

Downtown Racine

Pedestrians, Plaza & Parking

City of Racine, WI

Downtown Public Realm and Parking Plan

October 2019

RACINE ON THE LAKE

Prepared by:

TOOLE DESIGN

WALKER CONSULTANTS

Summary

The Downtown Racine Public Realm and Parking Plan is built upon public consultation and Downtown Racine's well-established street network and building fabric. The study area's network of primary streets (i.e., Main Street and 6th and 7th Street) are under the jurisdiction of WisDOT as State Trunk Highway 32. They frame and connect a series of public spaces including Monument Square, the roundabout east of City Hall, Sam Johnson Park Walkway and features along Lake Michigan. This public realm plan articulates a series of feasible changes that can be made to the streets and public spaces to support the area's vitality by encouraging pedestrian and cycling activity while maintaining vehicle access and parking.

Main Street and the series of one-way streets were designed to move traffic rapidly to, from , and through the downtown during a time when Racine's population was greater, employment was focused on manufacturing and shift work, and when priorities for downtowns were different. Today's smaller population and the transition away from manufacturing has created excess car-carrying capacity in the downtown transportation network. The excess capacity and wide one-way streets have led to poor motorist behavior (i.e., speeding, weaving, and aggressive driving). The results are a poor downtown environment for pedestrians and cyclists and a reduced potential for social and economic exchange. There is opportunity to rectify these conditions through design changes to the streets to accommodate all users of the streets safely and comfortably while still providing motor vehicle capacity and parking. Simultaneously, the public spaces can be improved to increase social and economic exchange and civic identity and pride.

The following recommendations result from public consultation and site investigation that occurred during July, 2019, by Toole Design Group and Walker Consultants.

	Recommendation	Process	Timeline	Responsibility
1	Adopt the *Racine Downtown Public Realm and Parking Plan*	Embody the plan in the City's Comprehensive Plan through the Planning Commission to the Common Council	Immediate- 60 to 90 days from Final Report	Public Works Commissioner sponsorship with involvement of Parks Department and City Development
2	Form a Downtown Racine Steering Committee	Develop terms of reference for and create a non-political committee of enthusiastic proponents of the downtown to maintain the project momentum through monitoring the vision against a schedule they develop and advocating for funding while being ambassadors of the plan.	Immediate- following adoption of Final Report	Co-sponsored by Public Works Commissioner and Planning Commissioner
3	Reverse one-way traffic flow on the west side of Monument Square and change parking configuration to parallel parking.	Public works to implement change as per customary notification, execution and enforcement practice	Immediately	Public Works and City Development

	Recommendation	Process	Timeline	Responsibility
4	Promote and Encourage the Use of Downtown Parking Ramps	Increase on-street parking cost to $1.00 per hour along Main Street, around the Square, and along 6th Street and pilot reduce after hour fees at parking ramps to encourage customer turnover on-street and encourage long-term/employee parking in the ramps.	Immediate	Parking Manager
5	Transition to Multi- Space Meters Throughout Downtown	Remove individual downtown parking meters and replace with multi-space meters using pay-by-plate and Passport App technology to reduce visual clutter, simplify winter maintenance, and reduce operating costs.	2021	Parking Manager
6	Restore Lake and Wisconsin Avenues to Two-way Operations	Public Works to work to seek Common Council approval of adopted plan and City Engineer to develop studies and cost estimate to implement changes	2021	City Engineer
7	Advance the State Trunk Highway Change, concurrent with two-waying 32/20 (6th and 7th) and dieting Main Street	Public works to coordinate with WisDOT Southeast Office for process and timeline requirements while scoping, funding and executing required studies. Main Street from State Street to 5th first phase with 5th to 7th street as phase two.	2020-Consult with WisDOT	Public Works, specifically City Engineer's Office
8	Advance Monument Square Design	Add Public Improvement budget item recognizing consecutive years of overlapping funding for: Infrastructure Condition Assessment and Needs in 2020 Schematic Design through Construction Documents 2021 Construction through 2023	2020 Budget line items Planning Studies and Design – 3 years out Construction – 4 years out	Public Works Commissioner sponsor with Involvement of City Engineer, Parks Department and City Development
9	6th Street Bicycle Lanes East of Main Street Connection to Pershing Park	Codify to include Pershing Avenue and hotel design in line with Monument square reconstruction and plan for a stronger connection along 6th Street/ Sam Johnson Parkway, from the Square to Lake Michigan	Concurrent with Monument Square Design	Public Works Commissioner sponsor with Involvement of City Engineer, Parks Department and City Development



Figure 1: Overall design concept for downtown Racine, WI. 1) Connecting State Trunk Highway re-designation to Wisconsin Avenue at 2nd Street; 2) Two-way Wisconsin and Lake Avenues; 3) Begin Monument Square studies and detail design; 4) Main Street road diet; 5) Bicycle lanes on 6th Street, east of Main Street; 7) Monument Square reconstructed as a plaza; and 8) Reconstruct Pershing Park Drive concurrent with waterfront development. Note the blue lines with arrows are important views that need protecting.The dotted line represents an alternative re-routing option for the State Trunk Highway.

Introduction

Toole Design's urban design, landscape architecture, transportation, and traffic analysis team, supported by the parking plan expertise of Walker Consultants, was enlisted by the City of Racine to create a public realm and parking plan for its downtown. The plan is divided into three related parts: i) a traffic design for the Main Street corridor; ii) a strategy for the downtown parking system; and iii) a re-design of Monument Square. Supporting these three parts are a series of recommendations for parallel streets, streets to and from the waterfront, and the State Trunk Highway within the downtown. The sum of these parts and recommendations will be instrumental in making the downtown to be "a welcoming destination, a place to arrive and stay, a thriving business and cultural center, and a place to call home."

The plans and designs were developed during two, four-day, collaborative workshops, from July 8 to July 11 and from July 29 to August 1, 2019. During the workshops, there were many opportunities for City staff, Downtown Racine Corporation (DRC) officials, business owners, the Wisconsin Department of Transportation (WisDOT), civic leaders, property owners, and other members of the community to provide input and feedback. The process culminated with a public presentation of the design concepts on the last day of the final workshop. There was broad consensus to move forward with the recommended design concepts outlined in the presentation. The purpose of this report is to summarize the design process, design concepts, and augment the diagrams and presentations that were developed during the workshops.

The Design Process

Downtown Racine is fortunate to have a connected network of streets, a great building stock, and community amenities such as Monument Square, Sam Johnson Parkway, an abundance of parking ramps, and the Lake Michigan waterfront. The design concepts focused on the core of downtown, as identified early during the process by the community. The boundaries of the focus area were generally: Root River to the north, South Marquette Street to the west, the Lake Michigan waterfront to the east, and 8th Street to the south.

During the workshops, Toole Design collaborated with City staff, WisDOT representatives, civic leaders, business owners, and other community members to develop a vision to guide the design the public realm (i.e., the streets and public spaces and parking and address the public issues in downtown.

The Discovery Workshop

The first workshop commenced with a Monday evening presentation. The presentation included:

- An overview of traditional transportation principles,
- Highlights of the consultant team's walking tour of downtown Racine,
- The benefits of a community vision,
- The general purpose of cities and downtowns (i.e., to foster social and economic exchange), and
- National best practices as they relate to one-way to two-way street restorations and revitalizing downtowns.

The meeting concluded with community members forming groups to answer the following questions about the City and the downtown:

- List key values that should shape downtown.
- What do you like and wish to preserve?
- What do you dislike and want to change?
- What is missing that you would like to see created?

During the remainder of the first workshop, numerous stakeholders were engaged by the consultant team in small group meetings and in one-on-one meetings to understand the key drivers, opportunities, and challenges facing the downtown. A concluding Thursday evening presentation captured what was heard throughout the week. The presentation also included some "starter ideas" that were developed during the workshop. Feedback and discussion followed the presentation.

The Design Workshop

The second workshop focused on building on the starter ideas, developing the plans and recommendations, and feedback looks with the stakeholders, agencies, and community. The workshop concluded on Thursday evening with a presentation, which included:

- Restoring the downtown one-way pairs of streets to two-way operations, along with a traffic analysis,
- Relocating the State Trunk Highway 32 to Wisconsin Avenue,
- Redesigning Main Street to be two lanes and provide bicycle lanes and on-street parking,
- Redesigning Monument Square to be more useful, flexible, and enjoyable over all four seasons,
- Altering the approach to on-street and off-street parking to encourages the use of the parking ramps for long-term parking and encourage a desirable turnover for customer parking at on-street locations,
- A realignment of Pershing Park Drive,
- Creating a stronger relationship between Lake Michigan and the Square through design changes to 6th Street and Sam Johnson Parkway,
- Outlining the next steps.





Figure 2: Stakeholders discussing downtown opportunities during the first workshop.

01 Public Realm Plan

The public realm plan leveraged the inherent strengths of downtown Racine while correcting the weakness. The design concepts and recommendations are outlined in the following pages.







Figure 3: Images from the tour: vista through Sam Johnson Park Walkway (top left), sitting on the edge of Main Street (top right), Monument Square from 6th Street intersection(bottom).

Existing Main Street

The current configuration of Main Street is within an 80-foot-wide right-of-way. It has two southbound lanes and two northbound lanes with:

- Sidewalks on both sides of the street,
- Parallel parking on both sides of the street,
- Street trees, and
- Traffic signals at the busier intersections.



