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September 26, 2018

Ms. Rachel Bach,  
President and CEO  
ConnecToledo  
300 Madison Avenue  
Toledo, OH 43604

Re: Downtown Toledo Comprehensive Parking Study  
Parking Consulting / Planning Services  
Walker Project No. 20-1849.00

Dear Rachel:

Walker is pleased to submit the following report of our off-street parking study for ConnecToledo in Toledo, Ohio.

This report presents a summary of our study methodology, results, and recommendations.

We appreciate the opportunity to be of continued service to you on this project. If you have any questions or comments, please do not hesitate to call.

Sincerely,

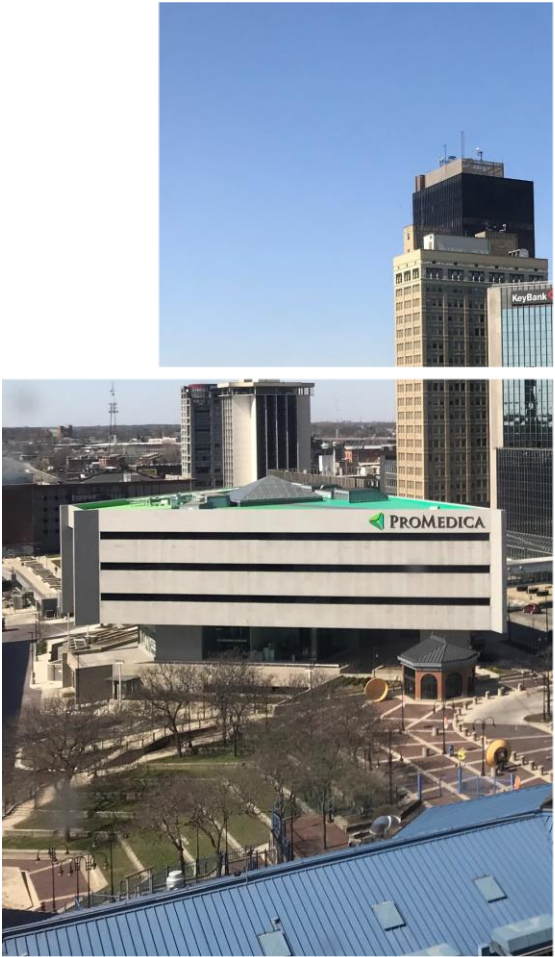
WALKER CONSULTANTS

A handwritten signature in black ink that reads "John W Dorsett".

John Dorsett, AICP, CPP  
Senior Vice President

A handwritten signature in black ink that reads "John W. Gettings".

John W. Gettings  
Analyst



BUILDING ENVELOPE  
CONSULTING  
FORENSIC RESTORATION  
PARKING DESIGN  
PLANNING

Parking Consulting / Planning Services

## Downtown Toledo Comprehensive Parking Study

Toledo, Ohio

September 26, 2018

Prepared for:  
ConnecToledo, Downtown Development Corporation



**WALKER**  
CONSULTANTS

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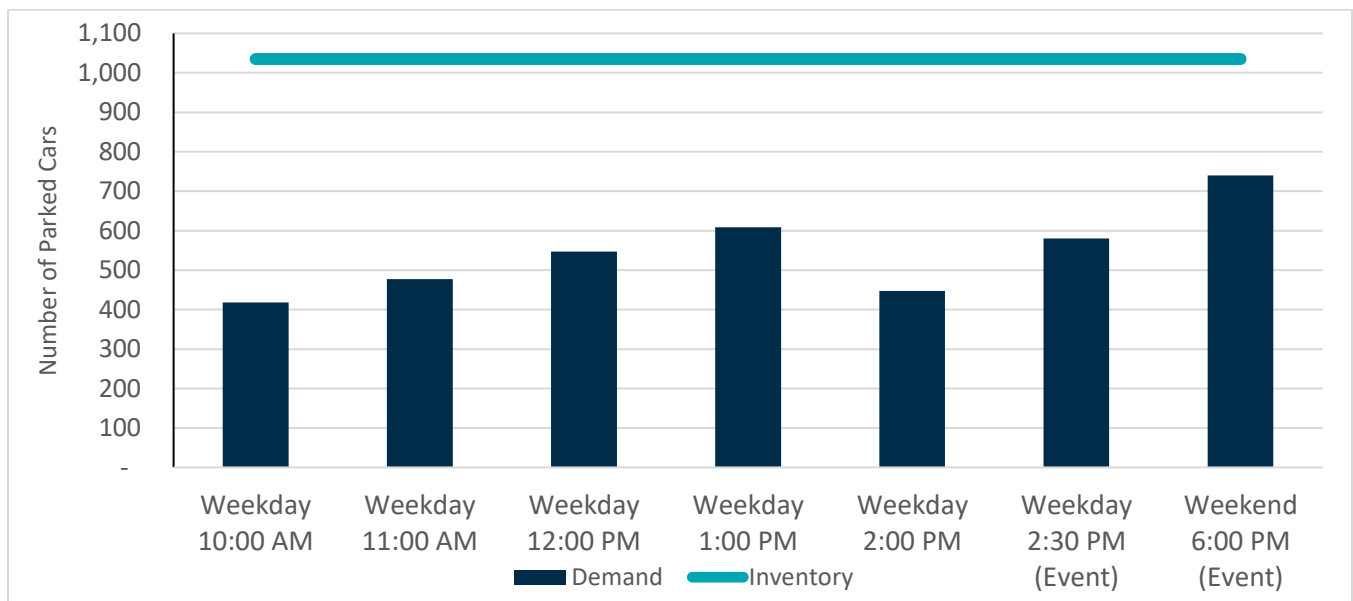
## EXECUTIVE SUMMARY

ConneCToledo hired Walker Consultants (Walker) to prepare a comprehensive strategy for downtown Toledo. Last year, Walker updated its 2015 study for the Toledo-Lucas County Port Authority detailing the use and projected demand for on-street parking within downtown Toledo. This study displayed the large number of available parking spaces: on weekdays, weekday evenings, weekends, and event days. This previous study also pointed out “hot zones”, or nodes, within the study area where demand was higher than average.

Walker has utilized the previously collected on-street data from the 2017 report, along with newly collected off-street data in order to generate comprehensive recommendations. Walker performed inventory and occupancy counts of all public and private off-street parking facilities in the downtown and previously performed the same counts for all on-street parking spaces. This allows Walker to estimate demand being generated and understand if districts are adequately accommodating this demand.

The on-street study analysis concluded that **the overall downtown has an adequate number of on-street spaces**. However, there were several instances where Walker noted “problem areas”. In the Government District, daytime activity at government professional offices create a high weekday daytime demand. This was observed between the 1:00 PM to 2:00 PM hour when on-street occupancy was 89 percent in that district. Many vehicles were observed to be parked in either unregulated or illegal spaces — a high number of these were police vehicles that occupied the on-street spaces during busy times at government buildings. Another “problem area” occurred during the weekend event counts when the surge in high demand made the Warehouse and Central Business Districts’ on-street spaces remain between 84 and 104 percent occupied. This could be attributed to visitors, employees, and/or residents all looking for the most visible on-street spaces. Even with these few “problem areas” there was a surplus of on-street spaces in the downtown. The figure below is a summary of the on-street occupancy (demand) and total inventory of on-street spaces.

**Figure 1: On-Street Inventory and Occupancy Summary**



Source: Walker Consultants

In addition to the on-street study, Walker completed a thorough evaluation of the off-street parking system. Similar to the on-street analysis, the off-street analysis concluded that there was a more than ample surplus of spaces for the demand being generated within the downtown.

It is worth noting that, as shown in the figure above, there are a total of 1,035 on-street spaces in the downtown, but these spaces only account for less than 10% of the total supply of parking, making the off-street spaces the vast majority of the supply in the downtown.

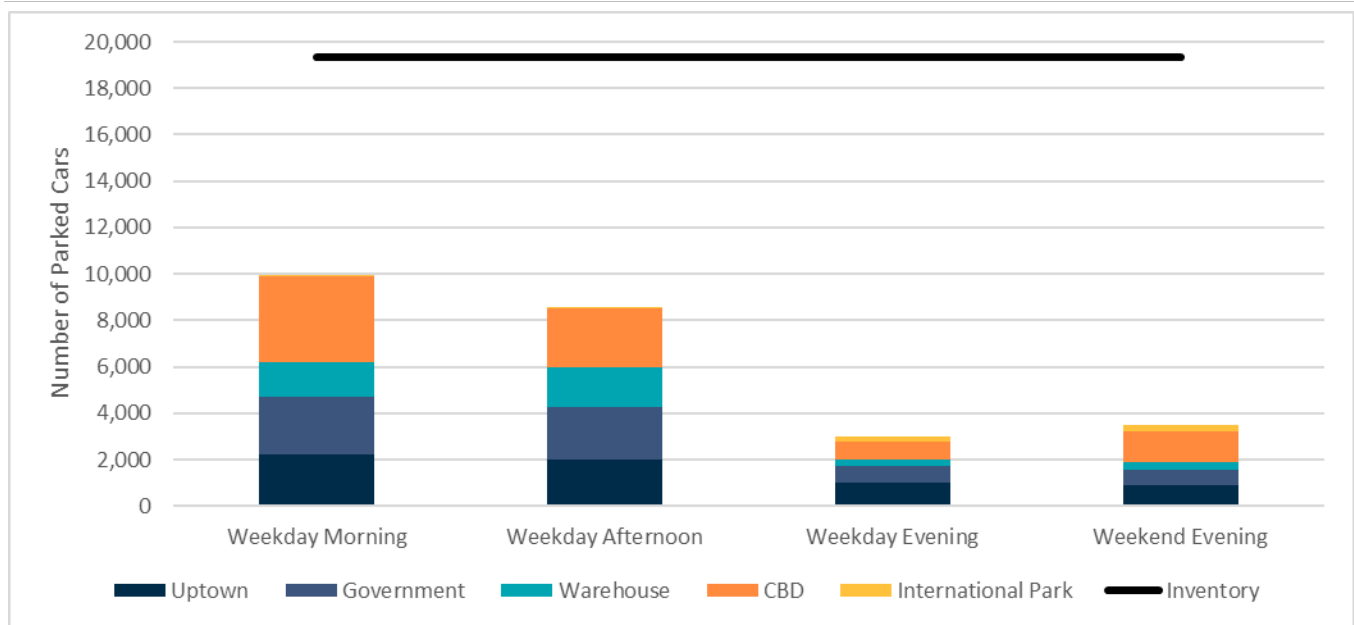
Our off-street analysis has concluded that during the typical peak hour, which is estimated to occur on weekdays approximately between 9:30 AM – 10:30 AM, **off-street parking spaces are 51%± occupied** within the study area. This vacancy rate suggests that the existing parking supply is more than adequate to accommodate the current parking demand being generated. A summary of the off-street parking-space inventory and occupancy studies, by study area subdistrict, is displayed in the following table and figure. The weekday count within the Warehouse District and Central Business District coincided with a Toledo Mud Hens baseball game at 10:00 AM, with an attendance of 5,110±, and the weekend count (for all districts) occurred during a sold out (approximately 7,286± attendees) Chris Young country music concert at the Huntington Center.

**Table 1: Off-Street Inventory and Occupancy Table**

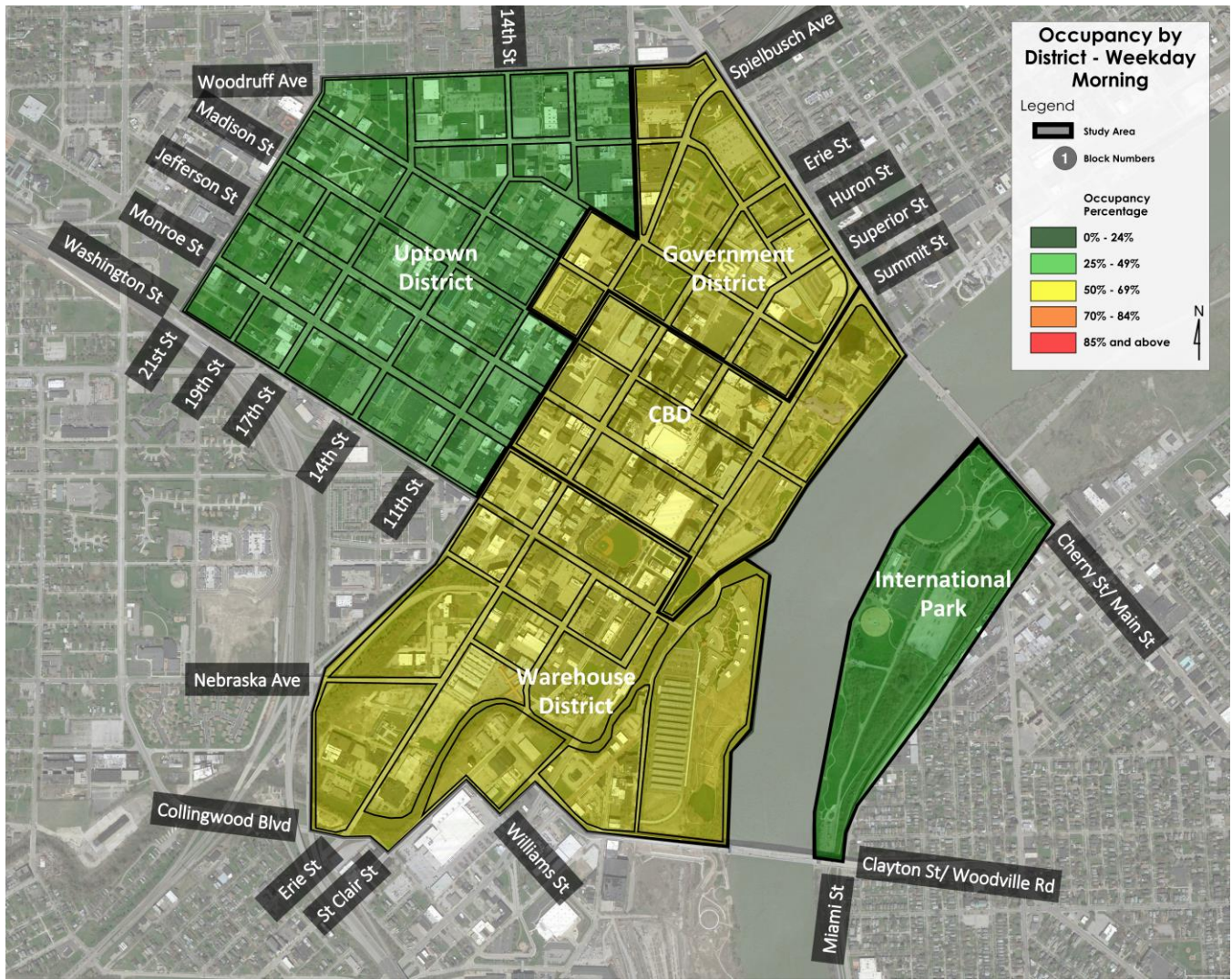
District	Capacity	Weekday						Weekend	
		Morning		Afternoon		Evening		Evening	
		Occupancy	%	Occupancy	%	Occupancy	%	Occupancy	%
Uptown	5,035	2,247	45%	1,989	40%	988	20%	879	17%
Government	4,260	2,488	58%	2,291	54%	758	18%	668	16%
Warehouse	2,757	1,479	54%	1,715	62%	254	9%	338	12%
CBD	6,742	3,703	55%	2,518	37%	767	11%	1,341	20%
International Park	568	26	5%	49	9%	258	45%	295	52%
<b>TOTAL</b>	<b>19,362</b>	<b>9,943</b>	<b>51%</b>	<b>8,562</b>	<b>44%</b>	<b>3,025</b>	<b>16%</b>	<b>3,521</b>	<b>18%</b>

Source: Walker Consultants

**Table 2: Off-Street Inventory and Occupancy Graph**



Source: Walker Consultants

**Figure 2: Peak Off-Street Occupancy by District**


Source: Walker Consultants

Utilizing the current conditions of the parking occupancy as a baseline, along with future development estimates, Walker projected future demand estimates. These estimates utilized two different growth scenarios that allows for analysis of both a per-block demand change and an overall downtown demand change. The two scenarios utilize projected future parking adequacies and occupancy percentage to display the impacts of these changes. Parking adequacy is the ability of the parking supply to accommodate the parking demand and is derived by deducting the demand from the capacity, or in this case, the future demand from the current capacity. A summary of these assumptions and the projected changes in demand are displayed in the tables below.

**Table 3: Estimated Future Demand Changes Per-Block**

Proposed Development	Block #	Estimated Changes	Current Demand in Block	Estimated Future Demand	Estimated Future Adequacy
Fort Industry Square	58	89,000 sf office	678	937	28
The Saint Claire	52	22 residential units	1,219	1,241	326
Nicholas Building & Spitzer Building	47	108 residential units, 18,000 sf retail, and 268,000 sf office/retail	57	940	<b>-829</b>
Hilton Garden Inn & Homewood Suites	45	200 hotel rooms	321	546	966
Nasby Building	46	100 residential units	254	353	519
Madison & 18th	4	20 residential units	74	94	58

Source: *ConnecToledo & Walker Consultants*

**Table 4: Estimated Future Demand Changes for Overall Downtown**

Estimated Changes	Current Demand	Estimated Future Demand	Estimated Future Peak Hour % Parking Occupancy
760,000 sf office		2,210	
1,200-1,500 residential units		842	
450-600 hotel rooms		291	
250,000-350,000 sf retail		827	
<b>Total</b>	<b>9,943</b>	<b>14,113</b>	<b>73%</b>

Source: *2017 Downtown Toledo Master Plan & Walker Consultants*

Based on this study, Block 47, assuming a full buildout and 100% occupancy of the Nicholas Building and the Spitzer Building, is the only location where a parking-space inadequacy has the potential to exist. With the future estimates, although increasing the number of parked cars in the downtown, the other blocks do not create an inadequate parking system for any of the other potential redeveloped blocks or the downtown as a whole.

In order to better utilize current parking assets, plan for the projected increase in demand to the downtown, and alleviate any “hot spots” with higher-than-average parking utilization, Walker has created a list of detailed recommendations. These recommendations have been catered to Toledo’s needs by utilizing the estimated future demand changes and soliciting public input with community stakeholders, including City departments, restaurant and retail business owners, property owners, residents, and many others. As the current conditions analysis eludes to and several stakeholders also pointed out, Toledo does not have a parking problem, but a walking problem. **Walker’s recommendations include management strategies, physical improvements to the parking facilities, and philosophies that encourage better use of current assets.** They have been vetted by stakeholders and represent trial-tested improvements Walker has observed and recommended in municipalities across the country. These suggestions are as follows:



**TRANSPORTATION DEMAND MANAGEMENT**

- Create and encourage mixed-use sites
- Implement infrastructure enhancements as stated below
- Charge higher rates for on-street parking and lower rates off-street parking while maintaining the rates to account for demand and locale

**COMMUNICATIONS AND PUBLIC RELATIONS**

- Branding and marketing of parking
- Market available parking spaces through the use of automated parking guidance systems
- Update and use of website, smart phone app, and brochures

**FACILITY IMPROVEMENTS**

- Update signage and wayfinding
- Give facilities a “facelift” by painting the interior and updating the lighting
- Screen surface-level parking through the use of fencing and green space

**PLANNING AND ZONING**

- Encourage shared parking
- Edit zoning ordinance
- Police the code of ordinances to ensure parking facilities are maintained

Although several of the recommendations, such as encouraging shared parking, do not generate a direct cost, several other recommendations do come at a cost. Walker has included the tables above and below as part of a wider public education process. Since parking facilities represent a significant community investment and cost, Walker has displayed a rough order-of-magnitude cost for several of the recommendations listed herein. In addition to the recommendations, the estimated costs for an above-grade structured parking facility and a downtown circulator shuttle have been included. Walker does not recommend additional parking facilities in the downtown at this time, however it is worth noting the hypothetical financial costs for building a facility. These costs are generalizations and subject to further refinement.

List of rough order of magnitude costs for recommendations:

<b>Recommendations</b>	<b>Estimated Unit Cost</b>	<b>Year 1/ Initial Capital Cost</b>
<i>Branding and marketing budget</i>	\$50,000-\$100,000 annually	\$50,000-\$100,000
<i>Full-time TDM coordinator position</i>	\$60,000-\$80,000 annually	\$60,000-\$80,000
<i>Automated parking guidance system with facility status signage at entry</i>	\$20,000-\$70,000 per facility, every ten years	\$20,000-\$70,000
<i>Updated static signage at entry points of downtown</i>	\$200-\$1,000 per sign	\$2,000-\$10,000
<i>Painting ceilings, walls, columns, beams, and T-stems in parking garages</i>	\$1.00-\$1.50 per square foot, for the remaining life of each facility	\$900,000-\$1,500,000
<i>Updated LED lighting in parking garage</i>	\$0.50 per square foot, every fifteen years	\$350,000-\$550,000
<b>Subtotal</b>		<b>\$1.38MM-\$2.31MM</b>
<i>Above-grade structured parking facility</i>	\$20,000- \$30,000 per space	
<i>Downtown circulator shuttle system</i>	\$50-\$100 per shuttle, per hour	



# 01 SUPPLY & DEMAND ANALYSIS

## SUPPLY & DEMAND ANALYSIS

ConnecToledo, retained Walker Consultants (Walker) to perform a downtown comprehensive parking needs assessment and develop an operations and management plan identifying the cost and timeframe for implementing key operational, financial, and capital recommendations. Currently, the parking system in downtown Toledo is a patchwork of on- and off-street facilities, developed in response to a specific need at a specific time, and operating under varying levels of control and maintenance. ConnecToledo recognizes that the current management is inefficient and that a new management strategy is needed to better serve the community at large.

