core remains at the 6:00PM to 8:00PM circuit, though the proportion of spaces occupied is increased from 39% (total study area) occupancy to 60% (core area) occupancy of the available and observed spaces. This equals 334 vehicles observed in the 561 parking spaces in the downtown core area.

When we look at the core area considering the on-street occupancies, these were higher during four of the six circuits. Within the core, on-street parking peaked during the lunch circuit. It then dropped off before rising again into the evening and then remained above 60% throughout the evening. The on-street occupancy peaking during the 6:00PM circuit at 69%. **Table E** and **Graph 3** are a summary of findings for the Core Occupancy.

Table E
Core Occupancy Summary
Thursday, June 7, 2018

TYPE OF PARKING	# OF SPACES	10AM	% Occ.1	12PM	% Occ.2	2PM	% Occ.3	4PM	% Occ.4	6PM	% Occ.5	8PM	% Occ. 6
ON-STREET	156	63	40%	82	53%	67	43%	98	63%	107	69%	98	63%
OFF-STREET	405	189	47%	200	50%	182	45%	220	54%	227	56%	211	52%
TOTALS	561	252	45%	282	50%	249	44%	318	57%	334	60%	309	55%

Graph 3



Graph 4

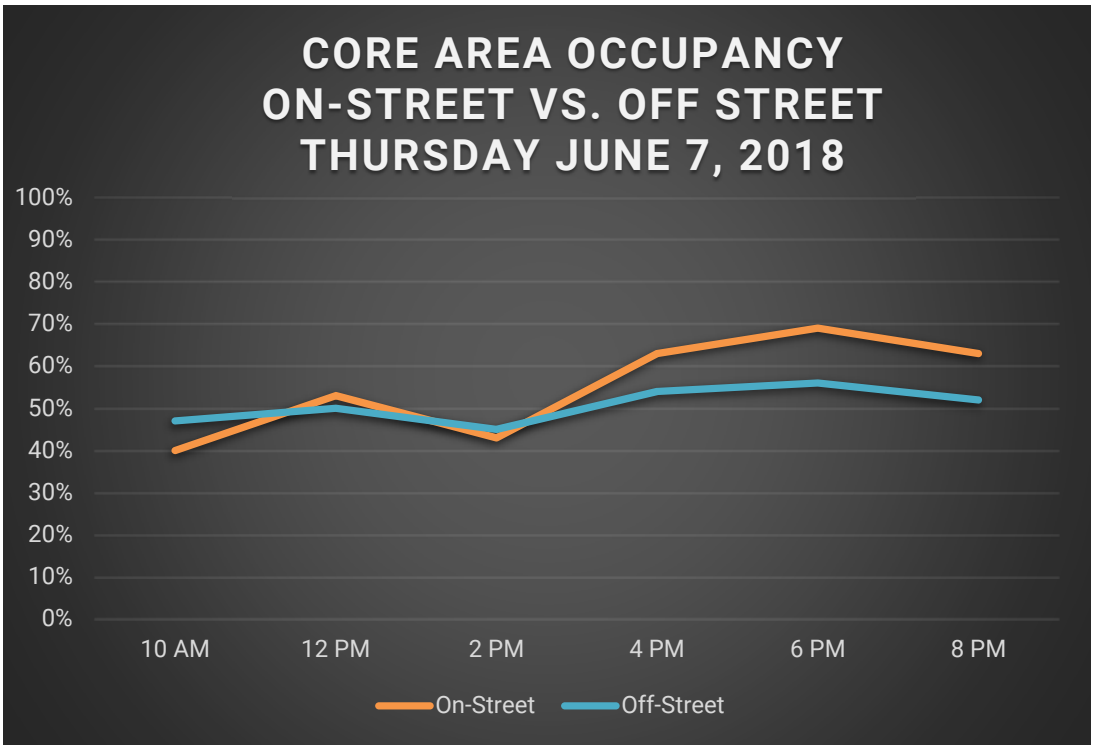
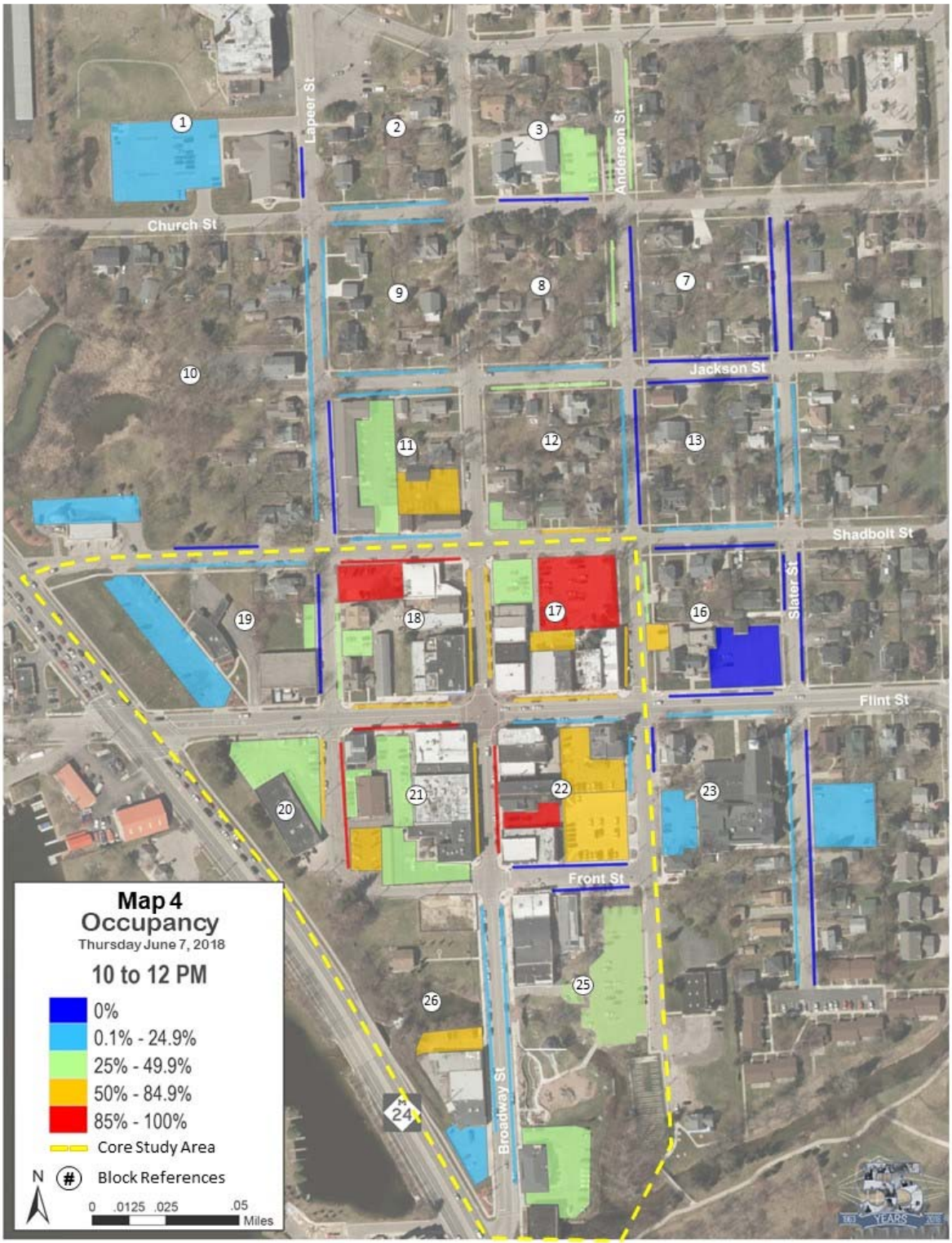
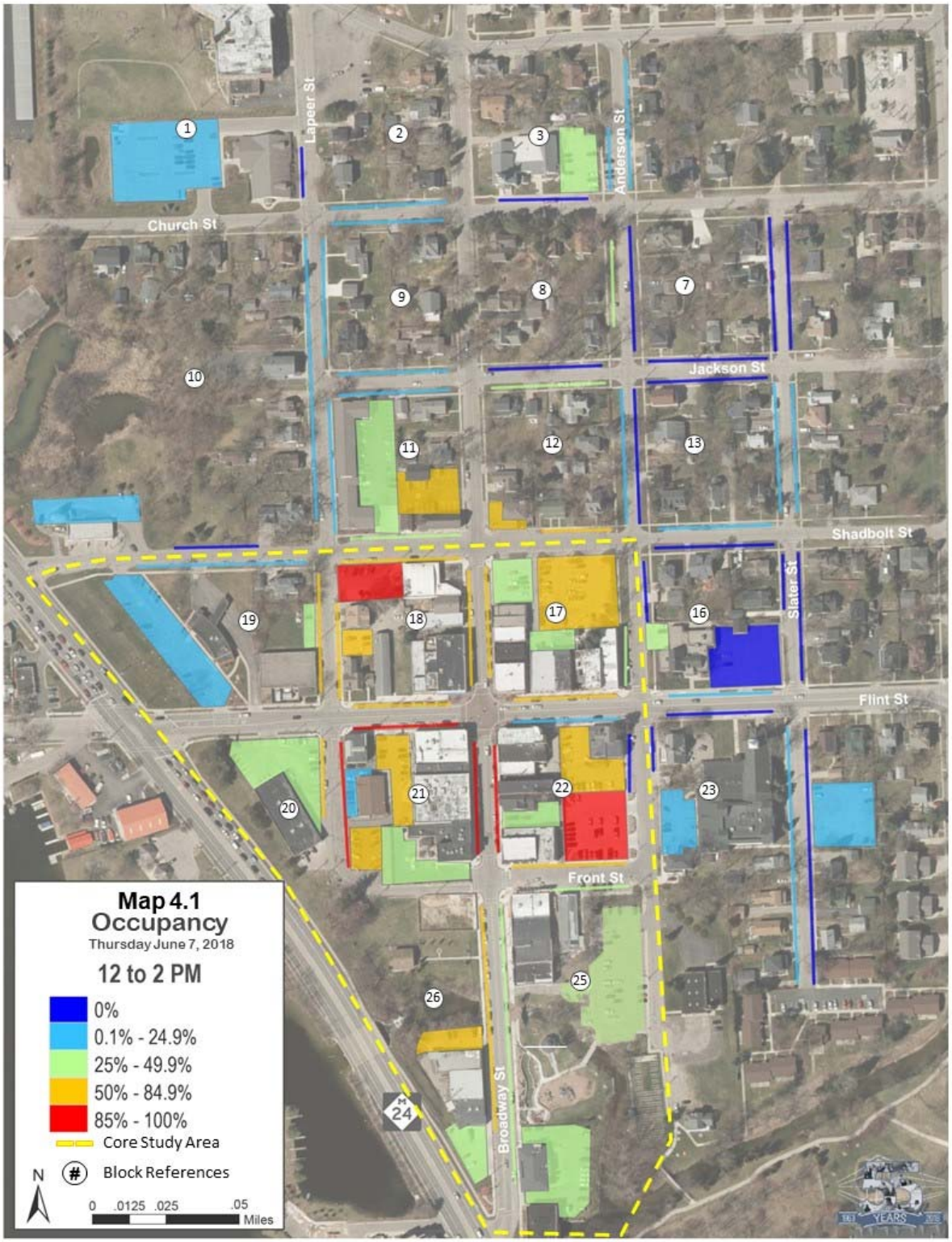
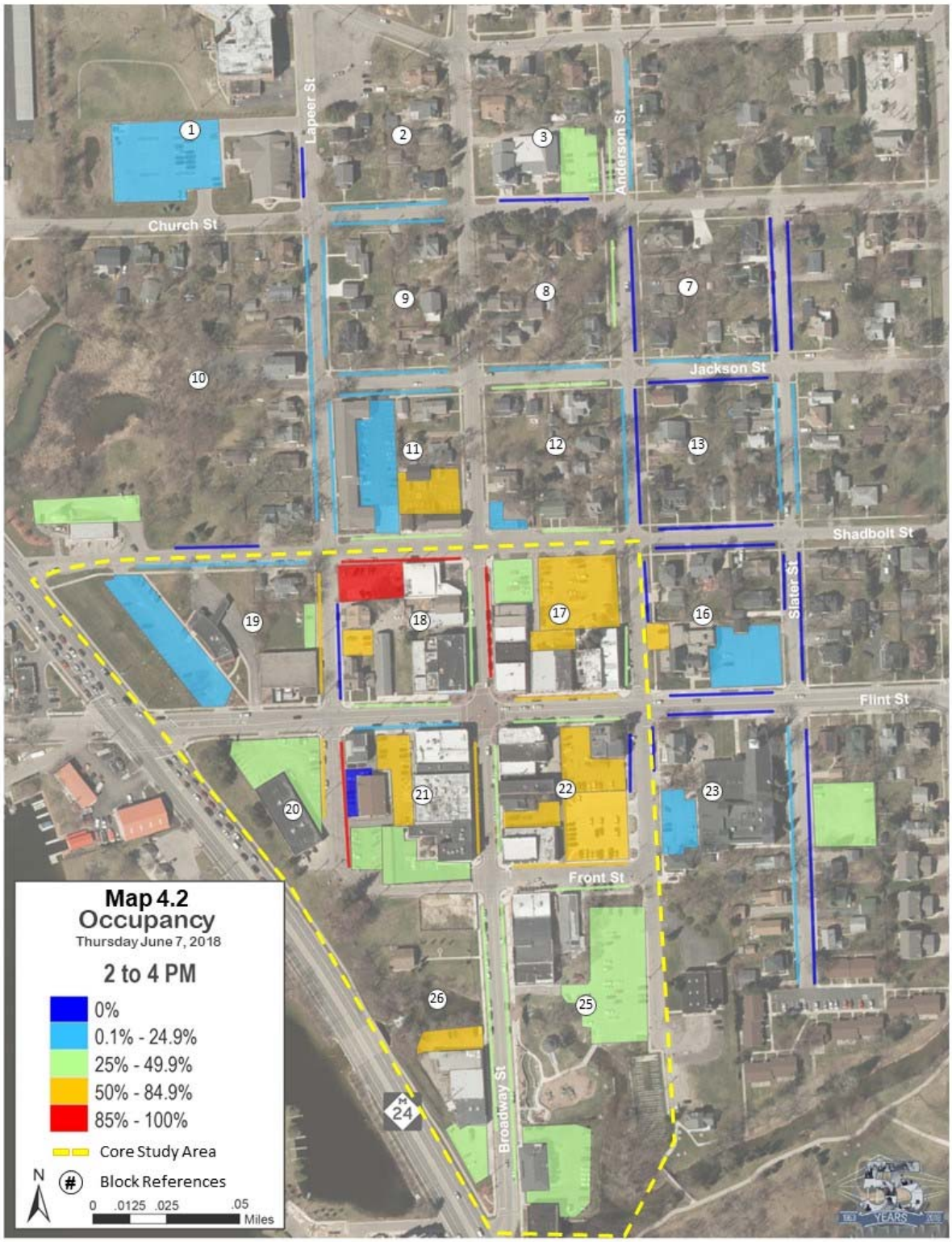

CORE AREA OCCUPANCY
ON-STREET VS. OFF STREET
THURSDAY JUNE 7, 2018
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10 AM
12 PM
2 PM
4 PM
6 PM
8 PM
On-Street
Off-Street

