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August 16, 2017

Todd Audet
Vice President of Planning, Engineering & Operations
Toledo Lucas County Port Authority
1 Maritime Plaza
Toledo, Ohio 43604

Re: Downtown Toledo On-Street Parking Study Update
Toledo, Ohio
Walker Project #20-1778.00

Dear Todd:

Walker is pleased to submit the attached final report of the On-Street Parking Study Update for downtown Toledo. This report summarizes our findings regarding parking utilization and turnover as well as an update of recommendations for the on-street parking system in downtown Toledo.

We appreciate the opportunity to be of service to you and the community of Toledo. If you have any questions or comments, please call.

Sincerely yours,

WALKER PARKING CONSULTANTS

John W. Dorsett, AICP, CPP
Senior Vice President



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in creative parking solutions

ON-STREET PARKING STUDY UPDATE

DOWNTOWN TOLEDO

TOLEDO, OHIO

Prepared for:
TOLEDO-LUCAS COUNTY PORT
AUTHORITY

AUGUST 16, 2017



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EXECUTIVE SUMMARY

Toledo Lucas County Port Authority (TLCPA) retained Walker Parking Consultants (Walker) to update the City of Toledo On-Street Parking Study which was conducted in 2015 by Walker. TLCPA asked Walker to evaluate downtown Toledo on-street parking conditions in light of new developments and a recently-adopted downtown Master Plan. Walker was asked to review, update and address the following elements of the previous 2015 parking study:

- Supply/ Demand Analysis
- Occupancy Counts
- Duration of Stay
- Benchmark Surveys
- On-Street Technology Overview
- General Operational and Policy Recommendations

Walker held two stakeholder meetings, reviewed our previous study and existing Toledo parking policies and practices, and observed parking conditions via occupancy counts and duration-of-stay analysis across three separate design days. Walker, together with TLCPA staff and stakeholder input, extended the existing 2015 Study Area boundaries to include more blocks in the Warehouse, Government, and Uptown Districts, increasing the size of the study area by an estimated 20 percent. Weekday daytime conditions, as well as special event, weekday, and weekend conditions, were observed and documented during field visits occurring on Sunday May 07th, Monday May 08th, and Tuesday evening May 23rd. Additionally, Walker updated the following benchmarking survey of peer cities' public parking programs: Greensboro, NC; Grand Rapids, MI; Fort Wayne, IN; Akron, OH; and Dayton, OH.

Following are Walker's observations and key recommendations:

1. In the 2015 study, one of the biggest concerns Walker identified was the three hours of free parking between 11 am and 2 pm. Reportedly Implemented years ago to support lunch hour businesses, Walker is not aware of any community in the U.S. with paid on-street parking that provides free parking in the middle of the day during prime parking hours, but then requires parking fees both before and after this free period. We do not consider this to be a best practice and believe it should be discontinued.

High occupancy rates were observed over several "hot-spot" streets in the CBD Core and Government District across the 12 pm and 1 pm hour. Space turnover at these "hot-spot" locations is best managed by rates and enforcements. Under existing practice, enforcement costs are not being recouped during the 11 am to 2 pm free parking hours which is when the daytime system is being utilized the most.

In light of this, Walker recommends re-implementing paid parking between 11 am to 2 pm. Changing the existing practice will put Downtown Toledo on a trajectory to creating greater on-street turnover of supply supporting customer access to local businesses. This stands to benefit both existing and future development as part of the anticipated rebirth of downtown Toledo.

We also recommend implementing demand-based parking rates. In 2015, we proposed hourly rates on streets that are above 85 percent occupancy be set higher and the rates on streets that are below 50 percent be lowered and converted to nine-hour meters at (\$0.25 per hour). Since Walker's 2015 study, Park Smart has already converted five city blocks in the Uptown District to long-term parking. Walker still supports this recommendation. Demand-based pricing, or pricing the most in-demand spaces higher, can help distribute parking demand more evenly across the on-street parking system.

2. Walker recommends maintaining the two-hour time limit. In our duration and turnover study, we found that downtown parkers are generally in compliance with the posted two-hour time limits. Only nine percent of cars surveyed, parked beyond the posted two-hour limit. Walker recommends that enforcements be carried out on a consistent basis to reduce the number of violators even further.

3. Walker recommends designating the downtown into four main parking zones:
 - o Zone 1 - Warehouse District: Bordered by Market Street, 10th Street, Monroe Street and Summit Street.
 - o Zone 2 – Uptown District: Bordered by Washington Street, Collingwood Boulevard, Jackson Street and 12th Street.
 - o Zone 3 – Government District: Bordered by Jackson Street, 12th Street, Woodruff Avenue and Cherry Street.
 - o Zone 4 – The Central Business District Core: Bordered by Monroe Street, Michigan Street, Jackson Street and Water Street.

This division would make it easier to assign present and future parking rules and regulations such as specific hours of enforcement, rates, and event/entertainment zone rules that are unique to each geographical area.

4. Designate the Warehouse District and CBD Core as entertainment zones where special event rates can apply on street. The primary intent is to create on-street space availability for non-event goers, providing access to these businesses during special events. A secondary intent is generating revenues to pay for the cost of parking meters and enforcement so that access can be provided. Most events tend to charge off-street flat rates that can be onerous for some user types. We observed \$15-20 rates (surface parking) across the downtown during Huntington Center and Fifth Third Field events. A graduated hourly structure whereby the first two hours are \$1 per hour would be consistent with current two-hour rate practices while charging \$2 per hour after the third hour, for an event maximum of \$6, is competitive with off-street event rates. Occupancy should be monitored and rates should be adjusted upward until the desired one or two vacant spaces per block face are realized.

Walker recommends implementing these rates from 6:00 pm to 10:00 pm on 'event nights', and one hour before the start of the event on Saturdays and weekdays.

Over counts conducted on two separate event design days, Walker observed utilization rates higher than 90 percent in the Warehouse District (for Mud Hens games on both days) and in the CBD Core, at over 100 percent for a WWE Smack Down event. According to our preliminary analysis, nearly \$317,000 of annual event parking revenue is going unrealized by free on-street event parking.

5. Walker recommends a courtesy warning for first-time meter violators in order to help educate users and build customer service satisfaction, while taking more punitive measures for chronic violators by increasing the \$10 violation fee after three violations in a year. An historical analysis should be conducted to evaluate whether incremental fines make up for lost revenue due to first offender courtesy warnings.
6. Walker recommends upgrading those remaining conventional meters where demand is present with smart single-space meters, a user preference identified by stakeholders. The meter upgrade is needed to implement event parking rates in the Warehouse and the CBD Core. Downtown users have already benefited from the upgrade of 400 meters converted to IPS single-space with the convenience of paying by plastic card. Converting the remaining meter inventory will also standardize audit control, increase operational efficiency and potentially increase revenue.

Walker estimates that costs for this upgrade will be approximately \$289,000 to upgrade 485 existing conventional meters, plus approximately \$89,000 in annual expenses (excluding extended warranties). Walker understands the high up-front costs can be prohibitive but has found that revenue that is being left on the table with free lunch hour parking and free event parking can go towards recovering associated capital and maintenance costs.

7. Walker recommends evaluating parking policies in the Government District. On-street spaces at the 1 pm weekday hour saw high utilization. Walker suspects that employees might be parking on street, taking valuable short-term parking spaces away from visitors. Finding a long-term parking solution for employees (available lots and garages) could help alleviate some of the demand stresses observed in the district. Walker recognizes that some public safety vehicles must remain on street in clearly marked and designated areas but recommends that employees be surveyed to see where parking habits are being formed.
8. Through our benchmarking surveys Walker found that ParkSmart is keeping pace, and in some cases leading its peers, regarding technology and mobile device payment systems. We recommend that this success be continued and that technology upgrades be applied to the whole on-street system.

9. Walker recommends creating a Parking Advisory Committee that can commit to meeting on a quarterly basis to discuss parking trends and issues in downtown Toledo.

The committee would not have any official government capacity but could serve as a clearinghouse for the exchange of information and ideas. The meetings would serve as an opportunity to help ParkSmart deliver on its brand promise to deliver “clean, secure, and accessible parking for visitors, residents and commuters in downtown Toledo.”

10. Walker recommends frequently updating Park Smart's website to ensure that information is current. Such information includes available parking locations, days and hours of enforcement and restrictions, rates, how to pay fines, as well as instructions on how to use technology. In line with this recommendation, Walker recommends Park Smart step up its social media presence and coordinate with the Parking Advisory Committee for any updates regarding downtown parking for events, activities, as well as any construction related notifications etc. These communications should ultimately arm the user with all the information they need to have a great “hassle-free” downtown experience.