Figure 4: Existing Main Street

Through the area between 7th Street and State Street, the Main Street could carry over 30,000 cars per day but currently carries less than 10,000 cars per day. The street ought to be a 2-lane street and the unneeded two lanes results in poor driver behavior and contributes to the barrier-effect for pedestrians. To cross the street, pedestrians must wait at signal-controlled intersections, that are timed to maximize vehicle throughput. Due to the signal timing, pedestrians often must to wait a long time and, due to the light traffic volumes, cross illegally, creating a safety problem. Additionally, the ability of motorists to see the traffic signals over long distances, influences them to speed-up to they can "make the green." Many stakeholders indicated that the combination of the factors, above, result in the street not feeling safe for pedestrians and making the downtown comfortable to cycle in. That in turn discourage people from coming downtown and has negative economic impacts on the businesses.

Based on the traffic volumes in Figure 5, Main Street be "right sized" to 2-lanes. As a result, the street will then better support the adjacent businesses by: i) encouraging motorists to behave like they are on a Main Street; ii) attracting more people to come downtown; and ii) providing a public realm that feels comfortable, provides pleasant experiences, and encourages people to spend time and walking around.

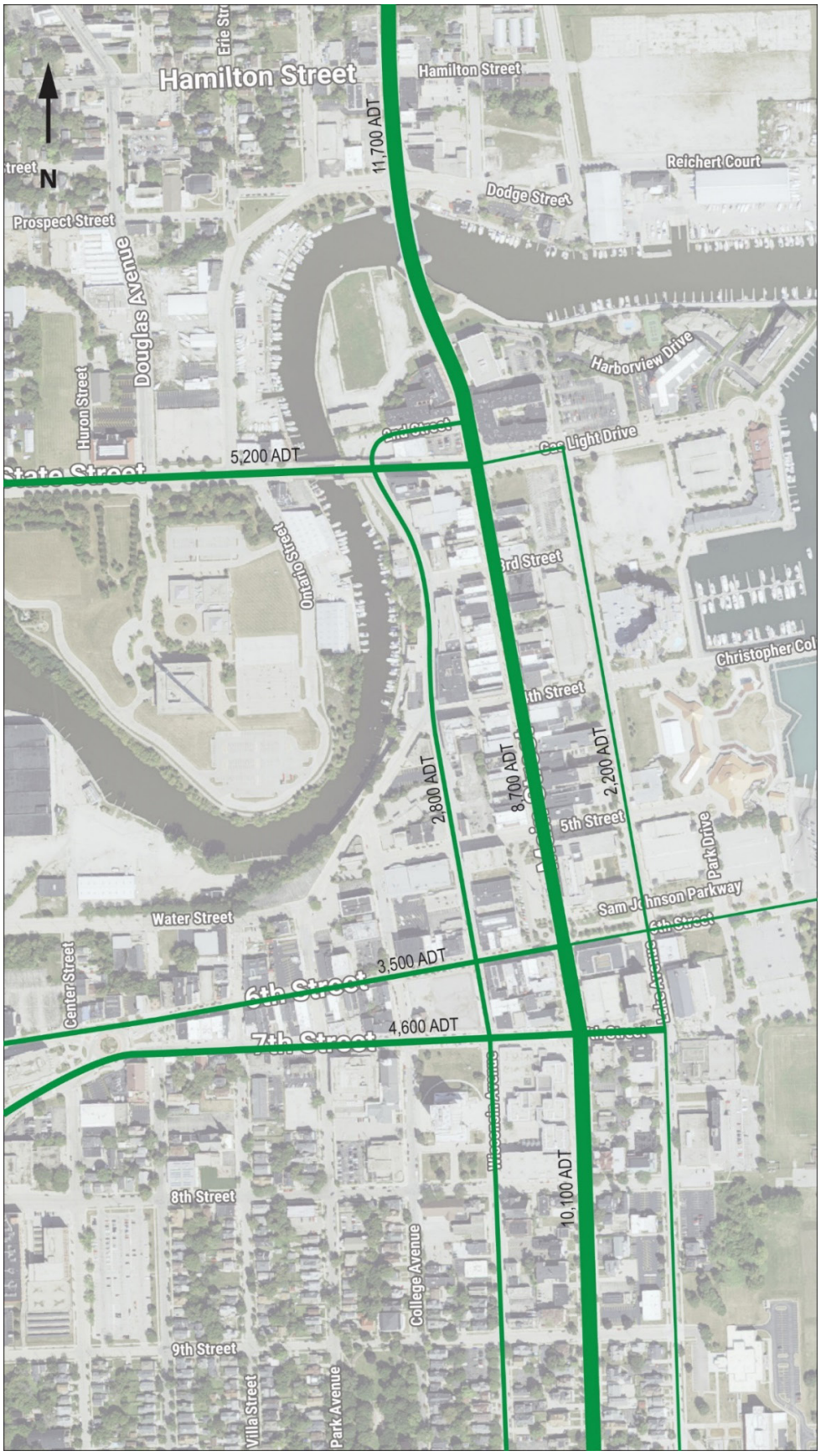


Figure 5: Average Daily Traffic Counts of primary downtown streets. They are all very low volumes.

Interim Main Street (State Street to 7th Street)

A low-build, initial street design can be achieved through restriping Main Street to two travel lanes with:

- Parallel parking on both sides of the street,
- 6-foot protected bicycle lanes in each direction, next to the curb and separated from the parked cars by a 3-foot buffer,
- Add bulbouts mid-block and at the ends of the parking rows,
- Adjust the bulbouts and street lights to maintain safe lighting levels, and
- Replace the traffic signals with stop signs as per the traffic control recommendations.



Figure 6: Interim Main Street retrofit.

Ultimate Main Street (State Street to 5th Street)

Once funding has been allocated, Main Street can be reconstructed to two travel lanes, with:

- Parallel parking on both sides of the street.
- 5-foot protected bicycle lanes in each direction between the curb and the sidewalk,
- A 3-foot buffer/step-strip between the bike lanes and the curb/on-street parking,
- A 1-foot buffer between the bike lanes and the sidewalk,
- A valley gutter between the parking rows and the travel lanes, and
- Bulbouts located at intersections and in locations coordinated with lighting.

Relocating the State Trunk Highway off Main Street ought to predate the ultimate Main Street reconstruction. Also, curb management should be coordinated with the businesses along Main Street and the intersecting streets. That is determining the location and timings for loading areas, pick-up and drop-off areas for ride-share services, and so forth.

Within the Monument Square block (5t Street to 6th Street) this section changes. On-street parking is eliminated on the west side and the bicycling lanes are not delineated.

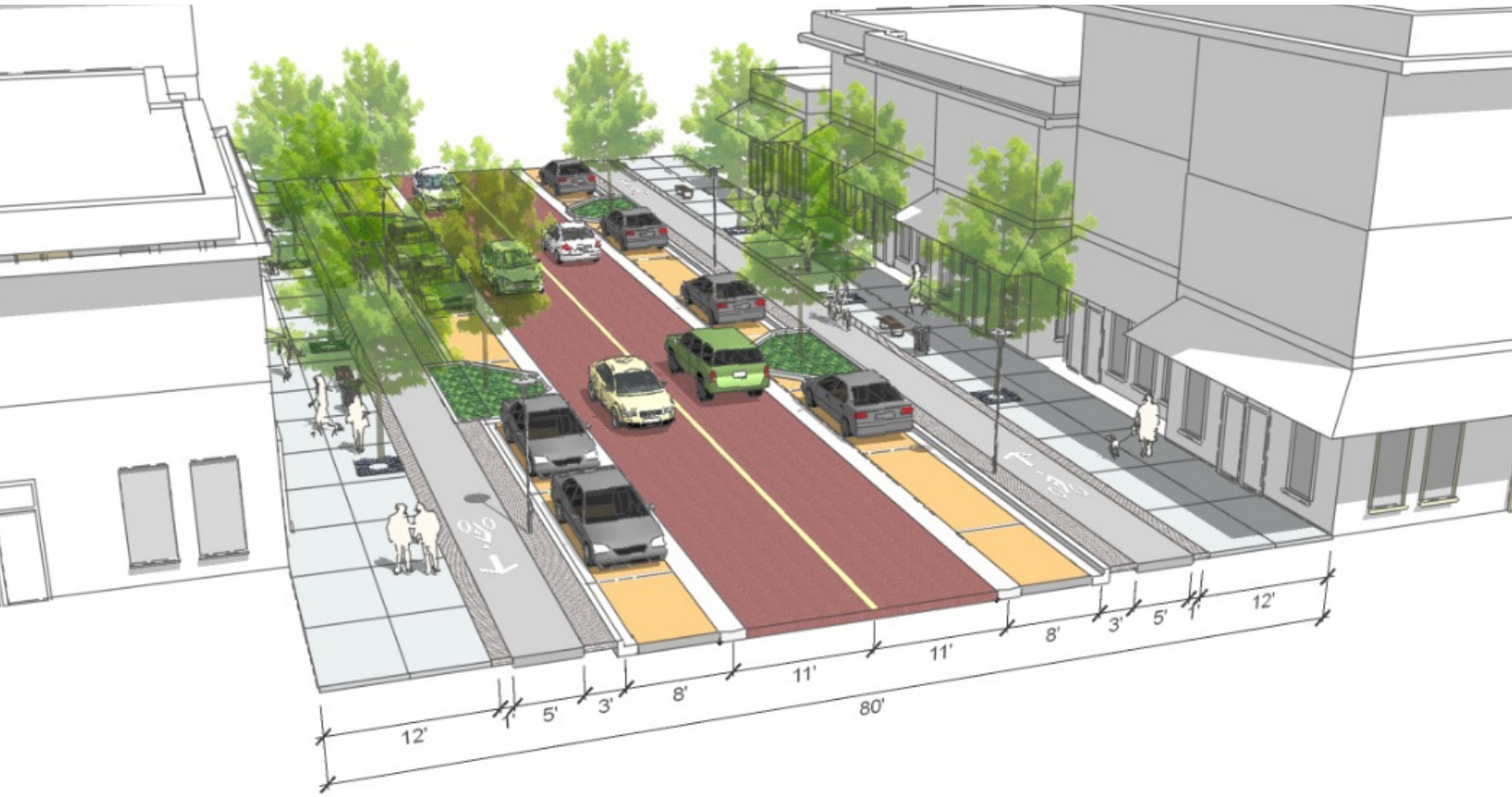


Figure 7: Ultimate Main Street reconstruction.