ConnecToledo, through our analysis, is seeking answers to the following questions:

- **What is the demand for parking in the downtown?**
- **Is additional parking required?**
- **Can parking management practices be improved to allow the system to function more efficiently?**
- **What strategies, including Transportation Demand Management (TDM), the use of technology, and marketing can be utilized to enhance the downtown and generate positive parking and transportation experiences?**
- **What changes need to be made to existing codes and ordinances to make the parking program effective and responsive for the future?**

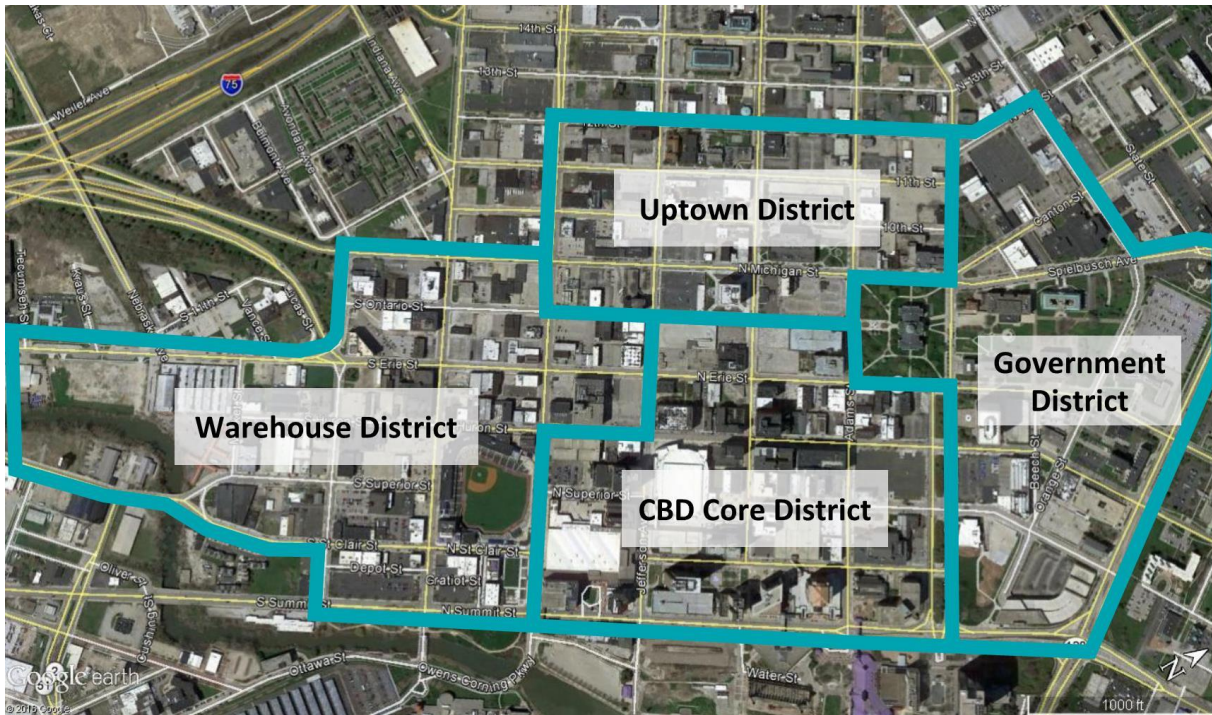
The purpose of the study is to provide a quantitative evaluation of the existing parking adequacy that clearly identifies the parking inventory, utilization, and availability in downtown Toledo, while also providing insight on how the existing parking supply may be used more efficiently. Through this analysis, Toledo hopes to build a roadmap to guide them through the next ten years of growth in its downtown. The methodology employed by Walker to achieve this goal, as well as the general timeframe in which the tasks were completed follows.

Walker performed an on-street parking study in Toledo in 2015. In 2017, the Toledo-Lucas County Port Authority (TLCPA) hired Walker to update the previous on-street parking study. Most recently, Walker has been retained by ConnecToledo to conduct a comprehensive parking analysis of both on- and off-street parking. All on-street and off-street parking spaces, both public and private, within the defined study area are surveyed and analyzed within this report. Upon analysis, it was determined that there is an abundance of unused parking spaces within downtown Toledo. Based upon the projected developments for the ten-year horizon, Walker is not recommending any further parking be built. Instead, several parking management-related changes are recommended. These management strategies are intended to encourage users to park off-street, especially those who will be parked for more than an hour or two. There is more than ample parking within the downtown, however some might not recognize this due to a few small areas where on-street spaces are highly utilized during peak event times. Through an increased utilization of off-street spaces, more on-street spaces will become available, which can encourage turnover at storefronts and the appearance of more available parking.

## STUDY AREA

Walker, together with client and stakeholder input, determined a study area for the collection of on-street parking space occupancy data. This study area was utilized in the 2017 update to the on-street parking study. The boundaries set make up four distinct districts within the downtown area, specific to the **on-street** study: The Warehouse district, the Central Business District, the Government District, and the Uptown District. The figure below displays this predetermined study area.

Figure 3: On-Street Study Area



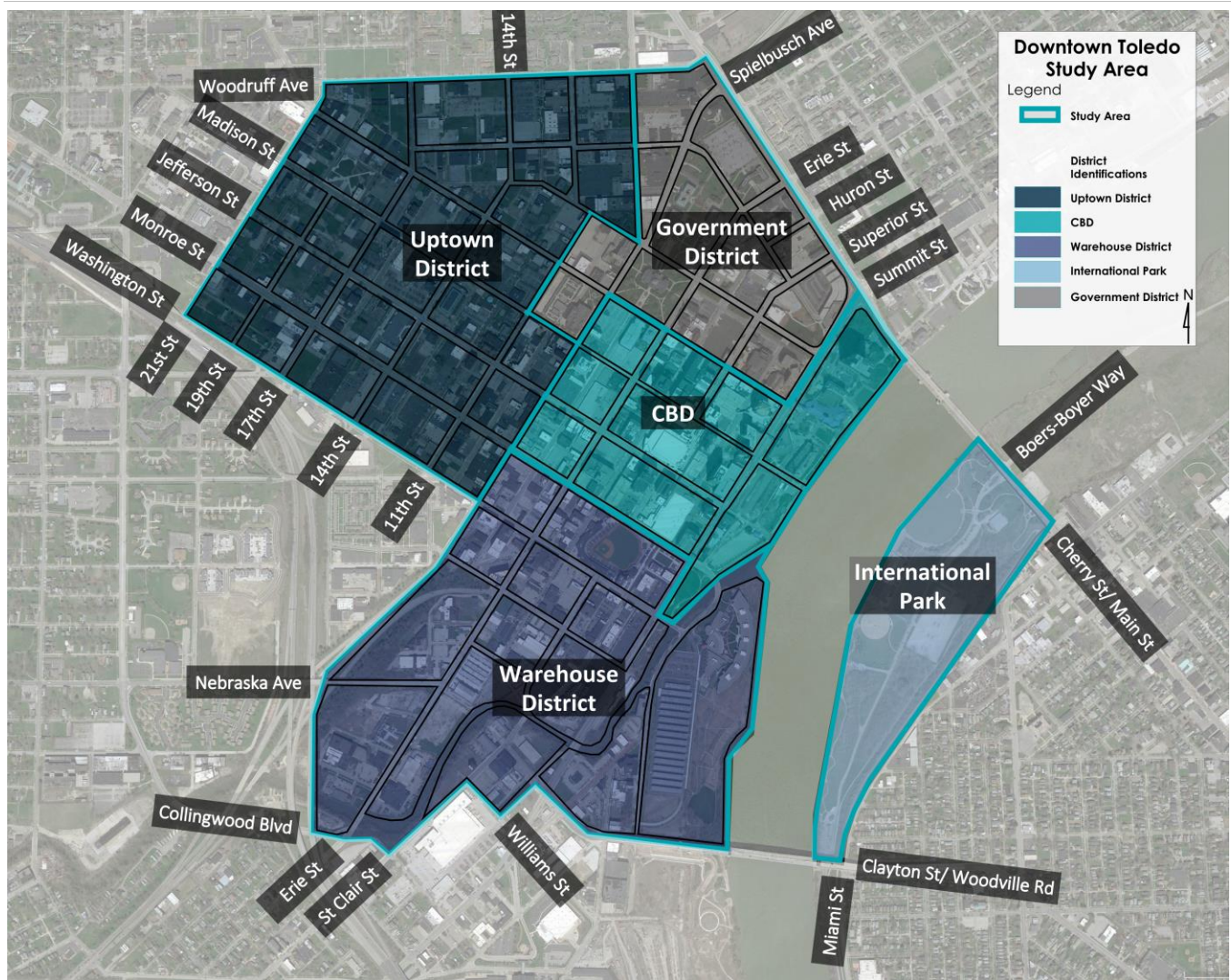
*Note: At the time of this study, construction activity at the Edison Plant site resulted in the removal of several on-street spaces from the available parking supply.*

Source: Walker Consultants

For the more recent **off-street** analysis, the study area is defined by the client as the geographical area generally bound by Woodruff Avenue to the north; Cherry Street/Main Street to the east; Clayton Street/Woodville Road and Collingwood Boulevard to the south; and Washington Street and the Anthony Wayne Trail to the west. The study area represents two market components, one from which the majority of existing and potential parking patrons will be drawn, and another in which the primary parking infrastructure are located. This purposeful configuration encompasses the wide variety of land uses and captures the unique parking characteristics within downtown Toledo.

The off-street study area is substantially larger than that of the 2017 on-street study. The boundaries of the defined study area surveyed by Walker is presented in the following figure. The off-street study area includes five defined districts that include the Central Business District (CBD), Government District, International Park, Uptown District, and Warehouse District. The locations and boundaries of these districts are displayed in the figure below.

**Figure 4: Off-Street Study District Boundaries**



Source: Walker Consultants

The largest share of off-street parking supply (35%) is located in the CBD. The Warehouse District only accounts for 14% of the off-street downtown parking supply. The remaining 48% of off-street spaces are in Uptown (26%), the Government District (22%), and International Park, (3%). Based on the data collected, there are a total of 19,362± public parking spaces in the study area. Comparing this to the on-street share of spaces, albeit a smaller study area, the on-street parking only represents 1,035± spaces in the downtown. This means that off-street parking accounts for approximately 95% of all available parking spaces within the downtown. The table below displays the total number of off-street parking spaces by block and district.

## METHODOLOGY

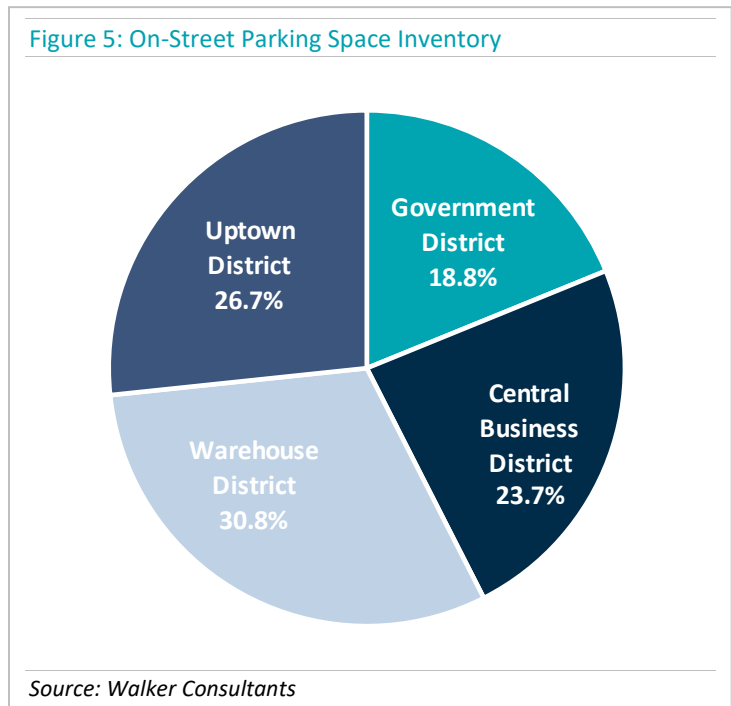
The findings of the supply and demand element of the project are the foundation of an effective parking action plan. Before we can identify opportunities to develop or improve parking or recommend changes to existing parking policies, we must first have a solid understanding of existing conditions within the study area. Our understanding of existing conditions begins with stakeholder interviews and community outreach to determine the parking habits and preferences of typical users, as well as identifying obstacles, opportunities for improvement, and perceptions of the current system. These qualitative findings are combined with the parking supply and demand data collected during our field survey, to develop a comprehensive picture of parking conditions in the downtown.

Walker attended six meetings and focus groups with multiple community stakeholders, including restaurant and retail business owners, property owners, residents, and many others in order to gather different perspectives on parking within downtown Toledo. Various City departments were also in attendance during a Transportation Advisory Committee meeting, which is a committee currently advising on the city’s downtown transportation plan, to establish an understanding of the operating policies and practices governing the transportation system. The public meetings provided Walker with a better understanding of parking priorities in the downtown area, why individuals come downtown most often, how long they visit, what issues relative to parking are most important to them, and their willingness to adopt new parking technologies.

Using the data collected during the week of May 7<sup>th</sup>, 2017, Walker established an understanding of the variations in **on-street** parking utilizations. Additionally, using the data collected during the week of April 30<sup>th</sup>, 2018, Walker established baseline **off-street** parking conditions within the off-street study area. Parking demand for each was compared to the available supply to determine occupancy rates, as well as parking adequacy on a block-by-block basis. Data from different time periods throughout the day were studied.

## ON-STREET PARKING INVENTORY

Parking in the defined study areas is available in several forms, including both on- and off-street parking. However, this section of the report only includes on-street parking, as off-street parking will be analyzed in the next section of this report. Walker documented a total inventory of 1,035 publicly available on-street parking spaces within the Study Area boundaries. The figure to the right displays how this inventory is distributed across the aforementioned districts that comprise the downtown. On-street spaces are fairly evenly distributed across the four districts. The Warehouse district has the highest number of spaces inventoried with 30.8% (319 spaces) while the Government district has the lowest at 18.8%



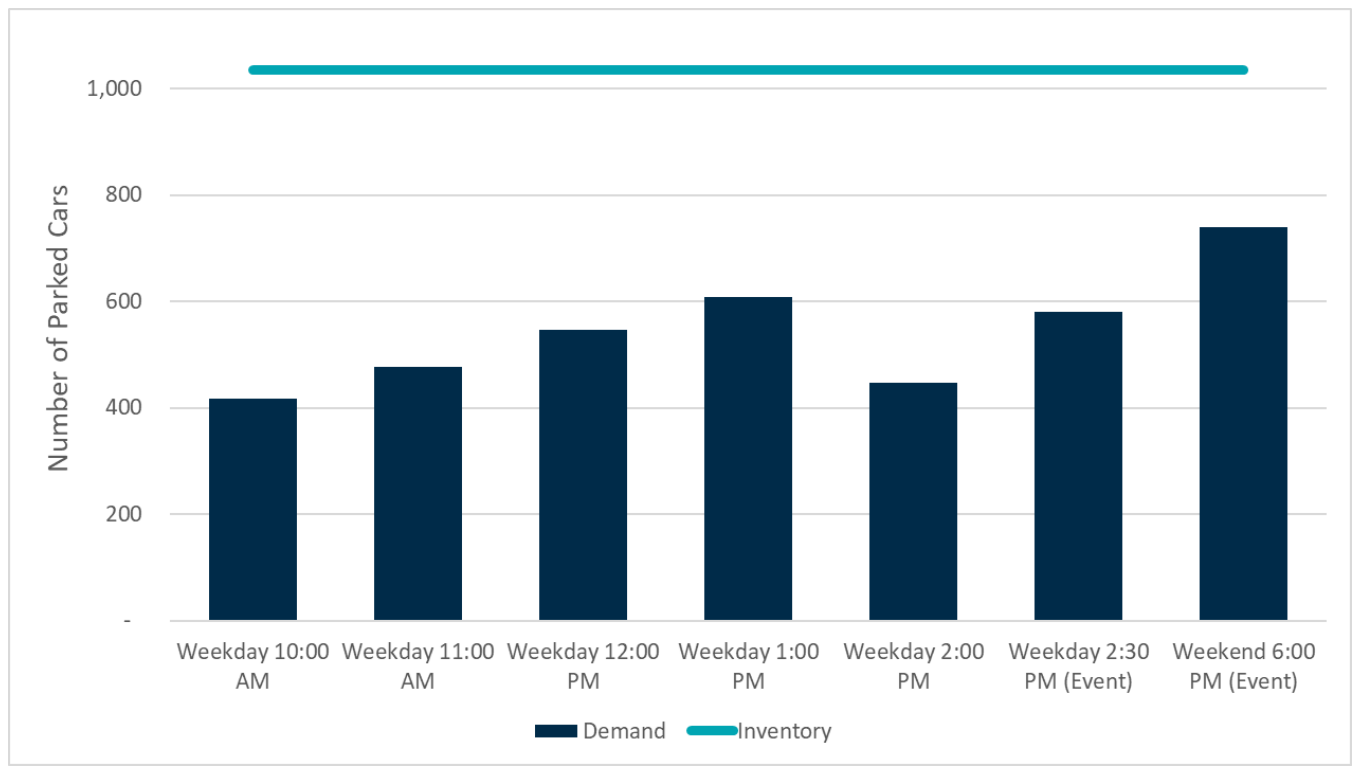
(195 spaces). It was observed that Jackson Street, inside the Government district, does not allow public parking on-street in front of police headquarters although police vehicles were observed to be occupying on-street spaces. Other reserved spaces noted include bailiff and fire prevention spaces as seen on Constitution Avenue. These restrictions lower the amount of available on-street inventory for public use within the district.

## ON-STREET OCCUPANCY

**On-street** occupancy counts were performed on three separate days in 2017 and are intended to reflect both weekday daytime and special event design day conditions. The weekday counts occurred on Monday, May 8th, 2017. The first of the two weekend events counts occurred on Sunday, May 7th, 2017 when the Mud Hens played an afternoon game with the first pitch thrown at 2:00 PM. An attendance of 6,247 was recorded at Fifth Third Field during this game. The final event day occurred on the evening of Tuesday May 23rd, 2017 in order to observe occupancy across the Study Area while two simultaneous events were being held. WWE Smack Down was the feature event at the Huntington Center while the Mud Hens played at Fifth Third Field. Attendance figures indicated that WWE Smack Down drew 3,800 event goers. An attendance of 4,562 was recorded at Fifth Third Field. Overall, weekday on-street parking space occupancy in the downtown was observed to be between 40 and 59 percent. Occupancy peaked between the noon and 1:00 PM hour with 53 and 59 percent of spaces utilized, respectively.

During the weekend event days, the on-street parking was observed at 57 percent occupied during the 2:30 PM count and 72 percent occupied during the 6:00 PM count. An overview of all the parking occupancy surveyed are shown below.

Figure 6: On-Street Occupancy Summary



Source: Walker Consultants

## LAND USES BY DISTRICT

Parking demand characteristics differ based upon the significant land uses in the area. The Warehouse District is the site of Fifth Third Field which is a main entertainment attraction for the downtown. This district has also seen the development of residential condos and lofts which create a demand for on-street spaces. The Central Business District contains most of the daytime office buildings, as well as the SeaGate Convention Center and the Park Inn Radisson Hotel. The CBD is the densest area of downtown containing Toledo’s tallest office buildings. Within the last year, ProMedica brought approximately 900 additional employees to the CBD with the completion of a new campus at the former Toledo Edison steam plant. This was not completed during the 2017 on-street study. The Government District comprises the Lucas County Courthouse, Family Court Center, Juvenile Center, as well as the City’s public safety headquarters and administrative offices. The Uptown District is lower density and contains smaller shops with lower building heights.

Through the survey data and in-the-field observations, Walker noted several instances where “problem areas” occurred, related to on-street parking. In the Government District, daytime activity at government professional offices create a high weekday daytime demand. This was observed between the 1:00 PM to 2:00 PM hour when on-street occupancy was 89 percent. Many vehicles were observed to be parked in either unregulated or illegal spaces — a high number of these were police vehicles that occupied the on-street spaces during busy times at government buildings, which could detract from visitors’ experience. Another “problem area” occurred during the weekend event counts when the surge in high demand made the Warehouse District and Central Business District remain between 84 and 104 percent occupied. This could be attributed to visitors, employees, and/or residents all looking for the most visible on-street spaces. As is discussed in further detail in following sections of this report, this is, in part, why Walker is recommending strong push to encourage users to utilize the off-street spaces.

## OFF-STREET PARKING INVENTORY

The vast majority of overall downtown parking is located in off-street facilities and is available downtown in three publicly-owned parking garages. The public off-street facilities that are managed by ParkSmart include the Port Lawrence Garage, Superior Street Garage, and Vistula Garage, for a total of 2,900 spaces, not including the aforementioned on-street spaces also managed by ParkSmart. This study is comprehensive and includes all off-street parking spaces in the analysis located within the study area, both public and private. However, there are several facilities where access could not be granted, where parking spaces are not categorized as public parking due to their restrictions on users. These facilities include: a gated lot attached to the James M. Ashley & Thomas W. L. Ashley U.S. Courthouse (1716 Spielbusch Avenue), a subterranean garage under the Lucas County Corrections Center (1622 Spielbusch Avenue), a gated lot attached on the north side of Shumaker Loop & Kendrick LLP (5515, 1000 Jackson Street), the lot and associated garage for the City of Toledo Department of Police Operations building (525 North Erie Street), a subterranean garage under the Lucas County Clerk of the Court of Common Pleas (700 Adams Street), and a subterranean garage located under the Toledo City Hall (401 South Erie Street).