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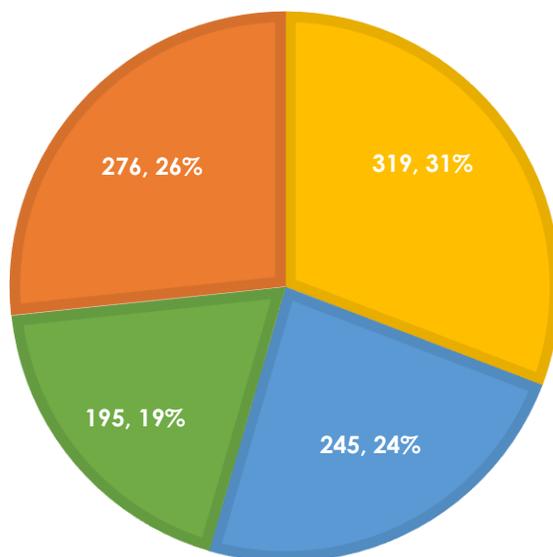
Additionally, Walker considered special event demand at both Fifth Third Field and the Huntington Center. Separate on-street parking space occupancy counts were performed on Sunday May 07th during a Mud Hens afternoon home game, as well as on the evening of May 23th, while both a Huntington Center special event (WWE Smack down) and a Mud Hens baseball game was in play. Weather conditions for both event days was sunny with mild temperatures.

INVENTORY

Walker documented a total inventory of 1,035 publically available on-street parking spaces within the Study Area boundaries. Exhibit 2 displays how this inventory is distributed across the aforementioned districts that comprise the downtown.

Exhibit 2: Total On-Street Parking Space Inventory Surveyed

■ Warehouse ■ CBD Core ■ Government ■ Uptown



Source: Walker Parking Consultants, 2017

On-street spaces are fairly evenly distributed across the four districts. The Warehouse district has the highest number of spaces inventoried with 31% (319 spaces) while the Government district has the lowest at 19% (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.

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. The district has also seen the development of residential condos and lofts which create a demand for on-street spaces. The CBD Core contains most of the daytime office buildings, as well as the SeaGate Convention Center and the Park Inn Radisson Hotel (which is served by the SeaGate garage). The CBD core is the densest area of downtown containing Toledo's tallest office buildings. By the summer of 2017, Pro Medica is scheduled to bring 900 additional employees to the Core with the completion of a new campus at the former Toledo Edison steam plant. 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. Uptown contains the Lucas-Toledo Public Library and is where the downtown begins to lose its density with lower building heights, a greater number of surface parking lots, and higher vacancies.

OCCUPANCY

Occupancy counts were performed on three separate days and are intended to reflect both weekday daytime and special event design day conditions. Our occupancy findings are summarized first by district and then by overall total.

Exhibit 3: Warehouse Zone Occupancy - Monday May 08th, 2017

STREET	START	END	SPACES	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM
Erie	Washington	Jefferson	24	7	1	9	2	5
Huron	Jefferson	Lafayette	50	24	19	33	30	23
St. Clair	Monroe	Lafayette	43	13	8	14	18	23
Superior	Washington	Lafayette	21	12	8	4	5	2
St. Clair	Lafayette	Farmers Market	47	28	19	14	22	47
Superior	Lafayette	Farmers Market	34	6	9	15	14	15
Huron	Lafayette	Market	36	11	12	31	28	11
Erie	Lafayette	Nebraska	40	17	17	17	15	0
Perry	Summit	St. Clair	6	5	3	3	5	0
Market	Superior	Erie	18	0	0	0	0	0
TOTAL WAREHOUSE			319	123	96	140	139	126
% to Total Warehouse				39%	30%	44%	43%	39%

Source: Walker Parking Consultants, 2017

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Overall, daytime on-street parking space occupancy for the Warehouse District was observed to be below 50 percent. Consistent occupancy was observed on St. Clair Street on the block containing River West Townhomes. Occupancy peaked between the noon and 1 pm hour with 44 percent of spaces utilized.

Exhibit 4: Uptown Zone Occupancy - Monday May 08th, 2017

STREET	START	END	SPACES	10:00 AM	11:00 AM	12 noon	1:00 PM	2:00 PM
12th Street	Jefferson	Jackson	26	12	0	9	19	7
11th	Monroe	Jackson	57	19	37	27	33	16
Jackson	11th Street	12th Street	4	9	3	6	5	4
Michigan	Adams	Monroe	35	7	25	19	15	5
Madison	Ontario	12th Street	13	0	0	0	8	0
Ontario	Jefferson	Adams	45	12	5	12	14	3
Jefferson	Erie	12th Street	27	6	4	5	0	0
10th	Adams	Jackson	27	0	0	0	0	5
Adams	12th	Huron	42	14	33	21	37	26
TOTAL UPTOWN			276	79	107	99	131	66
% to Total Uptown				29%	39%	36%	47%	24%

Source: Walker Parking Consultants, 2017

Overall on-street parking space occupancy for the Uptown District was observed to be below 50 percent. Highest occupancy was found during the 1 pm hour with 47 percent occupancy.

Exhibit 5: Government Zone Occupancy - Monday May 08th, 2017

STREET	START	END	SPACES	10:00 AM	11:00 AM	12 noon	1:00 PM	2:00 PM
Erie	Jackson	Cherry	45	14	24	29	38	11
Orange-Southard	Superior	Erie	37	37	21	22	27	21
Speilbush	Constitution	Jackson	23	23	13	15	19	20
Southard	12th	Spielbusch	4	0	0	4	10	4
Huron	Jackson	Cherry	14	14	11	16	20	18
Beech	Huron	Superior	10	9	11	9	20	7
Michigan	Jackson	Adams	15	7	18	5	5	0
Constitution	Speilbusch	Erie	23	0	10	13	20	25
Canton	Jackson	Southard	24	13	12	12	15	24
TOTAL GOVERNMENT			195	117	120	125	174	130
% to Total Government				58%	59%	62%	89%*	64%

**Note: 1 pm hour count also reflects those cars parked outside authorized areas and at unsigned curb space. This was observed on Southard between 12th and Spielbusch where no time restrictions are posted apart from the 4 meter heads found at the corner of the block. This was also observed for Beech Street.*

Source: Walker Parking Consultants, 2017

Daytime activity at the Juvenile Justice Center, the Lucas County Courthouse, the Municipal Court, the Government Center, the Public Safety Building, Fire Station and other government professional offices create a high weekday daytime demand. This was observed between the 1 pm to 2 pm hour when on-street occupancy was 89 percent. Some vehicles were observed to be parked in either unregulated or illegal spaces. Walker observed a surge of parking activity between the hours of 1 pm to 2 pm.

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ON-STREET PARKING STUDY UPDATE



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Exhibit 6: CBD Core Zone Occupancy - Monday May 08th, 2017

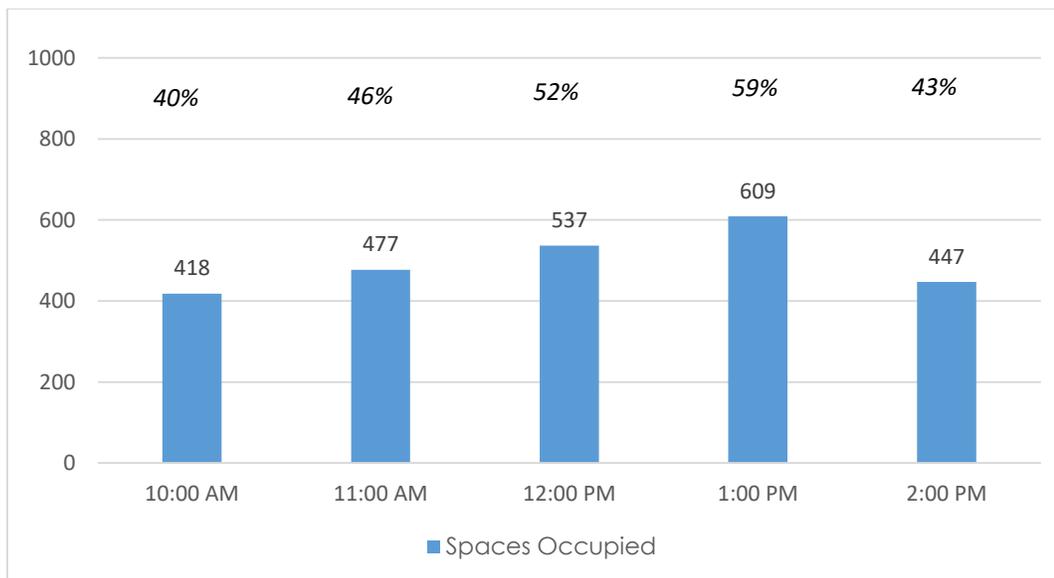
STREET	START	END	SPACES	10:00 AM	11:00 AM	12 noon	1:00 PM	2:00 PM
Huron	Jackson	Jefferson	61	30	19	41	25	19
Madison	St. Clair	Ontario	25	16	20	10	17	2
Superior	Adams	Jackson	17	8	0	14	22	16
Superior	Madison	Adams	42	12	17	35	33	31
Jackson	Summit	Huron	16	10	18	13	8	11
St. Clair	Jefferson	Jackson	57	10	59	42	36	36
Adams	Huron	St. Clair	27	13	21	28	24	10
TOTAL CBD			245	99	154	183	165	125
				40%	63%	74%	67%	51%

Source: Walker Parking Consultants, 2017

During the 12 pm hour, on-street parking space occupancy for the CBD Core reached a peak of 74 percent.