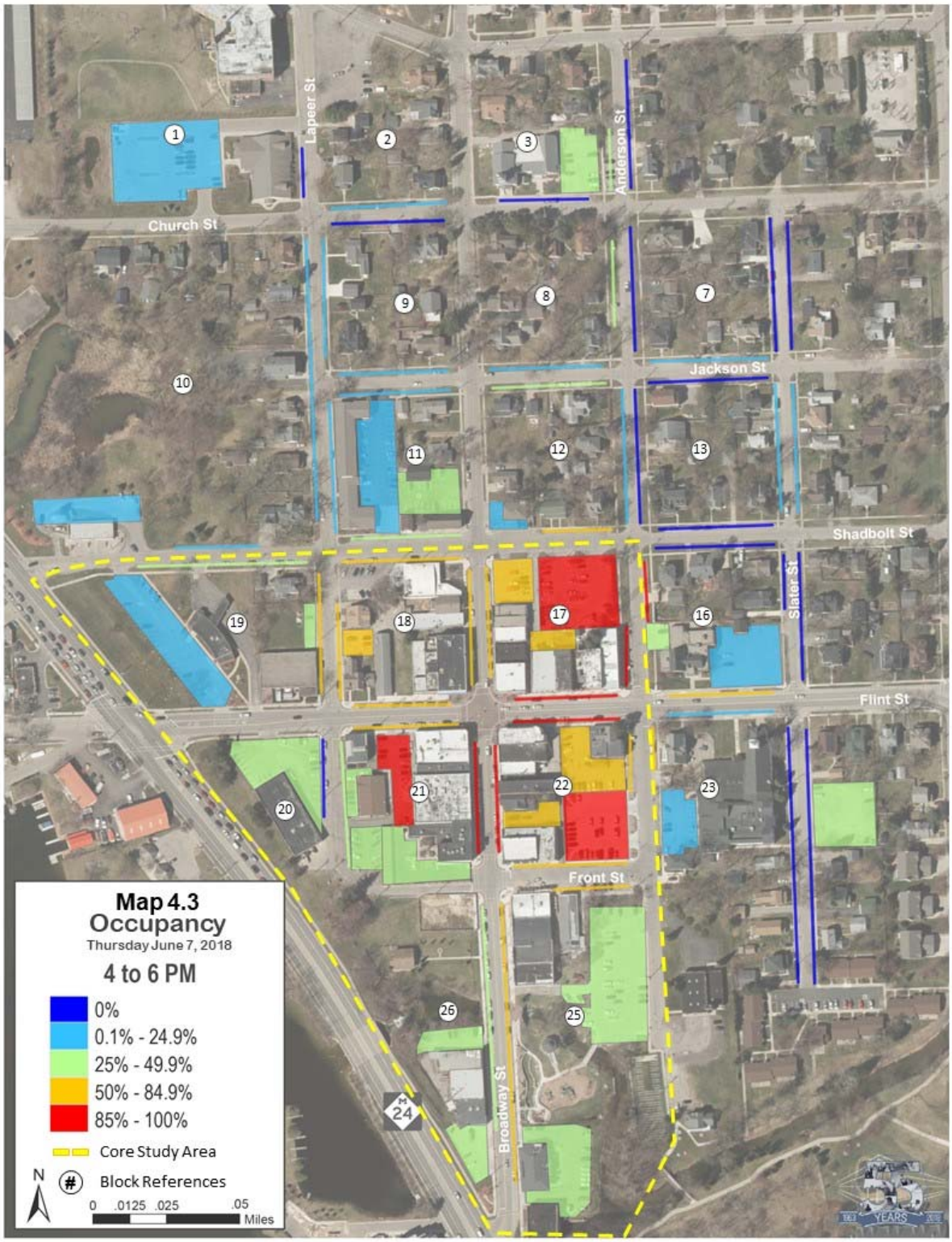
Table F - June 7, 2018 Occupancy Findings

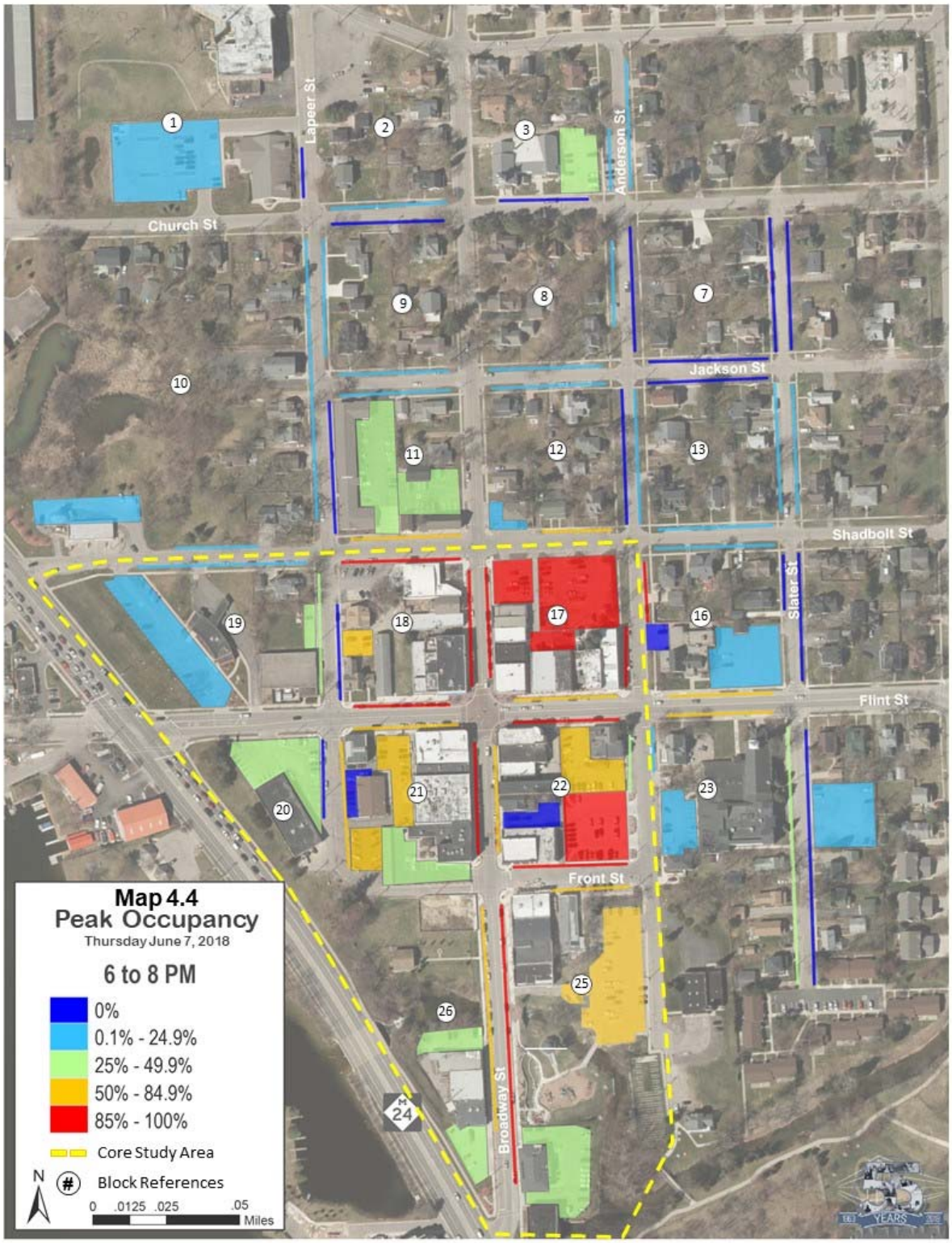
Block	Face	Des	Street Type	Type	Spaces	10:00AM - 12:00PM	% Occ.	12:00PM - 2:00PM	% Occ.	2:00PM - 4:00PM	% Occ.	4:00PM - 6:00PM	% Occ.	6:00PM - 8:00PM	% Occ.	8:00PM - 10:00PM	% Occ.
1	B		On-street	OC	6	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
1	1		Off-street	OC	49	9	18%	8	16%	8	16%	2	4%	1	2%	0	0%
1		HC	Off-street	OC	3	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
2	C		On-street	OC	10	1	10%	1	10%	1	10%	1	10%	1	10%	2	20%
3	B		On-street	OC	14	4	29%	3	21%	4	29%	4	29%	1	7%	10	71%
3	1		Off-street	OC	18	8	44%	7	39%	8	44%	8	44%	7	39%	11	61%
3		HC	Off-street	OC	2	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
4	D		On-street	OC	8	2	25%	1	13%	1	13%	0	0%	1	13%	1	13%
7	D		On-street	OC	8	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7	C		On-street	OC	8	0	0%	0	0%	1	13%	1	13%	0	0%	0	0%
8	B		On-street	OC	10	3	30%	3	30%	4	40%	3	30%	2	20%	2	20%
8	C		On-street	OC	9	1	11%	0	0%	2	22%	1	11%	1	11%	0	0%
9	A		On-street	OC	9	1	11%	1	11%	1	11%	0	0%	0	0%	0	0%
9	C		On-street	OC	9	1	11%	1	11%	1	11%	1	11%	1	11%	1	11%
9	D		On-street	OC	9	2	22%	2	22%	2	22%	2	22%	2	22%	2	22%
10	B		On-street	OC	17	3	18%	3	18%	3	18%	1	6%	3	18%	4	24%
10	C		On-street	OC	14	0	0%	0	0%	0	0%	1	7%	2	14%	0	0%
10	1		Off-street	OC	10	1	10%	2	20%	4	40%	1	10%	1	10%	0	0%
11	A		On-street	OC	7	1	14%	1	14%	1	14%	1	14%	1	14%	1	14%
11	C		On-street	TC	5	1	20%	2	40%	2	40%	2	40%	4	80%	2	40%
11	D		On-street	OC	13	0	0%	2	15%	1	8%	1	8%	0	0%	0	0%
11	1		Off-street	OC	33	11	33%	10	30%	6	18%	8	24%	12	36%	13	39%
11	2		Off-street	OC	16	12	75%	10	63%	10	63%	7	44%	6	38%	5	31%
12	A		On-street	OC	8	2	25%	2	25%	2	25%	2	25%	1	13%	1	13%
12	B		On-street	OC	9	2	22%	2	22%	1	11%	1	11%	0	0%	0	0%
12	C		On-street	TC	5	3	60%	3	60%	2	40%	4	80%	3	60%	3	60%
12	1		Off-street	OC	9	4	44%	5	56%	2	22%	2	22%	2	22%	2	22%
13	A		On-street	OC	8	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
13	B		On-street	OC	9	1	11%	1	11%	1	11%	1	11%	1	11%	1	11%
13	C		On-street	OC	9	1	11%	1	11%	0	0%	0	0%	1	11%	5	56%
13	D		On-street	OC	9	0	0%	0	0%	0	0%	0	0%	1	11%	1	11%
14	D		On-street	OC	10	1	10%	1	10%	1	10%	1	10%	2	20%	1	10%
16	A		On-street	OC	8	0	0%	0	0%	0	0%	0	0%	1	13%	0	0%
16	B		On-street	OC	8	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
16	C		On-street	TC	5	0	0%	1	20%	0	0%	3	60%	3	60%	0	0%
16	D		On-street	TC	3	1	33%	0	0%	0	0%	3	100%	3	100%	3	100%
16	1		Off-street	OC	28	0	0%	0	0%	1	4%	2	7%	1	4%	0	0%
16		HC	Off-street	OC	2	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
16	2		Off-street	OC	4	2	50%	1	25%	2	50%	1	25%	0	0%	0	0%
17	A		On-street	OC	1	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
17	B		On-street	TC	9	5	56%	3	33%	3	33%	8	89%	8	89%	8	89%
17	C		On-street	TC	8	4	50%	5	63%	4	50%	7	88%	6	75%	5	63%
17	D		On-street	TC	6	4	67%	3	50%	6	100%	5	83%	6	100%	6	100%
17	1		Off-street	OC	14	4	29%	5	36%	5	36%	10	71%	13	93%	10	71%
17	2		Off-street	OC	35	33	94%	26	74%	29	83%	34	97%	31	89%	22	63%
17	3		Off-street	OC	7	4	57%	2	29%	4	57%	5	71%	6	86%	5	71%
18	A		On-street	TC	8	7	88%	4	50%	7	88%	5	63%	7	88%	6	75%
18	B		On-street	TC	5	3	60%	4	80%	2	40%	4	80%	5	100%	4	80%
18	C		On-street	TC	7	4	57%	5	71%	3	43%	4	57%	6	86%	6	86%
18	D		On-street	TC	3	1	33%	2	67%	0	0%	2	67%	0	0%	0	0%
18	2		Off-street	OC	12	4	33%	7	58%	7	58%	6	50%	7	58%	2	17%
18	1	Lot 1	Off-street	OC	12	12	100%	12	100%	12	100%	15	125%	13	108%	14	117%
18	1	HC	Off-street	OC	1	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
19	A		On-street	TC	18	3	17%	3	17%	4	22%	7	39%	3	17%	3	17%
19	B		On-street	TC	4	0	0%	2	50%	3	75%	2	50%	1	25%	0	0%
19	2		Off-street	OC	8	3	38%	2	25%	3	38%	3	38%	2	25%	2	25%
19	1		Off-street	OC	46	8	17%	9	20%	6	13%	8	17%	1	2%	1	2%
19		HC	Off-street	OC	1	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
20	B		On-street	TC	4	3	75%	3	75%	2	50%	0	0%	0	0%	1	25%
20	1		Off-street	OC	31	9	29%	11	35%	8	26%	10	32%	13	42%	9	29%
21	A		On-street	TC	5	4	80%	4	80%	0	0%	3	60%	3	60%	2	40%
21	B		On-street	TC	8	6	75%	8	100%	5	63%	8	100%	8	100%	6	75%
21	D		On-street	TC	3	3	100%	3	100%	3	100%	1	33%	2	67%	2	67%
21	1		Off-street	OC	7	3	43%	1	14%	0	0%	2	29%	0	0%	3	43%
21	3		Off-street	OC	18	6	33%	7	39%	5	28%	5	28%	6	33%	8	44%
21	4		Off-street	OC	16	9	56%	9	56%	5	31%	6	38%	9	56%	11	69%
21	2		Off-street	OC	15	7	47%	11	73%	9	60%	14	93%	12	80%	8	53%
22	A		On-street	TC	5	1	20%	1	20%	2	40%	5	100%	5	100%	5	100%
22	B		On-street	TC	7	1	14%	0	0%	0	0%	4	57%	2	29%	3	43%
22	C		On-street	TC	6	1	17%	3	50%	3	50%	4	67%	6	100%	5	83%
22	D		On-street	TC	8	8	100%	8	100%	3	38%	7	88%	6	75%	8	100%
22	1		Off-street	OC	4	4	100%	1	25%	3	75%	3	75%	0	0%	0	0%
22	2		Off-street	OC	26	19	73%	21	81%	15	58%	21	81%	19	73%	15	58%
22	3		Off-street	OC	40	27	68%	34	85%	23	58%	36	90%	37	93%	32	80%
23	A		On-street	TC	7	1	14%	0	0%	0	0%	1	14%	4	57%	3	43%
23	B		On-street	OC	15	3	20%	1	7%	1	7%	0	0%	4	27%	5	33%
23	D		On-street	TC	5	0	0%	0	0%	0	0%	3	60%	1	20%	1	20%
23	1		Off-street	OC	19	1	5%	3	16%	5	26%	7	37%	4	21%	2	11%
23		HC	Off-street	OC	3	0	0%	0	0%	1	33%	0	0%	0	0%	0	0%
24	D		On-street	OC	12	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
24	1		Off-street	OC	40	9	23%	4	10%	5	13%	4	10%	7	18%	13	33%
25	A		On-street	TC	11	0	0%	5	45%	4	36%	8	73%	7	64%	7	64%
25	D		On-street	TC	15	2	13%	8	53%	7	47%	10	67%	14	93%	11	73%
25	2		Off-street	OC	23	8	35%	9	39%	9	39%	9	39%	11	48%	22	96%
25	1	HC	Off-street	OC	3	0	0%	0	0%	0	0%		0%	0	0%	0	0%
25			Off-street	OC	22	13	59%	14	64%	20	91%	18	82%	30	136%	18	82%
26	B		On-street	TC	16	3	19%	8	50%	6	38%	4	25%	12	75%	10	63%
26	1		Off-street	OC	12	6	50%	7	58%	7	58%	4	33%	3	25%	3	25%
26	2		Off-street	OC	8	1	13%	3	38%	3	38%	2	25%	3	38%	4	50%
Total Occupancy					**1040**	**335**	32%	**355**	34%	**324**	31%	**389**	37%	**408**	39%	**382**	37%