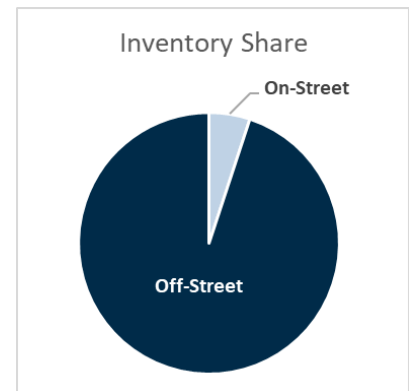
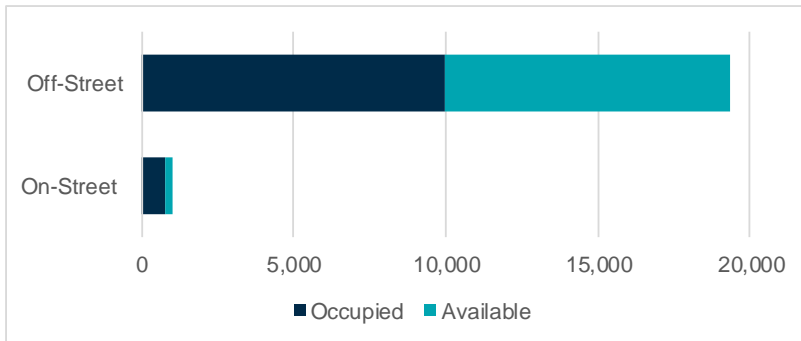


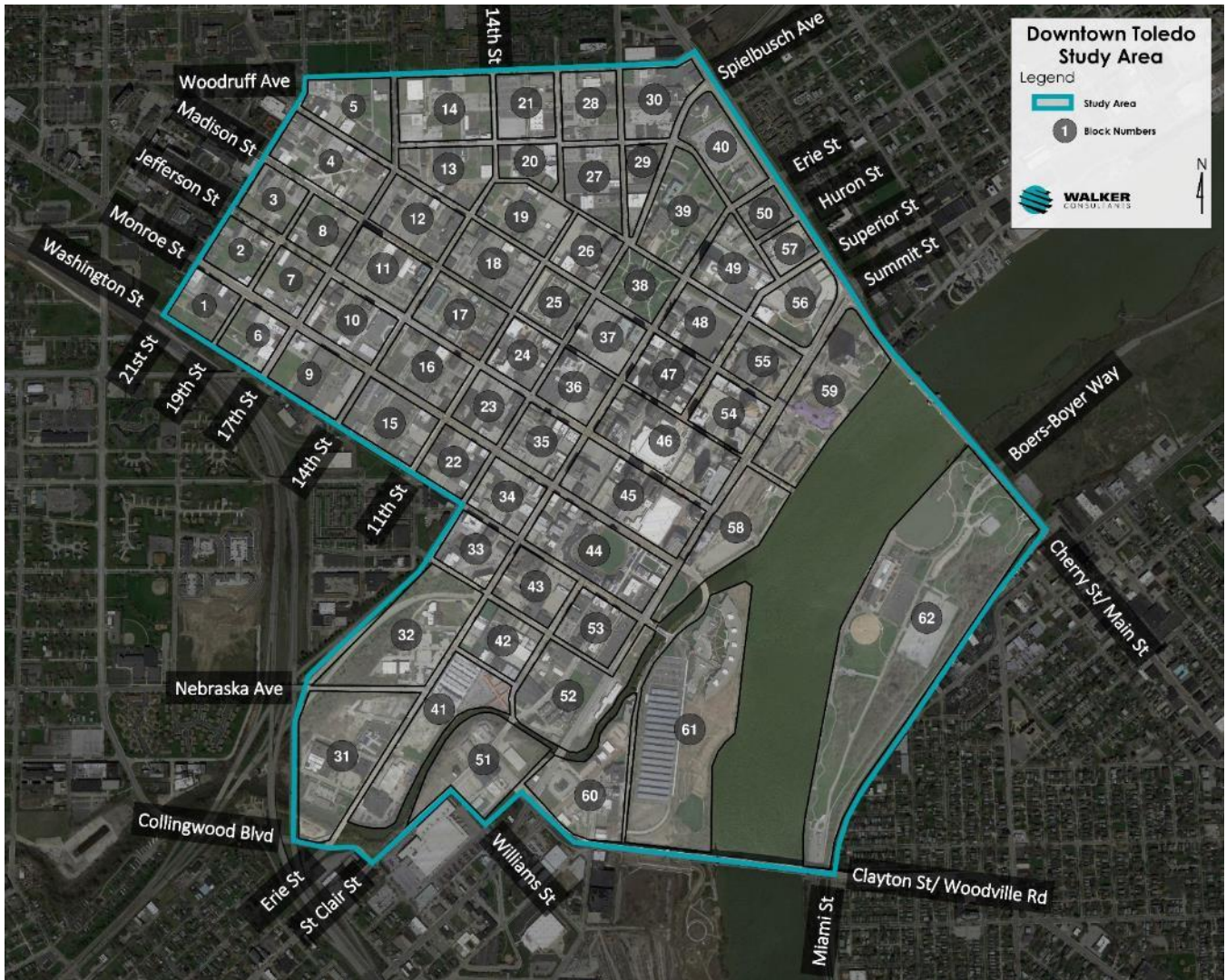


Figure 7: Peak Parking Demand



Source: Walker Consultants

Figure 8: Off-Street Study Area Blocks



Source: Walker Consultants

Table 5: Off-Street Parking Supply Summary

Block	Central Business District	Government District	International Park	Uptown District	Warehouse District
1	0	0	0	45	0
2	0	0	0	96	0
3	0	0	0	122	0
4	0	0	0	152	0
5	0	0	0	168	0
6	0	0	0	30	0
7	0	0	0	94	0
8	0	0	0	24	0
9	0	0	0	251	0
10	0	0	0	225	0
11	0	0	0	363	0
12	0	0	0	475	0
13	0	0	0	119	0
14	0	0	0	259	0
15	0	0	0	294	0
16	0	0	0	321	0
17	0	0	0	67	0
18	0	0	0	428	0
19	0	0	0	284	0
20	0	0	0	36	0
21	0	0	0	410	0
22	0	0	0	78	0
23	0	0	0	242	0
24	0	0	0	185	0
25	0	300	0	0	0
26	0	436	0	0	0
27	0	0	0	107	0
28	0	0	0	160	0
29	0	86	0	0	0
30	0	239	0	0	0
31	0	0	0	0	174
32	0	0	0	0	0
33	0	0	0	0	171
34	0	0	0	0	237
35	288	0	0	0	0
36	629	0	0	0	0
37	758	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	516	0	0	0
41	0	0	0	0	136
42	0	0	0	0	31
43	0	0	0	0	280
44	0	0	0	0	98
45	1,065	0	0	0	0
46	1,319	0	0	0	0
47	111	0	0	0	0
48	0	378	0	0	0
49	0	439	0	0	0
50	0	113	0	0	0
51	0	0	0	0	11
52	0	0	0	0	146
53	0	0	0	0	365
54	1,567	0	0	0	0
55	0	469	0	0	0
56	0	1,175	0	0	0
57	0	109	0	0	0
58	965	0	0	0	0
59	40	0	0	0	0
60	0	0	0	0	136
61	0	0	0	0	972
62	0	0	568	0	568
<b>TOTAL</b>	<b>6,742</b>	<b>4,260</b>	<b>568</b>	<b>5,035</b>	<b>3,325</b>

Source: Walker Consultants

## OFF-STREET PARKING PERFORMANCE

Public and private off-street parking facilities located in the study area were surveyed over the course of three days, May 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>, 2018 to understand local parking utilization patterns and market characteristics. Weekday conditions were documented at three intervals; morning (9:00 AM – 10:30 AM), afternoon (1:30 PM – 3:00 PM), and evening (5:30 PM to 7:00 PM). A Toledo Mud Hens home game occurred on May 2<sup>nd</sup> at 10:34 AM and the demand for event parking is reflected in this analysis. Weather conditions during the field observations were mostly sunny with a high temperature of 75 degrees.

The weekend evening observation occurred on Friday May 4<sup>th</sup> between 6:30 PM and 8:00 PM. The observation period captures parking conditions during a sold-out concert event (7,200± attendees) at the Huntington Center that started at 7:30 PM. Weather conditions during the weekend evening observation were mostly clear with moderate temperatures. .

Walker has analyzed the current off-street parking conditions in three ways: as a whole downtown system, by district, and by block. The data collected during the survey is tabulated by block to develop a localized understanding of the parking system’s performance during the survey day. Through our observations, we intend to understand where people are parking, which will assist to recommend appropriate parking policy changes to maximize the existing parking resources. The following table and figure summarize the observed occupancy rates for off-street parking on a weekday.

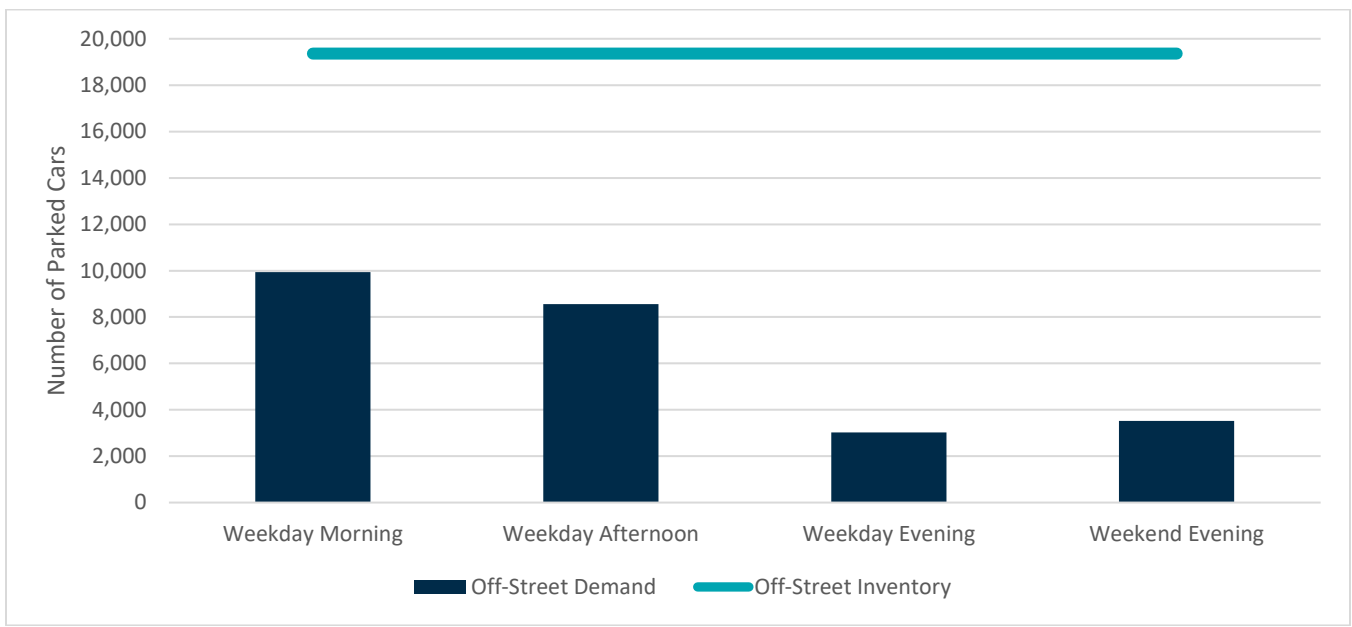
**Table 6: Off-Street Weekday Parking Occupancy Summary**

Block	Capacity	Weekday Occupancy						Weekend Occupancy	
		Morning		Afternoon		Evening		Evening	
1	45	0	0%	7	16%	0	0%	0	0%
2	96	27	28%	36	38%	12	13%	12	13%
3	122	67	55%	56	46%	59	48%	55	45%
4	152	74	49%	87	57%	61	40%	67	44%
5	168	86	51%	60	36%	43	26%	40	24%
6	30	0	0%	0	0%	0	0%	0	0%
7	94	21	22%	19	20%	9	10%	7	7%
8	24	1	4%	2	8%	3	13%	2	8%
9	251	122	49%	136	54%	87	35%	20	8%
10	225	119	53%	131	58%	39	17%	35	16%
11	363	57	16%	36	10%	94	26%	91	25%
12	475	254	53%	217	46%	67	14%	58	12%
13	119	40	34%	47	39%	84	71%	91	76%
14	259	96	37%	48	19%	9	3%	5	2%
15	294	89	30%	134	46%	44	15%	33	11%
16	321	107	33%	159	50%	54	17%	39	12%
17	67	33	49%	26	39%	18	27%	13	19%
18	428	174	41%	190	44%	43	10%	36	8%
19	284	95	33%	121	43%	13	5%	12	4%
20	36	3	8%	25	69%	0	0%	0	0%
21	410	240	59%	152	37%	82	20%	73	18%
22	78	16	21%	6	8%	26	33%	52	67%
23	242	145	60%	120	50%	83	34%	89	37%
24	185	162	88%	59	32%	16	9%	16	9%
25	300	139	46%	269	90%	145	48%	131	44%
26	436	315	72%	108	25%	0	0%	0	0%
27	107	103	96%	58	54%	17	16%	14	13%
28	160	116	73%	57	36%	25	16%	19	12%
29	86	85	99%	62	72%	25	29%	27	31%
30	239	115	48%	112	47%	73	31%	3	1%
31	174	98	56%	79	45%	8	5%	0	0%
32	0	n/a	n/a	0	n/a	0	n/a	0	n/a
33	171	45	26%	44	26%	31	18%	35	20%
34	237	101	43%	81	34%	16	7%	16	7%
35	288	156	54%	63	22%	8	3%	8	3%
36	629	454	72%	176	28%	120	19%	130	21%
37	758	524	69%	436	58%	94	12%	107	14%
38	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
39	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
40	516	213	41%	188	36%	45	9%	36	7%
41	136	58	43%	34	25%	2	1%	1	1%
42	31	12	39%	12	39%	2	6%	4	13%
43	280	27	10%	47	17%	12	4%	14	5%
44	98	46	47%	69	70%	32	33%	70	71%
45	1,065	321	30%	259	24%	131	12%	204	19%
46	1,319	254	19%	505	38%	74	6%	286	22%
47	111	57	51%	50	45%	45	41%	56	50%
48	378	95	25%	164	43%	13	3%	18	5%
49	439	358	82%	249	57%	67	15%	45	10%
50	113	64	57%	88	78%	23	20%	24	21%
51	11	12	105%	7	64%	0	0%	0	0%
52	146	50	34%	105	72%	33	23%	44	30%
53	365	71	19%	245	67%	26	7%	64	18%
54	1,567	1,219	78%	370	24%	76	5%	314	20%
55	469	100	21%	120	26%	80	17%	77	16%
56	1,175	919	78%	825	70%	277	24%	296	25%
57	109	85	78%	106	97%	10	9%	11	10%
58	965	678	70%	619	64%	179	19%	196	20%
59	40	40	100%	40	100%	40	100%	40	100%
60	136	21	15%	30	22%	50	37%	55	40%
61	972	938	97%	962	99%	42	4%	35	4%
62	568	26	5%	49	9%	258	45%	295	52%
<b>TOTAL</b>	<b>19,362</b>	<b>9,943</b>	<b>51%</b>	<b>8,562</b>	<b>44%</b>	<b>3,025</b>	<b>16%</b>	<b>3,521</b>	<b>18%</b>