Exhibit 7 summarizes the total daytime occupancy recorded for Monday May 08th.

Exhibit 7: Daytime Total Occupancy - May 08th



Source: Walker Parking Consultants, 2017

Overall, on-street parking space occupancy for the 1,035 spaces surveyed within the Study Area, from 10 am to 11 am on a typical weekday, was observed to be 40%. Occupancy peaked by the 1 pm hour with 59% of total spaces occupied. The greatest concentration of daytime demand occurred in the Government District followed by the CBD Core.

Exhibit 8 shows a spatial distribution of occupancy across the entire Study Area at the 1 pm peak.

DOWNTOWN TOLEDO

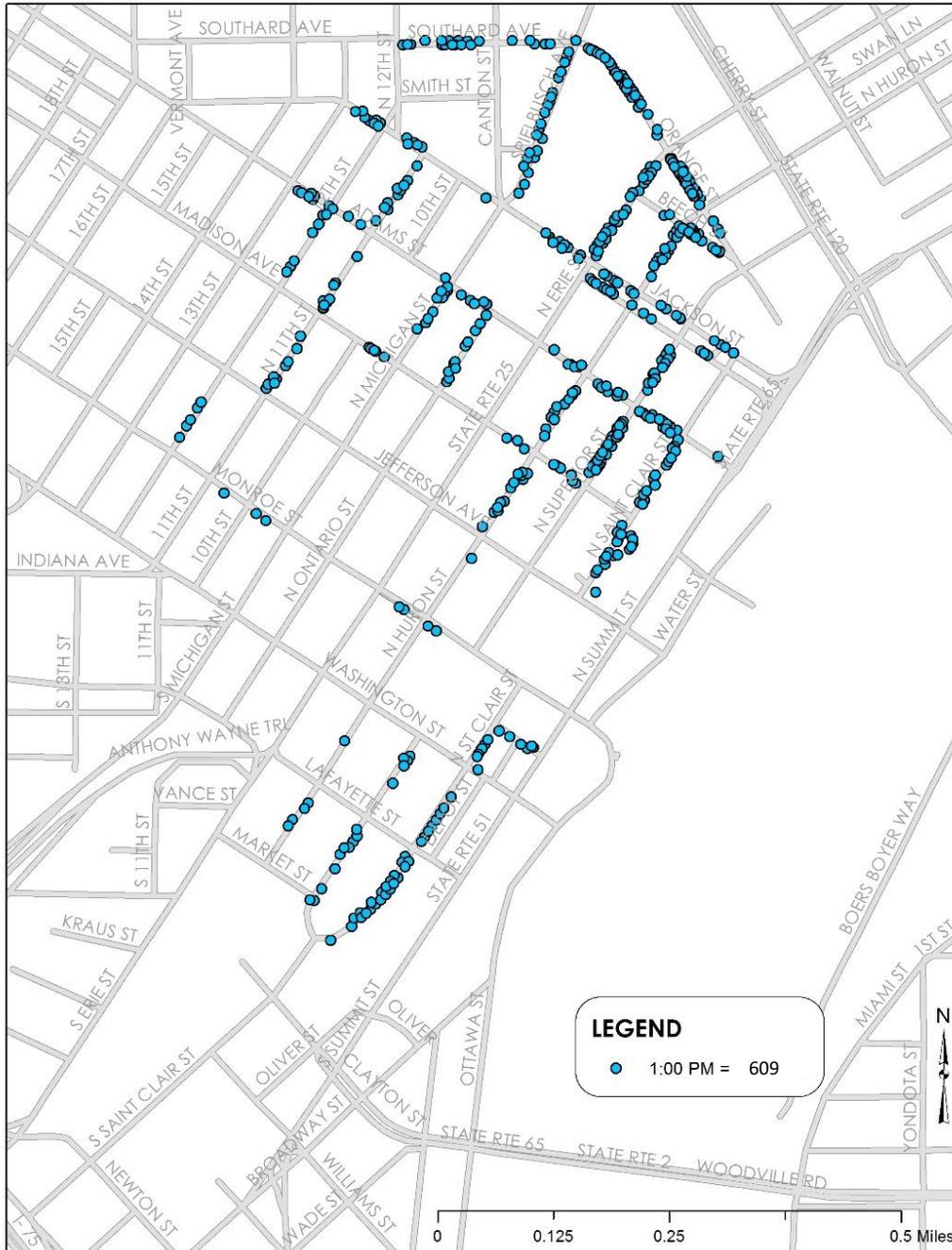
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Exhibit 8: Daytime Peak Occupancy Map -May 08th 1 PM



Source: Walker Parking Consultants, 2017

SPECIAL EVENT DESIGN DAY ONE: FIFTH THIRD FIELD, SUNDAY MAY 7TH, 2017

Walker, together with the client, determined two special event design days to collect additional data in order to quantify on-street parking demand for events at both the Huntington Arena and Fifth Third Field. On Sunday May 7th, 2017, the Mud Hens played an afternoon game with the first pitch thrown at 2 pm. An attendance of 6,247 was recorded at Fifth Third Field. Occupancy data was collected across the Study Area between the hours of 2:30 to 3:30 pm. The results of these counts are summarized below.

Exhibit 9: Warehouse District Zone Occupancy - Sunday May 07th

STREET	START	END	SPACES	2:30 PM
Erie	Washington	Jefferson	24	23
Huron	Jefferson	Lafayette	50	75
St. Clair*	Monroe	Lafayette	31	31
Superior	Washington	Lafayette	21	23
St. Clair	Lafayette	Farmers Market	47	35
Superior	Lafayette	Farmers Market	34	35
Huron	Lafayette	Market	36	35
Erie	Lafayette	Nebraska	40	19
Perry	Summit	St. Clair	6	0
Market	Superior	Erie	18	8
TOTAL WAREHOUSE			307	284
% to Total Warehouse				93%

**During game days parking is restricted on St. Clair between Monroe and Washington. This removes 12 meters from the available inventory within the district. Walker made a downward adjustment to reflect this.*

Source: Walker Parking Consultants, 2017

Walker observed a 93 percent total on-street parking space occupancy across the Warehouse District, the District containing Fifth Third Field, during the Sunday afternoon baseball game. Huron Street, between Jefferson and Lafayette, saw occupancy greater than 100 percent. This two-block radius provides on-street parking that is closest to the main gate entrance at the corner of Washington and Huron. Walker observed no rates for on-street parking on weekends.

Exhibit 10: CBD Core Zone Occupancy - Sunday May 7th

STREET	START	END	SPACES	2:30 PM
Huron	Jackson	Jefferson	61	60
Madison	St. Clair	Ontario	25	15
Superior	Adams	Jackson	17	20
Superior	Madison	Adams	42	38
Jackson	Summit	Huron	16	12
St. Clair	Jefferson	Jackson	57	25
Adams	Huron	St. Clair	27	37
TOTAL CBD			245	207
% to Total CBD				84%

Source: Walker Parking Consultants, 2017

Walker observed an on-street parking space occupancy of 84 percent across the CBD Core, the district nearest the Warehouse. Huron Street between Jackson to Jefferson saw an occupancy of 98 percent. Huron Street, a connector street between the Warehouse District and the Core, offers the most visible parking to motorists cruising for available spaces. Walker observed this effect within a 3-4 block radius of the ballpark. Elsewhere, Superior, between Madison and Adams, also saw high occupancy.