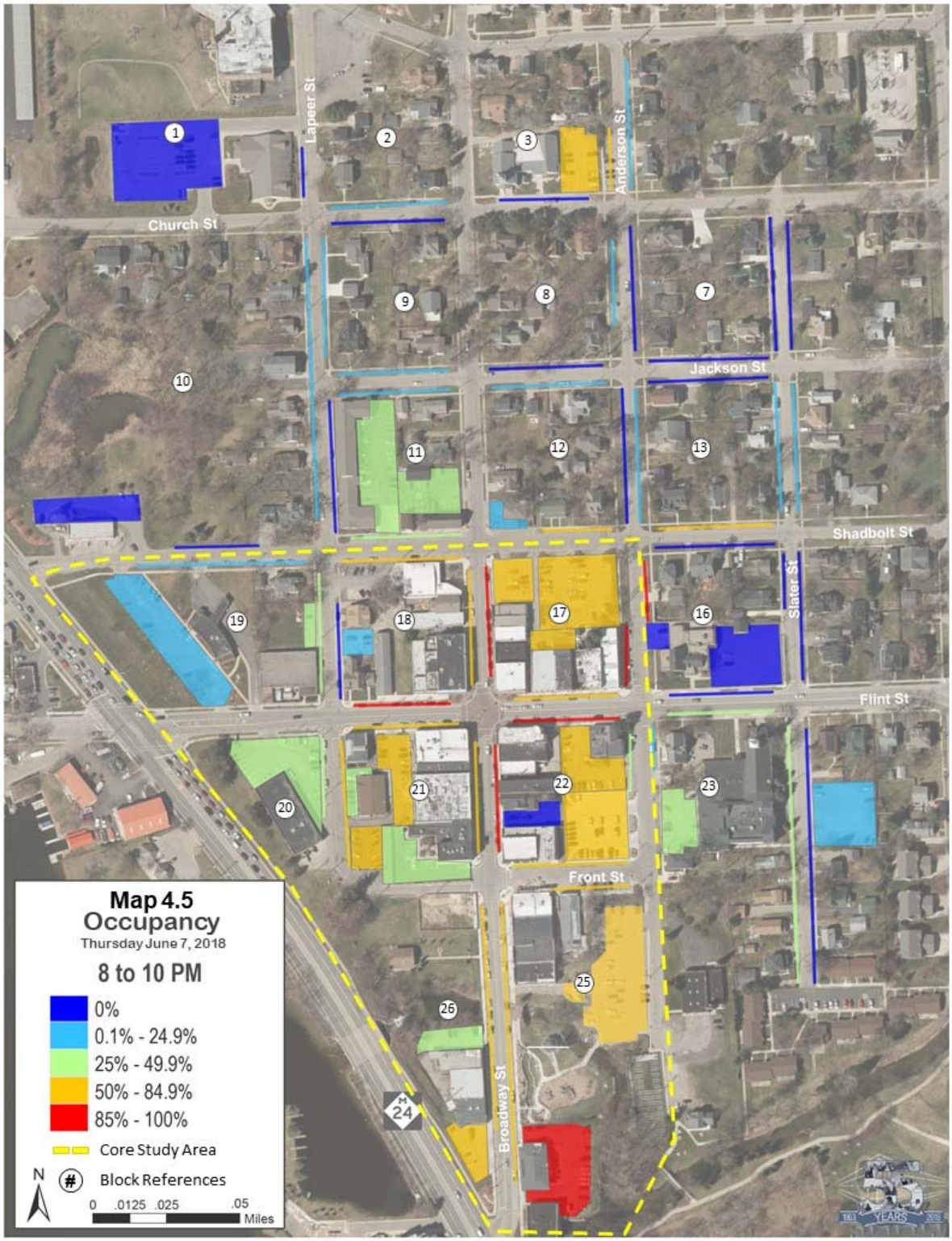

Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
Map 4
Occupancy
Thursday June 7, 2018
10 to 12 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05
Miles


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Map 4.1
Occupancy
Thursday June 7, 2018
12 to 2 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05
Miles


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
1
2
3
7
8
9
10
11
12
13
16
17
18
19
20
21
22
23
25
26
Map 4.2
Occupancy
Thursday June 7, 2018
2 to 4 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05
Miles


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Map 4.3
Occupancy
Thursday June 7, 2018
4 to 6 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05
Miles


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Map 4.4
Peak Occupancy
Thursday June 7, 2018
6 to 8 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05 Miles


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Map 4.5
Occupancy
Thursday June 7, 2018
8 to 10 PM
0%
0.1% - 24.9%
25% - 49.9%
50% - 84.9%
85% - 100%
Core Study Area
Block References
N
0 .0125 .025 .05
Miles

OCCUPANCY SUMMARY

The number of spaces occupied at peak time in downtown Lake Orion are relatively low. When the parking demand is higher, best practices are to manage the parking such that between 85% and 90% of the parking is occupied. When looking at the map the majority of the parking areas are shaded in blue which represents an occupancy percentage between 0% and 49%.

The peak overall occupancy was 39% with 419 of the 1,083 spaces occupied. When we analyzed the results for the core area we see that the peak overall occupancy increases to 60%, with 334 of the 561 spaces occupied. This tells us that there is still sufficient parking in the downtown area available during peak hours, though all parking may not be available for all users. Additionally, the public parking may not be located as the most convenient spaces for all destination. This occupancy data is used to calibrate the parking demand model.

PARKING DEMAND CALCULATION

Analyses were performed to determine the current and future parking demands and needs for the study area. The data collected and compiled by Rich & Associates to calculate the parking demand included:

- An inventory of the study area on-street and off-street parking supplies.
- Turnover and occupancy studies for public and private on-street and off-street parking areas.
- Block-by-block analysis of square footage and type of land use in the study area. (Building inventory was provided by Main Street Oakland County staff)
- This demand analysis contains two levels of parking analyses to determine the number of parking spaces needed. First is a mathematical or hypothetical model of parking demand based on the building gross square footage. The mathematical model multiplies a parking generation ratio (PGR) by the gross area of specific land uses to derive the number of spaces needed. The second is a method of using field observations to calibrate the mathematical model and help to establish projected spaces needed.
- The demand model is based on a weekday peak between 9:00AM and 9:00PM.

A point to consider regarding the parking supply and demand is that motorists in general perceive off-street spaces with occupancies greater than 85% to be at capacity. The greater the capacity of the parking area, the less this perception is valid. When this occurs, motorists will begin to re-circulate to seek more parking, adding to traffic congestion and the drivers' perception that there is no parking available in the downtown.

The PGR's were established from Rich & Associates field work and previous experience with work in similar communities. The demand factor for each land use type includes an estimate for employees and patrons to that particular land use and reflect both a daytime and evening peak. Once parking demand has been calculated for both current and future conditions, a comparison with the existing supply of parking is made. The resulting figures are parking surplus or deficit figures for each block.

The PGR's are used in conjunction with information from the Institute of Transportation Engineers (ITE) and the Urban Land Institute (ULI). These two sources are the generally accepted standards for parking generation. Rich & Associates uses experience along with these sources to modify or customize the parking generation ratios specifically to the study area.

Once a parking demand model is developed that illustrates the surpluses and deficits numerically and graphically, we then compare the model with the actual field observations, specifically the turnover and occupancy counts. The comparison serves as a test of the demand model and allows Rich & Associates staff to make further revisions or adjustments where necessary, thus ensuring accuracy to the overall parking dynamic in the downtown area. It is important to note that the demand calculations are slightly higher than the observed observations due to changes in land use, intensity in demand and allowance for some growth of current businesses.

The assumptions used in developing the PGR's and the parking demand calculations are:

Assumption 1: It was assumed that parking demand per block was dependent on the gross floor area contained in the block. Demand computed for one block was not affected by the amount of gross floor area available on surrounding blocks. Therefore, a block with surplus parking supply is not used to offset calculated shortfalls on adjacent blocks.

Assumption 2: The projected parking demand for the future was derived under the assumption that currently occupied properties would remain occupied at existing or higher than existing levels into the future.

Assumption 3: The projected vacant space is shown reoccupied at a rate of 40% in five years and 80% in 10 years.

PARKING NEED

Once we have determined the base parking demand calculation we then need to modify the parking generation factors to demonstrate the actual parking need for the downtown. Rich & Associates factors in the reality of parking to the demand such as walking distances to public parking locations, conditions of parking lots and the conditions of the path to and from the lots. Parking need will fluctuate based on several factors such as use changes and intensity of land use. A restaurant or retail spaces could become a destination in the region increasing the

overall demand for that specific land use or an office space could go from selling insurance to a call center which requires a much larger staff and will have an evening shift. The following are issues that are considered when developing the number of parking spaces needed:

- Building size, purpose and special use conditions.
- Alternative modes of transportation, including availability, level of use, attractiveness and policy impacts.
- Proportion of the downtown trips that are multiple-use or linked (available shared use parking).
- Vehicle traffic.
- Cost of parking.
- The intensity of developments in the downtown.
    - The overall number of businesses in a downtown drawing customers.

The gross square footage of the sorted land use categories by block was provided by Oakland County Main Street staff. The different land uses for each block are in general multiplied by a parking generation ratio (PGR) of spaces required per 1,000 square feet. The resulting demand number is deducted from the available parking supply on each block to determine a surplus or deficit condition for each block. There are a different set of parking generation ratios for daytime and night time land uses.

Table G on page 25 is the Parking Demand Matrix, followed by a summary of the parking demand represented spatially in **Map 5 on page 26**. This model is intended to be used as a tool to determine the current parking demand and help project the future parking demand. The parking generation ratios are not for zoning purposes. They are to be used along with the demand matrix as a tool to determine the parking impact of existing and new development coming into the study area. The results from the parking demand matrix are compared to the turnover and occupancy results to make sure that there is a reasonable correlation with the observed needs of the downtown.

In our opinion, one of the biggest reasons that people perceive a parking shortage in the downtown is because some employees and business owners are parking on-street, taking prime customer and visitor spaces. When an employee parks on-street due to greater convenience when their business has a private parking space available for their use, the employee is actually taking two spaces out of the parking supply. This is because the space is not a shared parking space, instead it is reserved only for the business, whereas the public on-street spaces are intended to be available for anyone visiting the downtown to visit multiple destinations. Shared use is an important component of parking that allows municipalities to develop less parking for each land use due to the ability to park once and visit multiple locations.

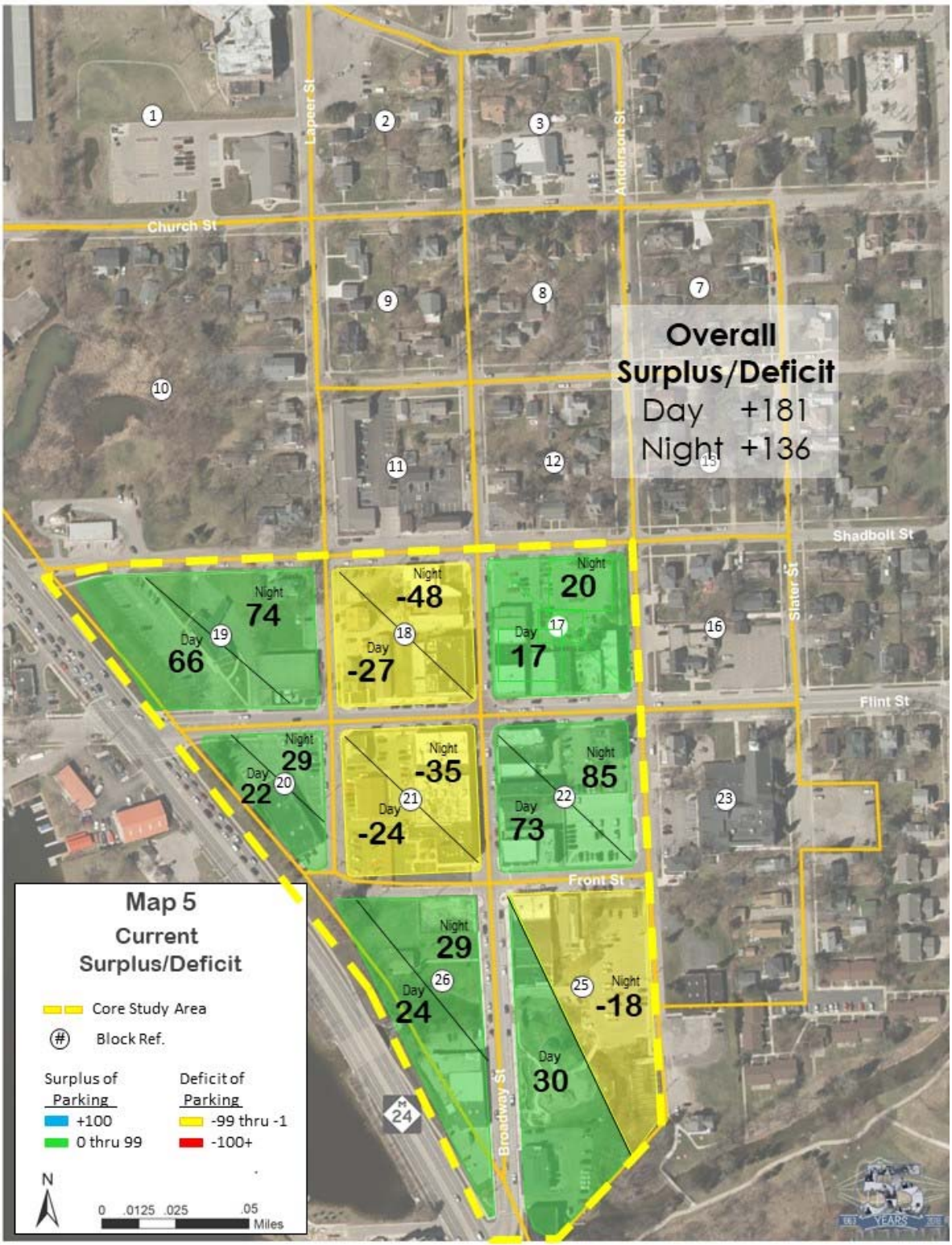
The current daytime parking situation in the downtown core as calculated showed an overall surplus of 181 spaces. The current evening surplus is 136 spaces. Though this is a small surplus for the core blocks, there is parking located within a couple of blocks of all areas to handle shortages. As development continues and additional businesses come to downtown Lake Orion, there is the potential for an increase in the intensity (number of people visiting each land use) and of overall land use. Therefore, it is important to constantly monitor the parking system and update the demand model with any changes to the parking supply or land use changes. The updated model should then be compared to occupancy counts from the parking system.

TABEL G

Parking Demand Matrix

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
Block	Office	Medical Office	Retail	Service	Mixed Use	Restaurant/Bar	Residential	Music Venue	Community	Warehouse	Vacant	Demand	Demand	Parking	Surplus/	Projected Surplus/	Projected Surplus/	Projected Surplus/	Surplus/	Projected Surplus/	Projected Surplus/
Day							(per unit)	1/3 PERSONS				(current)	(current)	Supply	Deficit	Deficit	Deficit	Deficit	Deficit	Deficit	Deficit
Parking Generation Ratios	1.90	2.50	1.60	1.75	1.90	4.00	1.00	0.40	0.40	0.25	2.25	Day	Night		Day	5 YEAR (40%)	10 YEAR (80%)	100%	Night	5 YEAR (40%)	10 YEAR (80%)
NIGHT							(per unit)	1/3 PERSONS													
Parking Generation Ratios	0.15	1.00	0.75	0.20	0.50	9.00	1.00	1.00	1.25	0.10	2.25				(current)	5 YEAR (40%)	10 YEAR (80%)	100%	(current)	5 YEAR (40%)	10 YEAR (80%)
17	6,338	-	5,815	7,392	1,890	5,348	4	-	-	-	-	63	60	80	17	17	17	17	20	20	20
18	-	-	8,642	3,350	4,371	6,778	17	-	6,700	-	-	75	96	48	-27	-27	-27	-27	-48	-48	-48
19	3,392	943	-	-	-	-	1	-	-	-	-	10	2	76	66	66	66	66	74	74	74
20	-	-	8,029	-	-	-	-	-	-	-	-	13	6	35	22	22	22	22	29	29	29
21	2,800	2,856	1,840	-	12,124	7,910	25	-	-	1,840	5,300	96	107	72	-24	-28	-33	-35	-35	-40	-45
22	-	-	9,466	780	2,542	-	4	-	-	-	8,605	25	13	98	73	65	57	53	85	78	70
25	-	-	2,965	3,456	11,616	10,754	-	92	-	-	-	88	136	118	30	30	30	30	-18	-18	-18
26*	-	-	-	-	5,679	-	-	-	3,151	-	-	12	7	36	24	-19	-19	-19	29	-69	-69
Totals	**12,530**	**3,799**	**36,757**	**14,978**	**38,222**	**30,790**	**51**	**92**	**9,851**	**1,840**	**13,905**	**382**	**427**	**563**	**181**	**126**	**113**	**107**	**136**	**26**	**13**
												(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)

*Block 26 has 120 S. Broadway development w/ 5,000sf of commercial, 24 apts and 40 parking spaces and
102 S. Broadway development w/ 8,644sf restaurant both included in the 5 and 10 year projections


Overall
Surplus/Deficit
Day +181
Night +136
Map 5
Current
Surplus/Deficit
Core Study Area
Block Ref.
Surplus of Parking
+100
0 thru 99
Deficit of Parking
-99 thru -1
-100+
N
0 .0125 .025 .05 Miles
Lapeer St
Anderson St
Church St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Night 74
Day 66
Night -48
Day -27
Night 20
Day 17
Night 29
Day 22
Night -35
Day -24
Night 85
Day 73
Night 29
Day 24
Night -18
Day 30

FUTURE

When projecting the future demand scenarios, we used a rate of 40% re-occupancy of vacant space in the five year projections and 80% in the 10 year projections. Additionally, the two developments listed below on block 26 were added into the future projections. The 5 year projections for the daytime is a surplus of 126 spaces with the evening surplus at 26 just spaces. The 10 year projections show the daytime surplus dropped to 113 spaces with an evening surplus of just 13 spaces.