State Trunk Highway Designation

To implement the Main Street designs and create an atmosphere needed to attract people to downtown, the State Trunk Highway and truck traffic needs to move from Main Street and to a new route as indicated by the dotted line or to other alternatives developed inpartnership with WisDOT.. The City should coordinate these changes with WisDOT. Regional traffic can be rerouted to Wisconsin Avenue south of the Root River Bridge before at 2nd Street.

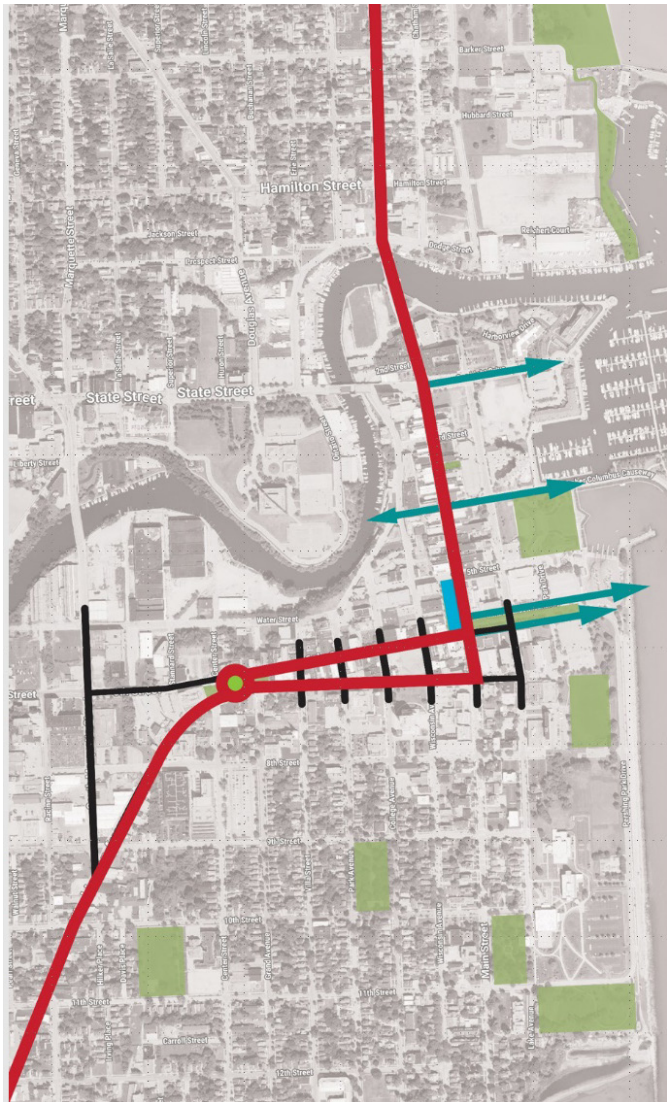


Figure 8: Current State Trunk Highway 32 along Main Street requires 6th and 7th Street to be one way in each direction.

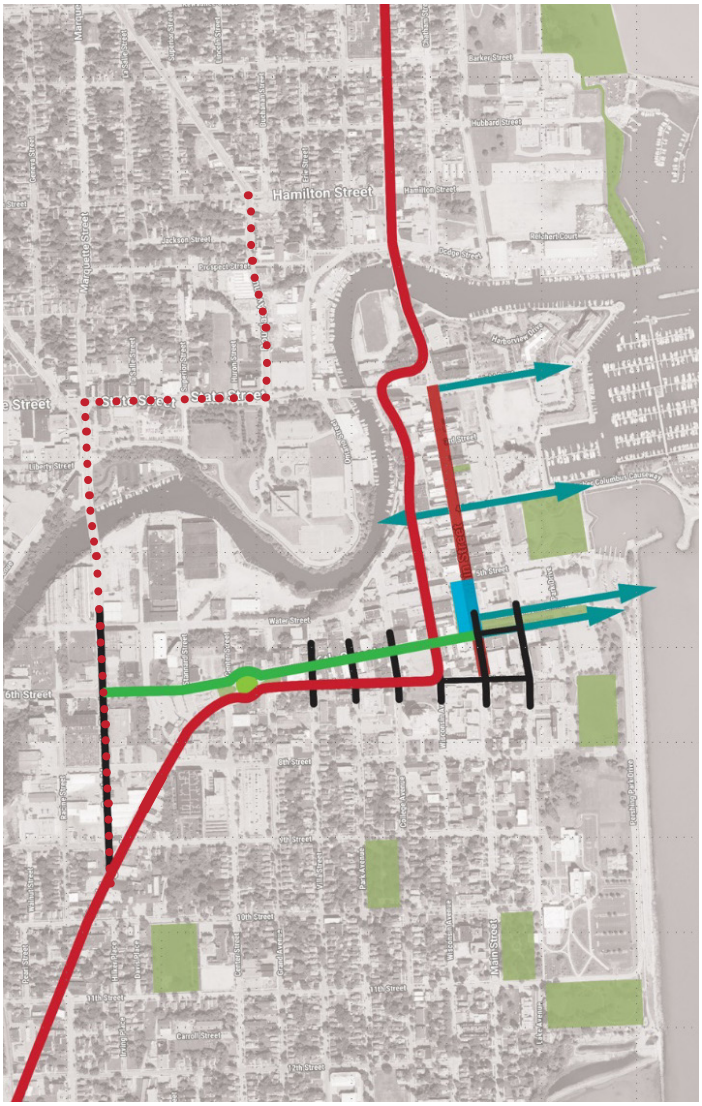


Figure 9: A re-routed State Connecting Truck Route 32 will require minor geometric changes and returning two-way operation to downtown streets.

2-Way Restorations of Wisconsin Avenue, Lake Avenue, 6th Street, and 7th Street



Figure 10: Minor geometric changes may be needed at 2nd Street to relocate the State Trunk Highway to Wisconsin Avenue.

A Brief History of One-way and Two-way Streets

Since the founding of cities in the United States, starting in 1565 with St. Augustine, until about 50 years ago, all streets were 2-way. Of course, for thousands of years before that, paths, trails, and streets in Native American villages and along their trading routes were also 2-way. There were lots of good reasons for the 2-way operations. The most obvious reasons are the convenience of being able to go either way along a street, direct routing, and shorter trips. Such traditional reasons were not widely recognized, documented, assigned technical names, or even measured because that was just the way things were for thousands of years. The basic idea of 2-way streets was never in question. However, due to five decades of experiencing undesirable outcomes with 1-way streets, cities are rediscovering the benefits of 2-way streets.

Fast forward to 2019 and cities have been traffic calming, eliminating surplus lanes, restoring 1-way streets to 2-way, and adopting traditional measures of effectiveness to recapture traditional, city-friendly, outcomes and to advance community visions. Many cities are in the midst of this evolution presently. Not only do 2-way streets provide about double the access compared to 1-way streets, they also:

- provide direct routing/convenience for motorists, cyclists, and transit;
- result in slower and safer speeds;
- are self-enforcing (no motorists going the wrong way, less speeding, fewer bikes on sidewalks);
- provide flexibility and redundancy (which is very helpful during emergencies, special events, parades, street repair/maintenance);

- reduce sign pollution (one-way streets need more signs);
- advantage economic exchange and retailing;
- result in more intuitive way-finding;
- create a better image (two-way streets eliminate the message that throughput is more important than place, and avoid unwelcoming "do-not-enter" signs);
- result in easier and more direct bus-routing;
- provide better and additional views of buildings;
- respect the places' original intent and history;
- help crime reduction; and
- increase property values.

There is also consensus that downtowns, like Downtown Racine, would benefit by increased development (including housing), social exchange, economic exchange, local businesses, place-making, walkability, bike accommodation, transit, and so forth that are advanced by 2-way restoration.

Downtown Racine has a well-connected network of streets. In the focus area the primary streets (i.e., Main Street and 6th and 7th Streets) are under the jurisdiction of WisDOT as State Trunk Highway 32. Two generations ago, 6th and 7th Streets, like Wisconsin and Lake Avenues, were converted from 2-way to 2-way based on the values of that era that sought to move traffic quickly with little understanding of the consequences: excessive speeds, reduced safety, difficulties for crossing the street, poor access, disinvestment, and the establishment of an uncomfortable place.

The current cross-sections of both 1-way pairs are generally consistent block-by-block in both right-of-way and curb-to-curb measurements, making 2-way restoration relatively straight forward, especially with low traffic volumes. The traffic signals along the four streets are likely unwarranted and ought to be removed and replaced with more cost-effective and pedestrian-friendly stop sign control. However, a more detail study will likely be needed. The design team recognizes that complete rebuilding these streets is likely unnecessary. Though trucks frequently used Wisconsin Avenue due to its industrial past, the structural adequacy of the street for the truck route ought to be checked.

6th and 7th Streets

6th and 7th Streets are the primary east-west streets in Downtown Racine. The 1-way operation only occurs from the roundabout east of City Hall to Main Street. 6th Street is currently westbound, while 7th Street is eastbound. Both streets provide on-street parking and two travel lanes.



6th Street (Roundabout to Main Street)

The current configuration of 6th Street is two westbound lanes with:

- Sidewalks on both sides of the street.
- Parallel parking on both sides of the street.