Exhibit 11: Uptown Zone Occupancy- Sunday May 07th

STREET	START	END	SPACES	2:30 PM
12th Street	Jefferson	Jackson	26	0
11th	Monroe	Jackson	57	15
Jackson	11th Street	12th Street	4	1
Michigan	Adams	Monroe	35	17
Madison	Ontario	12th Street	13	0
Ontario	Jefferson	Adams	45	14
Jefferson	Erie	12th Street	27	11
10th	Adams	Jackson	27	1
Adams	12th	Huron	42	11
TOTAL UPTOWN			276	70
% to Total Uptown				25%

Source: Walker Parking Consultants, 2017

An occupancy of 25 percent was observed in the Uptown District. Michigan, between Adams and Monroe, saw the highest on-street parking space occupancy with only 48 percent of spaces occupied. Available spaces along Michigan are over 3-4 blocks away from the ballpark making it a less desired area to park for baseball attendees.

Exhibit 12: Government Zone Occupancy- Sunday May 07th

STREET	START	END	SPACES	2:30 PM
Erie	Jackson	Cherry	45	2
Orange-Southard	Superior	Erie	37	0
Speilbush	Constitution	Jackson	23	0
Southard	12th	Spielbusch	4	0
Huron	Jackson	Cherry	14	5
Beech	Huron	Superior	10	0
Michigan	Jackson	Adams	15	12
Constitution	Speilbusch	Erie	23	0
Canton	Jackson	Southard	24	0
TOTAL GOVERNMENT			195	19
% to Total Government				10%

Source: Walker Parking Consultants, 2017

The Government District, the district furthest away from the ballpark, saw an occupancy of only 10 percent.

All districts combined generated a total observed occupancy of 57 percent for on-street spaces within the Study Area.

SPECIAL EVENT DESIGN DAY TWO: HUNNINGTON CENTER & FIFTH THIRD FIELD, MAY 23RD 2017

Data collection was also performed on the evening of Tuesday May 23rd to observe occupancy across the Study Area while simultaneous events are being held. WWE Smack Down was the feature event at the Huntington Center while the Mud Hens played at Fifth Third Field. Attendance figures indicate that WWE Smack Down drew 3,800 event goers with the Huntington Center at nearly 81 percent capacity. An attendance of 4,562 was recorded at Fifth Third Field.

On-street parking space occupancy counts were performed between the hours of 6 pm to 8 pm while both events were in session. Walker notes that it is not a common occurrence for both venues to be hosting large-scale events simultaneously and prefaces its results with this as a cautionary reminder. On-street parking rates were observed to be free after 5 pm when counts were performed. In comparison, privately operated off-street lots located within 1-2 blocks of the Huntington Center were observed as charging special event rates ranging from \$15-20.

Exhibit 13: Warehouse Zone Occupancy- Tuesday Evening May 23rd

STREET	START	END	SPACES	6:00 PM
Erie	Washington	Jefferson	24	12
Huron	Jefferson	Lafayette	50	56
St. Clair*	Monroe	Lafayette	31	31
Superior	Washington	Lafayette	21	22
St. Clair	Lafayette	Farmers Market	47	44
Superior	Lafayette	Farmers Market	34	33
Huron	Lafayette	Market	36	30
Erie	Lafayette	Nebraska	40	36
Perry	Summit	St. Clair	6	0
Market	Superior	Erie	18	18
TOTAL WAREHOUSE			307	282
% to Total Warehouse				92%

**During game days parking is restricted on St. Clair between Monroe and Washington. This removes 12 meters from the available inventory within the district. Walker made an adjustment down to reflect this.*

Source: Walker Parking Consultants, 2017

Walker observed an occupancy of 92 percent within the Warehouse District during game night. Huron Street, between Jefferson and Lafayette, saw occupancy greater than 100 percent.

Exhibit 14: CBD Core Zone Occupancy- Tuesday Evening May 23rd

STREET	START	END	SPACES	6:00 PM
Huron	Jackson	Jefferson	61	66
Madison	St. Clair	Ontario	25	33
Superior	Adams	Jackson	17	17
Superior	Madison	Adams	42	41
Jackson	Summit	Huron	16	11
St. Clair	Jefferson	Jackson	57	57
Adams	Huron	St. Clair	27	30
TOTAL CBD			245	255
% to Total CBD				104%

Source: Walker Parking Consultants, 2017

Total on-street parking space occupancy exceeded available on-street supply in the CBD Core. The overwhelming demand came from the Huntington Center WWE Smack down Event. The CBD Core, containing the Huntington Center, provided the most convenient on-street parking to event goers in the downtown.

Exhibit 15: Uptown Zone Occupancy- Tuesday Evening May 23rd

STREET	START	END	SPACES	6:00 PM
12th Street	Jefferson	Jackson	26	5
11th	Monroe	Jackson	57	25
Jackson	11th Street	12th Street	4	0
Michigan	Adams	Monroe	35	9
Madison	Ontario	12th Street	13	7
Ontario	Jefferson	Adams	45	34
Jefferson	Erie	12th Street	27	21
10th	Adams	Jackson	27	0
Adams	12th	Huron	42	20
TOTAL UPTOWN			276	121
% to Total Uptown				44%

Source: Walker Parking Consultants, 2017

A total on-street parking space occupancy of 44% was observed for the Uptown District. Spillover on-street parking was observed on Ontario between Jefferson and Adams as well as on Jefferson between Erie and 12th Street from event goers both with occupancy rates of 75 percent and above.

Exhibit 16: Government Zone Occupancy- Tuesday Evening May 23rd

STREET	START	END	SPACES	6:00 PM
Erie	Jackson	Cherry	45	15
Orange-Southard	Superior	Erie	37	10
Speilbush	Constitution	Jackson	23	20
Southard	12th	Spielbusch	4	0
Huron	Jackson	Cherry	14	12
Beech	Huron	Superior	10	5
Michigan	Jackson	Adams	15	1
Constitution	Speilbusch	Erie	23	0
Canton	Jackson	Southard	24	19
TOTAL GOVERNMENT			195	82
% to Total Government				42%

Source: Walker Parking Consultants, 2017

Walker observed a total on-street parking space occupancy of 42 percent for the Government District. Huron, between Jackson and Cherry, saw additional spillover parking from the Huntington Center. All districts combined generated a total on-street parking space occupancy of 72 percent within the Study Area on this design day.

TURNOVER AND DURATION ANALYSIS

Walker surveyed a statistical sample of license plates during the daytime weekday occupancy counts in order to determine, on average, how long vehicles remained parked (duration of stay). This exercise was done to determine if parking time limits are being observed by the public, as well as to see if vehicles were remaining parked through the free three-hour time window between 11am and 2 pm.

As we observed in our previous study, “theoretically one could park at 10 am for \$1 and remain parked for four hours (risking a citation for exceeding the time limit).” Walker provided an update of this sample survey with the results of the analysis summarized in graphical form. Exhibit 17 shows the geographic location where vehicles were counted once and/or potentially multiple times (2,3,4,5) over the course of the hourly occupancy counts between the hours of 10 am to 3 pm.