New Developments for block 26:

1. 120 S. Broadway

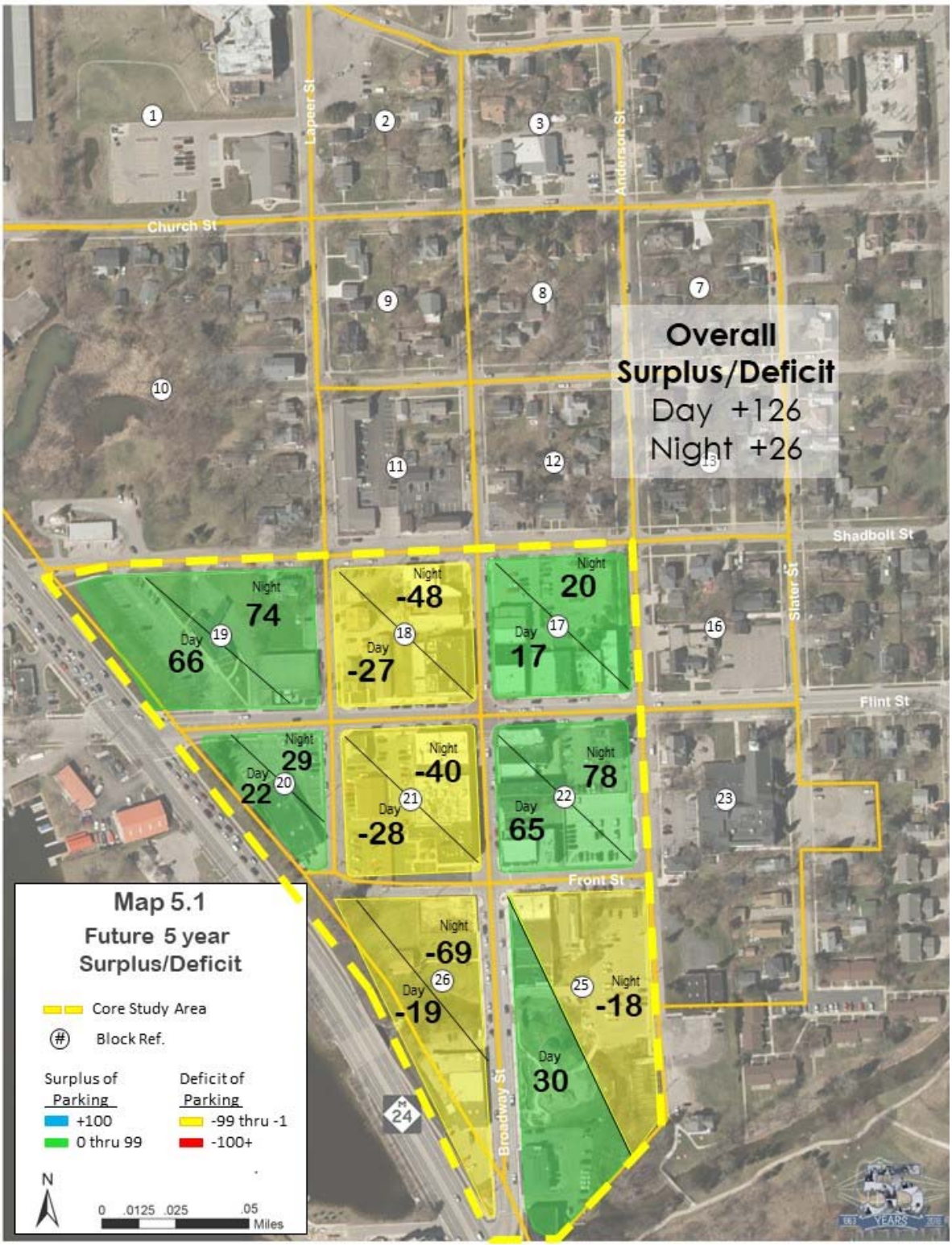
    5,000 sf Commercial (2 units– Restaurant and office or retail)

    24 Apartments

    40 Parking Spaces

2. 102 S. Broadway

    8,644 sf 1ST story restaurant with 2ND story rooftop bar (1/3rd enclosed)


Overall
Surplus/Deficit
Day +126
Night +26
Map 5.1
Future 5 year
Surplus/Deficit
Core Study Area
Block Ref.
Surplus of Parking
+100
0 thru 99
Deficit of Parking
-99 thru -1
-100+
0 .0125 .025 .05
Miles
N
Church St
Lapeer St
Anderson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
1
2
3
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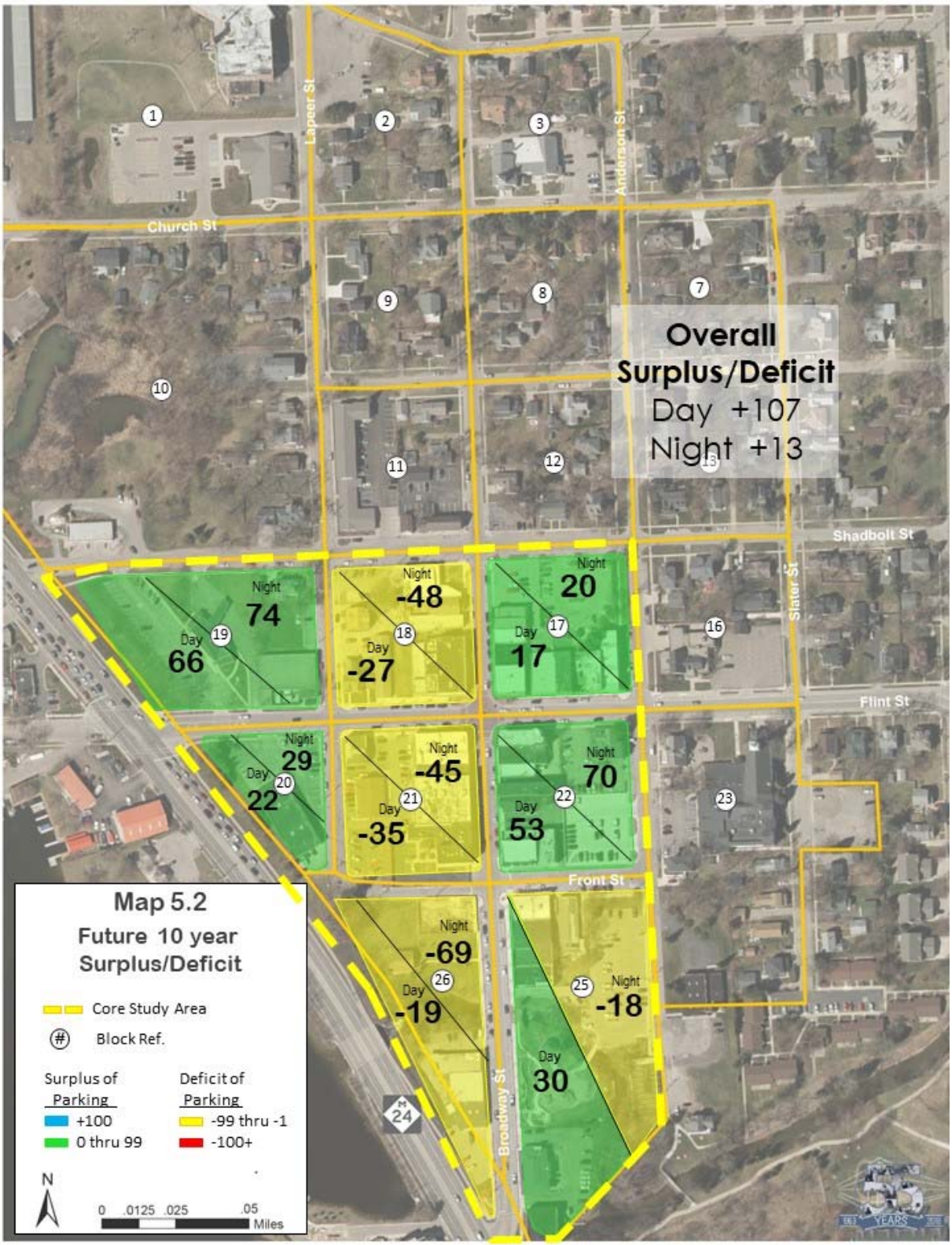
17
18
19
20
21
22
23
25
26
Night 74
Day 66
Night -48
Day -27
Night 20
Day 17
Night 29
Day 22
Night -40
Day -28
Night 78
Day 65
Night -69
Day -19
Night -18
Day 30


Overall
Surplus/Deficit
Day +107
Night +13
Church St
Lapeer St
Anderson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
M 24
Night 74
Day 66
Night -48
Day -27
Night 20
Day 17
Night 29
Day 22
Night -45
Day -35
Night 70
Day 53
Night -69
Day -19
Night -18
Day 30
Map 5.2
Future 10 year
Surplus/Deficit
Core Study Area
Block Ref.
Surplus of Parking
+100
0 thru 99
Deficit of Parking
-99 thru -1
-100+
N
0 .0125 .025 .05 Miles

PRELIMINARY RECOMMENDATIONS

Introduction

The recommendations presented here are intended to enhance the use of the existing supply of parking through operational and management changes. While aimed primarily at increasing the efficiency of the parking, the recommendations are comprehensive and provide a holistic approach to improving parking in the downtown today as well as provide a plan for accommodating future growth of the downtown study area.

The recommendations in this section are a set of tools that Lake Orion can use to manage and develop a parking system. Lake Orion will also be given the demand matrix chart (**Table G**) to use as a tool to manage land use and parking in the Village. This chart can be updated with new development, vacancy or in-fill data, along with any changes to the parking inventory. The chart allows Lake Orion to understand the impacts of potential development and will assist in meeting the future parking needs of the Village.

Managing a parking system is not just about parking vehicles, it also involves the walkability of a downtown. Elements such as signage, enforcement, lighting and marketing parking to business owners, employees and visitors effect the overall usage of the parking system. The utilization of individual lots can depend on any or all of these factors, as well as the overall condition of the lot. Fundamentally, these issues can impact a parking system and therefore the downtown economics in general.

Rich & Associates believes that it is most important to first provide recommendations on how to better manage the current parking supply in the downtown. There are several recommendations that will make the parking in the downtown easier to use. Some of these recommendations can be implemented easily and quickly with little or no cost to the Village while others may require significant budgeting and time to complete. The Recommendations section of the report focuses on policy and actions to address the current parking condition while providing a direction to develop an efficient parking system for the future. With a unified approach, Lake Orion will be best prepared to address parking related issues and handle new development now and in the future.

Table H – Recommendations Matrix

Downtown Parking Study Implementation Plan	Time Frame				
Recommendations Summary	Immediate Action	As needed	0-3 Years	3-6 Years	6-10 Years
1. Parking Management					
1.1 Appoint a person to oversee the parking system.		√			
2. Discourage the Development of Any New Private Parking Lots in the Downtown					
2.1 The Village should continue to discourage the development of any new private parking lots in the downtown that are not for residential use or public parking.	√				
3. Work with Private Parking Lot Owners in the Downtown to Create additional Shared Use Parking.					
3.1 The Village should work with owners of private lots to allow for public shared use of the private parking areas where possible.			√		
4. ADA Parking					
4.1 Add additional parking spaces to the lots with barrier free deficiencies.	√				
4.2 Add one barrier free on-street parking space to block 16 and move the current barrier free space on Front Street (block 25) closer to Broadway Street.	√				
5. Marketing					
5.1 Develop flyers that can be distributed to all parking users discussed in the recommendation customers/visitors, employees, residents and special event attendees.	√				
5.2 Develop a marketing program to encourage bicycle use as an alternative to driving				√	
6. Special Event Parking					
6.1 Develop a flyer that can be distributed to businesses and purchase sandwich boards to be used as temporary wayfinding signs during special events.		√			
7. Parking Signs					
7.1 Name all public lots and add introduction signs to all public lots to aid in marketing and signage.	√				
7.2 Rich & Associates recommends the addition of a family of parking wayfinding (four sign types) in the downtown.			√		
7.3 All of the parking wayfinding signs should use the same text size and color scheme. The text should remain consistent for parking signs both on-street and off-street. The lot introductions signs should be placed at the entrance of all lots and the text should be large enough to read while driving.			√		
7.4 All duration parking signs on-street and off-street should be consistent in color and text. The duration sign should be more prominent than the no parking during specified hours sign.			√		
8. Pedestrian Enhancements & Activity					
8.1 Follow landscaping criteria outlined in the land use ordinance for all parking lots in the downtown (public and private) in order to enhance pedestrian safety by increasing the separation from motor vehicle traffic.				√	
8.2 Encourage shared dumpsters in lots that have several businesses surrounding the lot.				√	
8.3 Lapeer Street needs updates to the road and sidewalks as shown in pictures.				√	
8.4 Shadbolt Street needs sidewalks along Lot 1 on block 18.				√	
8.5 The parking along Anderson Street needs restriping and repairs.				√	
8.6 Table K, Parking Lot Overview lists updates and changes that need to be made to the public parking lots in the downtown.				√	
8.7 Continue to follow the same street and sidewalk design, with bump outs, brick lined sidewalks and lighting throughout the Downtown Center District.					√
9. Residential Parking /Overnight Parking					

Downtown Parking Study Implementation Plan	Time Frame				
Recommendations Summary	Immediate Action	As needed	0-3 Years	3-6 Years	6-10 Years
9.1 Create a residential parking flyer clearly defining parking locations approved for overnight parking.		√			
10. Parking Duration & Allocation					
10.1 Regular enforcement will need to be conducted to make sure that the vehicles are not parked beyond posted time limits.			√		
10.2 Consider adding loading zone spaces (15 - 30 minute) at either the ends of the block or the middle stall where these are not currently provided.			√		
10.2 Consider adding three hour parking to the most convenient spaces in the parking lots and having the rest of the spaces signed long term with no overnight parking, except residential permits.			√		
11. Walking Considerations for Shared Use Parking					
11.1 Encourage employees to walk to the appropriate parking areas so they are not taking the most convenient customer spaces.	√				
12. Parking Enforcement					
12.1 Conduct parking enforcement on a more consistent basis.			√		
12.2 PEO's should continue to use chalk marking tires and hand write tickets until handheld parking ticket writers can be purchased that track license plate numbers and print tickets.			√		
12.3 PEO's should be dedicated to parking duties as an ambassador of the downtown, only being reassigned during emergencies or special circumstances that may arise.		√			
13. Parking Fines					
13.1 Adopt the recommended fine schedule along with courtesy tickets.			√		
13.2 It is recommended that all fines revenue go into the parking fund.			√		
14. Maintenance of Parking Spaces On-street and Off-street					
14.1 Use Table K on page 48 to determine repairs to the parking lots.				√	
14.2 Develop a maintenance schedule for the lots to keep up with maintenance needs and help budget yearly costs.	√				
15. Create a Sinking Fund for Maintenance and Upgrades to the Parking System					
15.1 Create a sinking fund for maintenance and upgrades to the parking system.	√				
16. Valet Parking					
16.1 Develop a policy on Valet parking.			√		
17. Taxi / Rideshare Parking					
17.1 Develop a policy for taxi/ride share loading areas.			√		
18. Meters and Charging for Parking					
18.1 Develop a parking fund that includes all parking revenues, including fines, parking permits and meter revenue.		√			
19. Autonomous Vehicles					
19.1 Keep educated with the progress of automomous vehicles		√			

1. Parking Management

As the Village grows it should consider having one person overseeing the overall parking function and having a single point of contact for the parking system. This person would act as a liaison between the Village Council, Village departments, as well as potentially enforcement and the public.

Having a single parking point of contact expedites decision making and allows for better integration of the various aspects of parking. The administration of the parking system under the direction of one person will benefit the parking system with an ability to adapt to changes in the downtown. If possible, it is helpful to have all parking related expenditures and enforcement under one budget, allowing for an efficient way to track the system and create checks and balances.

Additionally, a managed parking system is able to adapt to changes that are brought on by new development, businesses moving in and or out along with land use changes in buildings in the downtown area.