Source: Walker Consultants

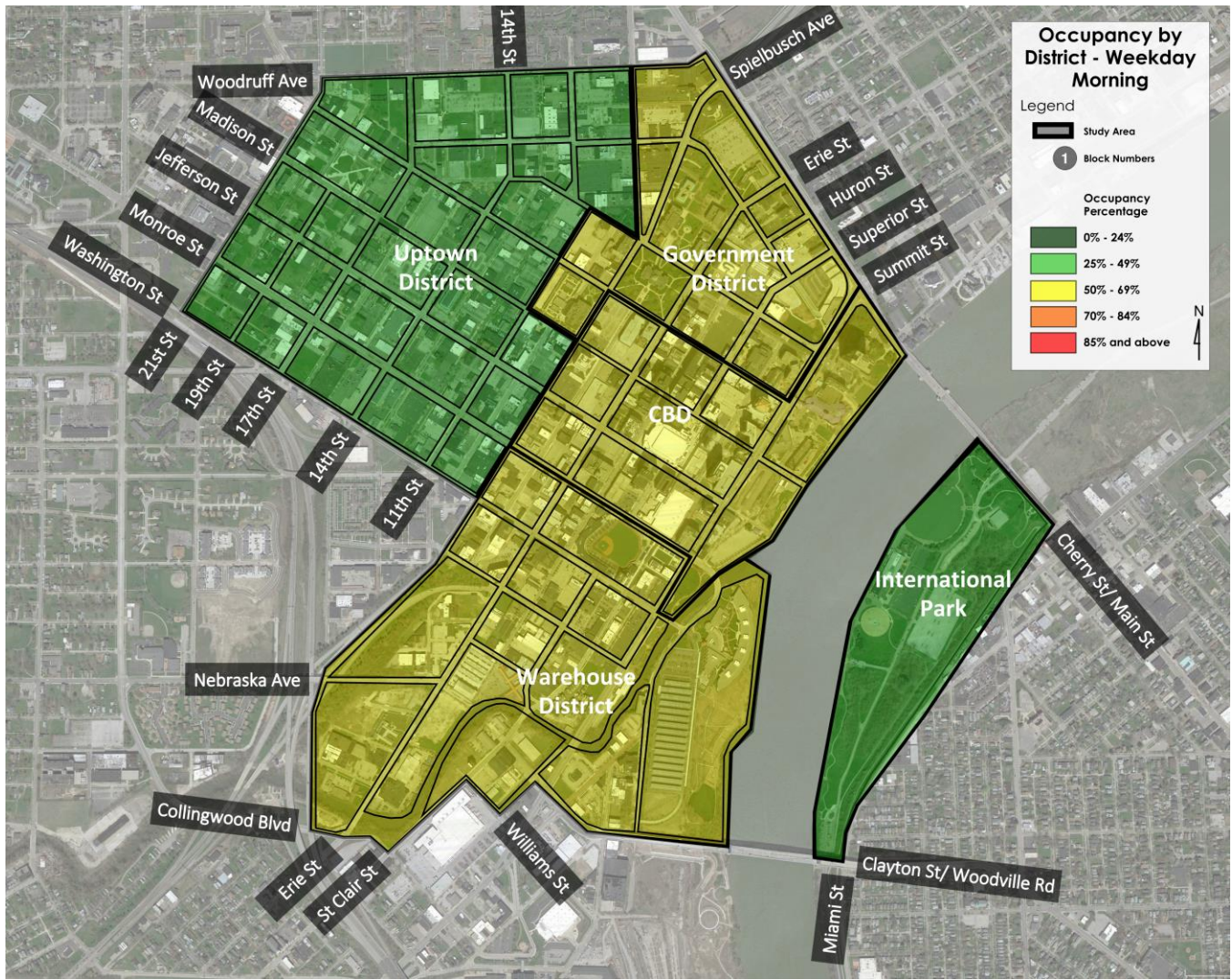


Figure 9: Off-Street Parking Occupancy Summary



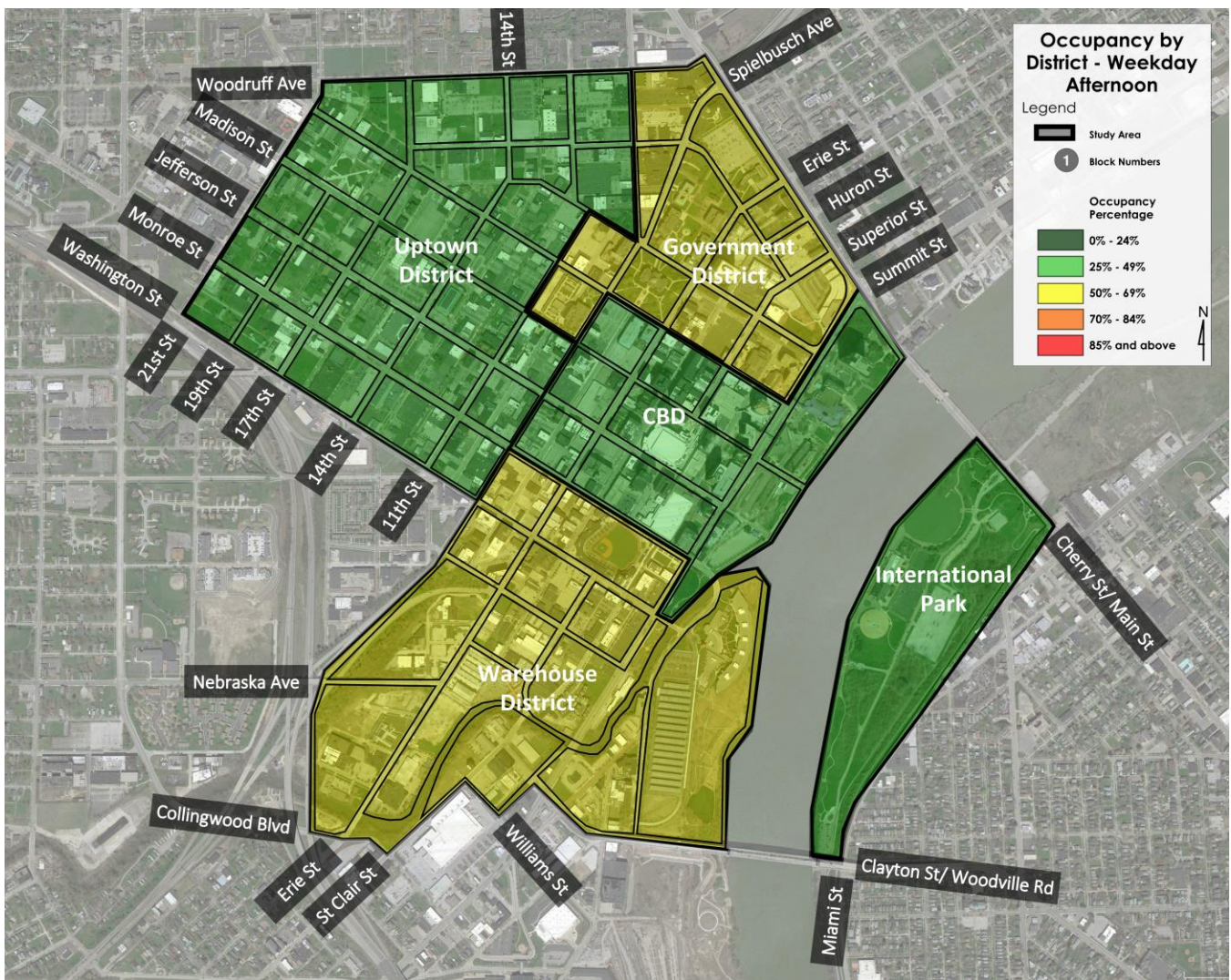
Source: Walker Consultants

Figure 10: Weekday Off-Street Parking Occupancy Map by District - Morning



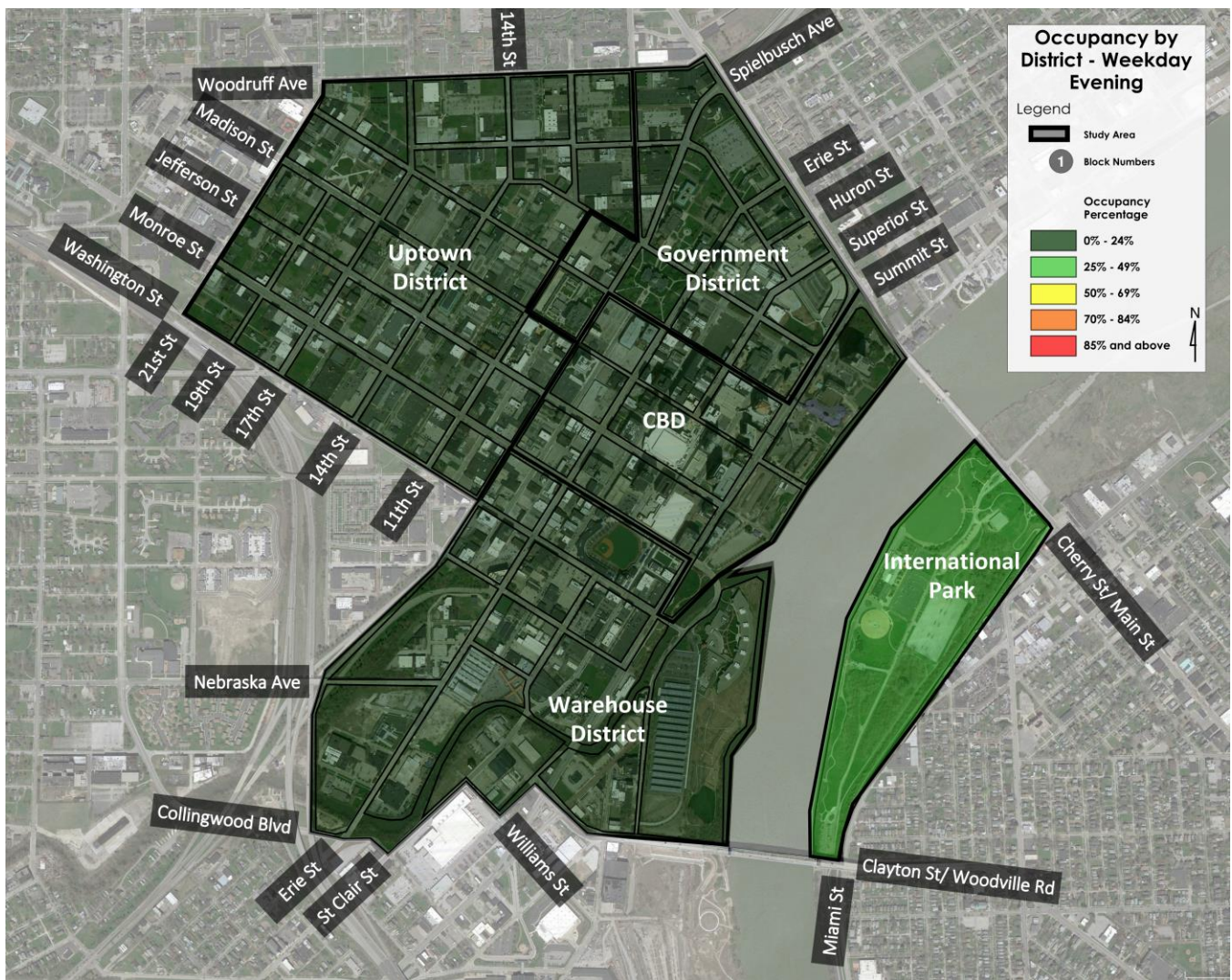
Source: Walker Consultants

Figure 11: Weekday Off-Street Parking Occupancy Map by District - Afternoon



Source: Walker Consultants

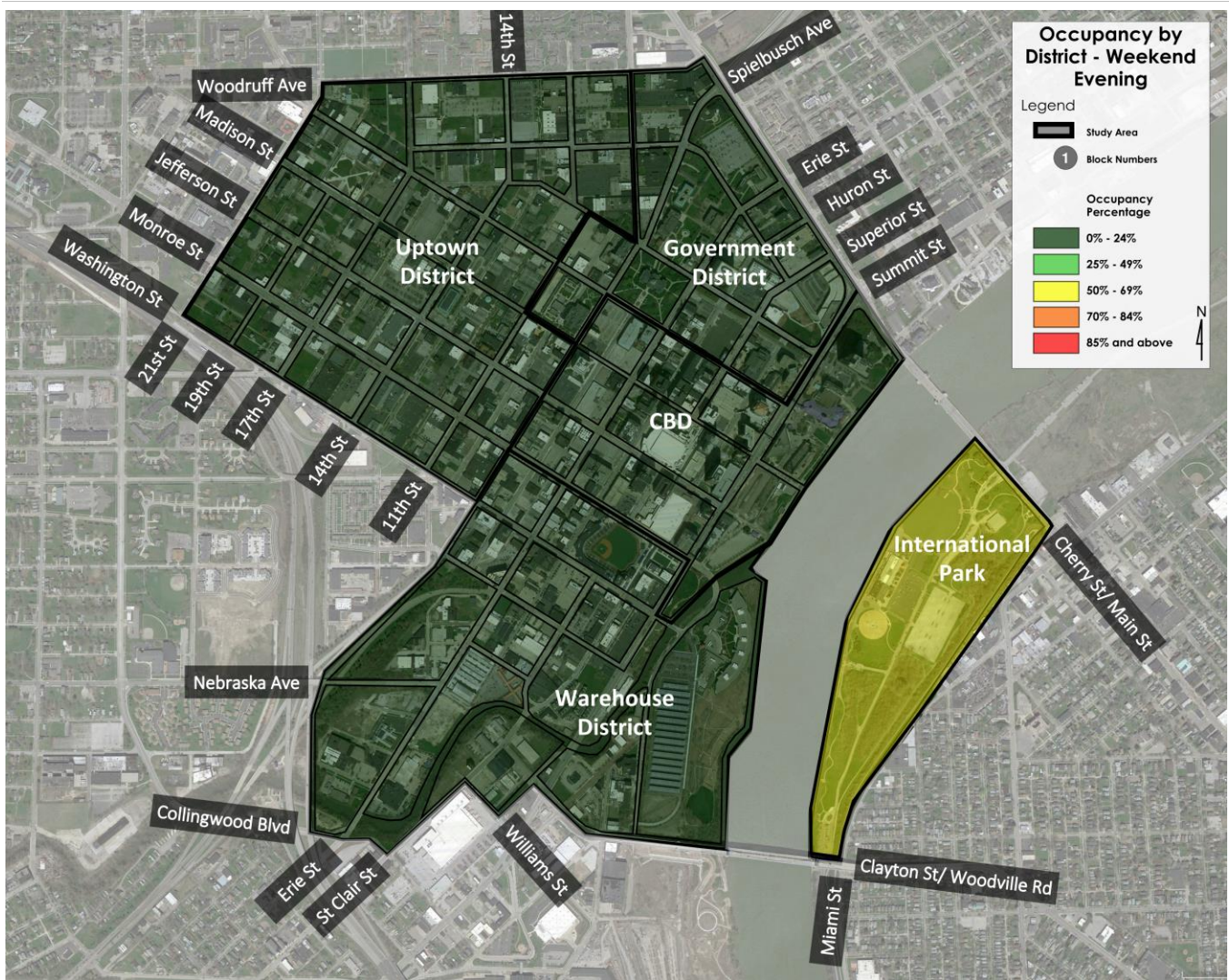
Figure 12: Weekday Off-Street Parking Occupancy Map by District - Evening



Source: Walker Consultants



Figure 13: Weekend Off-Street Parking Occupancy Map by District - Evening

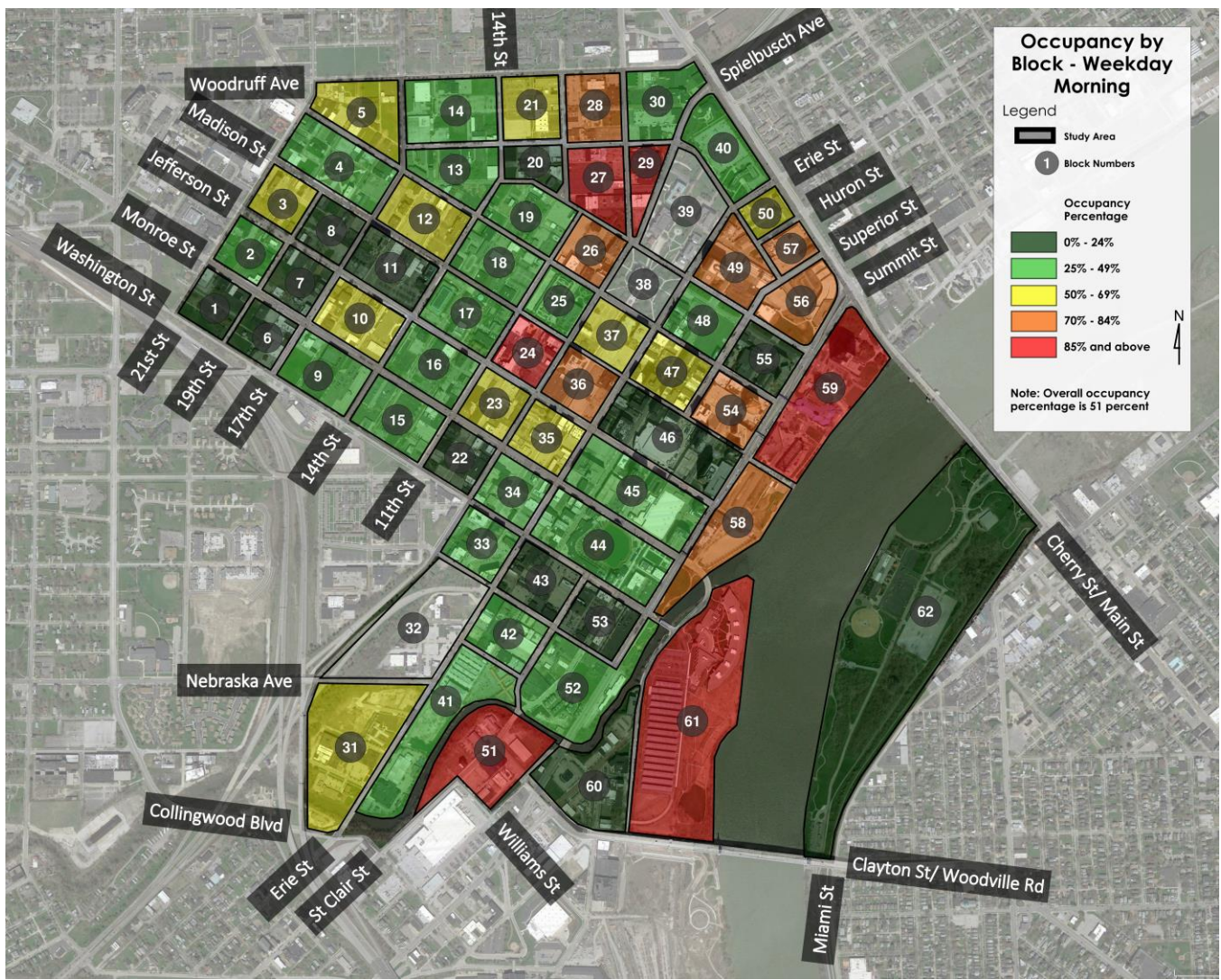


Source: Walker Consultants

Peak off-street parking demand was observed around 10:00 AM with approximately 9,943± occupied spaces or 51% of the overall off-street supply. While the overall occupancy rates exhibit adequate supply during peak conditions, there are localized areas that experience high utilization.

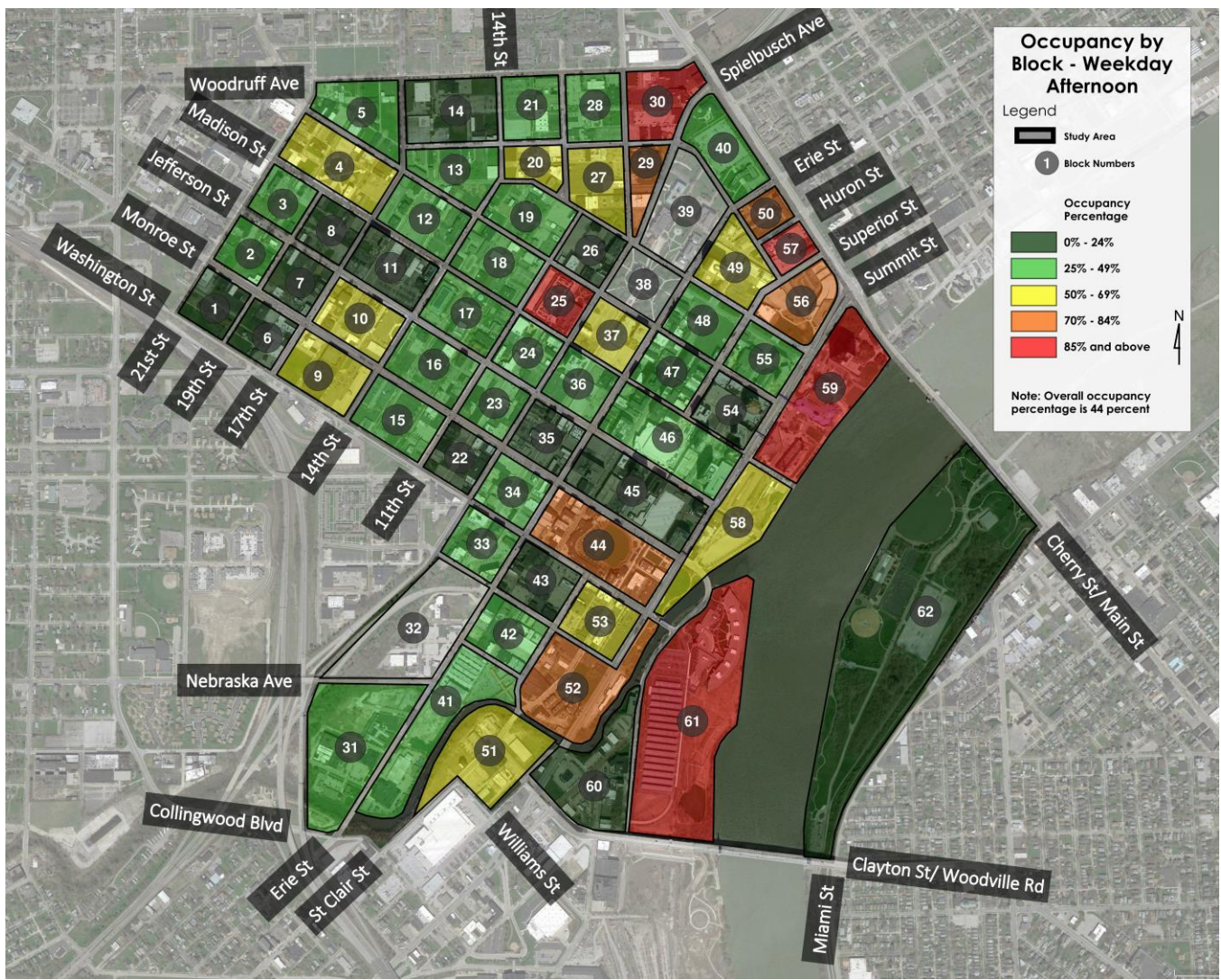
The parking occupancy rates by block are presented in the following figure.

Figure 14: Weekday Off-Street Parking Occupancy Map by Block - Morning



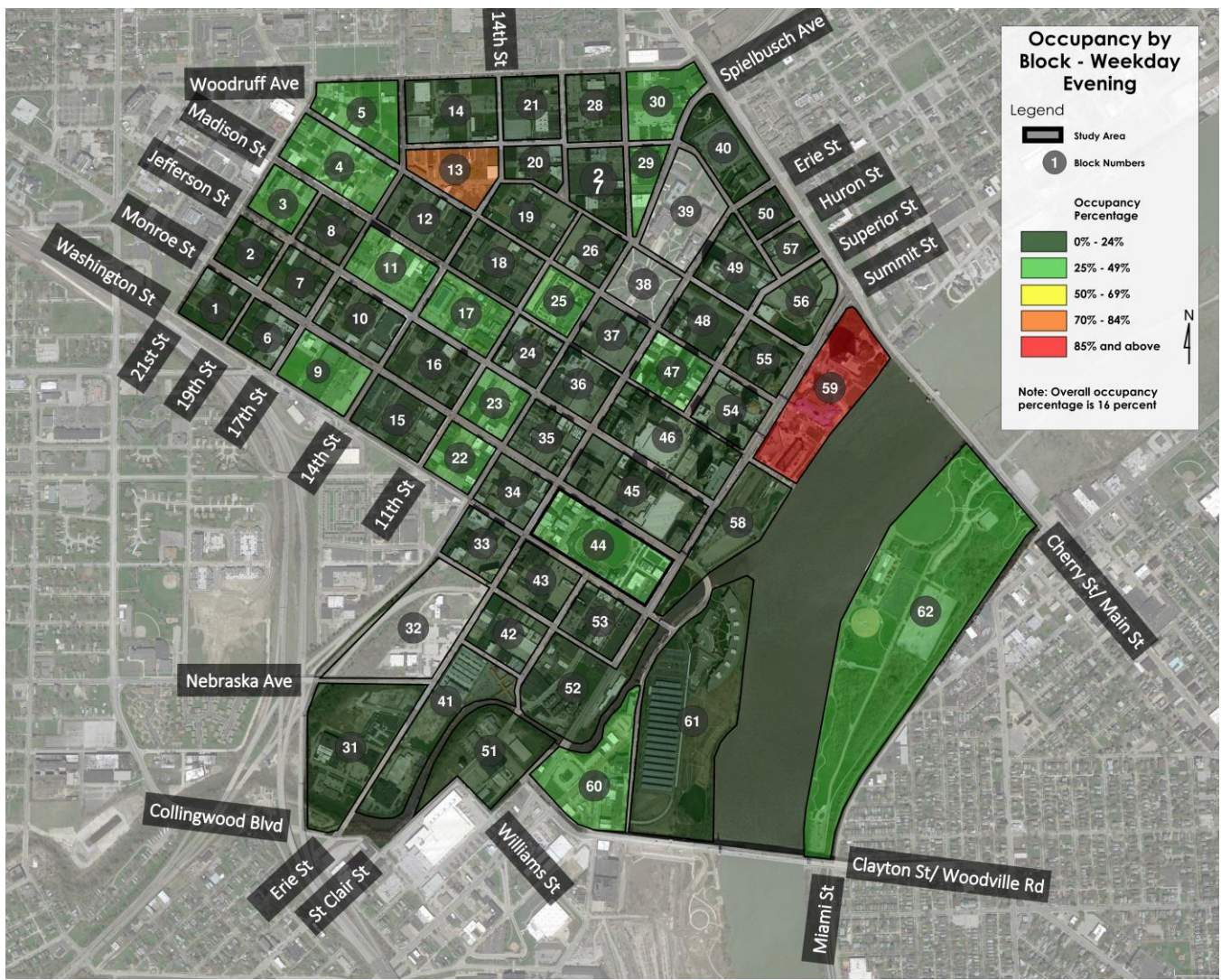
Source: Walker Consultants

Figure 15: Weekday Off-Street Parking Occupancy Map by Block - Afternoon



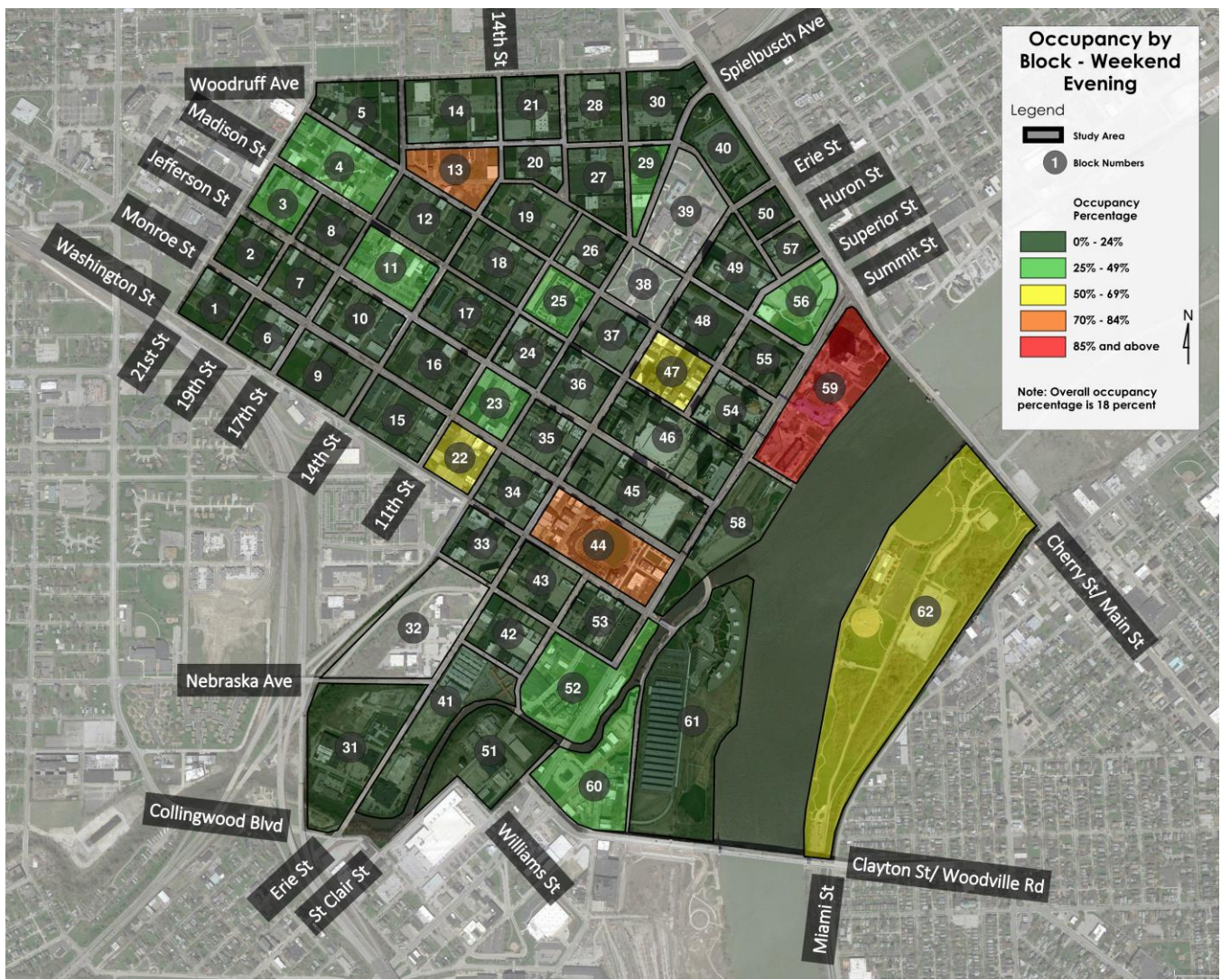
Source: Walker Consultants

Figure 16: Weekday Off-Street Parking Occupancy Map by Block - Evening



Source: Walker Consultants

Figure 17: Weekend Off-Street Parking Occupancy Map by Block - Evening



Source: Walker Consultants

## OFF-STREET PARKING ADEQUACY

Parking adequacy is the ability of the parking supply to accommodate the parking demand. The survey day parking occupancy is subtracted from the parking supply to determine the adequacy for off-street parking in the study area. The current parking adequacy of the study area is summarized in the following table.