DOWNTOWN TOLEDO

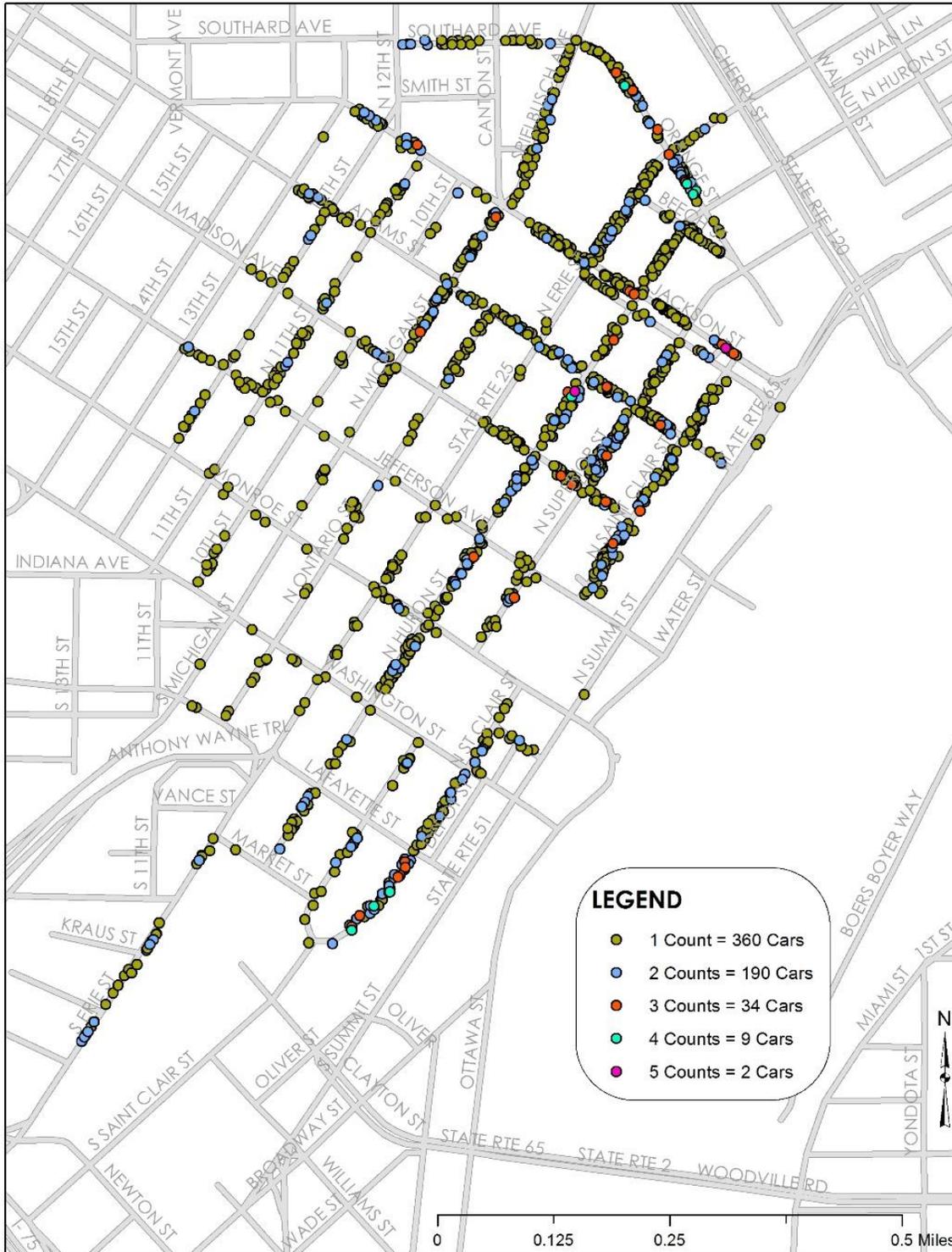
ON-STREET PARKING STUDY UPDATE



AUGUST 16 2017 **FINAL REPORT**

PROJECT NO. 20-1778.00

Exhibit 17: On-Street Duration Map



Source: Walker Parking Consultants, 2017

Generally, parkers were seen to be in compliance with the posted time limits with only 9 percent, or 34 cars surveyed, parked beyond the two-hour time limit. Past three hours, the numbers diminished significantly with only 9 cars parked for 4 hours and 2 cars parked for 5 hours.

The following table depicts this duration of stay behavior. Only 32 percent of users surveyed parked for two hours. This indicates that there is healthy space turnover with the majority of parkers, 61 percent found here, staying for only one hour or less.

Exhibit 18: Duration of Stay Summary Table

Length of Stay	1 Hour	2 Hour	3 Hour	4 Hour	5 Hour
Cars	360	190	34	9	2
% of users surveyed	61%	32%	6%	2%	0%

Source: Walker Parking Consultants, 2017

Based upon the analyzed data, we have found that parkers are generally not abusing the free lunch hour time allotments or staying beyond the posted time requirements. This is based upon a snapshot of current conditions, though, and can be subject to change as the downtown grows its daytime population. Currently, 1 million square feet of downtown's 5.1 million square feet of office space is vacant although some informed real estate experts believe that Pro Medica's move could yield additional leasing activity and re-energize the downtown submarket.¹ On-street parking characteristics could change with more downtown users.²

PEER CITIES EVALUATION

Benchmarking was performed to evaluate how Toledo is keeping pace with pre-selected peers. Note that with any benchmarking survey, mimicking peers is not always the goal. The sample sizes in most benchmarking studies are small and during Walker's work, we have repeatedly seen instances where the peer group as a whole is missing out on opportunities to implement best practices. Therefore, we recommend that the results of benchmarking surveys be interpreted with this in mind and used cautiously. The goal is to not copy practices that might be misinformed or outdated but to seek out opportunities to make Toledo a leader amongst its peers.

¹ Downtown office space sizzles" Jon Chavez. *Toledo Blade*. April 23, 2017. <http://www.toledoblade.com/Real-Estate/2017/04/23/Toledo-office-space-sizzles-as-ProMedica-moves-downtown.html> accessed June 25, 2017.

² Pro-Medica is constructing a ± 760 space parking garage for its employees, which according to the *Toledo Blade* accommodates 70-80 percent of the healthcare systems downtown workforce.

In the 2015 report, the following five cities were surveyed for comparison purposes: Greensboro, NC, Fort Wayne, Indiana, Akron, Ohio, Grand Rapids, Michigan, and Dayton, Ohio. These data points were updated in this 2017 update to reflect the most current information available. These cities were selected because they each have characteristics similar to Toledo. In the case of the other Ohio cities, they are similar in terms of population size as well as each having their own minor league baseball teams. Greensboro, NC was selected as the only peer city outside the US Midwest because of its equivalent population size (<300,000) and its minor league baseball team. Fort Wayne, Indiana was selected because of its proximity to Toledo as well as its own status as a minor league baseball town. Although, Grand Rapids does not have a baseball team, it was selected because of its proximity and size to Toledo.

Exhibit 19: Peer Cities Survey

City	Population	Size (sq. miles)	Miles from Toledo	Minor League BB Team
Toledo, OH	278,508	84	n/a	Toledo Mud Hens
Greensboro, NC	287,027	131	549	Greensboro Grasshoppers
Ft. Wayne, IN	264,488	111	103	Ft. Wayne Tin Caps
Akron, OH	197,633	62	138	Akron Rubber Ducks
Grand Rapids, MI	196,445	45	185	n/a
Dayton, OH	140,489	57	150	Dayton Dragons

Source: Walker Parking Consultants, 2017

HOURS AND DAYS OF METERED PARKING

Toledo parking meters are in effect Monday through Friday, from 8 am through 11 am and 2 pm through 5 pm. As we observed in 2015, “Walker is not aware of another municipality with a three-hour window of free parking in the middle of the day.” Moreover, 11 am to 2 pm are typically the busiest hours of the day due to increased lunch traffic which is, to Walker’s understanding, the rationale behind free parking being offered during these hours.

Of all the cities surveyed, parking meter enforcement hours begin at 8 am and end at 5 or 6 pm. One of the five surveyed cities posts that its parking meter enforcement hours’ end at 5 pm., while the other four cities end enforcement at 6 pm. Two of the five cities, Greensboro and Grand Rapids, enforce time limits on Saturdays.

[Exhibit 20: Hours and Days of Enforcement Survey](#)

City	Population	# Meters	Hours
Toledo, OH	278,508	1,035	8 am- 11am and 2 pm- 5 pm, Mon-Fri
Greensboro, NC	287,027	900	8 am- 6 pm, Mon-Sat
Ft. Wayne, IN	264,488	800	8 am- 5 pm, Mon-Fri
Akron, OH	197,633	1,235	8 am- 6 pm, Mon-Fri
Grand Rapids, MI	196,445	2,600	8 am- 6 pm, Mon-Sat (select areas on Sat.)
Dayton, OH	140,489	1,350	8 am- 6 pm, Mon-Fri

Source: Walker Parking Consultants, 2017

METERED PARKING RATES

Toledo’s metered parking rate is \$1.00 per hour with a two-hour time limit, with the exception of ‘nine-hour’ meters that offer a discounted rate of \$0.25 per hour. Dayton and Grand Rapids both use variable rate schedules based upon location and duration of stay with parkers realizing a rate savings at the long-term meters. Ft. Wayne and Akron both have fixed rates throughout their downtowns at \$0.50 and \$1.00 per hour respectively. In 2016, Greensboro moved to a variable rate schedule by location. Since our 2015 survey, Grand Rapids has increased its hourly on street rates due to an increase in demand which we have adjusted in the table below.