Actions, Time Frame and Cost:

1.1 Action – Appoint a person to oversee the parking system

Time Frame – As needed

Cost – N/A

2. Discourage the Development of Any New Private Parking Lots in the Downtown

A parking system works best when the parking can be shared and the municipality is in control of 50% or more of the available parking in the downtown. This is an important benchmark because it allows shared use parking. Maximizing the percentage of the parking supply that is shared among different users and recognizing that different types of use will peak at different times of the day, allows the parking needs of the Village to be met with fewer spaces, thereby requiring less investment. The Village's control of 63% of the parking meets the 50% minimum benchmark. At higher percentages of public parking, even more flexibility is available.

When parking spaces are reserved for specific businesses or uses and are not available for multiple businesses in the downtown, many spaces may often go unused during parts of the day. While the current parking demand analysis showed that there is an overall sufficient parking supply, the availability of shared use public parking is vital for downtown businesses to succeed. When there is a lack of available public parking because the parking is reserved for specific uses, this makes it difficult for a customer/visitor of the downtown to visit more than one location without having to move a vehicle. This also makes it difficult to provide a sufficient amount of employee parking off-street for those businesses without their own lots.

Density combined with a mixture of land use types encourages activity in an urban setting. Privately developed surface parking lots can be discouraged through zoning ordinances. Some communities outright ban parking development by private developers, while others implement parking maximums that limit the amount of on-site parking that can be built with development.

When a community chooses to discourage private parking within a specific business district, the Municipality takes on the task of providing enough parking to support economic activity for all developments (other than uses such as hotel or residential) within the district. Like Lake Orion, many downtowns do not require parking in the Central Business Districts. The reasoning behind this move is that a dense downtown can be created without an excess of parking or driveways. The parking that is built, is intended to be shared among all businesses increasing the efficient use of the spaces and encourages walking, thus encouraging customers to visit multiple locations. Additionally, this allows the Village to keep development where they want, parking in locations that benefit the whole district and provide a more pedestrian friendly downtown.

Currently the majority of the parking need in the Downtown Center District is provided by the Village. In order for the Village to pay for additional parking it is necessary to consider charging for parking, an in-lieu of fee for new development and/or create an assessment district to fund new parking projects. It most often takes more than an assessment district or an in-lieu of fee to pay for new parking. Many communities have to use multiple funding arms to pay for new parking. This is discussed further in the Paid Parking recommendation and New Parking regarding funding options as the parking system grows.

Excepting parking requirements for development in the Downtown Center District encourages density, mixed land use and development in the district. Most communities do require residential developments to provide parking in a Downtown Business District as Lake Orion does. Residential parking can sometimes work as shared use parking, though it is difficult to rent or sell units when there is not a dedicated parking space provided, especially in an area that does not have multiple forms of public transportation.

Actions, Time Frame and Cost:

2.1 Action - The Village should continue to discourage the development of any new private parking lots in the downtown that are not for residential use or public parking and continue to encourage the use of the ordinance allowing shared use parking.

Time Frame - Immediately

Cost – To be determined

3. Work with Private Parking Lot Owners in the Downtown to Create Additional Shared Use Parking

Public/private partnerships are another key factor in providing additional shared use parking. It is recommended that the Village work with lot owners that have underutilized lots to bring these spaces into the public parking system, through a lease or an agreement to clean, light, sweep and enforce. Where possible it will benefit the Village to seek out additional public/private partnerships with parking to increase the amount of publicly available parking. Even though there is enough parking in the study area it would be beneficial for agreements to be developed to share parking lots especially to help provide convenient employee parking.

Actions, Time Frame and Cost:

3.1 Action - The Village should work with owners of private lots to allow for public shared use of the private parking areas where possible.

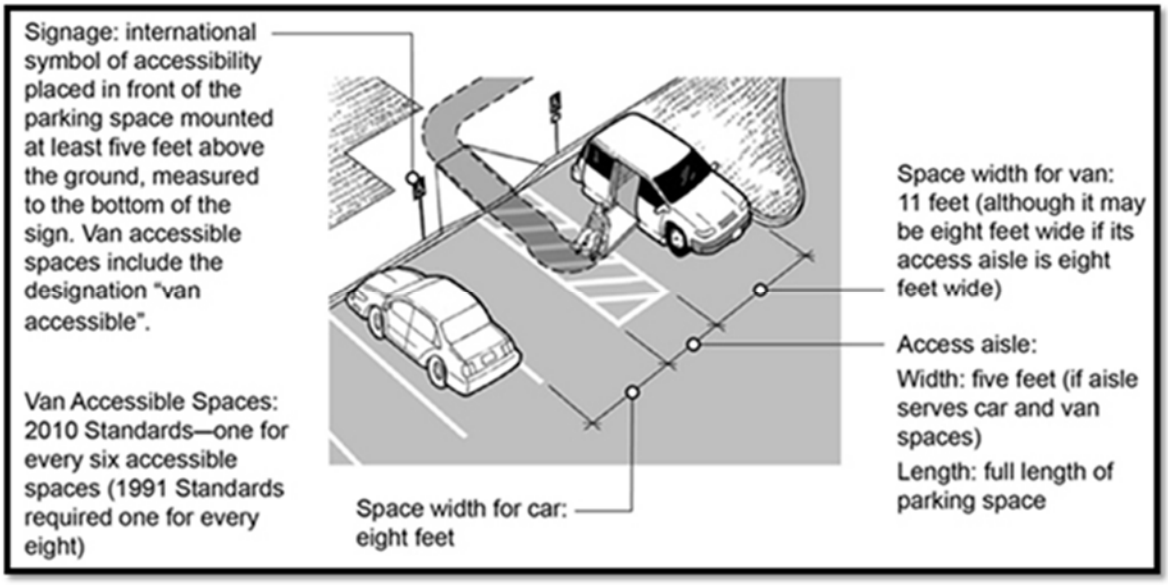
Time Frame – 0-3 years

Cost – Potentially would require cleaning, lighting, sweeping and enforcement of lots and agreement.

4. ADA Parking

As part of the parking analysis, Rich & Associates reviewed the number of barrier free (handicap) parking stalls in Lake Orion. **Table I** is a copy of the Americans with Disabilities Act (ADA) parking guidelines followed by **Table J** listing the public lots and the number of barrier free parking stalls provided. Lake Orion has two lots that need one additional barrier free space. Lot 2 and the public/private lot on block 17 both need one barrier free space. All barrier free parking spaces should be signed and striped the same color. Currently not all signs are the same and there are some spaces painted white and some blue. Generally barrier free spaces are blue to distinguish these spaces from the others. Follow the 2010 ADA Standards for Accessible Design, https://www.ada.gov/2010ADAstandards_index.htm, and see **Exhibit 1** detailing a layout of barrier free parking from ADA National Network.

Exhibit 1



https://adata.org/factsheet/parking

Rich & Associates encourages the development of on-street barrier free stalls to ensure the downtown is accessible to everyone. Generally it is best to have one on-street barrier free space per block face in dense blocks. Locating these spaces as either the first or last space or in the middle of the block face tends to work best. Currently Lake Orion has 9 barrier free on-street spaces that are located as the first space or last space on the block face. It is recommended that all blocks have at least one barrier free on-street parking space, though blocks 19 and 20 currently do not have a need for on-street barrier free parking. Consider adding one barrier free on-street space to block 26 and move the barrier free space on Front Street (block 25) closer to Broadway Street.

Table I

ADA Parking Guidelines

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of total
1001 and over	20, plus 1 for each 100 over 1000

One in every eight accessible spaces, but not less than one, shall be served by an access aisle 96 in (2440 mm) wide minimum and shall be designated "van accessible".

Table J
Comparison of Off-Street ADA Provided to ADA Recommended

Block #	Lot	Total Capacity	# of Barrier Free Spaces Required	# of Barrier Free Spaces Provided	Surplus/ Shortfall
3	Village Hall Lot	18	1	2	+ 1
11	DDA Lot	16	1	1	~
17	Lot 2	35	2	1	- 1
17	Public/Private	14	1	0	- 1
18	Lot 1	12	1	1	~
22	Lot 3	40	2	2	~
22	Public/Private	26	2	2	~
25	Lot 4	65	3	4	+ 1

Along with the parking guidelines it is important to make sure that once a person is parked they will be able to access the sidewalk from where they are parked. All intersections should have sidewalks that are barrier free and all lots should have a clear path of access.

Actions, Time Frame and Cost:

4.1 Action - Add additional parking spaces to the lots with barrier free deficiencies.

Time Frame – As soon as possible.

Cost – Approximately $450-$550 per space

4.2 Action - Add one barrier free on-street parking space to block 16 and move the current barrier free space on Front Street (block 25) closer to Broadway Street.

Time Frame – As soon as possible.

Cost – Approximately $450-$550 per space

5. *Marketing*

Marketing is a key aspect of a successful parking system. Marketing should be done every time there is a change to the parking system and should be directed towards downtown employees, business owners, residents and customers/visitors of the downtown. It is important to encourage downtown employees to park in the long term parking areas, leaving the most valuable on-street parking for customers and visitors. Additionally, an individual's perception of Lake Orion is greatly enhanced if they know ahead of time where they can park and what, if any, restrictions on parking duration apply.

Marketing materials can include direct mailings, brochures, maps, kiosks, on-line web pages and articles in magazines and newspapers. Information contained in the marketing materials should include location, up-coming changes, regulations, fine payment options and any other information relating to the parking system.

Customer/Visitor:

Flyers that list the downtown businesses included with a map showing parking areas and key attractions work well to market both the businesses and the parking system. The flyer is even more beneficial if it includes the durations of parking both on-street and off-street. Marketing will be vital to a successful transition of adding time limited durations and parking enforcement to the downtown. The flyer should be available on the Village website, DDA website, in businesses and on their websites.

Employees/Business Owners:

Update the flyer explaining parking rules for the downtown. There should be clear distinctions of where employees should park along with the ordinance prohibiting employees from parking on-street. The flyer should be available on the Village website, DDA website and businesses should provide this flyer to all new employees.

Residential:

Develop a residential flyer explaining parking rules for the downtown. The flyer should be available on the Village website along with the landlords website. There should be clear distinctions of where loading and unloading can occur, when and where residents can park on-street and where to park if parking in a public lot. Work with landlords to provide this flyer to renters along with their lease.

Special Event:

Develop a special event flyer explaining parking rules for the downtown, listing road closures and detailing locations for overflow parking. The flyer should be available on the Village website, DDA website and the event website.

Rich & Associates included an example of a parking flyer on **page 40 and 41**. This flyer is intended to be specific to parking in the downtown and includes locations of bicycle racks. Selling advertising space to businesses on the flyer can help defray the expense of printing. Rich & Associates has recommended four different types of flyers detailing parking procedures, regulations and locations for each user group.

Welcome to Lake Orion

Whether you are a first time visitor, a local resident who enjoys all that downtown Lake Orion has to offer, a business operator or employee, we want to make your downtown experience even better. This brochure will guide you to where you can park.

Parking is Easy in Downtown Lake Orion

The map indicates time restrictions for on-street parking, lots open to the public and lots with parking available for monthly lease.

Public lots are available for use free of charge. Please be aware of overnight restrictions in public lots and on-street .

If you would like to check on availability of leasing a parking space in a public lot or if you would like to discuss a parking idea or concern please contact the Police Department.

Parking Rates / Fines

Visitor Information

Village of Lake Orion
21 East Church Street
Lake Orion, Michigan 48362
Phone: 248.693.8391 ♦ Fax: 248.693.5874

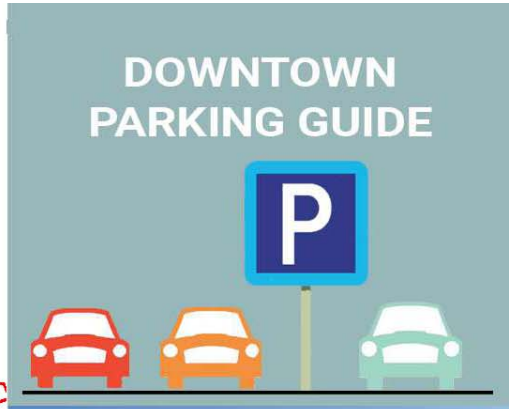
Hours:
Monday - Friday
9:00 am – 4:30 pm

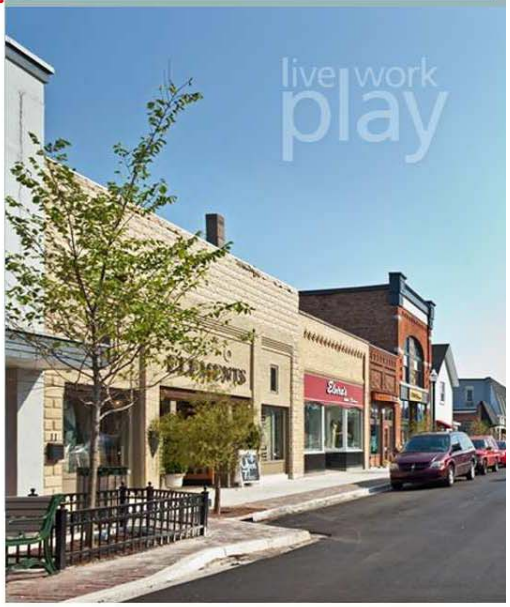
Questions?

Police Department

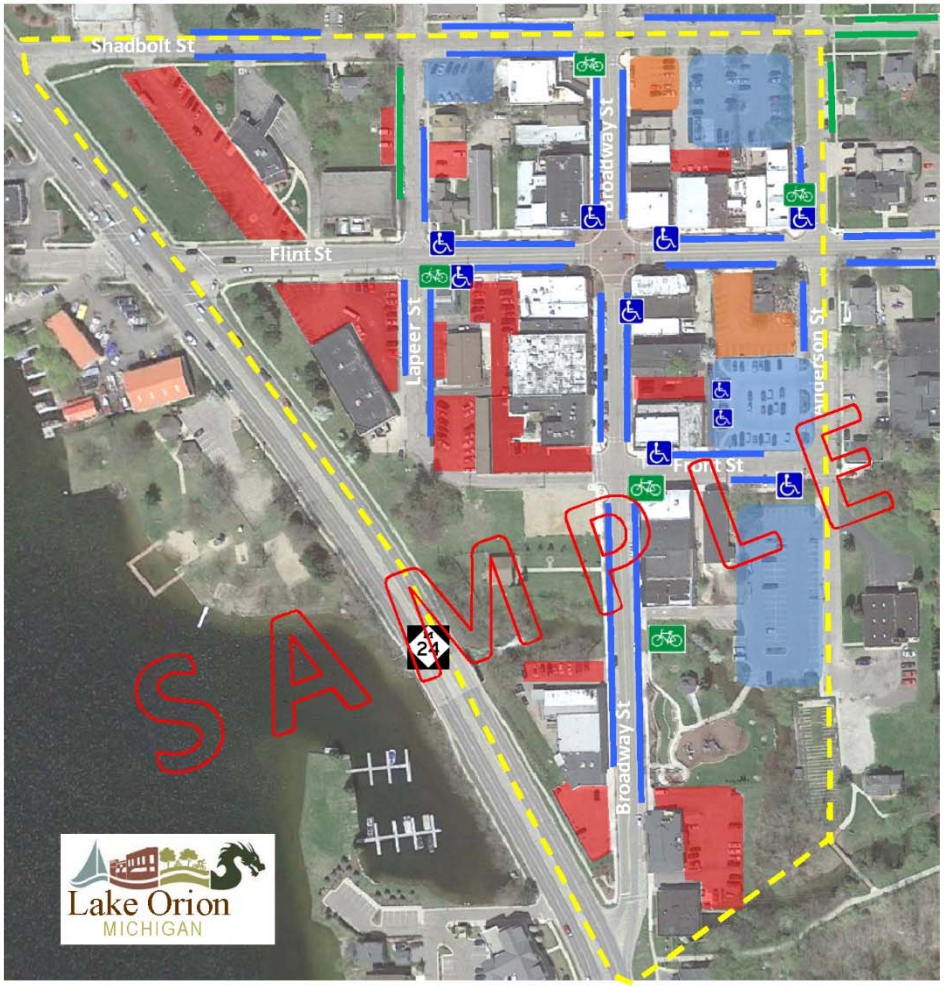
Phone: 248.693.8321

SAMPLE





Village of Lake Orion
EST 1859



Customer / Visitor Parking

Lake Orion offers Free on-street 2 hour parking to customers and visitors of the downtown. Two hour parking is enforced from 6:00 AM to 3:00 AM

Employee Parking

We ask that employees park in the off-street public parking lots. Overtime parking and space to space movement create problems by reducing the number of convenient customer parking spaces needed for downtown businesses.