**Table 7: Off-Street Parking Adequacy Summary**

District	Capacity	Weekday						Weekend	
		Morning		Afternoon		Evening		Evening	
		Occupancy	Adequacy	Occupancy	Adequacy	Occupancy	Adequacy	Occupancy	Adequacy
Uptown	5,035	2,247	2,788	1,989	3,046	988	4,047	879	4,156
Government	4,260	2,488	1,772	2,291	1,969	758	3,502	668	3,592
Warehouse	2,757	1,479	1,278	1,715	1,042	254	2,503	338	2,419
CBD	6,742	3,703	3,039	2,518	4,224	767	5,975	1,341	5,401
International Park	568	26	542	49	519	258	310	295	273
<b>TOTAL</b>	<b>19,362</b>	<b>9,943</b>	<b>9,419</b>	<b>8,562</b>	<b>10,800</b>	<b>3,025</b>	<b>16,337</b>	<b>3,521</b>	<b>15,841</b>

Source: Walker Consultants

Overall, the current off-street parking system has a parking surplus during peak weekday conditions, showing a significant parking surplus. Analyzing the parking adequacy by block allows for a better understanding of specific challenges or “hot spots” within the parking system. There are a few areas where this occurs in the study area. Block 5 includes two retail buildings (Jupmode and Finishmasters Auto Plus) with self-contained parking for employees and visitors. Jupmode and Finishmasters Auto were both heavily occupied in the morning during peak conditions. These challenges do not spill into the outlying land uses, however. Block 24 has a large surface lot (located at the northern corner of Jefferson and Michigan) with approximately 115 monthly spaces. These spaces appear to be shared between the SSOE Group, Munger + Munger and Associates, the YWCA Apartments, and other smaller businesses within the block. These businesses and potential residential parkers were utilizing the surface lot heavily in the weekday morning count. Walker views this shared-use of spaces as an exemplary model that could be used in other locations across the downtown.

Blocks 27 and 29, which house the Lucas County Juvenile Justice Center along with several law firms, are located in the Government District. Parking is at a premium in this region of the downtown. Due to the high demand, individual businesses and governmental organizations have adopted the inefficient practice of unshared parking. It is common when looking for parking in the Government District to see signage that states parking for customers of this business only or employee parking only. This management strategy, in conjunction with the already high demand, makes parking difficult. All of the facilities observed during the weekday morning count in these blocks were at or above 93% occupied.

Block 51, located south of Swan Creek, is shown as red on the occupancy map and a 100% occupied, which is accurate. However, this is not to be of a concern as these figures are misleading. There is only a supply of 11 spaces within this block and the occupancy levels is not a concern. Block 59 includes the Marriott Renaissance valet parking. Similar to the small number of spaces in Block 51, Block 59 has little parking available. Block 59 consists of the One Seagate building, Imagination Station and the Renaissance Hotel, that has an agreement with another facility located on Block 56 (Vistula Garage). It is in the hotel’s favor to maintain an appropriate amount of parking for their valet program. The parking occupancy level on this block is not a concern. Lastly, Block 61, where Owens Corning is located, has a high utilization of the available parking spaces. This is also a self-contained property where visitors and employees do not have other parking options.

With the aforementioned block details and the understanding of the overall system, data indicates there are no pressing parking issues now or in the immediate future. The next section addresses the potential impact new commercial development may have on the parking supply in the study area.



# 02 FUTURE CONDITIONS

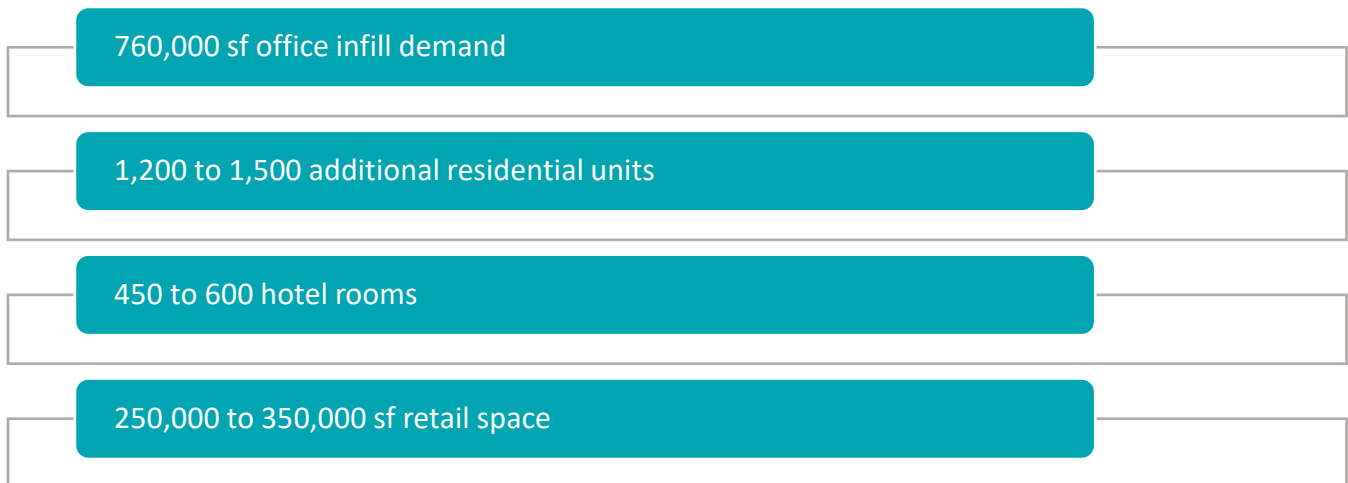
## FUTURE CONDITIONS

For the future analysis, Walker applies two methods for projecting future parking volumes. One method (**Scenario 1**) utilizes data from the 2017 Master Plan<sup>1</sup> ten-year demand projections. These projections do not identify known development plans or specific locations but do allow for a macro-analysis of future parking demand over a longer planning horizon. The second method (**Scenario 2**) for projecting future parking demand applies available information on proposed developments that are likely to occur. Development data is organized and evaluated according to changes in land use and square footage. Developments assumptions increase and become more speculative as the planning horizon increases. Given the large number of surplus off-street spaces, Walker recommends that Toledo focus on encouraging patrons to utilize off-street parking facilities. As such, the future conditions examined in this section of the report were analyzed to estimate the impact on **off-street** parking adequacy.

### PROJECTED PARKING DEMAND

Parking demand refers to the amount of parking that is estimated to be used at a particular time, place, and price. It is affected by vehicle ownership, trip rates, transportation mode split, length of stay, geographic location, type of trip (work, shopping, special event), the quality of public transportation, and fuel and parking costs. The methodology employed by Walker to project future demand combines the baseline off-street demand, observed off-street occupancy data, and the estimated developments or growth in demand resulting from proposed new land uses entering the Study Area. The baseline and incremental increase in demand are added together and then compared to the existing effective parking supply to determine the overall parking adequacy.

The growth assumptions derived from the 2017 Master Plan ten-year demand projections utilized in **Scenario 1** analysis include the following:



<sup>1</sup> "Downtown Toledo Master Plan", MKSK, February 2017. [Online]. Available: <http://www.connectoledo.org/media/1428/17-0209-toledo-dt-plan-report-book-lr-final-master-plan.pdf>





**Scenario 2** projected growth assumptions, which are separate from the above listed **Scenario 1**, are projected potential developments with more specific locations. **Scenario 2** proposed developments relate to specific locations which allow for a block-by-block analysis of future parking demand. Whereas, as a separate projection, **Scenario 1** development assumptions are used to understand the potential growth in demand for the entire downtown. The **Scenario 2** projections are as follows:



Fort Industry Square, located at 136 North Summit Street (Block 58), office complex is anticipated to be redeveloped to utilize 89,000 square feet of office space.



*The Saint Claire*, to be located between St. Clair Street, Swan Creek, and Summit Street (Block 52), is anticipated to be a 22-condominium in the Warehouse District.



Nasby Building, located at 605 Madison Avenue (Block 46) has potential to be converted to residential units, but the unit numbers have not been determined. Walker has estimated the number of units based upon the site dimensions taken from GoogleEarth and multiplied by the number of floors, leaving the ground floor for retail. A deduction of 15% was accounted for to convert the gross floor area into gross leasable area. It is estimated that approximately 100 units are potential on site.



Spitzer Building, located at 520 Madison Avenue (Block 47). It is projected that the Spitzer Building could accommodate between 99 and 108 residential units with an additional 18,000 to 20,000 square feet of commercial space on the ground floor.



Nicholas Building, located at 608 Madison Avenue (Block 47), is comprised 268,000 gross square feet of across 17 floors. It is assumed that retail will occupy the ground level while office space occupies the upper levels.



Hilton Garden Inn and Homewood Suites project, located at 141 N Summit Street (Block 45) is a project that is anticipated to yield 200 hotel rooms.



Uptown at Madison and 18th (Block 4) has potential for market rate zero lot line residential units. Walker has estimated the number of units on this site similarly to the Nasby Building. There are approximately 20 units on site.

There are two primary variables applied to the calculation of peak parking accumulation for new developments: 1) the gross leasable area (GLA), number of hotel rooms, seating capacity, etc. for each type of proposed land use (i.e., office, retail, restaurant, etc.), and 2) the appropriate parking demand ratio. The following section provides a discussion on the use of shared parking methodology when calculating the appropriate demand ratio to use for each type of land use in this analysis.

### *Shared Parking Demand*

Shared parking is defined as parking spaces that can be used to serve two or more individual land uses without conflict or encroachment. One of the fundamental principles of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to have each use or building have its own parking. The resurgence of many central cities resulting from the addition of vibrant residential, retail, restaurant and entertainment developments continues to rely heavily on shared parking for economic viability. In addition, mixed-use projects in many different settings have benefited from shared parking. There are numerous benefits of shared parking to a community at large, not the least of which is the environmental benefit of significantly reducing the square feet of parking provided to serve commercial development. Shared parking is an industry-accepted methodology utilized in municipalities across the nation.

The interplay of land uses in a mixed-use environment produces a reduction in overall parking demand. For example, a substantial percentage of patrons at one business (restaurant) may be employees of another downtown business (office). This is referred to as the “effects of the captive market.” These patrons are already parking and contribute only once to the number of peak hour parkers. In other words, the parking demand ratio for individual land uses should be factored downward in proportion to the captive market support received from neighboring land uses.

Adjustments are also made to account for the number of patrons who arrive at the subject property by means other than a personal vehicle. Based on data collected by the U.S. Census Bureau, Walker applied a drive ratio, or modal split factor, to each land use. Per current census data, approximately 90% of employees arrive via a personal vehicle in Toledo, Ohio, depending on proximity to public transit and their type of occupation. The remaining 10% utilize another means of transportation such as mass transit, bicycle, or walking.

The base parking demand ratio for each land use is adjusted to represent the projected market. These adjustments are calculated by multiplying the base ratio by the drive ratio (modal split), non-captive ratio (one minus the percent captive) and an hourly and seasonal adjustments. In addition to these, Walker has assumed a ramp-up factor for the proposed developments. A percentage has been deducted from the base units and have been provided as a range as opposed to a specific figure. Walker assumes that the projects will be 70% to 100% occupied. Because of this, the square footages provided within the 2017 Master Plan are reduced by 30% for the smaller end of the range and not reduced at all for the optimistic end of the range. In other words, the range given is between 30% reduction and full occupancy.

Note the project ratios derived for each land use may vary from demand ratios for current land uses in the downtown area. Walker based the future projections on ULI recommendations, not the parking generation rates exhibited by existing land uses.

Both the base demand ratio and time of day adjustment factors change for the various land uses projected, sometimes significantly affecting the project ratio. The table below, displays the high-end of the range for the increase in parking demand.



Table 8: *Scenario 1* Estimated Additional Parking Demand

Type of Use	Quantity	Base Ratio	Units	Monthly Adjustment	Hourly Adjustment	Non-Captive Adjustment	Drive Ratio	Peak Weekday Total
Office	760,000	x 0.25	/thousand square feet	x 100%	x 100%	x 95%	x 90%	= 162
Employee	760,000	x 3.15	/thousand square feet	x 100%	x 100%	x 95%	x 90%	= 2,047
Apartments	1,300	x 0.1	/units	x 100%	x 20%	x 99%	x 90%	= 23
Residents	1,300	x 1	/units	x 100%	x 70%	x 100%	x 90%	= 819
Hotel	500	x 1	/rooms	x 67%	x 60%	x 100%	x 90%	= 181
Employee	500	x 0.25	/rooms	x 100%	x 100%	x 98%	x 90%	= 110
Retail	300,000	x 2.9	/thousand square feet	x 100%	x 100%	x 85%	x 90%	= 666
Employee	300,000	x 0.7	/thousand square feet	x 100%	x 100%	x 85%	x 90%	= 161
<b>TOTAL</b>								<b>4,169</b>

Source: 2017 Downtown Toledo Master Plan & Walker Consultants

In **Scenario 1**, through shared parking, Walker has estimated the entire downtown to have an increase in parking demand throughout a ten-year span between 2,918± and 4,169± spaces.

For **Scenario 2**, a second demand model was developed utilizing the city-provided development assumptions. The potential demand increases are presented in the following table:



Table 9: *Scenario 2* Per Block Estimated Additional Parking Demand

	Type of Use	Quantity	Base Ratio	Units	Monthly Adjustment	Hourly Adjustment	Non-Captive Adjustment	Drive Ratio	Peak Weekday Total
One Seagate	Office	250,000	0.25	/thousand square feet	100%	100%	95%	90%	53
	Employee	250,000	3.15	/thousand square feet	100%	100%	95%	90%	673
	Block 59 Subtotal								726
Fort Industry Square	Office	89,000	0.25	/thousand square feet	100%	100%	95%	90%	19
	Employee	89,000	3.15	/thousand square feet	100%	100%	95%	90%	240
	Block 58 Subtotal								259
The Saint Claire	Apartments	22	0.10	/units	100%	100%	99%	90%	2
	Residents	22	1.00	/units	100%	100%	100%	90%	20
	Block 52 Subtotal								22
Spitzer Building	Office	252,000	0.25	/thousand square feet	100%	100%	95%	90%	54
	Employee	252,000	3.15	/thousand square feet	100%	100%	95%	90%	679
	Apartments	99	0.1	/units	100%	100%	99%	90%	9
	Residents	99	1	/units	100%	100%	100%	90%	89
	Retail	19,000	2.9	/thousand square feet	100%	100%	85%	90%	42
	Employee	19,000	0.7	/thousand square feet	100%	100%	85%	90%	10
Block 47 Subtotal								883	
Nasby Building	Apartments	100	0.10	/units	100%	100%	99%	90%	9
	Residents	100	1.00	/units	100%	100%	100%	90%	90
	Block 46 Subtotal								99
Hilton hotel project	Hotel	200	1.00	/rooms	100%	100%	99%	90%	178
	Employee	200	0.25	/rooms	100%	100%	100%	90%	45
	Block 45 Subtotal								223
Apartment development	Apartments	20	0.10	/units	100%	100%	99%	90%	2
	Residents	20	1.00	/units	100%	100%	100%	90%	18
	Block 4 Subtotal								20
TOTAL									2,232

Source: *ConnecToledo & Walker Consultants*

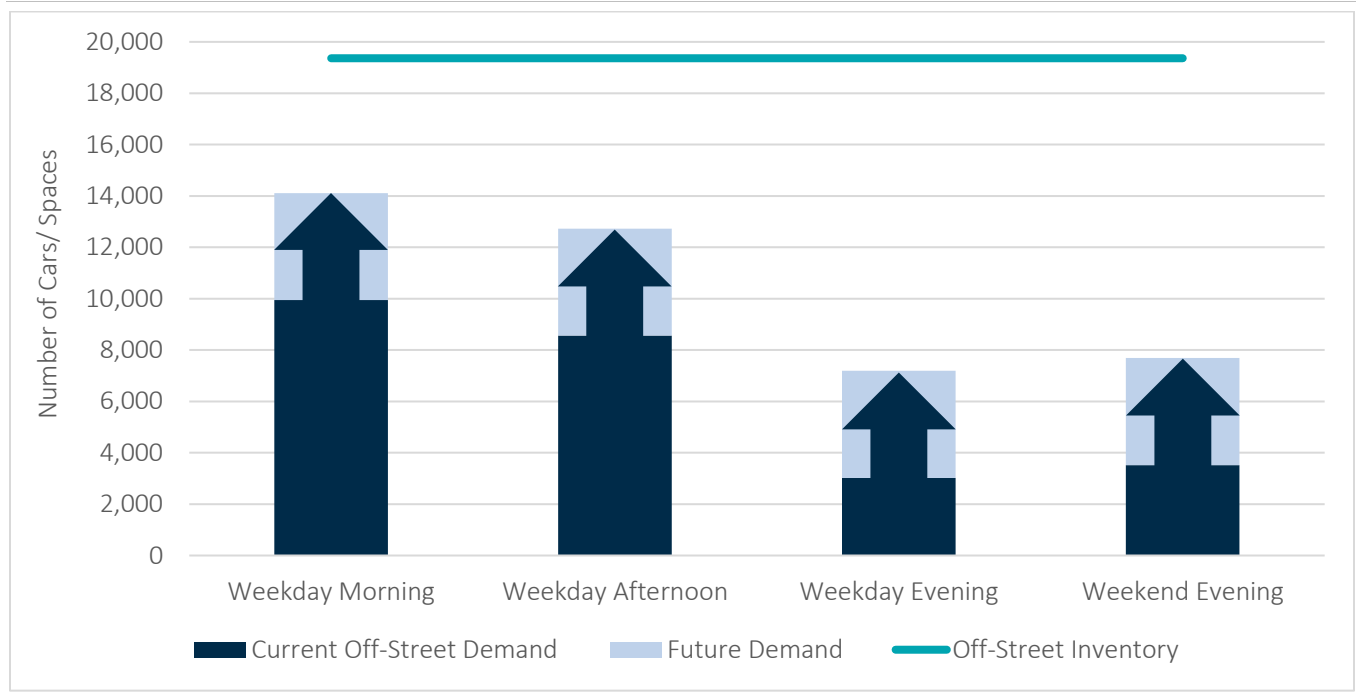
It is important to note that these two different analyses are not additive of each other but are two separate ways of looking at potential developmental impacts. They also utilize two different sets of assumptions as previously described.

### Impacts of Potential Developments

Utilizing the shared parking estimates, we are able to add the future projected demand to the current peak demand to understand the anticipated adequacy of the system better, and blocks affected. The figures below display this anticipated demand.



Table 10: Future Anticipated Demand for Downtown — Scenario 1



Source: Walker Consultants

**Table 11: Future Anticipated Off-Street Adequacy by Block — Scenario 2**

Block Number	Current Capacity	Utilization	Current Demand	Estimated Future Demand	Estimated Future Adequacy
59	40	at 70%	40	605	-565
59	40	at 100%	40	766	-726
58	965	at 70%	678	859	106
58	965	at 100%	678	937	28
52	1,567	at 70%	1,219	1,234	333
52	1,567	at 100%	1,219	1,241	326
47	111	at 70%	57	675	-564
47	111	at 100%	57	940	-829
46	1,319	at 70%	254	323	996
46	1,319	at 100%	254	353	966
45	1,065	at 70%	321	479	586
45	1,065	at 100%	321	546	519
4	152	at 70%	74	88	64
4	152	at 100%	74	94	58

Source: Walker Consultants

The overall downtown ten-year anticipated demand, from **Scenario 1**, changes the peak occupancy from 51% utilized to an estimated range of 66%-73% utilized, with the expectation that the current supply would be adequate to support the proposed development projects. The **Scenario 2** per-block increase in demand impacts the availability of potential parking within Blocks 59 and 47. There is an anticipated surplus of parking for Blocks 58, 52, 46, 45, and 4. Block 58, however, has potential to generate an estimated occupancy between 89%-97%. This would mean that the Fort Industry Square development would need to create a shared parking agreement with a surrounding facility, integrate automated parking guidance systems to utilize every space, or build additional parking supply. As described earlier in this report, there is a facility across Summit Street, in Block 45, that is underutilized and could be the primary parking location for this proposed office space. It would be most cost effective to utilize existing underutilized parking assets and allow the development to occur without building additional parking. This is one potential option for solving the issue of anticipated high parking occupancy on Block 58. The implementation of a shared parking agreement can ensure there are no negative impacts on the surrounding establishments, such as overflow or illegal parking. Additional details regarding potential and recommended managerial strategies are discussed in the next section of the report.

As displayed in the previous table, the real area of focus is on Block 47. This displays a potential for an inadequacy of approximately 560 to 830 spaces. These projections of inadequacy assume full build out and a range of 100 to 70 percent occupied. Additionally, this assumes no shift in alternative mode of transit within the next ten years. If these potential developments occur, it is the “perfect storm” and would be

**Table 12: Available Off-Street Parking Surplus at Peak Observed Occupancy**

Block Number	Number of Spaces Available
36	175
37	234
46	1,065
47	54
48	283
54	348
55	369
56	256
<b>TOTAL</b>	<b>2,784</b>

Source: Walker Consultants

an excellent problem to have. However, it is Walkers opinion that no action be taken until developments are fully solidified. Walker recommends the Parking Advisory Committee take into account the underutilized surrounding facilities. The following table lists the availability of parking within a five-minute walk of the “Four Corners” (the only intersection which has the original buildings on all four corners still remaining). “Four Corners” is comprised of the intersection of Madison Avenue and North Huron Street. This location is also directly between the Spitzer Building (Block 47), Nicholas Building (Block 47), and Nasby Building (Block 46). During the peak observed occupancy, which occurred on a weekday morning, there is a surplus of over 2,100 parking spaces (Blocks 36, 37, 46, 47, 48, and 54) within a five-minute walk of “Four Corners”. There are 625 available spaces (Blocks 55 and 56) at peak within an

even shorter distance to One Seagate (Block 59). These all total 2,784 spaces to alleviate the pressures of the potential developments.

This analysis was performed with third party objectivity and without favoring any party involved. Further analysis is recommended as each potential development becomes more likely to occur. At this time, the availability of parking within the surrounding areas allows for more than ample coverage of the projected demand.