[Exhibit 21: Metered Parking Rates Survey](#)

City	Hourly Rate	Time Limit
Toledo, OH	\$1.00 (\$0.25 at nine hr. meters)	2 hr.
Greensboro, NC	\$0.75 - \$1.00 depending upon location	2 hr.
Ft. Wayne, IN	\$0.50	2 hr.
Akron, OH	\$1.00	2 hr.
Grand Rapids, MI	\$1.00 - \$1.75 depending upon location	2, 3, 4 hours by location
Dayton, OH	\$0.50 - \$1.00 depending upon location	½ hr., 2, 3, 5, 10 hr. by location

Source: Walker Parking Consultants, 2017

METER TECHNOLOGY

Toledo replaced 400 of its conventional meters with IPS smart meters within the last five years. Additionally, Toledo introduced Park Mobile's Pay by Zone parking app feature to meters across most of the downtown as a user convenience. According to interviews with Bill Thomas, President of the Downtown Toledo Development Corporation, the user response has been positive. In spring 2017, Grand Rapids introduced the Park Mobile app to its meter system and installed 40 Parkeon pay stations in some areas of the downtown. Additionally, the city of Dayton is in the process of adding mobile payment options. Exhibit 22 summarizes these findings.

Exhibit 22: Meter Technology Survey

City	# Meters	SSM	Smart SSM	Multi-Space	Pay-By-Phone?
Toledo, OH	1,035	636 Duncan	400 IPS	n/a	yes
Greensboro, NC	900	900 POM	n/a	n/a	no
Ft. Wayne, IN	800	780 Duncan	20 IPS	n/a	no
Akron, OH	1,235	1,157 Duncan	43 IPS	35 Cale PbS	no
Grand Rapids, MI	2,600	2,560 Duncan	n/a	40 Parkeon PbS	yes
Dayton, OH	1,350	935 MacKay	415 IPS	n/a	in progress

Source: Walker Parking Consultants, 2017

PARKING METER VIOLATIONS

Walker requested annual citation revenue but only three cities provided it: Greensboro, Dayton, and Fort Wayne.

Toledo and three other cities set meter violation fines at \$10. Greensboro is \$15 and Dayton's is \$35; however, the fine is reduced to \$20 if violators pay within 72 hours. In 2017, this practice has elicited criticism from downtown constituent groups who think this policy is too aggressive and is currently being reviewed by city officials.

[Exhibit 23: Meter Fine Survey](#)

City	# of Meters	Meter Fine	Citation Revenue
Toledo, OH	1,035	\$10	\$648,000
Greensboro, NC	900	\$15	\$837,648
Ft. Wayne, IN	800	\$10	\$365,385
Akron, OH	1,235	\$10	n/a
Grand Rapids, MI	2,600	\$20 (downtown)	\$2,000,000
Dayton, OH	1,350	\$35 (downtown reduced if paid in 72 hrs.)	\$386,800

Source: Walker Parking Consultants, 2017

REVENUE

Walker requested revenue data but only received data from three cities: Dayton, Fort Wayne and Grand Rapids.

[Exhibit 24: On-Street Parking Revenue Survey](#)

City	# of Meters	Annual Parking Meter Revenue	Annual Parking Revenue per Meter	Annual Citations Revenue	Total Revenue (Parking + Citations)	Total Annual Revenue per Meter (Parking + Citations)
Toledo, OH	1,035			\$648,000		
Greensboro, NC	900	n/a	n/a	\$837,648	n/a	n/a
Ft. Wayne, IN	800	\$236,089	\$295	\$365,385	\$601,474	\$752
Akron, OH	1,235	n/a	n/a	n/a	n/a	n/a
Grand Rapids, MI	2,600	\$1,500,000	\$577	\$2,000,000	\$3,500,000	\$1,346
Dayton, OH	1,350	\$823,900	\$608	\$386,800	\$1,210,700	\$897

Source: Walker Parking Consultants, 2017

Of the five cities surveyed, Grand Rapids saw the highest revenues with nearly \$3.5 million in total revenues. This can be explained by a multitude of factors including the highest rate structure and downtown fines amongst peers, additional Saturday enforcements in select areas of the downtown, and far more meters in their system than any other city evaluated. Parking spaces are in such high demand in downtown Grand Rapids, that the city is weighing alternative transportation demand management strategies for downtown employees. Of the financial data obtained by Walker, Ft. Wayne saw the lowest total revenues received with just over \$600,000.

EVENT PARKING

Four of the five cities Walker surveyed in both 2015 and 2017 have minor league baseball teams, but none have implemented event rate parking on street. Walker found through its research that most games are primarily played in the evenings when meters are not in effect; therefore, on-street event parking is free. Each of the cities had off-street surface lots and garages that charged event rate parking.

TECHNOLOGY REVIEW

The following sections give an overview of industry technologies available to on-street parking systems. In our previous report, we offered an analysis of the benefits of smart meters, multiple meter payment options, and hardware and enforcement technologies. Exhibit 25 is a comparison graphic assessing how the City has utilized available technologies to-date.

[Exhibit 25: Technology Implementation Assessment](#)

Technology	Action
✓ Smart Meters	Many of Toledo's downtown meter heads have been upgraded to IPS credit-card-accepting meters
✓ Pay by Cell Phone	Toledo introduced Park Mobile's Pay by Zone parking app feature to meters across most of the downtown as a user convenience
✓ Enforcement Handhelds	Toledo has implemented enforcement handheld devices.
○ Multi-Space Meters	The City installed five Parkeon pay-and-display multi-space meters but removed them due to maintenance, operating costs, and consumer dissatisfaction with walking distances to the kiosks.

Source: Walker Parking Consultants, 2017

Toledo has already implemented several industry-accepted practices and leads some of its peers with its credit-card-accepting and mobile app payment abilities. In stakeholder interviews, Walker found that these actions have generally been well received by the community and been a success for the downtown.

In our previous report, Walker evaluated multi-space meters. To our understanding, the City installed and subsequently removed five Parkeon pay-and-display kiosks citing maintenance and cost issues as well as consumer dissatisfaction with the walking distances between the kiosks and their vehicles. In light of this discovery, Walker does not recommend this technology for the downtown at this time. Nevertheless, provided in Appendix 1 is a brief assessment of these features should the City wish to revisit these options at a later date.

IN VEHICLE PAYMENT

Recent auto manufacturer advancements with in-vehicle technologies will now allow drivers to pay for parking with the touch of a button on the vehicle dashboard. In 2016, Honda partnered with Visa to unveil Visa Checkout, an in vehicle payment solution delivered through smart phone integration. IPS, the smart parking meter equipment manufacturer, is a partner in this joint venture.

HOW IT WORKS?

The future of payment platforms is a transition away from physical plastic cards to digital, mobile wallet options. Security for a user's Visa account would be stored, in encrypted form as a secured element on a chip in the cloud or in the car's "brain", called the head unit.

The driver is notified of available parking via the IPS mobile app that is fully integrated with the vehicles dashboard. The driver then selects the time increment and pays using the dashboard and secure Visa Checkout. The meter simultaneously displays the time purchased. The driver can then have the option to reload time via the mobile app.

Exhibit 26: In Vehicle Payment Platform Prototype



Source: NFC World, 2017

Ford announced their own version of this platform with FordPay, which allows the vehicle to facilitate transactions.³

³ "Honda unveils in-vehicle payment service for fuel and parking at CES 2017" Ryan Boden. NFC World. January 6, 2017. <https://www.nfcworld.com/2017/01/06/349323/honda-unveils-vehicle-payment-service-fuel-parking-ces/> accessed June 24, 2017.

Although this technology is in its infancy and has not yet achieved a mass market rate of acceptance, most vehicles today are being manufactured with smart on-board technologies which has implications for parking in urban environs.

RECOMMENDATIONS

METER RATES, DAYS AND HOURS

In our previous study, Walker identified free three-hour parking between 11 am and 2 pm as a concern. We recommend that the City implement paid parking between 11 am and 2 pm.

Downtown Toledo is undergoing changes and parking policies must be flexible to meet these changes. Reintroducing rates during the 11 am to 2 pm hours will promote greater on-street turnover and restore value to undervalued prime daytime spaces. It will also help pay for parking meter capital and enforcement costs. This recommendation is informed by observations in the Government District and CBD Core where "hot-spots" were found during prime daytime hours. Eventually we could see this pattern take place in other districts of the downtown as revitalization activity increases. Therefore, a standardized approach to managing on-street spaces, to include uniform daytime hours of enforcement, must be a pro-active first step to ensuring the availability of future on-street supply.

Walker recommends implementing demand-based pricing on streets that are above 85 percent occupancy and reducing the hourly rate on streets that are below 50 percent. Meters on these streets can be converted to nine-hour meters at \$0.25 an hour which would free up spaces along the higher-demand streets as individuals are incentivized by costs. With the technology that the meter operators have available, rate structures can be changed remotely. Setting on-street rates higher than off-street rates encourages parkers to locate those longer-term parking solutions in lots and garages across the downtown, creating a healthy turnover of short-term on-street spaces.