The proposed retrofit for 6th Street includes:

- Bulbouts at the intersections and midblock, where appropriate along the corridor,
- 8-foot-wide parallel parking on the both sides of the street,
- A 21-foot travel way that includes (two-way), and
- Maintain the existing sidewalk streetscape

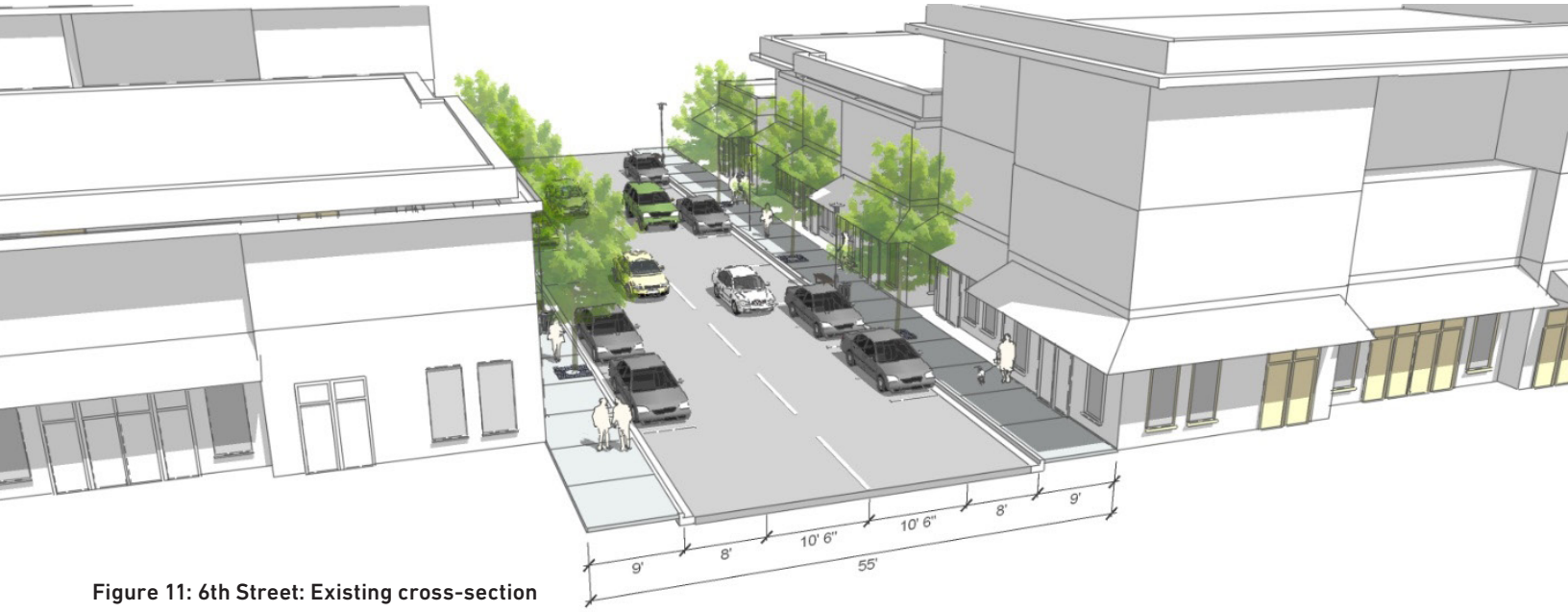


Figure 11: 6th Street: Existing cross-section

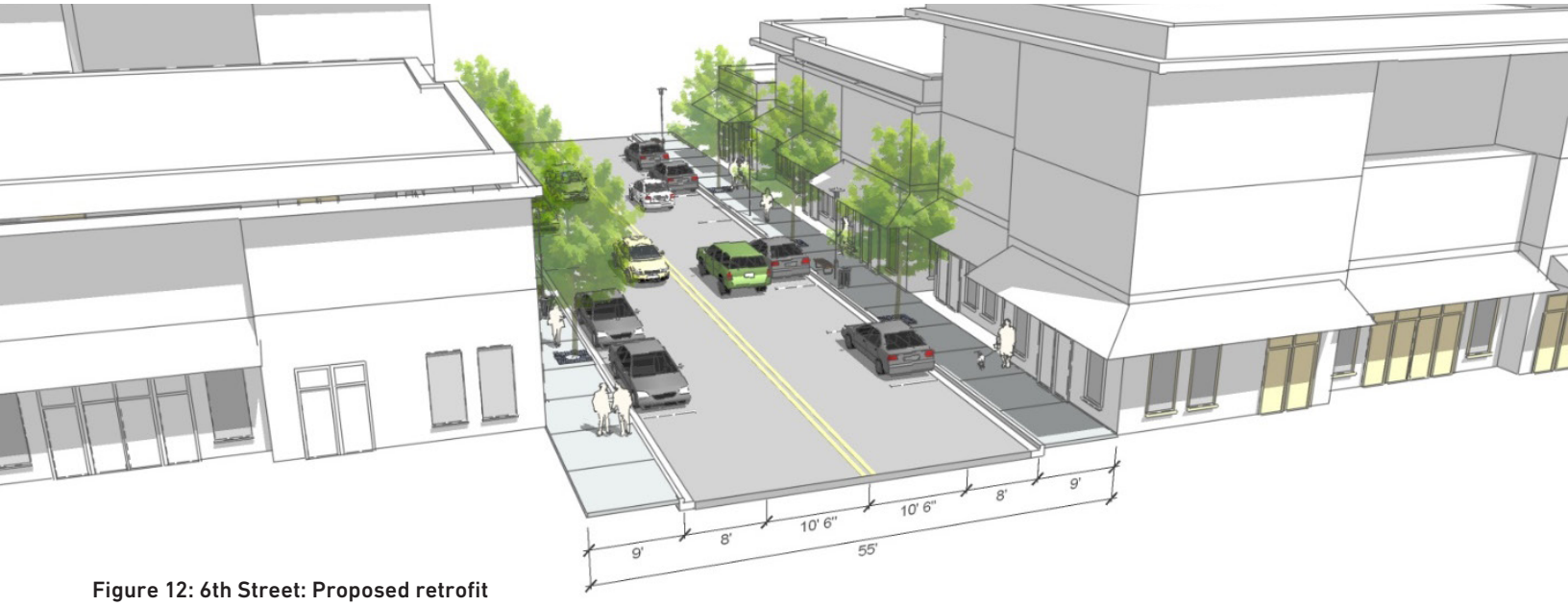


Figure 12: 6th Street: Proposed retrofit

7th Street (Roundabout to Main Street)

The current configuration of 7th Street is two eastbound lanes with:

- Sidewalks on both sides of the street,
- Parallel parking on both sides of the street, and
- An eastbound bicycle lane on the north side of the street.

The proposed retrofit for 7th Street includes:

- Bulbouts at the intersections and midblock, where appropriate along the corridor,
- 8-foot-wide parallel parking on both sides of the street, and
- A 22-foot travel way (2-way).

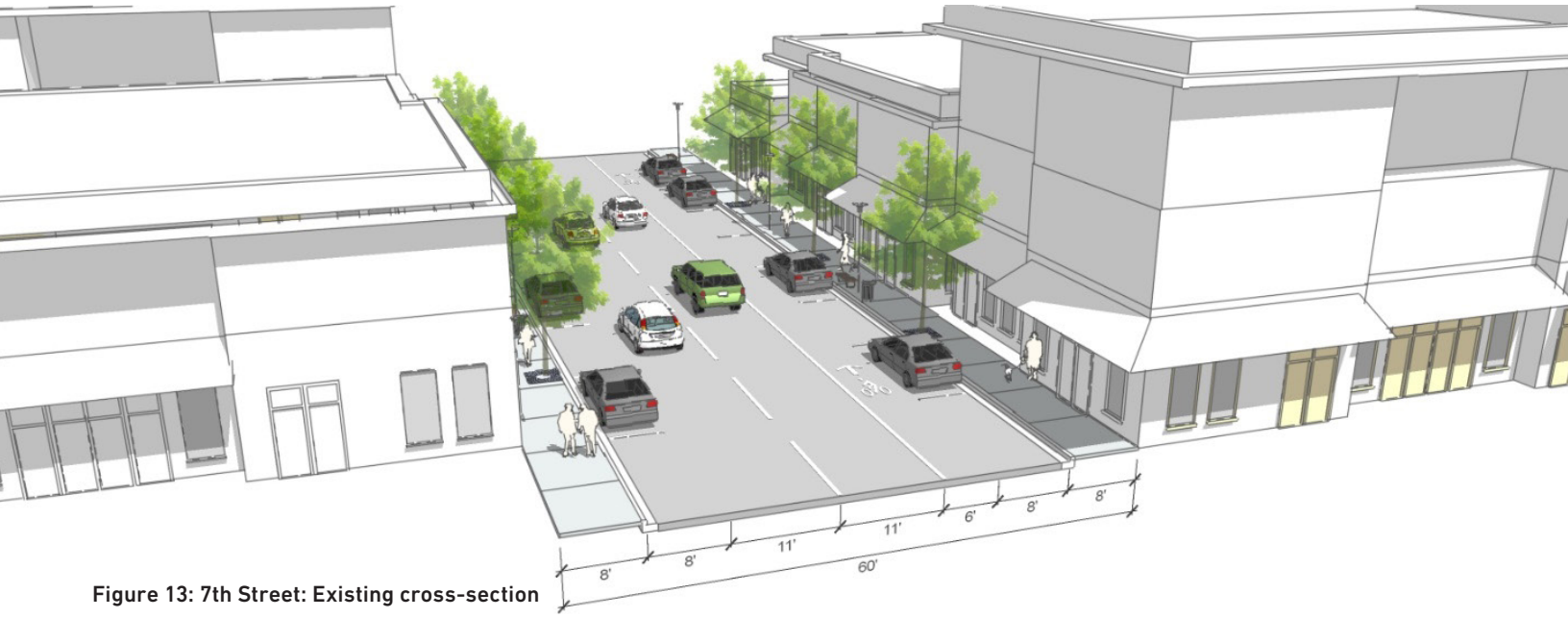


Figure 13: 7th Street: Existing cross-section



Figure 14: 7th Street: Proposed retrofit

Roundabout Transition

With the return of 2-way operation along 6th and 7th Streets, the roundabout located east of City Hall will not be necessary for safety or operations. Retrofitting the roundabout into a public space will better frame City Hall and provide better access for pedestrians, walking north-south and crossing 6th and 7th Streets.