**03** TRANSPORTATION DEMAND  
MANAGEMENT  
STRATEGIES



## TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

### TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

As the downtown is redeveloped, it will grow in popularity and become more of a destination and neighborhood for employees and residents in the surrounding community. Noteworthy growth is anticipated over the next decade and, at full build-out, downtown is projected to redevelop with demand for approximately 760,000 square foot of office space, 250,000 square feet of retail, 450 hotel rooms, and 1,200 residential units. Planned enhancements to the transportation network include new shared bicycle program with 17 facilities that will increase connectivity to and through the downtown. Unrelated, the Toledo Area Regional Transit Authority (TARTA) is abandoning its downtown bus loop. TARTA also has plans to renovate the former Goodwill building located on Cherry Street to create a new transit hub. These plans should be viewed as an opportunity to start fresh, allowing for alternate uses for the bus lanes in the public right-of-way. The sidewalks could be expanded, protected bike lanes could be added, or planters could provide a more conducive environment. These are some aspects of how a road diet could increase other means of transportation. With the likely redevelopment of properties built prior to the advent of the automobile, Walker advises Toledo to equip, utilize, and promote alternative means of transit to encourage these redevelopments further.

This chapter introduces the concept of TDM, identifies how TDM is successful, outlines the benefits of TDM, and recommends TDM strategies for the various development scenarios of the downtown. The TDM recommendations aim to accommodate the changes occurring within the City, minimize the demand for on-site parking, and enhance the transportation experience of all users.

#### *What is TDM?*

Transportation demand management (TDM) is a collection of complimentary strategies and behavioral incentives that emphasize the movement of people and goods rather than the motor vehicle. It focuses on assisting people to make transportation decisions that include transit, ridesharing, shuttles, walking, biking, and other solutions or improvements and to reduce single occupancy vehicle (SOV) trips and the parking infrastructure required to accommodate those trips. TDM's focus is on the people that will be accessing the site and the alternative ways in which they could do so. Often, substantial subsidies, in the form of free/available parking and Federal and local investments in roadways, allow driving to be the most convenient option. TDM strategies propose a range of possible transportation incentives for downtown Toledo that could optimize several different modes and counterbalance subsidies. This methodology is intended to create a more balanced transportation system that provides the best access and mobility for all users.

#### **Transportation Demand Management (TDM) Includes:**

- Transit
- Ridesharing
- Shuttles
- Walking
- Biking

Simply providing options within the transportation system is the start of the TDM process; developing a desire by travelers to use the services is the logical next step to managing traffic. TDM is a much more cost-effective strategy than trying to build a system to meet peak travel or parking demands, and it creates significantly fewer community and environmental impacts. TDM strategies often require some tradeoffs between personal travel freedom and greater network efficiency or utilization. In urban environments, users frequently expect to walk or utilize a form of transportation demand management between destinations. Whereas in a suburban environment, users likely expect to arrive to their destination in a personal vehicle. Downtown Toledo is certainly an urban environment, however many of users of the downtown are from the outlying suburban areas. This is why the benefits of utilizing a form of transportation other than a personal vehicle are so important.

### *What Benefits Does TDM Provide?*

There are many important, interrelated benefits of reducing the number of cars on the roadway and the number of miles driven. There are transportation system benefits, social benefits, environmental benefits, health and safety benefits, and financial benefits.

#### TRANSPORTATION SYSTEM BENEFITS

- **Reduced congestion and resultant time savings**
- **Multiple options for getting around**

#### SOCIAL BENEFITS

- **Reduced dependence on fossil fuels**
- **Enhanced quality of life in walkable, bikeable communities with many transportation options**
- **Reduced community fragmentation caused by wide, high-speed roads**

#### ENVIRONMENTAL BENEFITS

- **Allow for and promote the revitalization and redevelopment of historical buildings**
- **Improved air quality**
- **Reduced greenhouse gas emissions**
- **Improved water quality**
  - reduced polluting emissions and fluid leaks
  - reduced need for paved surfaces

#### HEALTH AND SAFETY BENEFITS

- **Fitness benefits of active transportation (biking and walking)**
- **Health benefits of improved air quality**
- **Stress reduction**

#### FINANCIAL BENEFITS

- **Reduced costs of car ownership and maintenance**
- **Reduced cost of parking for both developers and tenants**

TDM provides a multitude of options for users to access a site and promotes a mode shift away from the single occupancy vehicle. In providing these options, roadways can be used more efficiently, and impacts to these networks can be lessened. TDM strategies that offer transportation choices are often considered a site amenity by users and visitors. Walkability, proximity to transit, bicycle facilities, and bikeshare/ carshare enhance convenience and provide several transportation options to those that don't have to drive.

### *How Does TDM Work?*

TDM is most effective when supported and implemented by both the public and private sector through a coordinated effort to reduce vehicle trips to a specific area. A shift from automobile trips to other transportation modes may result in the reduction of vehicle miles traveled by employees, visitors, and residents. TDM is also most effective when multiple strategies are implemented together as part of a package of transportation options for end users.

Ongoing monitoring is also a key element in the success of a TDM plan. The TDM Plan can be focused to encourage lower vehicle miles travelled (VMT), reduce greenhouse gas emissions, lower rates of single occupancy vehicles, and reduce parking demand depending upon the goals of the project.

TDM strategies are often classified into six different categories:

- **Land Use/Location** - sites located in urban environments with higher densities and a mix of uses (see examples on the left), with grid roadway systems, in proximity to local attractions, and with access to transit are more successful when implementing TDM programs.
- **Neighborhood Site Enhancements** – physical and/or programmatic improvements can enhance pedestrian, bicyclist, and carshare experiences.
- **Parking Pricing** – use of management strategies that correlate parking supply and cost.
- **Transit System** – improvements can increase accessibility of transit: expansion, frequency, and proximity.
- **Commute Trips** – incentives offered by employers may reduce single occupancy vehicle commute trips: transit fare subsidies, alternative work schedules, employer-sponsored vanpools/shuttles, and ride-share programs.
- **Marketing/Promotions** – education provides real-time information regarding transportation options

Depending on the project, a TDM plan can incorporate elements from one, several, or all of these categories. Most of the strategies are considered incentives rather than disincentives, and the responsibility for implementation is often a collaboration between the private and public sectors.

### *How Do We Know TDM Works?*

TDM has been proven to reduce the impacts on the physical transportation infrastructure, air quality, energy use, and travel costs, while still preserving mobility. There is extensive peer-reviewed research related to TDM strategies. The California Air Pollution Control Officers Association Quantifying Greenhouse Gas Mitigation Measures report provides a comprehensive overview of most of the available literature and identifies TDM strategies and their effectiveness in VMT reduction.

Based on years of research, some of the most effective TDM strategies are related to Parking Pricing/ Policy, Commute Trips, and Land Use/Location. Limiting the parking supply typically results in a 5% to 12.5% reduction in VMT; unbundling parking results in a 3% to 13% reduction in VMT. Mandatory commute-trip reductions can result in a VMT reduction of 21%, and pricing workplace parking can reduce VMT by 20%. When a site provides a mix of land uses, good transit accessibility, and increased density, VMT reductions can reach 30%.

In addition, several cities and large projects in the United States have implemented successful TDM programs with measurable success.



**Aspen, Colorado** – Aspen implemented transit as a TDM strategy in the 1970s and launched a more formal program with paid parking in the mid-1990s. Traffic volumes across the Cripple Creek Bridge into town have remained below 1998 volumes, largely due to the city’s TDM program. This is true even during the multiple events throughout the year that draw hundreds of out-of-town visitors. New development projects in Aspen are required to implement TDM strategies that result in zero net new vehicle trips.

**Barclays Center, Brooklyn, New York** – In 2012, the Barclays Center, both an active year-round event center and home to the Brooklyn Nets, implemented a holistic TDM program. This program reduced overall auto mode share by 8% and resulted in a 20% reduction in peak hour auto trips. Initiatives included enhanced transit service on New York City Transit (NYCT) and the Long Island Rail Road (LIRR), preferred parking for carpools, parking supply limits, and targeted marketing programs.

**Boulder, Colorado** – The City of Boulder requires a TDM plan be completed and implemented for every development within the city. The City currently realizes approximately 20-percent fewer vehicle trips due to their TDM program and the multimodal transportation options available. Increases in the demand for transit and an increase in transit service create a positive-feedback loop.

**Burlingame Point, San Francisco, California** – In 2011, Burlingame Point developed a TDM program to encourage future employees of Burlingame Point to walk, bicycle, use public transportation, carpool, or use other alternatives to driving alone when traveling to and from the proposed campus. The program identified 16 different TDM strategies that have a combined effect of a more than ten-percent reduction in peak hour trips; this justifies the reduction in parking from the City’s 3.33 spaces/1,000 sf to 3.0/1,000 sf. Methods documented in Quantifying Greenhouse Gas Mitigation Measures, a report recently released by the California Air Pollution Control Officers Association (CAPCOA), estimate a 13 percent reduction in peak hour trips, three percentage points higher than the ten percent goal.

**CenturyLink Field, Seattle, Washington** – Home to the Seattle Seahawks, the CenturyLink Field complex also serves as a concert and multipurpose event venue. In 2002, the complex implemented a Transportation Management Program (TMP) that ultimately reduced auto mode share from over 80% to 57%. Interventions included hiring a transportation manager to implement TMP strategies, a shuttle program to park-and-ride lots, and improvements to pedestrian and bicycle amenities.

**Columbus, Ohio** – Columbus has an office rental market that is struggling to compete with newer suburban office space. The office vacancy rates in downtown Columbus have risen to over 14%. There is a lack of parking to accommodate the demand in addition to perceived congestion associated with a downtown. To alleviate both of these concerns and further



incentivize occupants to lease the available office space, property owners have voted to a tax that will pay for bus passes for downtown workers<sup>2</sup>.

**Facebook Campus, Menlo Park, California** – At its headquarters in Menlo Park, California, Facebook has developed a comprehensive TDM program, including long-distance employee commute shuttles, a vanpool program, and bicycling amenities and incentives. This program has been consistently successful in diverting over 45 percent of trips.

**Stanford University, Palo Alto, California** – Stanford University employs several services and incentives that have successfully replaced student, faculty, and staff trips by private vehicle with transit, biking, and walking commute trips. The main ingredients for success at Stanford are charging for parking, making other modes free and easy to use, changes to the built environment, and helping people to understand their options.

**Park City, Utah** – Park City adopted a TDM plan in March 2016. The City has begun to implement several TDM strategies from this plan, in addition to existing programs. This includes the phased implementation of paid parking, beginning with evening-only paid parking downtown. Other TDM strategies include discounted ski lift tickets for those that take transit, preferred ski parking for carpoolers, shifting travel demand to off-peak hours, and increasing education through lodging venues and the Chamber that visitors don't need a car when they visit Park City.

**Prudential Center, Newark, New Jersey** – The Prudential Center in Newark hosts about 200 events per year and is also home to the New Jersey Devils. After years of car-centric transportation planning, the Center implemented a TDM program in 2010 which doubled transit ridership. Interventions included dedicated transit ambassadors, special discounts and passes for event attendees and signage and wayfinding to park-and-ride locations.



**Seattle Children's Hospital, Seattle, Washington** – Seattle Children's Hospital is a strong model for promoting alternative transportation modes, with the mode split to prove it. The 2008 Master Plan laid out a target to reduce the share of commuters who arrive in an SOV to 30 percent by 2028. The hospital is working to achieve this goal through a carrots-and-sticks approach to travel behavior—making it less attractive to drive while also making other modes more attractive. The hospital attributes their mode splits to a comprehensive program that includes paid parking, free bicycles, shuttles, education, branding, and marketing to create a compelling package.

### *Why Is TDM Important for Downtown Toledo?*

During the stakeholder process transportation demand management was identified as an important component of the parking and transportation management plan. Furthermore, key stakeholders and members of the community continued to identify prioritization of means other than SOV to travel downtown. Finally, through discussions with ConnecToledo, concern has been expressed for parking availability on site of potential future redevelopments.

<sup>2</sup> <http://www.dispatch.com/news/20170802/program-approved-to-give-free-bus-passes-to-downtown-workers>

TDM is not a strategy that will solve all parking and transportation problems in all scenarios. TDM is a tool that can be used to diminish the number of single occupancy vehicles and associated congestion and parking demand. TDM, along with marketing strategies, a park once philosophy, improvements in walkability, sharing of parking spaces, and appropriately managing the current inventory can encourage future developments to take place and enable them to thrive in the downtown. The Nasby Building and the Spitzer Building, both located at the intersection of Madison Avenue and Huron Street and shown below, are two potential development sites that create cause for concerns related to parking availability. With TDM strategies implemented and the utilization of current parking assets surrounding these buildings, these redevelopment sites may not need further parking added.



In summary, the aforementioned strategies can help manage demand on the transportation network, and be designed to make it easier for new residents, tenants, employees, and visitors to get around by sustainable travel modes such as transit, walking, and biking, by implementing and supporting TDM strategies. Without TDM strategies, mobility options would be limited, a less efficient transportation system would be realized, and the demand for parking in specific nodes within the downtown could not be accommodated.

Some key points to maintain as TDM takeaways for downtown Toledo are listed below:



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## Toledo TDM Takeaways

An investment in TDM programs and policies is an effective way to leverage prior or create a new downtown management association and anticipated investments into TARTA's transit system, bike and pedestrian improvements throughout the downtown, and other local and regional multi-modal systems.

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TDM policies are proven to be generally effective in encouraging multi-modal transportation choices in other cities across the country.

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The cost to implement moderate transportation demand management policies is much lower than the cost to develop and operate a comparable amount of on-site parking and access infrastructure.

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Transportation demand management requires only a small amount of physical land area (mostly for pick-up and drop-off queuing) as compared to parking, and therefore allows for a greater amount of the downtown to be devoted to potential developments, pedestrian circulation and green space, and other desirable choices.

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A transportation demand management program helps to reduce single-occupancy vehicle trips and overall vehicle miles travelled, thereby reducing fossil fuel consumption.

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TDM programs encourage a range of transportation options, many of which are well positioned to respond to changes in demand as the transportation industry evolves. Major industry disruptors such as the impact of TNCs (e.g., Uber and Lyft) and possible future changes due the autonomous vehicles are two possible evolutionary factors to consider.

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Though not an option for all patrons, multi-modal options are likely appealing to some percentage of residents and visitors. Creating and encouraging alternative modes of transportation was a key takeaway from the stakeholder engagement meetings.

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## PARK ONCE PHILOSOPHY



Part of promoting greater walkability is realigning user expectations. Parking in downtowns cannot always be provided at the front-door. To generate higher density mixed-use districts, a “park once” model is necessary with expectations that parking resources will be shared and that users will walk throughout the district. This proposed operational philosophy aligns with the feedback generated from the focus groups and the 2017 City of Toledo Master Plan which establishes goals for walkable, high density, mixed use areas. During one of the focus groups, a participant even said the phrase, “Toledo has a walking problem, not a parking problem”. Creating a walkable environment that prioritizes pedestrians over automobiles in the downtown will further encourage the park once philosophy.

A park-once philosophy allows for users who are working, visiting, or those who live in the downtown to park in one location and walk between destinations. Many stakeholders and community members have pointed out the common practice of driving short distances within the study area to find another available parking space. Upon review and comparison of the on-street study data with the current off-street study data, we have noticed that off-street parking peaks in the morning. Whereas, on-street parking demand peaks in the afternoon. This is likely due to a number of push and pull factors including:

1. Free on-street parking from 11:00 AM until 2:00 PM
2. Averseness to walking
3. Large amounts of available parking

It is possible that the reasoning behind these weekday trends is due to users parking primarily in off-street facilities upon arrival to the downtown. Then utilizing their cars during the lunch hours to drive somewhere and leaving their cars on the streets. These habits need to be discouraged in Toledo.

Walker promotes a “park once” model for downtown Toledo which necessitates greater walkability. Toledo’s CBD may appear to be far from surrounding near immediate downtown neighborhoods such as the Warehouse District or Uptown. However, these locales are not actually far from each other. Furthermore, the items described in this report already have illustrated ways of encouraging interconnections between and within these neighborhoods. Promoting greater walkability aligns with Toledo’s objectives to achieve a desired urban form and grow economically as it increases pedestrian activity within the public-right-of-way supporting retail traffic and sales.





**04** FUTURE PARKING  
ALTERNATIVES &  
RECOMMENDATIONS

## FUTURE PARKING ALTERNATIVES & RECOMMENDATIONS

### MANAGERIAL IMPROVEMENTS

Prior to implementing any changes to public parking in downtown Toledo, Walker recommends for the Parking Advisory Committee's consideration, reviewing current policies and practices. The proposed changes are intended to help improve the overall delivery of parking services. These recommendations are based on input from stakeholders directly impacted by public parking policy and practices. In addition, the recommendations reflect Walker's analysis of current and future parking conditions and assessment of current operations. This section begins with a summary of overall goals for the parking system, followed by strategies and details for obtaining these goals. The recommendations for the public parking system can be scaled to support the various needs of a growing and active downtown market. The recommendations are organized and presented in the following categories:

#### Enforcement

- Upgrade existing enforcement equipment to create efficiency and better record-keeping.
- Enforce parking time limits on a zonal basis instead of on a space-by-space basis. (This action mitigates the practice of long-term parking patrons moving their vehicles every two hours to avoid receiving a parking citation for overtime parking, by pulling into another nearby, short-term parking space, instead of simply storing the vehicle in a space intended for long-term use.)

#### Demand Management

- Provide static and dynamic off-street parking signage to market the availability and location of these spaces to downtown stakeholders to encourage a park-once philosophy.
- Encourage mixed-use sites through zoning and off-street parking requirements

#### Planning/Zoning

- Amend the parking element of the zoning ordinance to require developers to submit a parking plan as part of the overall site-plan for City Planner approval.

#### Signage, Wayfinding, and Marketing

- Improve parking signage package including restriping on-street spaces, upgrades to pole signage, and installation of wayfinding signage throughout downtown
- Implement a continuous improvement model that incrementally replaces signage to create a cohesive and recognizable campaign across the entire downtown
- Implement parking planning workshops with local businesses, city government, and other stakeholders
- Create and implement a regular marketing and public relations program aimed at educating stakeholders about parking options and disproving myths about downtown parking.

### Parking System Basics

There are two primary reasons why communities decide to adopt, increase, or maintain parking rates. The first is to induce human behavior using economics. Users of the parking system will quickly modify their parking behaviors if they incur costs in the form of user fees. For instance, if rates are charged for on-street parking, employees will be motivated to find long-term parking areas that are either less expensive or free, keeping prime on-street spaces available for business patrons. Most users will see the convenience of nearby on-street parking and opt to pay the rates, while a small percentage might not be willing to pay and will go out of the way to find free or less expensive parking farther away. This balances parking utilization to address the supply and demand challenges.

The second reason a city chooses to adopt rates, or in this case eliminate the free period, is to create a self-sustaining parking enforcement program. The intention is not to create a profit center from parking revenues, but to pool revenues into a self-sustaining parking auxiliary

fund. This fund should include the parking debt service and maintenance requirements of all existing public parking facilities, both on- and off-street. On-street meter rates and the garage rates all comprise potential parking revenue sources. The revenues of one source alone are insufficient to cover total parking system costs. One strategy Walker has seen employed in numerous public parking programs across the country is for revenues to be pooled together from multiple parking assets in the public parking portfolio, e.g., on-street meters, off-street surface lot and parking structure monthly lease and transient revenue, and parking citations revenue.

Walker recommends that the City consider changes to current policies and practices. The proposed changes are intended to help improve the overall delivery of parking services. These recommendations are based on input from stakeholders directly impacted by public parking policy and practices. Additionally, the recommendations reflect Walker's analysis of current and future parking conditions and assessment of current operations. These recommendations can be scaled to support the various needs of a growing and active downtown community. The following listed items summarize Walker's general recommendations for the downtown parking system:

1. **Increase Enforcement** — Walker recommends that ParkSmart maintains a presence in the downtown that deters from scofflaw behaviors and repeat offenders. The ParkSmart app allows users to game the system and park beyond the allowed time limits. Maintaining an enforcement presence and utilizing more efficient enforcement equipment can reduce this activity. Additionally, it is important that there is a cohesion of the on- and off-street systems, meaning the enforcement of one impacts the other. After the meters have stopped and when ParkSmart is off duty, the Toledo Police Department could carry the weight of illegal parking enforcement for the on street.
2. **Modify Daytime Hours of Enforcement** — Walker recommends that ParkSmart enforce two-hour time limits across typical daytime hours of 8:00 AM to 5:00 PM, Monday through Saturday, on a per zone basis. This would include enforcing consistently and fervently. In addition, the implementation of event parking is recommended for review. This would entail additional enforcement on street and a flat rate event fee for off-street parking. Currently, the City has a mid-day break of enforceable hours every weekday. The elimination of this free period has been recommended by Walker in two previous reports. Walker still stands by this recommendation.
3. **Public Relations** — Conduct a public relations campaign explaining the benefit of implementing a more rigorous parking enforcement program. Consider a 30-day warning period for users. Enlist the help of organizations like the Chamber of Commerce and the Parking Committee to help educate parking users.
4. **Promote Long-Term Parking Areas** — Promoting long-term parking areas that can accommodate employee parking, which we define as parking greater than 2-hours, can allow for on-street spaces to maintain availability for visitors. Additionally, this can allow service workers to have a lower cost option for parking in the downtown. Allow the Parking Advisory Committee to explore and consider pros and cons of a residential parking permit program in the Warehouse District.
5. **Enhance the Quality and Safety of Existing Facilities** — Improve lighting, pedestrian, and streetscape to make people feel safer accessing underutilized facilities.
6. **Promote Greater Walkability** — Downtown Toledo is a relatively compact and walkable area. Downtown, there is a parking facility within 2-3 blocks of most major landmarks. Encouraging more walking will help support retail store-fronts and businesses by creating more foot traffic.
7. **Improve Parking Directional Wayfinding and Signage** — Locating public parking can often be the most challenging task for motorists, especially for short-term users and visitors. By creating and installing uniform signage and a logo that is easily

identifiable, intuitively understood and properly located, the City can help direct users to public parking areas and distribute demand across the downtown.

8. **Marketing** — Marketing the location and availability of public parking using new technology and conventional means has great impacts on users’ knowledge of available parking. The City has some public parking information available on the ParkSmart website. Walker recommends updating this routinely with changes to public parking inventory and availability, periodic occupancy reports, and more information on the rebranding of long-term employee parking areas. The City should engage in a robust public relations program aimed at communicating its parking policies and practices. Continued education is important to acceptance of the parking program. Without education, many stakeholders may clamor for the addition of expensive structured parking. Walker recommends that the City continue empowering its Parking Committee. Ideally, the committee would convene on a quarterly basis to review parking issues in the downtown and to provide a forum for the businesses and stakeholders in the downtown community. The Parking Committee can also help in the education of business owners and parking users, address existing issues, and plan for future needs.
9. **Shared Parking** — Pursue shared parking opportunities with privately-owned parking facilities. To more effectively utilize the existing parking supply, consider shared parking agreements that make privately-owned parking spaces available for public use during certain days of the week and certain hours of the day when these are not needed for private use.