Village of Lake Orion thanks you for leaving the most convenient parking spaces for the customers and visitors of the downtown.

Map Legend

- Downtown District
- Public Parking
- Private Parking
- Private/Public Parking
- 2-Hour On-Street
- Unrestricted On-Street
- Barrier Free
- Bicycle Parking

N

Marketing Bicycle Ridership

Promote and encourage bicycle ridership in the downtown. Develop a comprehensive bicycle and pedestrian plan that includes education, enforcement and encouragement measures. Encouragement measures could include a marketing program to promote bicycle use as an alternative to driving. A future goal could be achieving the designation as a "Bicycle Friendly Community" recognized by the League of American Bicyclists to assist in this program. Additional encouragement measures could include hosting a special event to promote bicycle ridership in a Village-wide effort to use alternative modes of transportation. This will, in turn, cut down on the number of parking spaces needed.

"*Communities that are bicycle-friendly are seen as places with a high quality of life. This often translates into increased property values, business growth and increased tourism. Bicycle-friendly communities are places where people feel safe and comfortable riding their bikes for fun, fitness, and transportation. With more people bicycling, communities experience reduced traffic demands, improved air quality and greater physical fitness*" www.bikeleague.org.

- There are several communities throughout the U.S. that participate is National "Ride Your Bike to Work Day/Month" in May. Information can be found through the League of American Bicyclists www.bikeleague.org.
- Source of possible grant funding through people for bikes, http://peopleforbikes.org/.
- Pedestrian and Bicycling Information Center is a helpful link that offers advice on funding and marketing bicycling in downtowns. http://www.pedbikeinfo.org/

Actions, Time Frame and Cost:

5.1 Action - Develop flyers that can be distributed to all parking users discussed in the recommendation customers/visitors, employees, residents and special event attendees.

Time Frame – 0-1 year and continued yearly.

Cost – $300-$500 for flyers with $500 annually for ongoing maintenance.

5.2 Action - Develop a marketing program to encourage bicycle use as an alternative to driving.

Time Frame – 3-6 years, then yearly.

Cost - $150-$400 initially and then wrap into cost of annual marketing.

6. *Special Event Parking*

Rich & Associates recommend that a plan be developed for parking during special events. This plan should include a remote lot location (public school, church, Village or Municipally owned lot) and if necessary an agreement with the lot owner. Additionally, some form of shuttle service may need to be arranged with the local transit service, or schools.

Purchase sandwich boards and develop a flyer to be used during special events. The flyers can be handed out to businesses and used in marketing the event (further discussed in the Marketing recommendation page 38-41). The sandwich boards are used as temporary wayfinding signs during special events leading parkers to the temporary overflow lots.

Actions, Time Frame and Cost:

6.1 Action - Develop a flyer that can be distributed to businesses and purchase sandwich boards to be used as temporary wayfinding signs during special events.

Time Frame – Monitor the need.

Cost - $200-$550

7. *Parking Signs*

Parking areas can be difficult to find if they are located behind buildings, particularly if someone is not familiar with the downtown. There should be more directional/location signs in the downtown, especially to lead parkers to public parking lots. The parking lots need identification signs to inform a visitor of the downtown that the specific parking area is not only for public use, but also at no charge (free). It is helpful to name the lots so that a customer can remember where they parked. Naming the lots can also help with giving directions to businesses in the downtown. The names should reflect the lot locations by using street names.

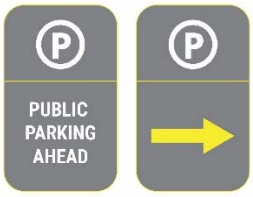
Pedestrian wayfinding is critical once a person parks their vehicle and transitions to walking. Being able to follow wayfinding maps or signs, aid pedestrians in locating key destinations, and then back to where they parked. These are particularly important elements in tourist/customer/-visitor oriented downtowns. Lake Orion should consider adding one or two kiosks to the downtown with business listings and parking locations.

Rich & Associates has developed a parking signage best practices package that is detailed in this recommendation. The information is provided to show how the signs work together and provide a comprehensive wayfinding system. Lake Orion is in the process of purchasing and installing wayfinding signs, and therefore this recommendations is to show how parking wayfinding will work with the overall wayfinding signage package.

Best Practice Sign types include

The following four types of parking signs are strongly recommended as best practices for improving driver wayfinding. Communities often miss the important role that signs play in making visitors comfortable with their surroundings and the effect that signs can have on vehicle travel and parking use efficiency.

Directional/Location:



Directional-parking signage is distinct in color, size and logo and directs drivers to off-street parking areas. Parking location signage complements the directional parking signage. The signs can have arrows pointing to the off-street lots. The signs are mounted on poles at standard heights, on the streets directing parkers to off-street lots.

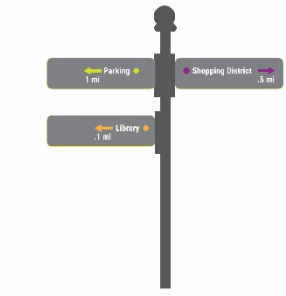
Identification:

Identification signage is placed at the entry of each parking lot. The name of the parking area is identified and the type of parking available as well as hours of enforcement and the hours of lot operation are listed on the signage. The identification signage is distinctive in color and size, and it is located on a pole at a lower height. The text should be large enough to read while driving.

Vehicular Wayfinding:

Vehicular wayfinding signs are placed at points in the downtown leading drivers to places of interest and parking locations. The sign also points out the various landmarks or attractions that can be found. These types of signs are placed at key locations easily found by a driver and are intended to help a driver orient themselves to the downtown area. Arrows should always point forward, to the left and right. Avoid using downward pointing arrows causing drivers turn around.

Pedestrian Wayfinding:



Pedestrian wayfinding signs or kiosks are placed at the points of pedestrian entry/exit to parking lots. Typically, a map illustrating the downtown area that points out the various shops or attractions. These types of signs are placed at locations easily found by a pedestrian and are intended to help that person orient themselves to the downtown area, to locate their destination and then be able to return to where they parked.

Action, Time Frame and Cost:

7.1 Action - Name all public lots and add introduction signs at the entrance to all public lots. This will aid in marketing and wayfinding.

Time Frame – As soon as possible

Cost –See **7.2.**

7.2 Action - Rich & Associates recommends the addition of a family of parking wayfinding (4 sign types) in the downtown.

Time Frame – 0-3 years

Cost – $75,000-$150,000 for a package of signs.

7.3 Action - All of the parking wayfinding signs should use the same text size and color scheme. The text should remain consistent for parking signs both on-street and off-street. The lot introductions signs should be placed at the entrance of all lots and the text should be large enough to read while driving.

Time Frame – 1-3 years.

Cost - Included in sign package cost.

7.4 Action – All duration parking signs on-street and off-street should be consistent in color and text. The duration sign should be more prominent than the no parking during specified hours sign.

Time Frame – 0-3 years

Cost – to be determined

8. *Pedestrian Enhancements & Activity*

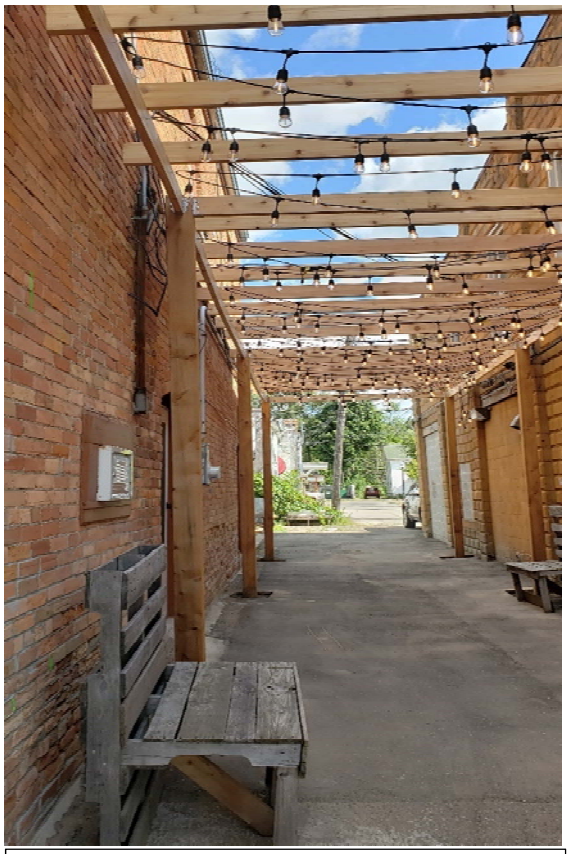
Pedestrian movement is an important aspect of parking. It is extremely difficult to get people to park beyond the front door of their destination if there is any concern regarding safety or if the experience is not pleasant. Lighting and landscaping can greatly change a perception of safety in lots and along sidewalks. Murals, art, window decorations and flowers can create a pleasant walking experience during the day and night. It is important to follow the landscaping criteria Lake Orion has developed for designing parking for all lots in the downtown.

All pedestrian walkways should be barrier free and easy to navigate. Minimize pedestrian and vehicular interaction by creating a clear distinction between the street and sidewalk. This can be done by using texture, colors, trees, or planters between the sidewalks and streets. It is also important to provide handicap accessibility at all intersections.

Trees, banners, art and window displays are other ways to help reduce the speed in downtowns. Bump outs or bulb outs help provide an area of safety when pedestrians are crossing the street. Creating a more pedestrian friendly downtown encourages people to park once while visiting the downtown helping cut down on congestion.

Minimize surface lots and large breaks between buildings to promote walking in the downtown. People tend to walk further without complaint if the walk is pleasant enjoyable and engaging. Landscaping, murals, art and decorated store windows tend to create an experience worth walking. Consider working with building owners to add murals or art to the pedestrian walkways and alleys leading to parking lots.

The picture above and below show clearly defined pedestrian walkways.



This pedestrian alley connecting Flint street to the parking behind is inviting and well lighted.

Lake Orion has inviting sidewalks in much of the core area with colored and textured buffers lined with trees helping clearly define the pedestrian area.

Lapeer Street does not have clearly defined sidewalks or parking areas. This can lead to vehicles parking on and or blocking sidewalks. With a public parking lot at the corner of Lapeer and Shadbolt Street, this area needs updates to the road and sidewalks.

Shadbolt street lining block 18 does not have a sidewalk along Lot 1. The sidewalk ends at the alley.

The parking areas along Anderson Street (blocks 17 and 22) need restriping and repair.

Table K

PARKING LOT OVERVIEW

Block #	Lot #	# Stalls	# HC Stalls	Lighting	Striping	Surface Type and Conditions	Signage	Landscaping	Comments
3	Village Hall Lot	16	2	Adequate	Needs restriping	Adequate, some cracking	Needs introduction sign	No	Overall good condition, HC spaces are not striped.
11	DDA Lot	16	1	Could use additional lighting, one light towards the back of lot	Adequate	Adequate, some cracking, entrance is rough	Signs on fence but not an introduction sign	No	HC space is painted but not signed, when resurfacing add additional space on N side near sidewalk.
17	Lot 2	35	1	Ok	Needs restriping	Needs repairs to surface.	Needs introduction sign	Yes	Shared dumpster and good improvements to pedestrian alley.
17	State Farm/Lake Orion Review Lot	14	0	Lighting is from sidewalk lighting	Needs restriping	Adequate.	Needs introduction sign	No	Fair condition.
18	Lot 1	12	1	Only one light from sidewalk	Needs striping	Needs resurface, part of the lot is dirt	Needs introduction sign	No	Re-surface and restripe to make parking easier in this lot.
22	Lot 3	40	2	Could use additional lighting	Needs restriping	Good	Needs introduction sign	Yes	Striping has completely faded away on this lot.
22	Public/Private Lot	24	2	Needs additional lighting	Needs restriping	Surface needs repairs.	Needs introduction sign	Some	Trees need trimming away from lighting, surface needs attention.
25	Lot 4	65	4	Good	Adequate	Adequate	Introduction sign needs additional information	Yes	The angled spaces in alley need to be changed to 90 deg. and there is a potential for two additional spaces.

Action, Time Frame and Cost:

8.1 Action - Follow landscaping criteria outlined in the land use ordinance for all parking lots in the downtown (public and private) in order to enhance the pedestrian experience in well lighted and landscaped parking lots. This provides a perception of safety and provides clearly defined areas for cars and pedestrians.

Time Frame – 0-3 years

Cost – Must be determined on a case by case basis.

8.2 Action **-** Encourage shared dumpsters/compactors/grease bins in lots that have several businesses surrounding the lot.

Time Frame – 0-3 years

Cost: $500-$1,000 per area, Shared dumpsters would include dumpster enclosure and collection of dumpster fees from agreements.

8.3 Action – Lapeer Street needs updates to the road and sidewalks as shown in pictures.

Time Frame – 0-6 years as budget allows

Cost – To be determined

8.4 Action – Shadbolt Street needs sidewalks along Lot 1 on block 18.

Time Frame – 0-6 years as budget allows

Cost – To be determined

8.5 Action – The parking along Anderson Street needs restriping and repairs.

Time Frame – 0-6 years as budget allows

Cost – To be determined

8.6 Action – Table K, Parking Lot Overview lists updates and changes that need to be made to the public parking lots in the downtown.

Time Frame – 0-6 years as budget allows

Cost – To be determined

8.7 Action – Continue to follow the same street and sidewalk design, with bump outs, brick lined sidewalks and lighting throughout the Downtown Center District.

Time Frame – 0-10 years as budget allows

Cost – To be determined

9. *Residential Parking/Overnight Parking*

Downtown residents are an important component of downtown revitalization. With an increase of residential development occurring in the downtown it will be important to develop regulations on when, where and how long residents are allowed to park. It will be beneficial to create an ordinance and downtown residential parking permit to meet this need.

The Village should track who purchases the parking permits for each vehicle. As the parking system grows and more permits are sold it may become necessary to track permits using permit software and a comprehensive application form. The form would ask for the parkers name, home and business address, phone numbers, vehicle type(s), and license plate numbers(s) of those vehicles. Additionally, the application should list the rules and penalties possible if they do not park in the appropriate locations and do not pay on time. This contact information will assist in contacting the owner of the vehicle if there is any damage in a lot or a vehicle is inappropriately parked. It may also be necessary to change to a permit that is difficult to reproduce using holograms or plastic permits.

At this time, it will be important to work with landlords to create a flyer for locations of permitted overnight parking. The flyer should include a map identifying locations to park overnight without the worry of a parking citation, the ordinance relating to overnight parking and the fine for parking in the parking spaces that are not identified as overnight parking. This flyer would be provided to new downtown residents when signing leases as discussed in the Marketing recommendation.

Action, Time Frame and Cost:

9.1 Action- Create a residential parking flyer clearly defining parking locations approved for overnight parking.

Time Frame – As soon as possible.

Cost – Minimal

10. *Parking Duration & Allocation*

On-Street

Short term on-street parking should be the predominant duration for on-street parking as it suits the needs of the majority of customers and visitors. Based on parking Best Practices, it is generally agreed that on-street parking should be reserved for customers and visitors. Individuals requiring more than two hours should be directed to off-street parking areas. The other duration that should be found on-street is 15 or 30 minute parking for use as pick-up and drop off and loading spaces. The 15 or 30 minute spaces (loading zones) should be located as

either the first or last space on the block face where needed. These spaces do not belong to a specific use, rather the space is for anyone who has a short-term errand or quick pick up.

Long term (3 hours or more) parking is acceptable in areas where turnover is not the desired effect. This parking can be used for additional employee or customer/visitor parking. The customer/visitor parking is often set at three hours to discourage employees from parking in these spaces. Three-hour parking requires most employees to move their vehicle two times in a workday discouraging this action. Unrestricted on-street parking where turnover is not required is typically used for employee parking. It is important that the employees are not pushed into residential areas. This will only create a new parking issue causing the residents to not have available parking.

Continue with the two hour parking on-street in the core area. The long term spaces on the periphery can continue to work for employees. Work to add loading zones that convert back to two hour parking after a designated time period to all blocks. In order for the time restrictions to work it is vital to provide consistent enforcement.

Off-Street

The majority of the off-street parking should be long term for customers and visitors who plan on spending longer periods of time in Village. Public off-street parking is where most employees of Village businesses that do not have their own parking should park. It is important that long term parking be differentiated from the short-term parking with signs that are easy to understand.