The goal is to distribute on-street parking more evenly throughout the downtown. Some individuals will choose to pay the higher rates out of convenience, while some will alter their behavior and park on blocks with lower rates and walk the greater distance.

In 2015, we recommended that the City keep the two-hour time limit. We see no reason to change this recommendation. In our turnover and duration survey, we discovered that parkers are in observance of this time positing and are generally abiding by this requirement. Our survey found that nearly 9% of parkers are staying beyond the posted limit which translates to 45 cars parked beyond the allowed time. This represents a citation revenue of \$450 per day, or \$108,000 per year. Although the objective is not to fill department coffers, more consistent hourly enforcements will encourage greater space turnover and parking adequacy.

Moreover, Walker recommends that government employee parking on street be evaluated. We observed the highest daytime utilization rates at the 1 pm hour in the Government District where spaces were 89 percent occupied. Employees should be encouraged to park in long term surface lots and garages where at all possible. Walker recognizes that some public safety

vehicles must remain on street, but parking on street should be made available to short-term government visitors with more long-term parking solutions identified for employees.

Below is a summary of our recommendations for meters, rates, and enforcements:

- Implement paid parking between the hours of 11 am to 2 pm;
- implement demand-based pricing;
- maintain the two-hour time limit but consider turning underutilized parking areas into long-term nine-hour meters;
- enforce the two-hour limit consistently;
- survey employees in the Government District to determine how on-street spaces are being utilized.

PARKING ZONES

In our previous study, Walker recommended the creation of four parking zones following the boundaries of the four districts from which we collected data: The Warehouse District, the CBD Core, Uptown, and the Government District. Recognizing the unique attributes and user profiles for these four districts, different hours of operation, rules, and rates could apply by District. From a policy implementation perspective, having zones would be beneficial to implementing more context specific policies.

EVENT PARKING

Many parkers prefer parking on street when attending events, particularly on evenings and weekends, when meters are free in many communities across the country. On-street spaces are also the most visible spaces and provide the added time convenience of not having to locate a public garage and drive up several garage floors. Additionally, most events tend to charge flat rates that can be onerous for some user types. We observed \$15-20 rates (surface parking) across the downtown during Huntington Center and Fifth Third Field events.

Walker recognizes the balance cities have to strike between making parking available to all user-types as a public good, while not “giving-away” high-demand spaces. In our peer cities research we found no existing practice of charging event rates on street across the communities we surveyed. However, this has been a practice in other markets throughout the country. At Fenway Park in Brookline, Massachusetts, for instance, meters on Beacon St. have a flat rate of \$22.50 starting at 6 pm on game nights.

Toledo's IPS meters are capable of variable rate structures, including flat rates for events such as Mud Hens games, Walleyes games, concerts and other performing arts events. In our previous study, Walker recommended designating these two parking zones (Warehouse District and CBD Core) as entertainment districts and implementing event parking rates on evenings, weekends (Saturday only) and weekdays during special events. Event parking would produce revenue and would maintain space availability for people not attending an event. We also proposed a graduated rate structure for event day parking.

Exhibit 27: Recommended On-Street Event Parking Rate Structure

Timeframe	Hourly Rate
One hour or less	\$1
Two hours or less	\$2
Three Hours or less	\$4
Event Max Rate	\$6

Source: Walker Parking Consultants, 2017

A graduated hourly rate structure would encourage some event parkers to park in garages and surface lots, freeing up some of the on-street spaces. Keeping the hourly rate of \$1 for the first two hours is in line with existing practices while a \$6 event max rate is competitive with off-street parking rates. If these rates are not high enough to generate a vacant space or two per block face, then rates should be gradually increased until desired vacancies have been reached.

Walker recommends implementing these rates from 6 pm to 10 pm on event nights and one hour before the start of events on Saturdays.

Walker assumed 550 metered spaces in the Warehouse and CBD event parking zones and modeled 75 percent (396 spaces) of these spaces be taken by event parkers, leaving the remaining 25 percent (154 spaces) for non-event parkers parking on event nights. Assuming an 85 percent occupancy with no turnover for event parkers and non-event parkers, an annual event revenue of \$317,000 is forecasted based upon these assumptions.

Exhibit 28: Estimated Annual Event Parking Revenue

Venue	Avg. Rate	# Cars	# Events	Total
Mud Hens	\$5	337	53	\$89,305.00
Walleye	\$5	337	36	\$60,660.00
Huntington Center	\$5	337	44	\$74,140.00
SeaGate	\$5	337	30	\$50,550.00
Non-Event*	\$2	131	163	\$42,706.00
TOTAL				\$317,361.00

**Includes restaurant goers and downtown visitors not parking specifically for entertainment facility events but paying event rates on-street.*

Source: Walker Parking Consultants, 2017

Note that two to three enforcement staff would be required during event parking. However, citation revenue typically exceeds staffing costs.

CITATIONS

In our previous study, Walker recommended issuing courtesy warnings to first-time offenders. This softer approach could enhance customer service and public perception of Park Smart and help users learn the system. In turn, the penalty for repeat violators should be more severe. Walker recommends increasing the \$10 meter fine after three violations in one year, so that the penalty for each violation after the third becomes more punitive. A historical analysis of citations should be performed to confirm that the incremental fines will make up for lost revenue during the courtesy warning for first time violators.

METER TECHNOLOGY UPGRADES

Walker recommends upgrading meters where demand is present to smart meters with IPS single space meters. The IPS meter upgrade is necessary to implement event parking rates in the Warehouse and CBD Core. Walker understands the upfront capital and operating costs incurred but reasons that increased revenue from credit card purchases combined with fewer coin collections should outweigh the operating expenses. The preference of the City has been for single-space meters with IPS as the preferred manufacturer.

Exhibit 29: IPS SSM Upgrade Budget

Components	Cost
Unit Cost (installed)	\$510
Quantity	485
Meter Cost	\$247,350
Spare Meter Parts for Maintenance and Repairs	\$6,000
New Meter Housings	\$14,700
Subtotal	\$20,700
Total Upgrade Costs	\$288,750
Annual Operating Expenses	
Annual CMS Fees	\$39,330
Annual Credit Card Processing Fees	\$22,174
Additional CC Processing Fees to IPS	\$27,788
Total Annual Operating Expenses	\$89,292
Extended Meter Warranty	\$34,200

Source: Walker Parking Consultants, 2017

Walker understands that city-wide installation is costly. By not collecting revenues during the 11 am to 2 pm busiest times of the day, the City is forgoing – by our estimates – nearly \$330,000 in additional revenues on an annual basis. Furthermore, revenues of nearly \$320,000 are also being left on the table without any event rate parking. This nearly \$650,000 of uncollected revenue could go a long way towards upgrading existing meters and improving curbside infrastructure including lighting, sidewalks, and landscaping.

PARKING ADVISORY COMMITTEE

Walker recommends creating a Parking Advisory Committee that can commit to meeting on a quarterly basis to discuss parking trends and issues in downtown Toledo.

The committee would not have any official government capacity but could serve as a clearinghouse for the exchange of information and ideas. The meetings would be as an opportunity to help ParkSmart deliver on its brand promise to deliver “clean, secure, and accessible parking for visitors, residents and commuters in downtown Toledo.”

BRANDING AND MARKETING

ParkSmart is the brand face of the public parking system in downtown Toledo. Paid parking is usually unpopular, although necessary. Branding is a way of focusing and messaging on the positive aspects of parking as well as providing valuable information that will assist users in having a positive parking experience.

Having a website that is frequently updated and is easy to navigate for users is paramount in connecting users to valuable information such as available parking locations, hours of enforcement and restrictions, rates, how to pay fines, as well as any instructions on how to use technology. ParkSmart is doing this already. Walker recommends committing to one logo or combining existing designs to create one unified brand logo. Additionally, an active presence on social media is another channel to get information out to the public. This can include notifications and alerts to the public regarding parking for events, downtown activities, any street closure alerts, and general tips on how to navigate downtown and locate parking. Walker recommends this messaging be done on a consistent basis.

CONCLUSION

Walker observed daytime demand conditions in late 2015 and Spring 2017 and did document a slight increase in demand; 59 percent peak daytime hour demand, up from 53 percent in 2015. While the trend is upward, Walker still has not observed significant shifts in overall demand. However, as advised here, the city should consider charging on-street parking rates to include the 11 am and 2 pm timeframe. Pro Medica's move downtown could signify a return to greater leasing activity in and around the downtown CBD which will have an impact on on-street parking. In light of these and other future developments, we recommend that stakeholders proactively plan for growth and consider the recommendations of this report.