### *Communications and Public Relations*

ParkSmart.org and DowntownToledo.org, contain significant information regarding parking and other transportation services; however, there is no link to/from the City of Toledo website that demonstrates a coordinated management approach. Toledo’s parking system public relations and communications program should meet the following criteria:

- **Continue to maintain a comprehensive downtown parking website.**
- **Respond to questions and requests from the general public for locations of parking facilities, pricing, and availability.**
- **Maintain the integrity of downtown parking promotional materials, and provide parking maps, business development packets, and fact sheets.**
- **Market all publicly-available parking in downtown Toledo, regardless of public or private ownership.**
- **Provide day-to-day media relations, and generate press releases as needed.**
- **Provide public relations assistance to other downtown events as needed.**

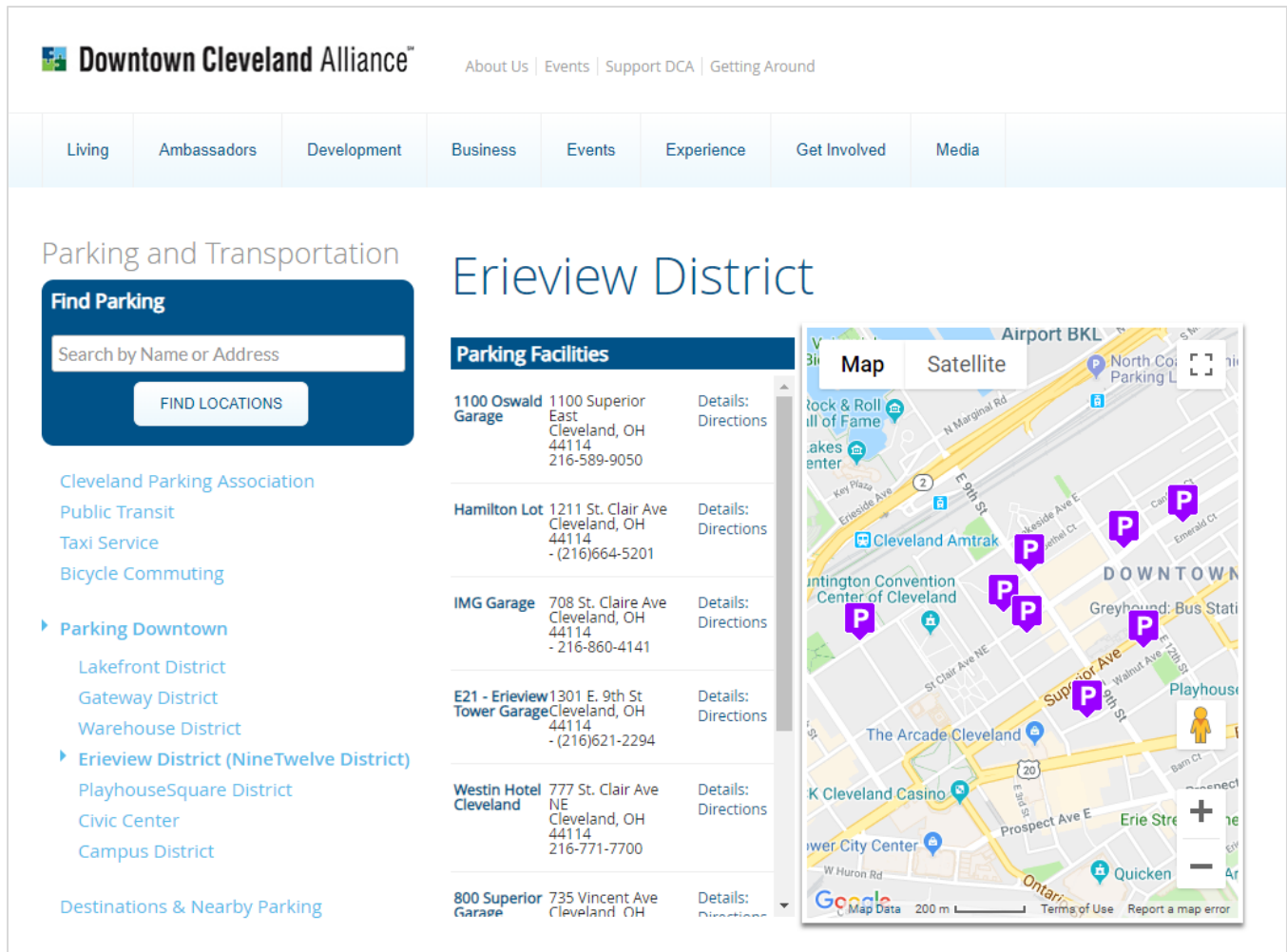
This information should be distributed through the following:

- **The comprehensive downtown parking website.**
- **A quarterly newsletter for the downtown parking community with news of potential economic/developmental impacts on parking, development and construction projects, upcoming downtown events and profiles of downtown newsmakers.**
- **Newspaper items or articles and media releases.**
- **Brochures and maps both distributed and posted.**
- **Direct mailings / email when appropriate.**
- **Downtown meetings and presentations about downtown parking to City business and civic groups upon request.**
- **Radio announcements advertising upcoming events and lower-cost long-term parking.**

Local businesses are often willing to provide parking information and links to additional parking resources from their website’s home page. This can be very helpful in providing specific location data to their customers, while also providing a free portal to market parking services to potential patrons. If patrons are armed with parking availability and location information prior to arriving at their destination, their overall downtown experience can be greatly improved.

Examples of Municipal Parking web pages:

- <http://www.downtownsouthbend.com/parking-and-maps>
- <http://parking.downtowncleveland.com/>
- <https://springfieldparkingauthority.com/>
- <https://parking.baltimorecity.gov/>
- <http://www.downtownkalamazoo.org/>
- <https://bloomington.in.gov/transportation/parking>
- <https://cantonohio.gov/engineering/?pg=112>



**Downtown Cleveland Alliance™** About Us | Events | Support DCA | Getting Around

Living | Ambassadors | Development | Business | Events | Experience | Get Involved | Media

### Parking and Transportation

**Find Parking**

Search by Name or Address

FIND LOCATIONS

- Cleveland Parking Association
- Public Transit
- Taxi Service
- Bicycle Commuting

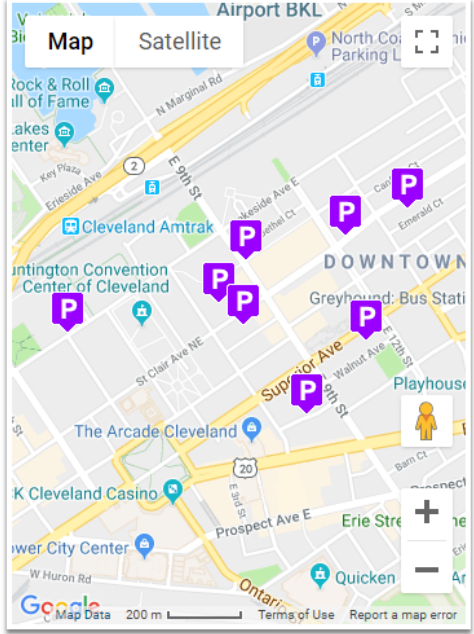
▶ **Parking Downtown**

- Lakefront District
- Gateway District
- Warehouse District
- ▶ **Erieview District (NineTwelve District)**
- PlayhouseSquare District
- Civic Center
- Campus District

Destinations & Nearby Parking

## Erieview District

Parking Facilities		
<b>1100 Oswald Garage</b>	1100 Superior East Cleveland, OH 44114 216-589-9050	Details: Directions
<b>Hamilton Lot</b>	1211 St. Clair Ave Cleveland, OH 44114 -(216)664-5201	Details: Directions
<b>IMG Garage</b>	708 St. Claire Ave Cleveland, OH 44114 - 216-860-4141	Details: Directions
<b>E21 - Erieview Tower Garage</b>	1301 E. 9th St Cleveland, OH 44114 -(216)621-2294	Details: Directions
<b>Westin Hotel Cleveland</b>	777 St. Clair Ave NE Cleveland, OH 44114 216-771-7700	Details: Directions
<b>800 Superior Garage</b>	735 Vincent Ave Cleveland OH	Details: Directions



### Toledo Mobile Phone Parking App

The City has a mobile phone application, ParkMobile, that provides cell phone users with access to information regarding parking meter duration, cost, and the ability to extend a meter. The smartphone parking application provides information for on-street parking only and does not include information regarding space availability, provided capacity, operating hours, or occupancy levels, etc. These aspects will be addressed in the following section titled *Automated Parking Guidance Systems*. The mobile app should additionally be linked to the ParkSmart and the City of Toledo website for ease of use and cohesiveness.

## Branding and Marketing

According to *Entrepreneur Online*, branding is one of the most important aspects of any business. In recent years, branding has become an important aspect of municipal parking departments. Branding can be a way of focusing on and marketing positive messages, such as parking availability. Ultimately, people would associate ‘the brand’ with finding parking – a positive experience – even for paid parking with all publicly-available parking.

Many municipalities try to attract businesses, residents, and tourists by touting all of the good things they have to offer. This is happening in parking as well. Many cities are coming up with catchy names and logos to brand their parking programs so that motorists can easily find parking facilities or parking-related signs.

Websites are also being upgraded, and some cities are making promotional videos to help educate motorists and gain a more modern and progressive image. For example, the City of Seattle produced a video to promote their dynamic pricing program (aka, Value Parking) in 2011. The video used a pirate theme to add a colorful and humorous touch to what used to be considered a public service announcement about parking<sup>3</sup>.

- **One of the keys to successful branding is create a logo for brand awareness. Walker recommends sponsoring (or asking a commercial entity to sponsor) a marketing campaign to create a new logo, slogan, and/or video. Marketing options include the following:**
- **Logo finalists could be shown on local TV, on-line (on Facebook) and in the newspaper. The public could vote on the winner, generating publicity and gaining buy-in from the public.**
- **Ask a local college/university for student participation. There are usually relevant programs such as art, film/video, marketing, music or theater. This is a great way to get outside support for the program – as well as a young person’s perspective on how to market the program.**
- **This will not only provide a new logo, slogan or video but will also provide interest/buzz/consciousness-raising. The contest should also generate media attention.**
- **Walker also recommends creating a Facebook page for parking. This will require a time commitment to keep the page current and interactive; however, it’s a great marketing tool that typically reaches more viewers than a typical website. It is also interactive, enabling the City to receive information, data, and “likes”, as well as provide information.**

## MARKETING SPACE AVAILABILITY

Walker recommends heavily marketing all publicly-available parking in downtown Toledo. Besides some of the recommendations discussed in this report, like automated parking guidance system (APGS) signs, Walker developed some recommendations to market space availability downtown.

- **Post a comprehensive inventory of publicly-available downtown parking online at the [DowntownToledo.org](http://DowntownToledo.org) website, and make the inventory searchable and easy to use. Post monthly and transient rates, and update the website once per quarter to ensure the accuracy of the postings, so patrons continue to use the website. Along with rates, post the company and contact information for all monthly facilities, so patrons can use the website to request access directly with the operator.**
- **The City of Cincinnati posts an inventory of downtown parking facilities and rates, along with car and bike rentals, public transit information, and information on taxi cabs.<sup>4</sup>**

<sup>3</sup> <https://www.youtube.com/watch?v=1HVgKENpHZs>

<sup>4</sup> <https://www.downtowncincinnati.com/exploring-downtown/downtown-cincinnati-parking>

- **Additionally, the website could include an updated parking space occupancy study that would be updated annually. Such a study would allow patrons to see areas of parking space availability, and areas that are heavily utilized, to avoid.**
- **The City of Cincinnati’s updates a report quarterly displaying available monthly parking<sup>5</sup>. Partnering with monthly parking operators would allow Toledo to contact parking operators and record monthly space availability to report.**
- **APGS data could also be used to assist with the parking occupancy reports.**
- **Using the branding recommendations discussed above, post signage of a consistent theme across downtown, indicating any publicly available parking downtown. Patrons will soon recognize the branded logo and become more familiar with all parking facilities available to them.**

### Automated Parking Guidance Systems

An automated parking guidance system (APGS) is an automated information network that provides parking availability and directional guidance to motorists. APGS utilizes dynamic signage to display occupancy information and/or directional arrows at key decision points so that motorists know what to expect and where to find parking as they drive to or through a facility.

There are three basic levels of parking guidance for a facility:

1. Facility-Status
2. Space-Availability-by-Floor-Level
3. Single-Space-Monitoring

#### FACILITY-STATUS

Facility-Status is used to communicate parking availability to motorists before they enter a facility. Count modules, (loops, cameras, magnetic sensors, or ultrasonic sensors) monitor the number of vehicles that enter and exit the facility to maintain an overall count of vehicles in the facility. The count modules track the number of vehicles traveling in and out of the facility and communicate the facility status to a dynamic sign via a zone controller, communication points, a gateway and a server. For example, if a facility has 1,000 spaces when the facility is empty, the counter is set at 1,000. Each time a car enters the facility, the count is reduced by one, and each time a car exits the facility, the count is increased by one, thereby keeping a count of the number available stalls.



Dynamic signage (typically LED) displays the number of available spaces and/or color-coded messages such as “Full” in red, or “Open” in green. Directional arrows may also be displayed if multiple facilities are being monitored. Signage can be installed on roadways or highways so that motorists can determine where they will park as they travel to the facility. If multiple facilities are involved, signage can advise and direct motorists to the facility or facilities with the most available spaces. In addition, mobile apps enable motorists to view space availability remotely, allowing them to plan where to park in advance of arrival.



<sup>5</sup> [https://www.downtowncincinnati.com/docs/default-source/stakeholder-docs/may-2018-parking-for-website\\_final.pdf](https://www.downtowncincinnati.com/docs/default-source/stakeholder-docs/may-2018-parking-for-website_final.pdf)



### LEVEL SPACE AVAILABILITY

Level Space Availability is similar to Facility Status, but it provides the parking availability on a per level, per zone or per row basis. Count modules (loops, cameras, magnetic sensors, or ultrasonic sensors) are strategically located at the entrance and exit point(s) of each level, zone or row to count the number of cars on each level or in each area.

Dynamic signage is strategically located so motorists can see the availability and/or arrows prior to entering the level or row, enabling them to proceed to the next level or row rather than needlessly circulating a full level or row.



The sign on the left enables motorists to quickly determine the level on which they are most likely to find available parking. The blue sign on the right advises on the location and quantity of ADA stalls. If the ADA stalls are not able to be segregated from other stalls by loops or sensors, single space monitoring would be required.

Similar to facility status, level space availability accuracy will drift over time requiring regular manual recalibration or automatic reset at night. Due to the increased number of



count locations, this effort is typically more intensive for level space availability than it is for facility status. The frequency of the manual recalibration varies based on the unique characteristics of each facility but may be required daily.



### SINGLE-SPACE-MONITORING

Single-space-monitoring utilizes individual count modules in every parking stall. Real-time occupancy data is sent and displayed as cars pull in and out of parking stalls.

In covered facilities, ultrasonic sensors with multi-colored LEDs are installed above each stall. The standard colors are red (to indicate a full space) and green (to indicate an open space). When a motorist approaches a row they can easily identify available parking stalls by looking for a green light. Other color options include blue (to indicate an open ADA stall) and yellow (to indicate a reserved stall). This is particularly helpful in facilities with long drive lanes that motorists are not required to drive through to get to the next section.

The available parking stalls in the photo below are signaled by the green overhead lights that keep this stall from being overlooked and unused.



Parking lots and open roofs can utilize wireless in-ground magnetic field sensors in place of ultrasonic sensors and multi-colored colored LEDs. The occupancy data is still sent and displayed at key decision points, but there is no light above the parking stall to signal the motorist.



Several manufacturers of video-based sensors utilize cameras and imaging algorithms rather than ultrasonic transmitters to detect vehicular presence. As an added feature, the cameras provide License Plate Recognition (LPR) functionality that adds benefits such as License Plate Inventory (LPI), lost car locator, location-based rates and enforcement alerts.

The cameras are located in the center of the drive lane (rather than over individual spaces). One camera sensor can monitor two to six spaces depending on the location geometry and sensor manufacturer. The additional cost of the camera-based sensors is offset by the reduced cost of running one line of conduit in the drive aisle versus two rows of conduits for ultrasonic sensors (one on each side of the drive aisle), and approximately half as many cameras and lights to individual space sensors and lights. This allows camera sensor pricing to remain competitive with the higher-end ultrasonic solutions.

License plate recognition offers additional features such as lost vehicle assistance, location-based pricing, and reserved space enforcement, by using the license plate as a location-based identifying credential.

Single-space-monitoring provides the highest level of accuracy, as there is minimal opportunity for a car to drive out of the range of the sensors (or cameras), and the type of stall (ADA, reserved, carpool, etc.) may also be monitored. As one would expect, single space monitoring is the most expensive level of parking guidance and is often cost-prohibitive.

## COSTS

Costs can vary widely. Facility-status systems can cost as little as \$10,000 or as much as \$50,000 or more, depending on the number of entry/exit locations (count modules), and the quality, quantity, and locations of dynamic signs.

Count modules average \$1,500 per module (per lane). A basic sign can cost \$1,000 to \$3,000 whereas a custom sign can cost \$5,000 to \$20,000. Installation is site-specific and can easily be 50% of the total cost, depending on the complexity of the system, the facility and the distances for running conduit.

Level/area guidance systems typically cost \$10,000 to \$15,000 per level/area, depending on the number of count modules, the quality, and quantity of dynamic signs and the complexity and distance for running conduit. Individual ultrasonic space guidance systems typically cost \$400 to \$600 per space, and camera-based systems typically cost \$500 to \$700 per space, depending on the complexity and size of the installation, system features, and the quality and quantity of dynamic signs.

The cost to maintain a system for 5 years typically averages 2% to 5% of the project cost.

### *Seattle's E-Park Program*

In 2010-11, the City of Seattle initiated an automated parking guidance system that provides real-time information regarding available parking spaces both on-line and via dynamic signage. Motorists can use e-Park by accessing the city's parking website which provides real-time parking space availability by participating locations and a parking map covering both participating and non-participating e-Park locations or using dynamic signage located along major routes leading into the city's downtown. The signage provides a list of the facility names and the number of spaces available.

The city reached out to owners of parking garages located within the downtown for purposes of identifying interest in partnering together on the automated parking guidance. During the program's inception, six garages were part of the system.

The program now includes 14 parking facilities representing more than 7,000 spaces and located within the city's Retail District, Central Waterfront, Pioneer Square, and Pike Place Market areas<sup>6</sup>.

### *Automated Parking Guidance System Implementation in Toledo*

All off-street parking facilities, including the ParkSmart-managed facilities, could benefit from parking guidance installations. The addition of APGS into the parking facilities would encourage frequent visitors of the downtown to utilize the garages while, additionally, the signage would act as a marketing strategy for less-frequent visitors. In coordination with correct pricing and the elimination of the free midday parking on street, this would likely make much of the on-street spaces more available. Furthermore, APGS, could allow for more efficient use of a garage. Traditionally, a buffer of 5%-15% is needed for parking spaces to allow for circulation,



<sup>6</sup> <http://www.seattle.gov/transportation/projects-and-programs/programs/parking-program/e-park>

inefficiently parked vehicles, snow and other maintenance, and the inevitable fading of space striping. With a parking guidance system, virtually no buffer is needed since the signage will direct users to the appropriate last parking space and will notify users when the facility is at capacity.

APGS should also be encouraged for privately-own parking facilities in the downtown. The Depot Parking Garage, utilized by ProMedica employees, currently utilizes automated parking guidance. This signifies the facility status and availability for public use, as shown in the image to the right. Any publicly-available parking location that can more efficiently utilize their assets is a benefit to the downtown. ParkSmart could generate a deal with privately-owned, yet publicly-available, parking operators that states if they install any form of APGS, that ParkSmart could advertise the availability of those spaces on their website. Coordination's such as this allow for better management of land in downtown Toledo.



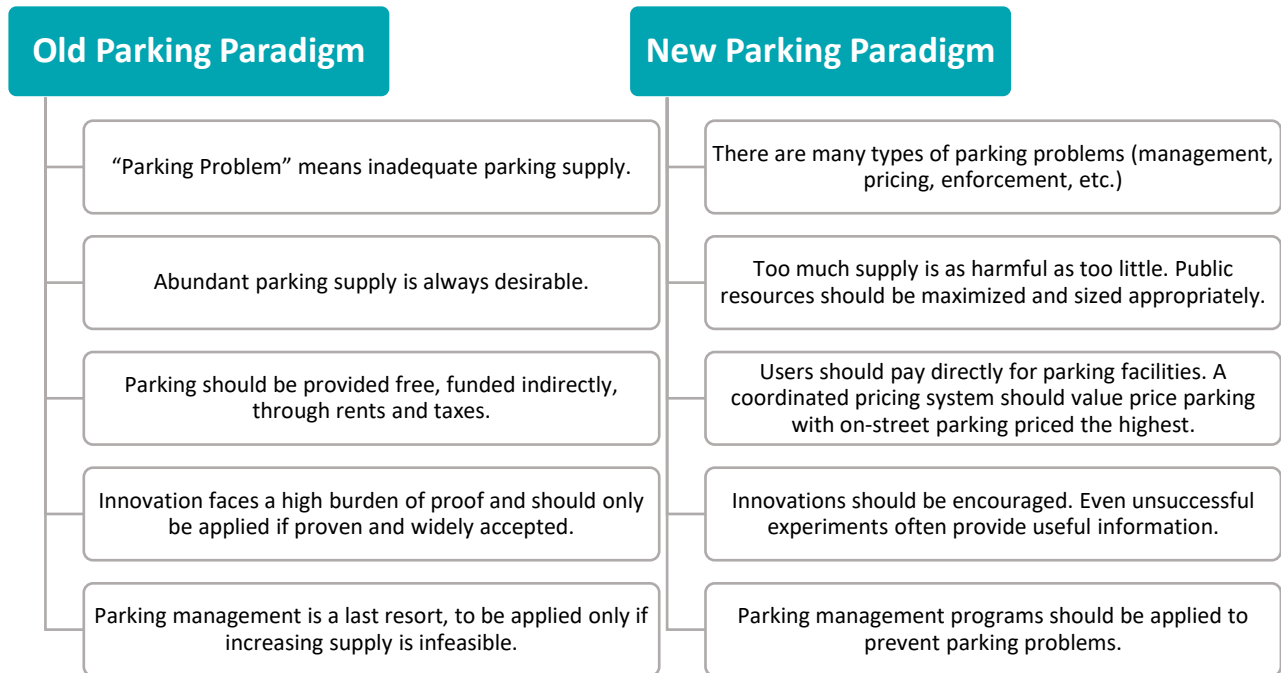
The following are a list of some benefits of APGS:

- **Customer Service: Parking guidance makes it easier to find a parking space. This saves the motorist time and aggravation. Motorists will be less anxious and less frustrated, making their parking experience more pleasant. Car location assistance is also available with LPR systems, some ultrasonic systems, and 3rd-party vendors.**
- **Profit: Enhanced customer service may generate more repeat customers. If a reputation for providing a positive parking experience catches on, more motorists would be inclined to park there. External dynamic signage could also attract motorists.**
- **The Environment: Motorists will spend less time driving through the garage looking for parking, which reduces greenhouse gases/carbon emissions.**
- **Security: When LPR is employed, security or police can search for and locate particular license plates. Some vendors also provide video surveillance.**
- **Planning: Counting systems provide excellent occupancy data for statistical analysis and planning purposes.**
  - All systems provide hourly and daily occupancy data (note that most PARCS systems already provide this, as well as duration of stay).
  - Level and zone systems provide location-specific data.
  - Individual space systems provided space-specific data.
  - LPR systems provide duration of stay and frequency of visit, as well as the ability to identify parkers by state, and ultimately, the owner of the vehicle.