Figure 15: Existing roundabout transitioning 6th and 7th Street into a one-way pair.

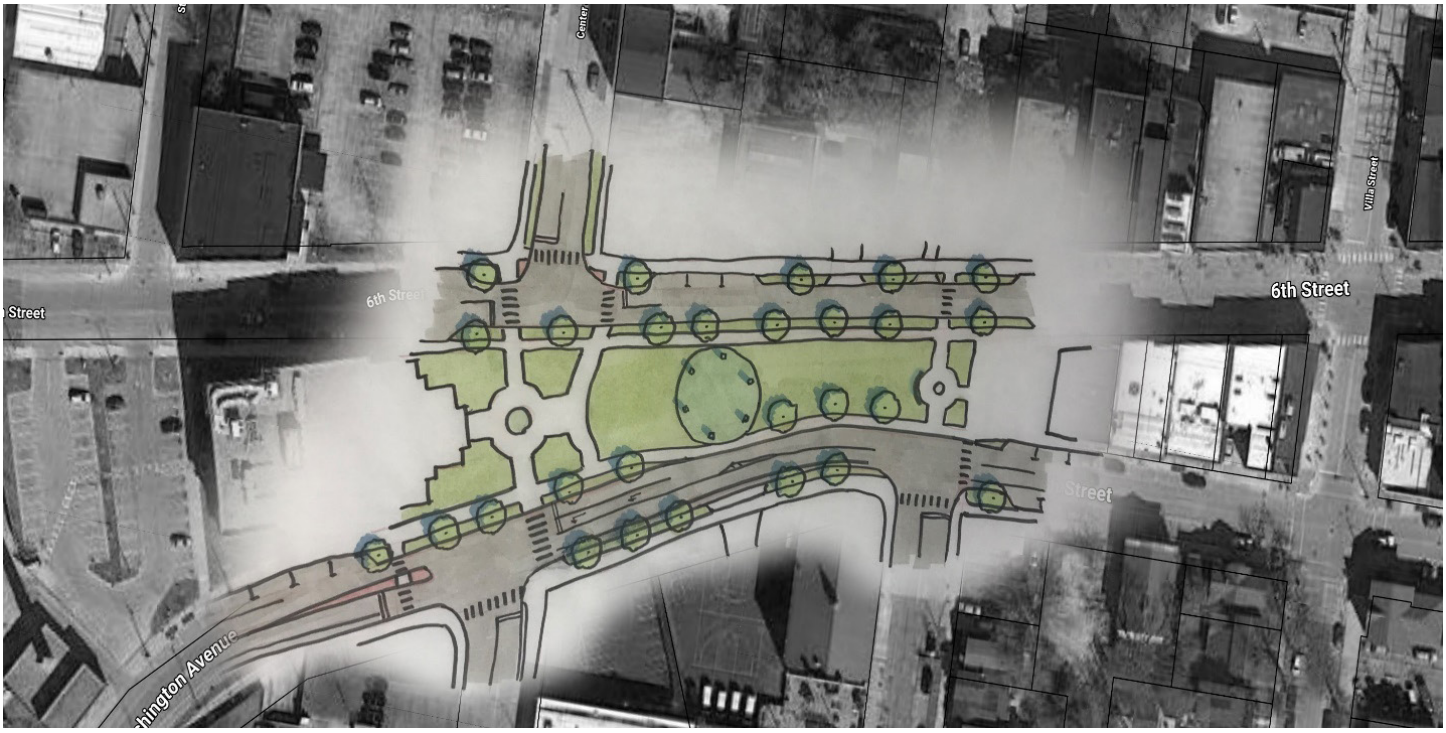


Figure 16: Simple geometric changes can transform the roundabout into an accessible public space.

The Wisconsin and Lake Avenues Pair (Entire length of avenues)

Wisconsin and Lake Avenues are the primary north-south streets in Downtown Racine along with Main Street/ State Trunk Highway 32. Wisconsin Avenue is currently southbound, while Lake Avenue is northbound. Both streets provide on-street parking and two travel lanes.

Given the barriers formed by the Root River and Lake Michigan, this 1-way pair creates unique operational problems during large scale events that close Main Street or waterfront streets. If Main Street is closed to motorists for an event, there is no northbound option for motorists trying to get the State Trunk Highway 32 bridge over the Root River. This causes circuitous routing and lack of access for residents and businesses located east of Main street. Two-way restoration of these avenues will alleviate this condition, result in easier way-finding, and provide redundancy during events.

Wisconsin Avenue

The current configuration of Wisconsin Avenue is two southbound lanes with:

- Sidewalks on both sides of the street,
- Parallel parking intermittently on either side of the street depending on context, and
- Wide travel lanes.



Figure 17: Exiting Wisconsin Avenue

The proposed retrofit for Wisconsin Avenue includes:

- Bulbouts at the intersections and midblock, where appropriate along the corridor,
- 18-foot head-out, angle parking on the east side of the street in the area to be re-designated as State Trunk Highway 32,
- A 28-foot travel way that includes one-travel lane in each direction, with the northbound lane being wider than the southbound lane (due to the parking),
- In areas not designated as the State Trunk Highway, 8-foot parallel parking on both sides of the street and 30-foot travel way that includes one-travel lane in each direction including 4-foot buffers on both sides of the travel way,
- Maintain existing sidewalk streetscape, and
- Should the street ever be reconstructed then the 4-foot buffers can be added to the sidewalk dimension.



Figure 18: Proposed Wisconsin Avenue retrofit

Lake Avenue

The current configuration of Lake Avenue is two northbound lanes with:

- Sidewalks on both sides of the street,
- Parallel parking intermittently on either side of the street depending on context, and
- Wide travel lanes.

The proposed retrofit for Lake Avenue includes:

- Bulbouts at the intersections and midblock where appropriate along the corridor,
- A 32-foot travel way (2-way), including 5-foot buffers on both sides of the travel way,
- 8-foot parallel parking on both sides of the street,
- Maintain existing sidewalk streetscape, and
- Should the street ever be reconstructed, then the buffers can be added to the sidewalk dimension.



Figure 19: Existing Lake Avenue



Figure 20: Proposed Lake Avenue retrofit.

Traffic Signals

The restoration of 1-way streets and the low traffic volumes allows the removal of the traffic signals. 13 sets signals can be removed and replaced with 10 all-way stops and three two-way stops as illustrated. This will save significant maintenance costs, improving aesthetics, and increasing safety, improving the pedestrian environment, slow motorists to downtown-friendly speeds, and better support the downtown businesses and public spaces. A more detailed analysis is recommended to confirm and adjust these recommendations.

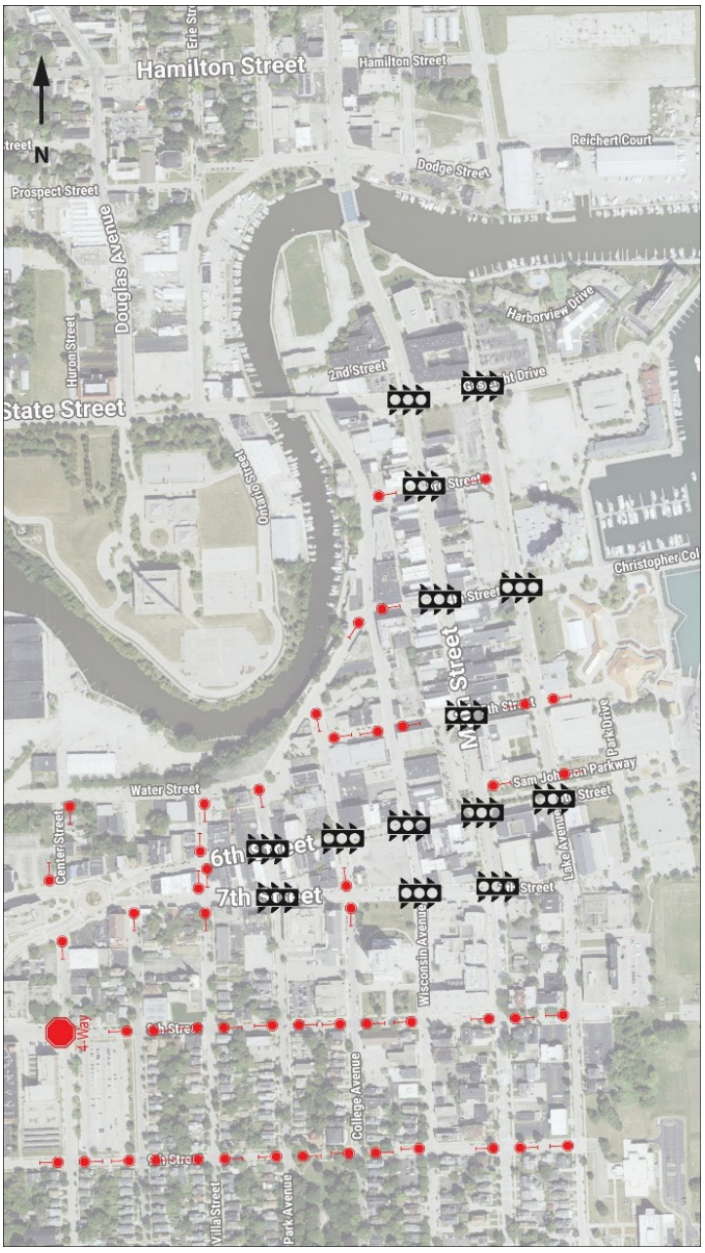


Figure 21: Existing traffic signals.