Currently there are not any restrictions in the public lots, other than a vehicle cannot be parked for more than 23 hours in the same space. There needs to be a clear definition of where employees should park and where customers wanting long term parking can park. Consider adding some three hour parking to the most convenient spaces in the parking lots and having the rest of the spaces signed long term with no overnight parking, except residential permits. This would provide parking for the customer who plans on visiting several businesses and does not want to have to move their vehicle, while still providing employee spaces. Residents would be able to park in specified long term spaces.

Action, Time Frame and Cost:

10.1 Action- Regular enforcement will need to be conducted to make sure that the vehicles are not parked beyond posted time limits.

Time Frame – 0-3 years

Cost – Minimal (signs)

10.2 Action- Consider adding loading zone spaces (15 - 30 minute) at either the ends of the block or the middle stall on all blocks where these are not currently provided.

Time Frame – 0-3 years

Cost – Minimal (signs)

10.3 Action- Consider adding three hour parking to the most convenient spaces in the parking lots and having the rest of the spaces signed long term with no overnight parking, except residential permits.

Time Frame – 0-3 years

Cost – Minimal (signs)

11. *Walking Considerations for Shared-Use Parking*

Customer and visitor parking should remain close and convenient, while it is generally expected that employees walk farther in downtown settings. Educating business owners, managers and employees on appropriate parking behaviors is important. There should be a clear understanding with business owners and employees that leaving on-street parking and the close, convenient off-street spaces for customers is vital to the success of businesses in the downtown.

The intent of a Village parking program, is to provide an equitable parking system that works for all businesses in the Downtown Center District. As discussed earlier, education and marketing are a key component to a successful parking system.

The following chart details people's tolerance for walking depending on the environment. We understand that every community is different and that individual's tolerance for walking will vary depending on the vibrancy, density and age of the downtown. Following the chart is **Map 6** detailing the walking distances from the center of the study area.

Table L
CHART TO ILLUSTRATE INDIVIDUAL'S TOLERANCE FOR WALKING

	Minutes	Feet
In a highly attractive, completely weather protected and artificially acclimatized environment	20	5,000
In a highly attractive environment in which sidewalks are protected from sunshine and rain	10	2,500
In an attractive but not weather-protected area during periods of inclement weather	5	1,250
In an unattractive environment (parking lot, garage, traffic-congested streets)	2	600

Gruen, Victor, The Heart of Our Cities. The Urban Crisis: Diagnosis and Cure. Simon and Schuster 1964, New York, p. 250:

"An average walk is at a speed of 2.5 miles per hour. This converts to 13,200 feet per hour or 220 feet per minute. On this basis, a 5-minute walk would be 1,100 feet and a 10- minute walk would be at 2,200 feet."
Pushkarev and Zupan. Public Transportation and Land Use Policy. Indiana University Press from a study by Regional Plan Association of New York (RPA).

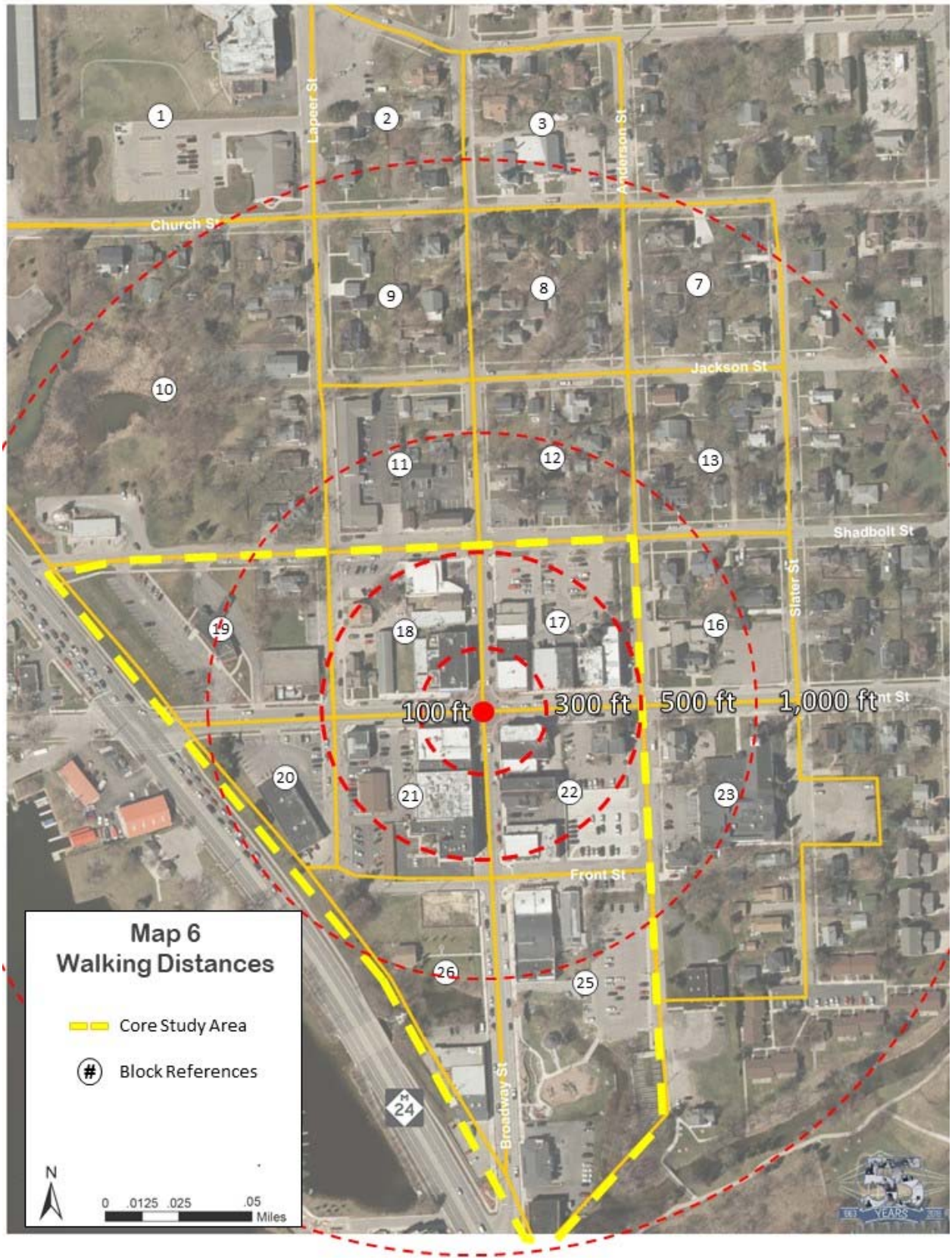
During the turnover and occupancy surveys, 14% of the vehicles observed were overstaying the posted time durations in on-street spaces in front of and near retail businesses. It is difficult for a retail business to survive in an area when there is not convenient on-street parking available. If a customer wanting to visit a retail store to run a specific errand cannot find convenient parking they may go elsewhere. If a customer is planning on visiting more than one retail location they will be willing to park a bit further away and if a customer is planning on spending longer periods of time in a downtown they may be more willing to park off-street and even further away. It is important to move the employees to further away on-street spaces where turnover is not needed and or into the off-street parking.

Action, Time Frame and Cost:

11.1 Action- Encourage employees to walk to the appropriate parking areas so they are not taking the most convenient customer spaces.

Time Frame – As soon as possible.

Cost – Is included Marketing and enforcement.


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Front St
Broadway St
100 ft
300 ft
500 ft
1,000 ft
Map 6
Walking Distances
Core Study Area
Block References
N
0 .0125 .025 .05
Miles

12. Parking Enforcement

Parking enforcement is an important component of a parking system. By differentiating the time limits between off and on-street parking, we are helping to ensure that customers and visitors always have adequate and convenient parking. However, it is necessary to enforce the parking time limits in order for the allocation to work.

Enforcement of time restrictions and other regulations should follow the posted enforcement time in the entire downtown. Within reason, the enforcement staff cannot choose who gets a ticket. Enforcement must be fair and consistent. Parking regulations are necessary and implemented to increase the efficiency of the parking system by allocating certain parking areas to specific users. When the regulations are not followed the system efficiency is degraded.

Parking Enforcement Officers (PEOs') staffing levels will need to be adequate to ensure that parking is routinely monitored per the applicable regulations. Specifically, one PEO can monitor a route consisting of between 600 and 800 parking spaces. This ratio assumes the use of handheld ticket writers and includes the PEO covering a mixture of long and short-term parking. If an individual is in a vehicle, a specified route of 600 to 800 parking stalls can be monitored up to four times during a standard shift (as permitted with scheduling). There should be multiple routes with varied times so that patterns are not developed allowing patrons to know when and where to park to avoid a citation.

If parking enforcement is done consistently there is no need to have full time PEO's or to cover every space for every hour of the enforcement time. It is important to maintain a level of staffing to cover the entire parking supply though this can be done randomly. Begin with Police staff and as budgeting allows, follow the recommendations below for parking enforcement. The officer should work varying schedules between 10:00AM – 6:00PM Monday through Friday. There is a higher demand for parking in the evening and a shift in enforcement will help with keeping employees parking in the correct locations.

The PEO should continue to use chalk marking tires until handheld parking ticket writers that track license plate numbers and print tickets can be purchased. Handheld units increase efficiency by storing the license plate numbers of vehicles, thus negating the need to physically chalk tires. This allows enforcement to occur during inclement weather, whereas marking tires with chalk cannot be done in rain or snow because the chalk does not mark well on a wet tire. When using the handheld device and following a route, every parking space, whether occupied or not, is then entered into the device (typed in or a picture taken of plate) giving a time stamp of when the PEO checked the space. This helps ensure that a vehicle is not given a ticket before the posted duration.

Handheld units can also store data concerning warrants, previous offenders, shuffling of vehicles and unpaid tickets. If a vehicle needs to be booted or towed due to multiple unpaid tickets, the information will come up on the handheld unit. Software needs to be purchased to

run a handheld system and process and file tickets. A cloud based back up or a "home base" where the handhelds can be downloaded and updated daily will also be required. There are several options of specific ticket writing units. Much of the software written for enforcement can be used with tablets or smart phones. The units can also take pictures of the vehicle in violation.

PEO's should be dedicated to parking duties, only being reassigned during emergencies or special circumstances that may arise. Street signs should indicate that parking is enforced from 10:00AM to 6:00PM Monday – Friday in any and all areas where there is a limited duration or restrictions for parking. Enforcement of the parking lots as well as on-street parking is necessary to make the system work.

Action, Time Frame and Cost:

12.1 Action- Conduct parking enforcement on a more consistent basis.

Time Frame – 3-5 years (when budget allows)

Cost – To be determined.

12.2 Action- PEO's should continue to use chalk marking tires and hand write tickets until handheld parking ticket writers can be purchased that track license plate numbers and print tickets.

Time Frame – 3-5 years (when budget allows)

Cost – Depending on unit and software approximately $5,000-$8,000 per unit and then software for ticket tracking to be determined.

12.4 Action- PEO's should be dedicated to parking duties as an ambassador of the downtown, only being reassigned during emergencies or special circumstances that may arise.

Time Frame – When budget allows

Cost – To be determined.

13. Parking Fines

When handheld ticket writers are purchased, it is recommended that the Village move to a graduated fine system (i.e., the first ticket would be a courtesy ticket which is currently $15.00, and the second ticket would be $20.00 with each ticket after increasing in price). By offering a courtesy ticket first, the parker has clearly been warned of the parking time durations and with free long-term parking available there are the appropriate parking options.

The recommended graduated parking fine schedule for overtime parking tickets:

1st– Courtesy ticket
2nd –$20.00
3rd –$25.00
4th –$30.00

Offer courtesy tickets during the first few weeks of enforcement. After the first few weeks, adopt the recommended fine schedule and only offer a courtesy ticket when a parker has not received a ticket in six months (or whatever time frame is chosen). From a public relations standpoint, it would be preferable to issue a Courtesy ticket alerting the parker of their violation and then explaining the rules for parking in the downtown including a map of labeled parking areas.

All fines should go to a parking fund and should be used to cover parking operating expenses with any net revenue going back into the downtown area (parking fund) for things such as parking enforcement, sidewalk cleaning, signs, lighting, banners etc. Parking revenue is then helping to pay for the upkeep of the downtown.

Action, Time Frame and Cost:

13.1 Action- Adopt the recommended fine schedule along with courtesy tickets.

Time Frame – 3-5 years as budgeting allows for handheld units to be purchased.

Cost – Covered in the cost of handheld units, with a loss of revenue of the first ticket.

13.2 Action- It is recommended that all fine revenue go into the parking fund.

Time Frame – As soon as possible

Cost – N/A

Table M - Benchmark

Benchmark										
City	**Birmingham**	**Ferndale**	**Mt. Clemens**	**Traverse City**	**Royal Oak**	**Rochester**	**Plymouth**	**Petoskey**	**Northville**	**Grosse Pointe**
Rates										
On-Street	$ 1/hr - $1.50	$0.50/hr	$1/hr	$1/hr at 30min - 4hr meters $0.80 at 4-8hr meters $0.60 at 6-10hr meters some meters have first 30mins free	$1.25/hr before 5pm and $1.50/hr after 5pm	$1 per hour for an on-street or alley three-hour meter	Free 2h Parking	10 hr. parking 2hrs per quarter; 3hr 30 minutes per quarter	Free 2hr	$0.75/hr(2hr)
On-Street Time Limits	1hr - 12hrs	2hrs - 10hrs	10hrs	30mins - 10hrs	30mins -12hrs	3hrs-12hrs	2hrs	2hrs-10hrs	2hrs	2hrs
Off-Street	2 hours: $0 3 hours: $2 4 hours: $4 5 hours: $6 6 hours: $8 +6 hours: $10	$0.50/hr	$0.50/hr 2 - 3 - 10hr limits	$1/hr $10 daily max	First two hours free $0.25-0.50/hr after $3-5 flat max	Lot: 12-Hour Meter ($1 per hr and monthly permits) Platform: (1 hour free, $1 per hr., monthly permits	3 hour parking lots: Ground Central Parking Deck Penniman 8 hour parking lots: Upper Central northeast corner of Wing & Harvey St. Covered Gathering Pavilion and East Central (Library) Ann Arbor Trail and Deer St	10 hour parking, which is 2 hours per quarter, is available in all or part of the following lots: Darling Lot Park Garden Lot Livery Lot Petrie Lot Otherwise parking in all lots is 30 minutes or 1 hour per quarter.	Free All Day Public Parking and Free 3hr Public Parking	2hr $0.50/hr; 10hr $0.35/hr; Structure Customer $0.50/hr
Payment Type	Cash / Coin / Credit / Cashcard	Cash / Coin / Credit / Application	Coin / Application / Cashcard	Coin / Cash / Application	Coin / Cash / Application	Coin / Cash / Credit / Application	Free Parking	Token / Coin / Application	Free Parking	Coin / Credit / Application
High Demand Zones	Yes	No	No	Yes	Yes	No	No	No	No	No
Dynamic Pricing	No	No	No	No	No	No	No	No	No	No
Management										
Funding Structure	Parking Assessment District (City)	City / Auto Parking Fund	Automobile Parking System Fund (City)	DDA	Auto Parking Fund (City)	Parking Fund	City/DDA	Downtown Parking Fund	City/DDA	City Parking Fund
In-lieu of Fee	$15,000	$3,000-$5,000				$13,000			$4,500-$6,200	
Operational Structure	**Off-Street**: SP+	SP+	The Parking System	Traverse City Parking Services	**Off-Street**: ParkRite	City/DDA	City/DDA	Downtown Management Board	City/DDA	City
Technology										
Mobile Applications	Parkmobile	Passport	Parkmobile	Parkmobile	Parkmobile	Parkmobile		Parkmobile		Parkmobile
Branding	No	ParkFerndale	No	No	Yes					No
Meter Technology	CivicSmart	T2/Duncan	CivicSmart	CivicSmart	Mix	IPS				
Kiosk Technology	N/A	T2	N/A	T2	MacKay					
On-Street	Meter	Kiosk	Meter	Meter	Meter	Meter		Meter		Meter
Lot	Controlled Gate	Kiosk	Meter	Kiosk / Meter	Kiosk / Meter	Meter		Meter		Meter
Garage	Controlled Gate	N/A	N/A	Controlled Gate / Meter	Controlled Gate	Controlled Gate		no Garage	permit	Controlled Gate
EV Parking	0 spaces	2 spaces	0 spaces	4 spaces	5 spaces			0 spaces		
Enforcement										
Days	Mon-Sat	Mon-Sat	Mon-Fri	Mon-Sat	Mon-Sat	Mon-Sat	Mon-Sat	Mon-Sat	Mon-Sat	Mon-Sat
Hours	9am-9pm	8am-9pm	8am-6pm	8am-6pm	11am-12am	9am-9pm lots:2am-6am	Changed to rotate from 10am to 4pm and 2pm to 8pm	9am to 5pm	no parking 3am-6am	9am to 5pm
Staffing	Police	Police	Public Services Department	Traverse City Parking Services	Police	Police	Police	N/A	Police	Police
Handicap Parking	Metered	Metered	Metered	free - time limited	Metered	Metered	Free	Metered	Free	Metered in lots
Technology	Handhelds (PBS)	Handhelds & LPR (PBS)	Handhelds (PBS)	Handhelds (PBS)	Handhelds (PBS)	Handhelds	Handheld	Handhelds	Signs	Handhelds
Fines										
Cost	$10 / $20	$10 / $25	$10-20	$10 / $20 / $30	10	N/A	First offense: Free Second offense: $25 Third Offense: $50 Fourth Offense: $75 Fifth and subsequent tickets: $75	$10-$30 (?)	$15 / $25 / $50	N/A
Payment Timeline	10 days / +10 days	72 hrs / 10 days	10 days / +10 days	15 days / 30 days / 60 days	72 hrs	N/A	First 48 Hrs $15 reduction; after 14 days additional $10	8 days then late fees	7 days	N/A
Permits										
Type	**Residential** **Public**	**Residential**: w/ Guests **Public**	N/A	**Public**	Public	Monthly Public	Public	Public	Residential and Employee	Public/ Employee
Cost	**Residential**: $8 **Business**: $35-70	**Residential**: $0 **Business**: $20 Month / $60 Quarter / $240 Annual	N/A	Garage: $48 Lot: $36	Garage: $28-50 Lot: $25-60	$20.00	$25.00 a yr.	Yellow: $40/mo. All permit spaces Green: $30/mo. Green & blue spaces Blue: $20/mo. Blue spaces only;Month-Month Permits: $20 - 40/ mo. Six-Month Permits: $100 - 200 Twelve-Month Permits: $200 - 400	Residential: $60 yr. ($5 a month) MainCentre Deck is $1 month; Employee Parking: MainCentre $10 a month	$120.00 for 3 month period; Structure $50.00/month; Lots 3,4,6 $45.00/month
Purchase Methods	**Residential**: Police Department **Business**: SP+ website/phone	**Residential**: City Hall **Business**: Online & City Hall	N/A	Online / Paper / Phone / In Person	**ParkRite**: Online / Paper / Phone / In Person	Paper / Person	Paper/ In person	Online / Paper / Phone / In Person	In person Police and MainCentre Office	Online / Paper / In Person