STATEMENT OF LIMITING CONDITIONS

This report and conclusions are subject to the following limiting conditions:

1. This report is based on some assumptions that are outside the control of Walker Parking Consultants/Engineers, Inc. ("Walker") and/or our client. Therefore, Walker does not guarantee the results.
2. The results and conclusions presented in this report may be dependent on future assumptions regarding the local, national, or international economy. These assumptions and resultant conclusions may be invalid in the event of war, terrorism, economic recession, rationing, or other events that may cause a significant change in economic conditions.
3. Walker assumes no responsibility for any events or circumstances that take place or change subsequent to the date of our field inspections.
4. All information, estimates, and opinions obtained from parties not employed by Walker, are assumed to be accurate. We assume no liability resulting from information presented by the client or client's representatives, or received from third-party sources.
5. This report is to be used in whole and not in part. None of the contents of this report may be reproduced or disseminated in any form for external use by anyone other than our client without our written permission.
6. The projections presented in the analysis assume responsible ownership and competent management. Any departure from this assumption may have a negative impact on the conclusions.
7. Computer models that use and generate precise numbers generate some of the figures and conclusions presented in this report. The use of seemingly exact numbers is not intended to suggest a level of accuracy that may not exist. A reasonable margin of error may be assumed regarding most numerical conclusions. Conversely, some numbers are rounded and as a result some conclusions may be subject to small rounding errors.
8. This report was prepared by Walker Parking Consultants/Engineers, Inc. All opinions, recommendations, and conclusions expressed during the course of this assignment are rendered by the staff of Walker Parking Consultants as employees, rather than as individuals.
9. This report presents some conceptual financial information that is intended to provide an order-of-magnitude assessment of parking expenses and relative costs. This report is not to be used for financing purposes.



**APPENDIX 1:
MULTI-SPACE METER TECHNOLOGY**

MULTI-SPACE SMART METERS

Multi-space meters cover many spaces for each single meter installed. Many factors impact the number of spaces an operation can optimize per total meters, however, a general rule of thumb is one meter per ten spaces. This ratio can increase for larger open surface lots, but can decrease for on-street blocks with a lower stall count or long walking distances. The most common form of a multi-space meter is the kiosk.

- Benefits:
 - Cash note, coin, credit card, debit card, and value card acceptance.
 - Many can provide coin change back to the parking patron.
 - Meters with the ability to cover multiple parking spaces, but number of meters per number of spaces can vary. Generally, can expect around 1 meter per 10 spaces.
 - This ratio can increase in large open parking lots with limited entry / exit points
 - This ratio can decrease for on-street blocks with a lower stall count, or long walking distances
 - Offer the highest reductions in overall collection times due to credit card usage, and reduction in the number of units that must be emptied.
 - Provides receipts
 - Variable rates
 - Remote top-up via mobile app or web-site
 - High potential for enforcement efficiencies when implemented with an integrated software application. No need to visit every space, the software application can provide data on which specific spaces are out of time or not paid.
 - Cellular connection and solar power options, reducing upfront network infrastructure requirements and long-term cost of ownership.
 - Reductions in sidewalk "clutter".
 - Potential for lower long-term maintenance costs, due to decreased device volume.
 - Can offer variable rates, including the ability to have initial free (grace-period)
- Challenges:
 - Higher up-front cost per meter, usually resulting in higher overall initial and replacement costs.
 - Local service and support for particular vendors must be carefully considered.

- Higher patron learning curve due to a completely new form factor.
 - The learning curve and negative perceptions can be decreased through a targeted marketing effort and parking ambassador presence to assist and inform customers during the initial roll-out.
- Walking distances from space to meter, and meter to destination.
- The different multi-space meter types offer a number of benefits and drawbacks, many relating to the requirement to either enter a space, or license plate number, or have the user return to their vehicle to place the receipt on their dash.
- Some demographics find interfacing with this type of technology challenging.

Multi-space meters have three common configurations:

- Pay by Space – this multi-space configuration requires each parking space, associated to meters, to be outlined (striped) and numbered. Parking patrons must remember the space number and input it into the meter to facilitate fee payment.
- Pay by (License) Plate – this configuration does not require space striping or numbering. It does, however, require the parking patron to remember their license plate number and enter this in the meter to facilitate fee payment.
- Pay and Display – this multi-space meter requires no additional striping or numbering, nor does the patron need an additional piece of data to process the fee transaction. The parking patron receives a receipt once the fee has been paid, and that receipt must be placed on the vehicles dash.

No one multi-space system is necessarily better than another, operational preference, systems integrations, climate / region, cost, and stakeholder buy-in should all be considered when choosing a particular multi-space meter system.

PAY BY SPACE

Every space is numbered and associated with a multi-space machine. User parks in a space and enters the associated signed space number into the machine and choose time and payment option.

- Benefits:
 - Simplest version for the transition from single space meters and offers a low learning curve for most parking patron demographics.
 - Provides the ability for multi-system integrations including, but not limited to mobile payment applications and parking enforcement citation applications.
 - Can facilitate targeted enforcement. Parking enforcement officers do not need to enforce every space, only those that are classified as currently unpaid.
- Negatives:

- High number of space signs contributing to a 'cluttered' streetscape and sidewalk.
- Patron's may forget or enter the wrong space number, resulting in multiple trips from the space to the meter or improperly issued citations.
- Pass-back (re-using) of paid spaces – patrons may pull into an already paid space. Different vendors and systems configurations can negate this problem.

PAY BY PLATE

Patron enters their full plate number at the meter as the payment identifier. The license plate number is also used by the Parking Enforcement personnel to monitor and check payment status.

- Benefits:
 - No pass-back of previously paid meter time, resulting in higher revenues.
 - For this configuration there is no need for individual space signs, thereby reducing sidewalk 'clutter' and initial cost of implementation.
 - Provides the ability for multi-system integrations including, but not limited to mobile payment applications, license plate recognition solutions, and parking enforcement citation applications.
 - Can help transition parking systems to 'permit-less' operations, allowing the license plate to act as a single unique identifier for both payment association and permit parking compliance.
- Negatives:
 - Patrons need to remember their license plate number, which could result in multiple trips between meter and vehicle, and challenges for patrons with rental cars.
 - Required alpha and numeric keypads on the multi-space meter device, which can result in a more confusing transaction instructions and processing.
 - Increased transaction start-to-completion times for infrequent patrons.

PAY AND DISPLAY

Patron chooses their desired duration of stay and pays, receiving a receipt that needs to be displayed on their vehicles dashboard. The receipts are then routinely checked by parking enforcement staff to insure compliance.

- Benefits:
 - Quick transaction times because there is no need to enter a qualifier like space number or license plate to start the transaction.
 - Decreased patron learning curve due to the reduction in steps and data required for a transaction.
- Negatives:

- Doubles the walking distance for every patron. Many infrequent and first-time users will not read the instructions or forget to place the receipt on their dash, resulting in improper citation issuance.
- Increased difficult to enforce due to:
 - Snow, rain, etc. can hide or distort the view of the receipt
 - Users may not properly display the receipt
 - Every vehicle must be checked, increasing the time allocated to enforce
 - Users can re-use old receipts to try and game the system

Pass-back of receipts to other parking patrons is common, allowing the second user to utilize unused time, instead of requiring them to pay for their own, independent parking transaction

**APPENDIX 2:
ON-STREET EVENT RATE ADDITIONAL RESEARCH**

Exhibit 30: Special Event Rate On-Street Parking Zones Comparable Analysis

St. Paul, MN	Xcel Energy Center	CHS Field
special event rate per hour	\$3.75	\$2.50
standard rate per hour	\$1.25	\$1.25
Minneapolis, MN	US Bank Stadium	
special event rate	\$25 flat rate	
standard rate	\$0.25-\$1 per hr.	
Sacramento, CA	Golden One Center	
special event rate per hour (tier structure)	\$1.75 hr. 1, \$3.00 hr. 2, \$14.00 flat rate 3+ hr.	
standard rate per hour	\$1.75 hr.	
San Francisco, CA	AT&T Park	
special event rate per hour	\$7.00	
standard rate	\$0.50 base rate (demand pricing)	
Brookline, MA	Fenway Park	
special event rate	\$22.50 flat rate	
standard rate	\$2.00	
Chicago, IL	Wrigley Field	
special event rate	\$4.00 per hr. starts 2 hours before games and special events	
standard rate	\$2.00 per hr.	

Source: Walker Parking Consultants, 2017



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