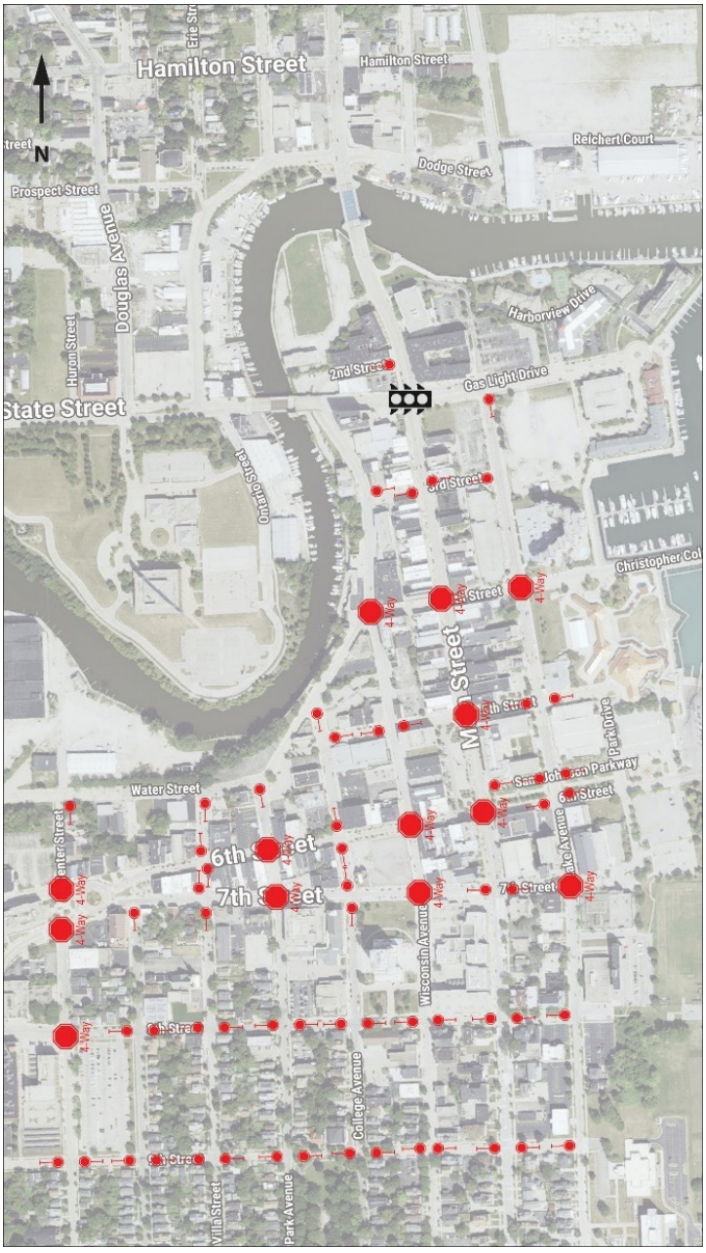


Figure 22: Stop controls after removing one-way operation.

The analyses showed that restoring a two-way street network is easily feasible given current traffic volumes. A sensitivity analysis showed that if traffic volumes were to increase in the future, there is plenty of ability to handle additional traffic. Stop sign control and no turn lanes are recommended throughout the downtown. Maintenance of the street will be easier due to the redundancy of the two-way streets. The combination of a two-way network and stop sign traffic control will result in numerous benefits in safety, access, and cost.

Pershing Park

With waterfront redevelopment there is an opportunity to slightly shift Pershing Park Drive westward at 6th Street. This shift as illustrated would create more open space along the waterfront while connecting Pershing Park Drive to 5th Street providing multiple options for accessing and departing the waterfront during events. It will also allow Sam Johnson Parkway and 6th Street to achieve their potential to provide an excellent connection and views between the Monument Square and the waterfront.



Figure 23: Existing Pershing Park Drive alignment.



Figure 24: Proposed Pershing Park Drive alignment with expanded open space.

Bicycle Facilities

The City of Racine is undertaking a bicycle masterplan that will affect cycling facilities within the downtown study area. Currently, the disconnected cycling facilities are located along the Lake Michigan waterfront, along a short length of the Root River, and along Washington Avenue/7th Street. It is recommended that cycling masterplan include bike facilities along Main Street that connect to the waterfront, via 6th Street, and to the future facilities along the Root River.

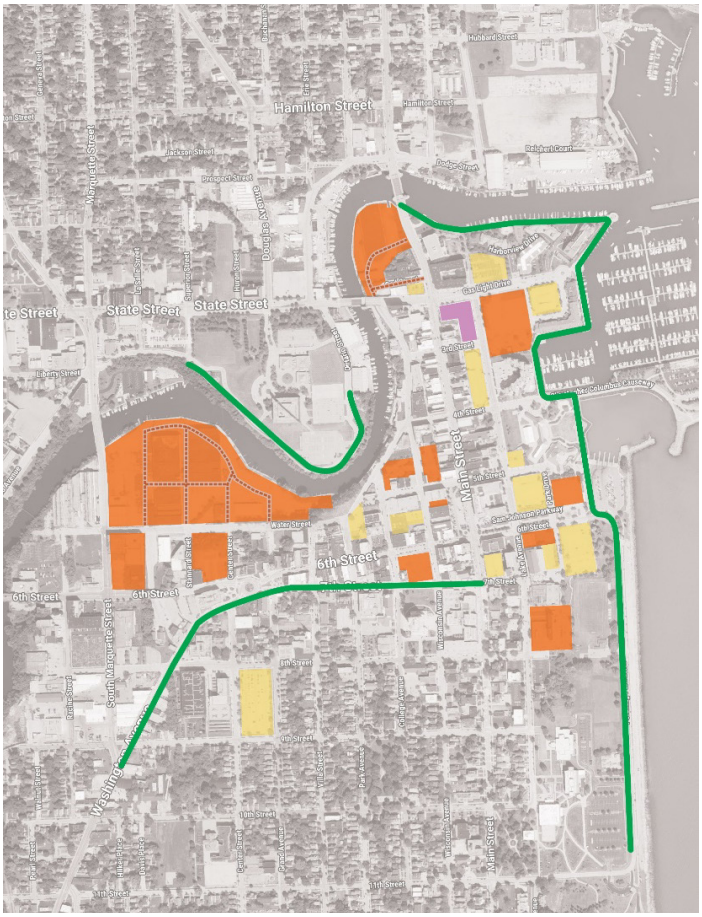


Figure 25: Current bicycling facilities near downtown.

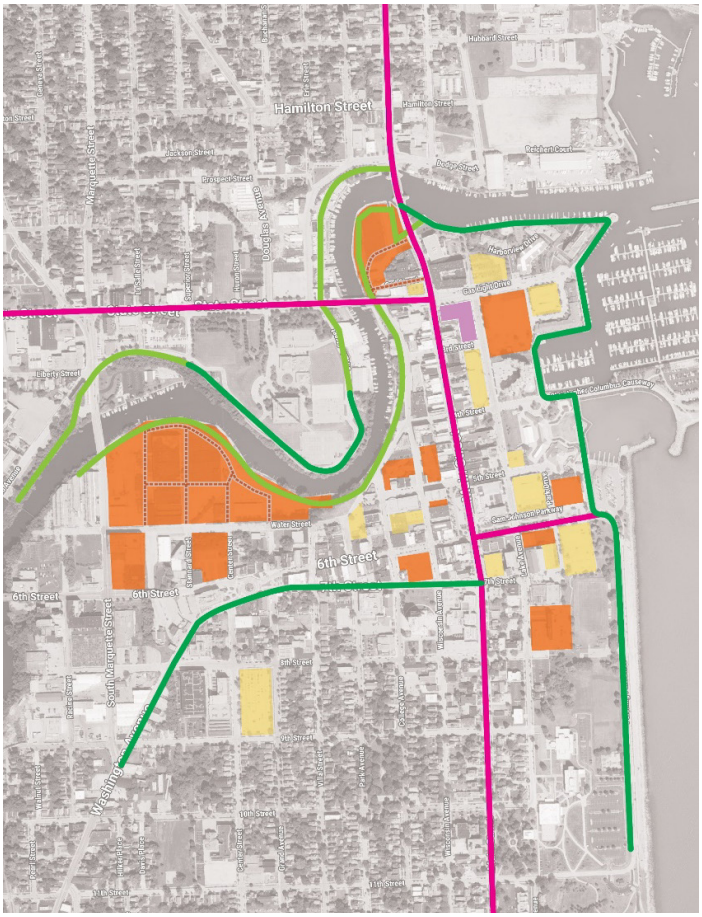


Figure 26: Proposed bicycling connections within downtown.

02 Parking Plan



Introduction

After collecting parking inventory and occupancy data, reviewing the City of Racine's current parking operation, meeting with City staff and elected officials, and listening to community stakeholders while participating in the project design charrettes, Walker Consultants ("Walker") has developed implementable recommendations and provided best practices to be used as City officials consider a Downtown Public Realm and Streetscape enhancement project. Please find detailed project findings and a complete list of parking-related recommendations in the appendix of this report.