14. Maintenance of Parking Spaces On-street and Off-street

Develop and follow a maintenance schedule for the lots to keep up with maintenance needs and help budget yearly costs. This should include trash removal, plowing and snow removal, sweeping, striping, lighting (lens cleaning, bulb replacement), signs, landscaping and tree trimming. Additionally, a rotating schedule should be developed with daily, weekly, monthly and annual tasks to assure proper maintenance is completed.

Follow a uniform parking design standard for on and off-street parking spaces, lane widths, handicap spaces and sign placement. The length and width vary for on-street parking.

Action, Time Frame and Cost:

14.1 Action- Use Table K on page 48 to determine repairs to the parking lots.

Time Frame – 0-6 years

Cost – To be determined

14.2 Action- Develop a maintenance schedule for the lots to keep up with maintenance needs and help budget yearly costs.

Time Frame – As soon as possible

Cost – To be determined

15. Create a Sinking Fund for Maintenance and Upgrades to the Parking System

Create a sinking fund for maintenance and upgrades to the parking system. We recommend putting aside $25.00 per parking space per year. This money would go into a parking fund and should be allocated for long term maintenance and upgrades.

Action, Time Frame and Cost:

15.1 Action- Create a sinking fund for maintenance and upgrades to the parking system.

Time Frame – As soon as possible

Cost – Minimal

16. Valet Parking

Valet parking is currently not used in the downtown. As more restaurants come to town and additional development occurs, there is the potential for us of valet parking for restaurant and entertainment venues that makes coming downtown a more attractive adventure. The Village would not necessarily operate the valet parking, though the Village should have a policy in place for regulating how valet operations would be run and where vehicles can be parked. This policy

should include using public parking areas and private off-street lots as valet parking storage and on-street spaces for vehicle drop off and pick up. The policy should specify rental charges for on-street parking spaces used for pick-up and drop-off. If any public lots are used there will also need to be a fee set up for the use of these spaces. It is important to limit the number of pick up and drop off-spaces as often valet companies want to reserve more spaces than they actually need.

16.1 Action- Develop a policy on Valet parking.

Time Frame – 0-3 years

Cost – Minimal

17. Taxi / Rideshare Parking

As the number of restaurants in the Village increase it is time to develop a policy for taxi/rideshare loading areas. These spaces could be commercial vehicle/residential loading zones during the day and vehicle loading/residential areas in the evening.

Market the program to restaurants and bars during the weekend as well as people attending concerts and special events in the downtown. The beginning marketing expenses can be a joint effort between the Village and the DDA.

17.1 Action- Develop a policy for taxi/ride share loading areas.

Time Frame – 0-3 years

Cost – Minimal

18. Meters and Charging for Parking

Generally, cities that have parking systems that are self-sufficient rely upon revenue from several sources. This includes revenue from a paid parking system, fine revenue and fee-in-lieu programs. It is difficult if not impossible to build future parking downtown and have it fully amortize without a pooled system of revenue. This is why pooling other parking revenue sources such as all lots and on-street parking is so important.

Based on parking Best Practices it is generally agreed that on-street parking should be reserved for customers and visitors. In areas that have little commercial activity, the on-street spaces can have longer durations of stay allowed. There is a body of information that has been prepared by Donald Shoup from UCLA that suggests that all on-street parking should be metered. The rationale, simply put, is that on-street parking is the most sought after and thus the most

valuable parking. Therefore, there should be a charge that places a premium on this type of parking.

Further, it is suggested by Shoup, that revenue from parking meters should be used to cover parking operating expenses and any net revenue go back into the downtown assessment area for things such as sidewalk cleaning, signs, lighting, banners etc. Parking revenue is then helping to pay for the upkeep of the downtown.

Parking meters and other parking technology encourage turnover in a downtown, though enforcement can also work to keep parking spaces turning over. Parking meters or some other type of system to pay for use of a parking space in downtown Lake Orion makes sense from a Best Practices standpoint and would provide a revenue stream to improve, maintain and expand the parking in the downtown. Our experience has been that unless there is a properly conducted education process explaining why metered parking is necessary to get property owners and business owners behind paid on-street parking, the implementation of the system will be difficult.

The following is a review of potential ways to charge for parking:

Individual Meters
This option would use individual meter heads for each parking space. The meter can accept coin or credit card and can work with a phone payment application. This option can be the least expensive for initial install if there is not a credit card option. The down side of these meters is that not all will offer the ability for flexible rates and you need one post along the sidewalk for every two meter heads. Cost - $300-600

Permit Parking
Permit parking can work with any type of meter. This system can be as simple as a hang tag or a sticker and as complicated as gated lots with cards or codes. Using permits can complement a metered parking system and is simple to enforce. As long as the hang tag or sticker is up to date, showing and the permit holder is parked in the appropriate location they will not receive a citation.

If a permit parking system is started it will be necessary to create a database of all permit holders and to what vehicle each permit is registered. As the system grows it will most likely be necessary to purchase permit software that will help to run and keep track of the system. This type of software will also work together with enforcement software to help in enforcing the system. Cost – depending on number of permits (starting with printing and staff time)

Multi Space Meter
The multi space meter was designed to handle both on-street and off-street parking. The simplest multi space meters are simply a meter head that can cover multiple spaces. This type

of machine will typically only accommodate credit card and coins. The more complex multi space meter can handle any number of spaces and can accommodate someone paying for parking by coin, bills, credit or value card. The parker simply inputs their stall number or license plate number into the machine and then either selects the amount of time they want to stay (up to a maximum if applicable) and then pays the amount on the screen. A receipt is issued and the parker continues on to the downtown.

The system allows a parker to add time to their space, though ideally would not tell them how much available time was on the space to dissuade someone from driving up and using someone else's unused time. The enforcement officer either wirelessly downloads a report or gets a printout from the machine that indica62-63tes spaces or vehicles that have time paid for. Cost - $6,500-$10,000/per unit

Pay by Phone and Meter/Machineless
With either option there is the potential to use a pay by phone system. The parker would have to establish an account with the company which can be done in advance or while parking. Once a vehicle is parked the parker would then enter a web address into their smart phone which would then prompt the parker to enter in their stall number along with the length of time they want to purchase. This information would be incorporated in the real time wireless data system allowing an enforcement officer to pull a report from the machine or handheld ticket writer, giving the pay by phone payment and valid time along with the payments to the meter. Cost - Minimal

Assessment Districts
This option collects yearly fees from all business or building/land owners within a defined district and in this case the money collected would go into a parking fund to offset maintenance, enforcement and management of a parking system. This option is typically used along with a metered parking system and sometimes along with an in-lieu of fee. This option will not pay for new parking alone, it is typically used to help offset the maintenance and day to day costs of running a parking system. Cost – N/A

In-Lieu of Fees
In-Lieu of parking fees are typically based on a percentage of the cost of providing one parking stall in a new parking structure. The rate determined needs to be mindful of the need to redevelop the downtown. The rate will need reviewed every three to five years to keep the amount in line with market prices and construction costs. Cost – N/A

18.1 Action- Develop a parking fund that includes all parking revenues, including fines, parking permits and meter revenue.

Time Frame – Yearly

Cost – Minimal

19. Autonomous Vehicles

At this point it is difficult to know when and exactly how self-driving vehicles will be introduced in cities. Most articles of late point to autonomous vehicles being used as taxis and shuttle services in the first release of autonomous vehicles. The release date is unknown and is reported anywhere from 3 to 30 years away depending on technology and the laws regulating the technology.

Parking will be needed even with autonomous vehicles. Not everyone will live close enough to the downtown area that their vehicle can drive home after dropping them off. These cars will still have to be stored somewhere. There will most likely be a shift to store vehicles on the outskirts of downtowns. Though, because vehicles will not have a driver parking structures will be able to be restriped making the spaces smaller to allow for more vehicles to park in the structure. This will in turn make it possible for surface lots to then be developed creating additional density and thus creating additional tax revenue in the downtown.

We do know that the market will not be saturated overnight due to the high costs of the vehicles and the fact that there is still not an overall buy in to autonomous vehicles at this point. It is clear that they will someday soon be a part of the downtown fabric but the parking industry does not yet fully understand exactly what the impact will be.

It is important to keep up with the parking demand in the downtown. The demand matrix will be provided to the Village to update changes in land use and use as a tool in determining the parking need in the downtown. The Village can conduct annual turnover and occupancy studies to monitor where the parking demand is changing and address the issues. It will also be important to keep up with the industry and follow the potential impacts on parking systems due to the changes in autonomous vehicles.

Action, Time Frame and Cost:

19.1 Action- Keep educated with the progress of autonomous vehicles.

Time Frame – Yearly

Cost – Minimal

NEW PARKING

Rich & Associates was asked to determine locations for new parking. There is currently a surplus of parking in the downtown and at this point additional parking would only be necessary when there are re-occupancies of vacant space and additional development occurs. The following map shows potential locations for public/private lease and or shared use agreements, along with a few potential on-street locations for additional parking and a new parking lot that could be developed in the near future.

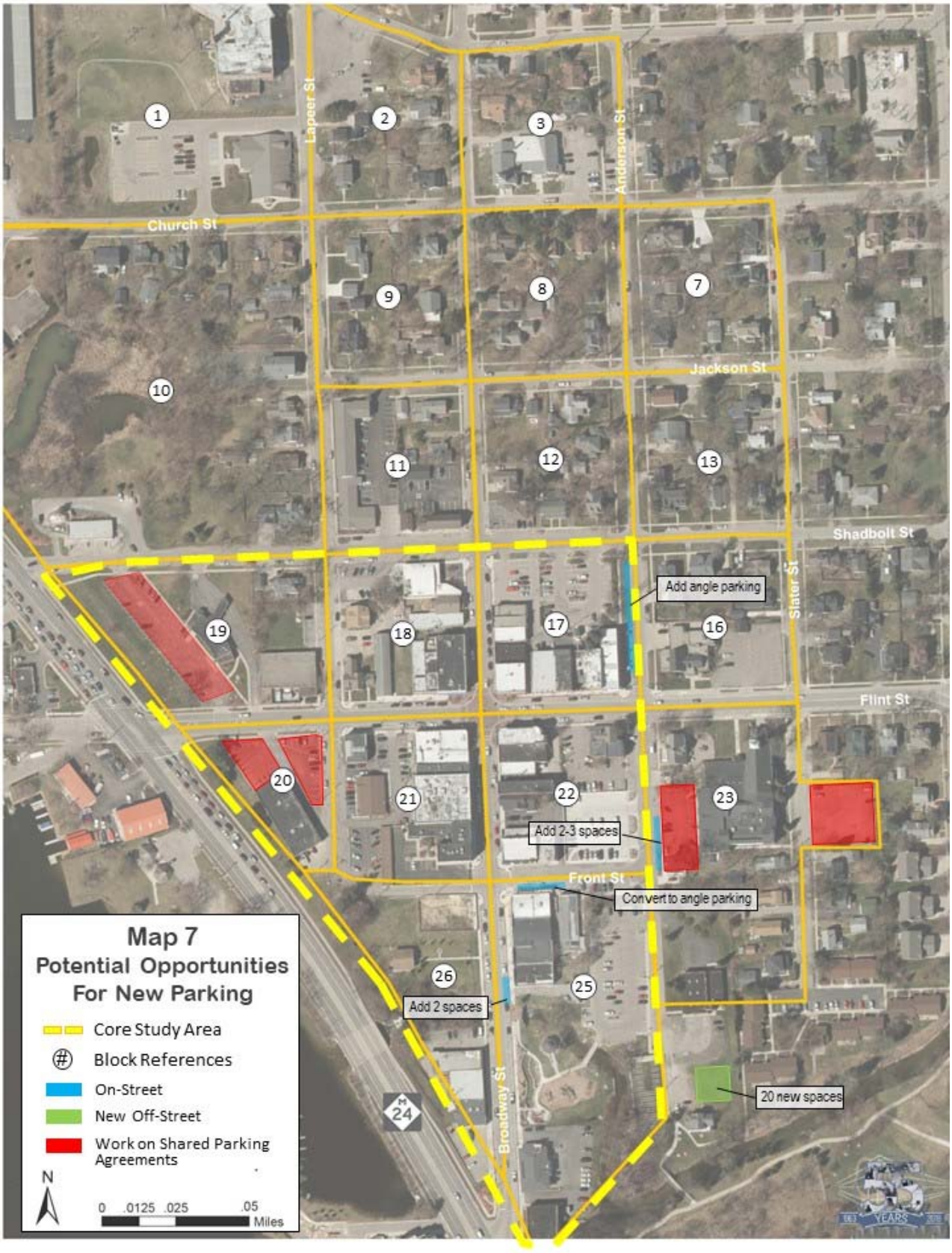
While there were no immediate recommendations for a parking structure, it is important to understand parking structure development costs and how they may be financed. The construction costs for a parking structure in this region depending on site constraints, number of spaces and overall efficiency of the layout, is estimated to be in the range of $70-$85 per square foot. Project soft costs without land costs are generally between 15 and 17 percent and then finance costs are between 5 and 7 percent of the project cost.

There are other costs for parking improvements such as new signs, lot improvement, etc. No specific funding mechanism has been identified, though there are several options.

- Paid parking
- In -lieu of fee
- Assessment district
- General fund
- General Obligation Bond
- TIF

Timing for Additional Parking Development

Parking development in the Village of Lake Orion will need to be coordinated with demand to ensure that as development occurs the Village will have the ability to decide when to begin considering a parking structure.


Lapeer St
Anderson St
Church St
Jackson St
Shadbolt St
Slater St
Flint St
Front St
Broadway St
Add angle parking
Add 2-3 spaces
Convert to angle parking
Add 2 spaces
20 new spaces
Map 7
Potential Opportunities
For New Parking
Core Study Area
Block References
On-Street
New Off-Street
Work on Shared Parking Agreements
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