### Zoning Ordinance

There are areas of downtown Toledo that temporarily experience higher levels of demand that appear to strain the local parking supply, while nearby areas continually experience a substantial parking surplus. Even though available supply may exist within one, these localized challenges may form perceptions that parking is inadequate. This is especially true upon review of the *On-Street Parking Study*. On-street parking is the most highly visible parking within downtown, and because of this, it becomes more occupied quicker. When visitors to the downtown are looking for parking within the vicinity of an event, they may see many occupied on-street spaces and assume parking very difficult to find. When in actuality, a substantial number of spaces at any given time are available in the downtown. Additionally, the on-street spaces only account for less than 10% of the total supply in the downtown. This is a common problem associated with municipal environments. Many communities are rethinking how best to address the challenges of parking and are pursuing management solutions as opposed to committing to long-term capital investments. This course of action has proven to promote positive perceptions and to increase access to available supply.

The following provides an overview of how communities are starting to think about parking planning.



Walker’s recommendations fall in line with the new parking paradigm column listed above. These recommendations help to guide appropriate management principles and the right sizing of parking within the downtown. As additional development makes its way to downtown Toledo, the City should review the parking elements of its zoning ordinance to ensure that parking is available for employees and patrons of new developments alike.

Employing parking minimums in the downtown overlay may not be necessary given the existing conditions. However, as conditions change and new demand is created, the City may once again consider minimum requirements and shared parking provisions within the downtown overlay, as recommended by the Urban Land Institute. Additionally, absent minimum parking requirements, the City could require developers to submit a parking plan as part of an overall site-development plan. This would, at the very least, encourage developers to consider available public and private parking conditions prior to submission of a site plan.

Shared parking is defined as parking spaces that can be used to serve two or more individual land uses without conflict or encroachment. One of the fundamental principles of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to have each use or building have its own parking. The resurgence of many central cities resulting from the addition of vibrant residential, retail, restaurant and entertainment developments continues to rely heavily on shared parking for economic viability. In addition, mixed-use projects in many different settings have benefited from shared parking. There are numerous benefits of shared parking to a community at large, not the least of which is the environmental benefit of significantly reducing the square feet of parking provided to serve commercial development.

The interplay of land uses in a mixed-use environment produces a reduction in overall parking demand. For example, a substantial percentage of patrons at one business (restaurant) may be employees of another downtown business (office). This is referred to as the “effects of the captive market.” These patrons are already parking and contribute only once to the number of peak hour parkers.

## FACILITY IMPROVEMENTS

### *Parking Structure Improvements*

Toledo's ParkSmart website indicates that LED lighting will be installed in ParkSmart facilities soon. Walker recommends that the ParkSmart move forward with updating to LED lighting. Doing so saves operational costs in the long term, has less of an environmental impact, and makes the facilities safer for the users. Walker has noted a return on investment of approximately 1-2 years on doing so.

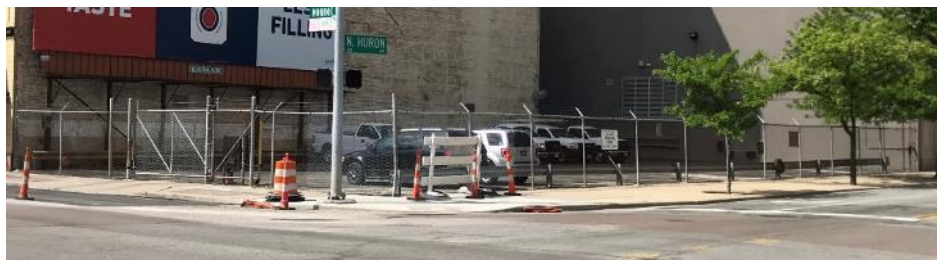
In addition to lighting, painting the inside of garages can be an effective way to brighten the garage for patrons, especially in garages with little natural light. Walker recommends painting ceilings, walls, columns, beams, and T-stems. Using a white (or white-like) paint in these portions of garages can give the garages a sense of feeling lighter and larger than they actually are. The painting should last the lifetime of the garage, so it would only need to be done once.

Parking structures also have potential as use for public art. Many cities have installed murals on the walls of parking structures, which can be a great way to showcase local art and culture. The Miami Parking Authority recently partnered with local schools to create murals in public parking structures. The students earned class credit in their art classes to develop and implement murals. Toledo could partner with private parking structure owners in a similar way. Schools could offer class credit to students to paint murals, or add other art installations, and the private owner would benefit from free beautification of the parking facility.

In addition to the improvements listed in this section, Walker urges the ParkSmart to utilize the garages as locations for APGS. This was previously described in more detail but is worth mentioning in this section.

### *Surface Lot Improvements*


The majority of the surface lots in downtown Toledo are maintained such as the images below. They do not have adequate, or attractive, screening from the parked vehicles and the large



swaths of asphalt. This screening is not only important for the beauty of the downtown, but also for pedestrian safety, the security of the cars being parked, the walkability, and overall feel of the downtown. Chapter 743 of the Toledo Code of Ordinances outlines how all commercial parking facilities must be fenced with a wall or barrier<sup>7</sup>. This chapter goes on to describe:

*All open parking places shall be so enclosed as to prevent encroachment upon the public right of way and such enclosure shall conform to the established building lines. Open parking places in residential areas shall be screened and landscaped. (1952 Code § 25-32-18).*

<sup>7</sup> [http://library.amlegal.com/nxt/gateway.dll/Ohio/toledo/partseven-businessregulationcode/titleone-businessregulationgenerally/chapter743parkingplaces?f=templates\\$fn=altmain-nf.htm\\$g=%5Band%3Achapter%20743%5D%20\\$х=server\\$3.0#LPHit1](http://library.amlegal.com/nxt/gateway.dll/Ohio/toledo/partseven-businessregulationcode/titleone-businessregulationgenerally/chapter743parkingplaces?f=templates$fn=altmain-nf.htm$g=%5Band%3Achapter%20743%5D%20$х=server$3.0#LPHit1)





Although not a residential neighborhood, the green space, as shown in one of the images, is not maintained with trees or shrubs. Some lots are not marked with parking spaces and the asphalt is in disrepair. The standards for a parking facility that are intended to accommodate other land uses are held to a higher standard than those that act as a commercial parking operation. This can discourage growth and redevelopment and encourage further parking operations within the downtown. The disrepair of many downtown parking facilities further displays these standards. The owners



appear to be getting away with the bare minimum. It is understood that a parking license must be acquired and renewed on an annual basis for each facility in Toledo. This is a practice that is commended and allows the City an opportunity to reevaluate each facility's compliance of the code of ordinances. Walker recommends, if not currently the practice, policing the maintenance of these parking facilities throughout the year, and not just during the licensing process. If the parking portion of the code of ordinances states a percentage of parking facilities must have green space, then, for the betterment of the downtown, they should be maintained. This should also apply to the maintenance of the facilities and the areas surrounding as stated:

*Any person operating or maintaining any public, commercial or private parking place shall keep the sidewalks surrounding such places free from dirt, ice and snow, and other debris, and shall keep the sidewalks in safe condition for the travel of pedestrians. The owner and/or operator of any public parking place, commercial parking place or private parking place shall not remove the natural accumulation of snow or ice thereon by shoveling, plowing or otherwise removing such natural accumulation of snow and ice by depositing same upon the paved portion of the public right-of-way (1952 Code § 25-32-17; Ord. 91-78).<sup>8</sup>*

Some exemplary instances where appropriate screening and green space are displayed below. These locations, within Toledo, display an option (on the left) that can be required for new parking construction within the code of ordinances. Where the opposing option is a more financially feasible opportunity that can occur to existing surface parking facilities. The quality of the brick and rod-iron fencing, and the mature shade trees and planters have the potential to create a positive sensory experience. This experience is part of what promotes pride and a sense of community. Individuals who experience the images shown below, are likely going to be more interested in walking to their next destination and maintaining the positive image on their community. Those who experience the previous images, shown above, where the landscape is ruled by concrete and asphalt, will likely have less interest in walking to their next destination or staying in the area to visit another land use.

<sup>8</sup> [http://library.amlegal.com/nxt/gateway.dll/Ohio/toledo/partseven-businessregulationcode/titleone-businessregulationgenerally/chapter743parkingplaces?f=templates\\$fn=altmain-nf.htm\\$g=%5Band%3Achapter%20743%5D%20\\$x=server\\$3.0#LPHit1](http://library.amlegal.com/nxt/gateway.dll/Ohio/toledo/partseven-businessregulationcode/titleone-businessregulationgenerally/chapter743parkingplaces?f=templates$fn=altmain-nf.htm$g=%5Band%3Achapter%20743%5D%20$x=server$3.0#LPHit1)



Discussions have been made for the immediate improvements, made to existing facilities, although privately owned, to be funded through the Port Authority and ParkSmart. If desired, the Port Authority could fund these as right-of-way improvements and beautification for screening and greenspace. The maintenance and repair of asphalt and striping could be funded by the private facility owners. Looking to the future, changes could be made to the zoning ordinance to enhance these features and maintain a higher standard.

## TNC/AV IMPACTS

Transportation network companies (TNCs), ride-hailing companies like Uber and Lyft, are changing transportation habits and having a material impact on parking demand across communities throughout the country. This is evident in Toledo. Across the US, the largest impacts of TNCs to parking are occurring at hotels, restaurants, events centers, and airports where demand for TNCs is greatest. Although, with the Detroit Metro Airport, the area's largest airport, approximately 45 miles away, the impacts of TNCs at hotels and airports are limited. Toledo's TNC impacts are most felt in the restaurant and nightlife scene.

### *Current TNC Impacts by Land Use Type*

TNC impacts are occurring at hotels, event facilities, restaurants, entertainment districts and corridors, airports and other in-demand destination places. While profound disruptions to daily commuting behaviors i.e. work commuting, have not yet been observed outside of a few select cities such as Los Angeles, New York, and San Francisco, a 'ride-hailing effect' has been observed across entertainment, leisure, and travel categories. For business travelers, TNCs are becoming a preferred ground transportation option to taxis and rental cars. Furthermore, car rental companies such as Hertz and Avis have seen a decline in their revenues over the last two years.<sup>9</sup>

## ENTERTAINMENT VENUES AND FACILITIES

Sports stadiums and event venues have recently begun planning their ground operations for TNC access and control. Live Nation, the largest live entertainment company in the country, has partnered with Uber to provide transportation for events. At all Live Nation amphitheaters across the country, Uber drop-off and pick-up locations have been created. Furthermore, Live Nation has developed an app integration feature between the Live Nation and Uber apps making it easier for concert-goers to hail rides. In addition to the concert industry, Uber and Lyft have formed exclusive agreements with professional sports franchises. At Levi's Stadium, home of the San Francisco 49ers, an exclusive Uber Zone was created to enhance the fan experience for the 2016 season. Other agreements include official partnerships with MetLife Stadium (Meadowlands, NJ), Gillette Stadium (Foxborough, MA), Hard Rock Stadium (Miami, FL) as well as many other professional sports and entertainment partnerships across the country. In 2014, Lyft became the "official ride of Major League Baseball."

The Huntington Center and Fifth Third Field could organize with Uber or Lyft (or an alternative TNC) to decrease parking demand in the area while encouraging alternative means of transit. A priority TNC pickup/drop-off location could further solidify this agreement.

## RESTAURANT DISTRICTS AND CORRIDORS

Ride-hailing apps are most popular with younger, urban dwellers. According to a Pew Research Center finding, the median age of adult ride-hailing users in the US is 33.<sup>10</sup> Additionally, in multiple surveys, DUI avoidance (drinking and going out) comes up as a reason for users' local trips.<sup>11</sup> The food and beverage industry, albeit in certain environments more than others, is benefiting from having ride-hailing access. The restaurant and nightlife scene in the Warehouse District has impacts associated from TNCs at current and could further increase if encouraged.

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<sup>9</sup> P. LeBeau, "Uber and Lyft Grab More Business From Taxis and Rental Cars," CNBC, 27 July 2017. [Online]. Available: <https://www.cnn.com/2017/07/26/uber-and-lyft-grab-more-business-from-taxis-and-rental-cars.html>.

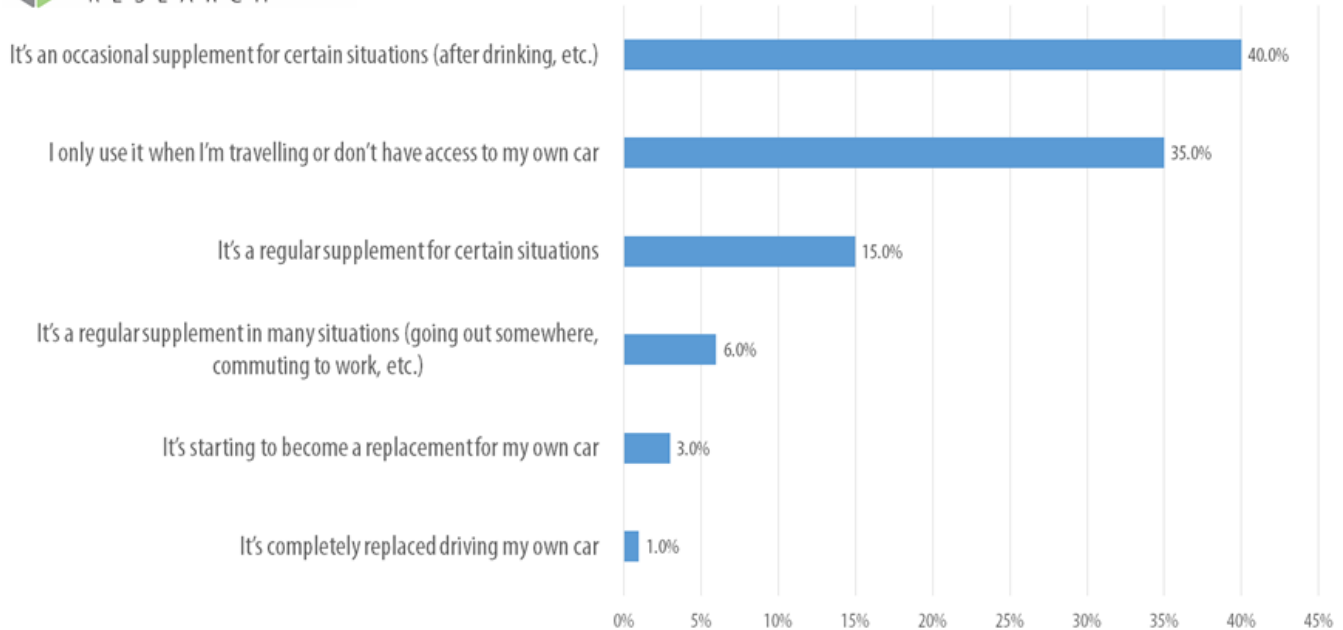
<sup>10</sup> L. Bliss, "The Ride-Hailing Effect: More Cars, More Trips, More Miles," CityLab, 12 October 2017. [Online]. Available: <https://www.citylab.com/transportation/2017/10/the-ride-hailing-effect-more-cars-more-trips-more-miles/542592/>

<sup>11</sup> P. Lienert, "Uber and Lyft Won't Crimp U.S. Car Sales in Near Term: Survey," Reuters, 10 March 2016. [Online]. Available: <http://www.reuters.com/article/us-autos-sharing-future-idUSKCN0WC1VV>. [Accessed 2018].





### Ride Sharing Applications



Source: <https://www.recode.net/2016/9/1/12715080/survey-ridesharing-impact-car-sales-uber-lyft-autonomous>

### Future AV Impacts

Moving into the future, TNCs could potentially become autonomous vehicles (AVs). Automobile and technology companies are promising to make autonomous vehicles available for consumer purchase within the next three to five years. Many expect the biggest impact on parking could be from subscription-based ride-hailing, sometimes called e-hailing, provided by TNCs, that may equip fleets with AVs. These services, along with public transportation, taxis, bike-sharing programs, and car-sharing schemes are known as mobility-as-a-service (MaaS). Uber and Lyft, among others, have announced plans to shift from using drivers' personal vehicles to directly owning fleets with AVs and operating completely driverless fleets.

Another significant impact could come from private ownership of AVs. Consumers may opt to reduce the number of vehicles owned per household in recognition of the possibility that a car could more easily transport multiple family members to and from different places once a driver is no longer needed. Auto manufacturers, tech companies and Wall Street are investing hundreds of billions of dollars in TNCs and AVs. While there are many technological and other hurdles to be overcome, the consensus seems to be that AVs will become available to and adopted by mainstream consumers. Many media reports predict that vehicle ownership, and/or parking demand could decrease significantly, with some claiming a 90% reduction. Municipalities, developers and parking owners should be considering the potential effects of AVs and TNCs.

### TNC/AV Summary

Planning for and adapting to the current and additional use of TNCs is transferable to the likely impacts associated with AVs. Although AVs may seem far-fetched at this time, creating management strategies and physical infrastructure of pickup and drop-off zones for TNCs allows Toledo to be prepared for the changes necessary.

One industry forecaster predicts that Uber and Lyft could continue to see double-digit growth upwards of 10 percent in 2018, before settling down into single-digit growth for 2019, with potential threats coming from costly regulation and government bans.<sup>6</sup> TNCs could

continue to be a significant part of the mobility landscape and will continue to influence consumer behavior impacting transportation planning, real estate development, and existing commercial operations.

The effects of TNCs will likely vary by multiple factors not least of which includes geographic area, size, location, density, land use intensification, car ownership, transit ridership, income, rideshare access, transportation costs, demographics, and a number of other factors. At this point in time, it is most prudent to treat any given parking scenario on a case-by-case basis, examining local dynamics in order to arrive at solutions that are informed and reasonably placed.

## ORDER OF MAGNITUDE COSTS

In addition to marketing, public relations, APGS, and changes to zoning ordinances, Walker endorses coupling the recommendations from the previous on-street study with this off-street study. The two studies, although completed at different times, should be viewed as one cohesive system. Similarly, each district, as different as they may look and feel, should be treated as one downtown parking unit.

Walker finds that often a general overview of parking is first needed to establish a context for decision-making regarding the parking system. This portion of the report is intended to build that foundation while tying the previous report and analysis into these recommendations. Fundamentally, there is no such thing as a free parking space. At the end of the day, someone is paying both, directly and indirectly, the true costs of “free” parking. If parkers are not paying directly than who is?

- **The community pays through taxes levied for the delivery of services including downtown parking.**
- **Developers pay for parking when they are required to meet off-street parking zoning requirements which raises project costs, which are passed along to end consumers of their product.**
- **Employers pay through higher office rents.**
- **Consumers pay in the sales price of goods and services; retailers pass along costs to consumers.**

The reality of the above-listed truth should be transparent to the citizens of Toledo. In providing parking to the downtown community, the City is administering a scarce resource that has intrinsic value and associated costs. Thus, parking should be viewed as an asset that requires continual stewardship to serve the goals of the downtown community.

Walker includes the following table on changes and updates to the parking system as part of the wider public education process. Since parking facilities represent a significant community investment and costs, Walker has displayed a rough order of magnitude costs for the recommendations. These costs are generalizations and subject to further refinement.

List of rough order of magnitude costs for recommendations:

<b>Recommendations</b>	<b>Estimated Unit Cost</b>	<b>Year 1/ Initial Capital Cost</b>
Branding and marketing budget	\$50,000-\$100,000 annually	\$50,000-\$100,000
Full-time TDM coordinator position	\$60,000-\$80,000 annually	\$60,000-\$80,000
Automated parking guidance system with facility status signage at entry	\$20,000-\$70,000 per facility, every ten years	\$20,000-\$70,000
Updated static signage at entry points of downtown	\$200-\$1,000 per sign	\$2,000-\$10,000
Painting ceilings, walls, columns, beams, and T-stems in parking garages	\$1.00-\$1.50 per square foot, for the remaining life of each facility	\$900,000-\$1,500,000
Updated LED lighting in parking garage	\$0.50 per square foot, every fifteen years	\$350,000-\$550,000
<b>Subtotal</b>		<b>\$1.38MM-\$2.31MM</b>
<i>Above-grade structured parking facility</i>	\$20,000- \$30,000 per space	
<i>Downtown circulator bus system</i>	\$50-\$100 per bus, per hour	

### New Facility Costs

Parking costs include land, construction, and operations and maintenance costs and can vary depending upon the local market. For above-grade structured parking with modest architectural features and that is built on a site that allows for favorable parking geometry, Walker estimates construction costs to be \$18,000 to \$20,000 per space in downtown Toledo. Assuming soft costs to be 20 percent of construction costs, total project costs per space would total nearly \$23,000. Walker also assumes a minimum annual operating cost per space of \$500 per space which includes revenue collection, accounting, management, cleaning, lighting, facility maintenance, snow removal, insurance, equipment, and administration. **Walker does not recommend an additional parking facility in the downtown at this time, however, it is worth noting the hypothetical financial costs for building a facility.**