Walker, in conjunction with Toole Design, has identified two principal recommendations that are implementable in the next one to two years:

1. **Promote and Encourage the Use of Downtown Parking Ramps, and**
2. **Install Multi Space Meters on Main and 6th Streets in Downtown.**

Encourage the Use of Downtown Parking Ramps

One way for a downtown parking system to achieve an equilibrium between supply and demand is to ensure on-street parking spaces are turning over frequently and accommodating short-term users, including retail patrons and visitors to downtown. Higher turnover in on-street spaces helps increase retail foot traffic and promote a pedestrian environment in core commercial areas. Alternatively, longer-term parking is best provided in off-street parking facilities, often found in peripheral areas one-to-three blocks from the main commercial corridor. These users may include employees or visitors to downtown who are staying for longer than two to three hours. This leaves the closest, most convenient spaces available for retail patrons and guests.

A city's downtown parking system can achieve greater equilibrium, and more efficient utilization, when a strategic pricing policy or time-limit restrictions are implemented for the on- and off-street parking assets. The policies and regulations are designed to enable the user to park in the most appropriate location. Some cities impose higher parking fees along the key commercial corridors, with lower fees along secondary streets or at less-convenient off-street facilities. Others utilize varying time limits with active enforcement to encourage turnover. Many communities use a combination of both.

Currently, Racine has 2,015 spaces at nine primary off-street parking facilities. Please note this figure does not include any private parking inventory or the smaller City-operated surface lots (located mainly west of Main Street) that are less than 35 spaces and are largely utilized for reserved parking. During the data collection process, Walker performed parking occupancy counts during a typical busy weekday (Wednesday, July 24th) and supported the data with spot checks on Wednesday and Thursday, July 31st – August 1st. Walker found that at the peak demand time of 10:00 am, 587 of 2,015 spaces were utilized, or 29 percent of the available off-street supply. Over 70 percent of this supply had available capacity. Looking specifically at the centrally located Civic Center, Lake Avenue, and Shoop Ramps, parking occupancy was still only at 40 percent (the slightly higher occupancy is mainly associated to demand at the Civic Center Ramp, which was 71 percent full). This leaves significant off-street inventory available for downtown parkers.

In order to better utilize this large off-street inventory, Walker recommends raising the parking rates on Main and 6th Streets to $1.00 per hour. These two streets form the commercial core of downtown Racine, with the greatest active land use densities and parking demand, which warrants a slightly higher on-street rate. This would encourage some parkers to think about the cheaper alternative of parking in the ramps for the very reasonable price of $2.00 per day, with no time limit. Keeping the secondary streets at a lower price point will allow parkers to decide to alternatively park on these streets, or at the nearby ramps, depending on their desired length of stay. This would also help free some space on the highly utilized blocks of Main and 6th Streets, particularly north of 5th on Main and east of Park on 6th.

Walker also recommends that the City explore a Pilot Program of offering free parking at the Lake Avenue Ramp



Figure 27: Special Parking Rate Advertisement



Figure 28: Public Parking and Wayfinding Signage in Holland, MI

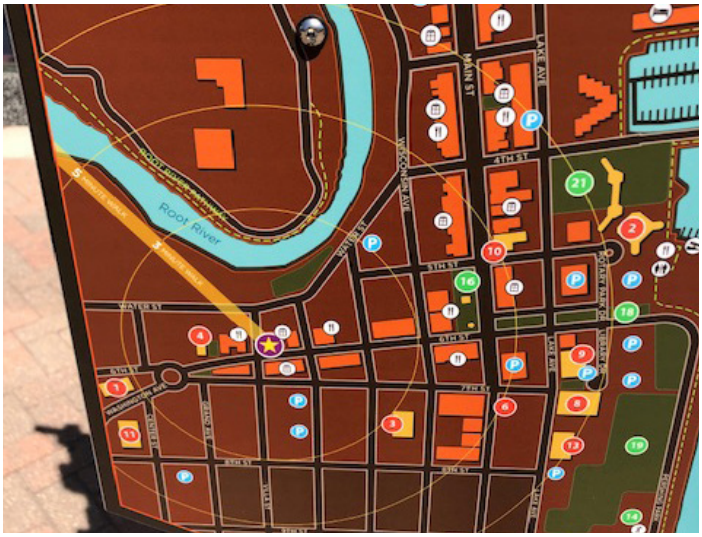


Figure 29: Current Wayfinding Signage

on weekends during the summer. The program could be advertised as a special weekend rate. Walker recommends free parking begin at 5:00 pm on Friday, extending through 5:00 am on Monday, May 1st through September 30th. This would help promote the usefulness of the ramps and could begin to change the way of thinking when it comes to parking in downtown Racine. The City already provides a version of this by offering a night rate at the Civic Center Ramp for $1.00 (in after 5:00 pm, out before 5:00 am). This encourages use of the ramp during off-peak hours and caters to visitors who want to enjoy an evening out downtown and along the lakefront. This also helps foster a "park once" environment, where the retail patron or visitor parks once and spends more time walking and perusing retail stores or enjoying the lakefront, and less time in their vehicles. Additionally, this would provide a good alternative for downtown employees who work weekends.

Another opportunity to consider is changing the on-street angled spaces at Monument Square to two-hour parking. Walker understands the City recently switched from two-hour to four-hour parking in downtown, but we believe the turnover needed at this central location would benefit from two-hour parking. The central core of the downtown commercial district should see the most vehicular parking, and this would allow access for a greater amount of people to Monument Square.

The City should also expand on its downtown wayfinding program. Many of the downtown wayfinding maps already include walking distance rings. The City's parking website and Downtown Racine Corporation website should also include this map, with off-street public parking locations clearly highlighted. This would help the City promote the rather short walking distances between Main Street and the parking ramps. Any new public parking signage should be consistent with the City's wayfinding signage that is already in place. It should also be in line with the City's overall branding strategy. Holland, Michigan, for example has a clear and visible public parking signage package that provides wayfinding directions, has simple but effective surface lot designations, and aligns with the City-wide brand. Racine's wayfinding program could highlight the fact that a 1,200-foot walking distance is roughly 2.5 city blocks, or roughly the length of the interior of the suburban Regency Mall, as shown in the following exhibits. Promoting a positive walking environment downtown will aide in changing the perception of inconvenient off-street parking locations.

Many stakeholders shared their opinion that parking in the ramps is too far away or unsafe. By implementing these recommendations, the City can help change this perception and allow the public to utilize this abundant and convenient off-street parking supply.



Figure 30: Walking distance between anchor stores in a mall are often more than 1200 linear feet.

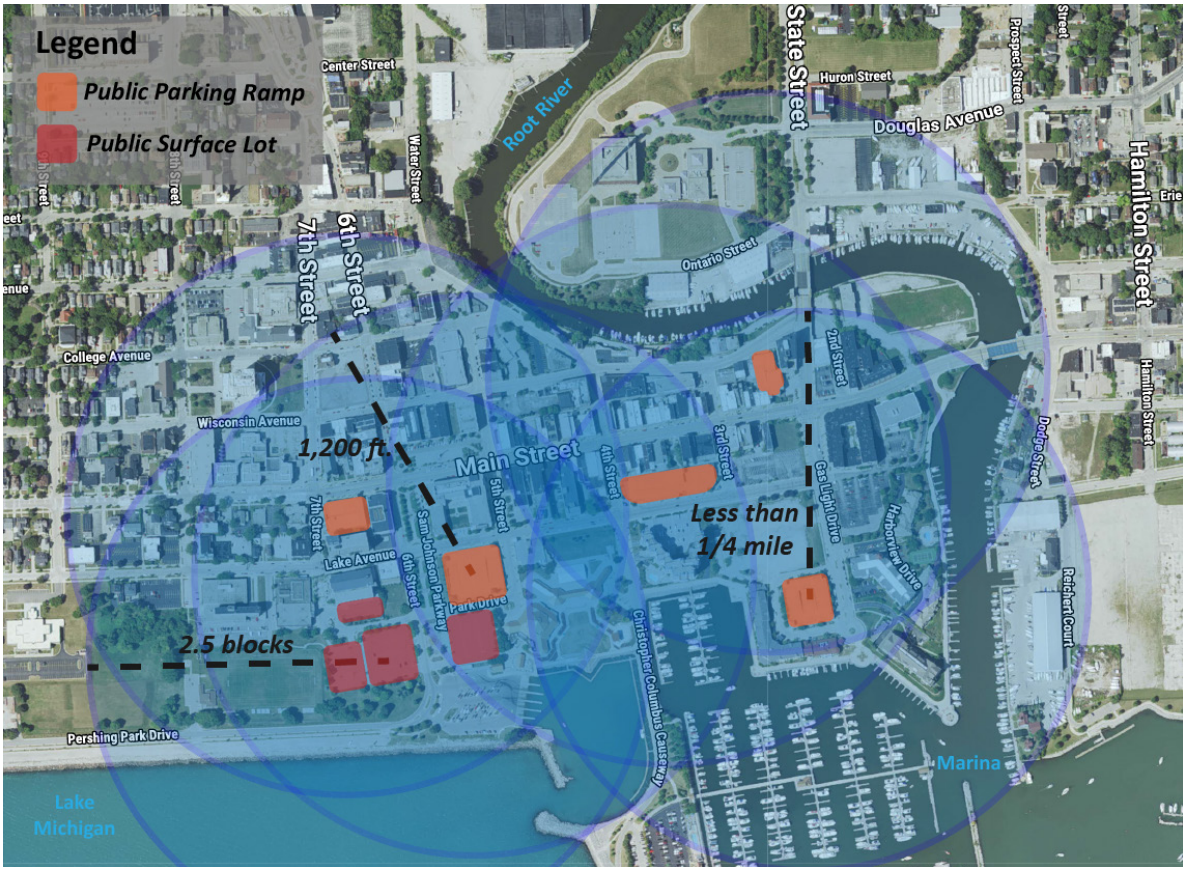


Figure 31: The downtown area is saturated with overlapping ramp parking within 1200 linear feet of Main Street and 6th Street.

Downtown Multi-space Meters

The City currently operates approximately 856 single-space on-street meters in the downtown area. The meters accept coins only, and the rate is $0.65 per hour. Patrons may use the Passport mobile application to pay for on-street parking. However, mobile app-based payments currently account for less than 20% of overall meter payments. Walker recommends that the City switch to multi-space meters, and alter the operating model of the mobile payment system to simplify operations as well as the patron experience. Walker recommends that the City adopt "pay-by-plate" meter technology. In this model, patrons will park their car and pay for parking either via the mobile app or at a multi-space meter located on the block. If they choose to pay at the meter, they will enter their license plate number at the meter, select the duration of time to pay for and make a payment. Walker recommends that receipts not be printed, but emailed or text messaged to the patron. This service feature eliminates moving parts inside of the meters, and therefore reduces maintenance requirements, as well as wear on the unit, and it decreases power usage. Please note that the machines can be specified to have receipt printers if the City would like to pursue this.



Figure 32: Pay-by-Plate Multi-Space Meter

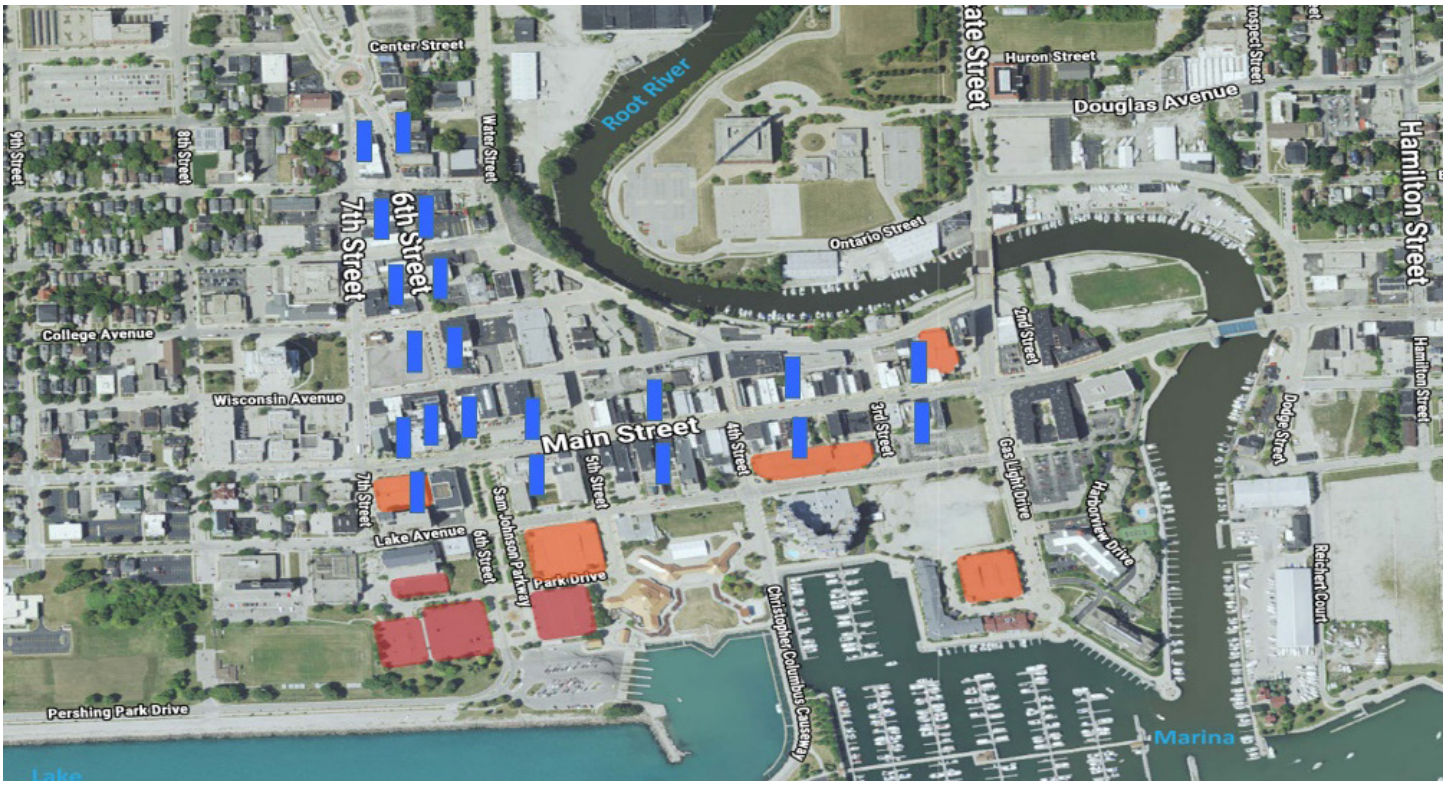


Figure 33: Proposed Multi-Space Meter Locations

The meters would likely be placed one per block, along Main Street and 6th Street. The cost range for meters of this type is between $8,000 and $16,000 per meter depending on payment methods accepted and additional features. The meters are most typically battery-powered and use cellular devices to communicate. Walker estimates 24 total multi-space meters are required for the downtown area along Main and 6th Streets. Shown in the following Exhibit is a conceptual layout of where the multi-space meters could be located. Removal costs of the existing single-space meters will vary considerably depending on the new concrete patch that may be required, with costs ranging from $100 to $1,500 per meter. Twenty-four blocks of single-space meters would need to be removed based on the conceptual installation plan.

Currently, the existing mobile app, Passport, allows patrons to pay by space number, which is provided in the form of a sticker placed on each meter. Walker recommends that the mobile app operating model also switch to "pay-by-plate" to match the new meter methodology. In this methodology, patrons would register their vehicles with the app, providing the license plate for each vehicle they register. After parking, the patron would select the vehicle they are parking with (if they have multiple vehicles on their profile), optionally select the zone, select the time to purchase, and complete their transaction. Patrons may be able to complete this process before leaving their car, depending on if zones are used and the on-street signage developed for these zones. There should be little to no cost to change the mobile app operating methodology to pay-by-plate. However, additional signage would be recommended to provide an enhanced and convenient customer experience.

Converting both the meters and app-based payments to "pay-by-plate" provides an advantage to the City in the form of simplified enforcement of on-street parking violations. Since all vehicles parked on the street have their payments tied to a license plate, enforcement can be completed exclusively using mobile License Plate Recognition (LPR) equipment. Walker understands that the City has already purchased a mobile LPR system. This system may be able to be modified to accept payment/license plate data from both the new meters and the mobile app. After the two payment technologies have been integrated with the existing (or new, if an additional system is required) mobile LPR system, the enforcement operation will be as simple as driving the streets and issuing tickets through the



Figure 34: Mobile LPR Hardware

software when a violation is detected. The citations can be mailed to the violating vehicle owners automatically. If the violating vehicle is tied to a mobile app account, the citation can be paid through the app. This enforcement model should be significantly faster than an on-foot approach to enforcement. Potential issues with the technology that may require limited manual or on-foot enforcement include vehicles parking too close to each other, and heavy snowfall that obscures license plates. Should the mobile LPR system require replacement, Walker estimates the cost to be between $30,000 and $50,000.

Guidance, Wayfinding, and Analytics

If the City were to elect to procure and install some level of Automated Parking Guidance System (APGS) for the parking ramps, the downtown static signage and wayfinding system could be enhanced through digital signage directing patrons to the ramps with available capacity. Signs could be attached to other visual or navigational elements at key roadway decision points, such as the intersection of Main and 6th Streets. Additionally, electronic signage could be placed near the entry points of the ramps to communicate the location of the parking facility nearest the final destination. Combined with the recommendations discussed earlier, this would help to balance the parking demand between on-street and off-street facilities.

With the addition of accurate occupancy data, the City could provide greater decision-making capabilities to parking patrons, and potentially offer pre-booking services for

event parking. Patrons can decide where to park in advance of their trip, instead of searching near their destination, adding to traffic and congestion. Additionally, shared usage between different groups of parkers becomes more easily implementable. Data could even be combined within a greater transportation and mobility app, potentially tying in with Racine Transit arrival time and route information, ride, bike, and scooter-share services, and information about bike routes and multi-use trails.

An additional benefit to collecting detailed occupancy information is the ability to capture data and develop data analytics. The City would have access to detailed occupancy information, provided on an hour-by-hour basis that can be used in conjunction with revenue data to plan staffing and enforcement hours, perform financial modeling related to parking rates, plan for expansion of ramps or building new ramps, and/or the removal of parking inventory. The data can help to determine the potential future benefits resulting from, for example, change in the allocation of parking between uses, the rate differential between on and off-street, and even potential rate differential between off-street ramps. The reporting could be provided by an APGS vendor, the City's business intelligence staff, or a third-party firm specializing in business intelligence and analytics.

Single-Space vs. Multi-Space Meter Cost Comparison

Walker was asked to prepare a preliminary revenue/cost comparison between the City's current single-space meters and potential multi-space meters. Please note this cost estimation is preliminary in nature and would require further study to determine actual cost versus revenue impacts. Please also note this assumes a Multi-Space Meter (MSM) cost of $10,000 per meter. This is at the lower end of the cost range (generally $8,000-$16,000 per meter). More customer service features may be included with each meter, pushing the cost up. This conceptual cost does not include installation or power expenses. Ultimately the cost is variable and dependent upon the procurement process (Walker recommends a competitive bid process) and total number of units ordered.

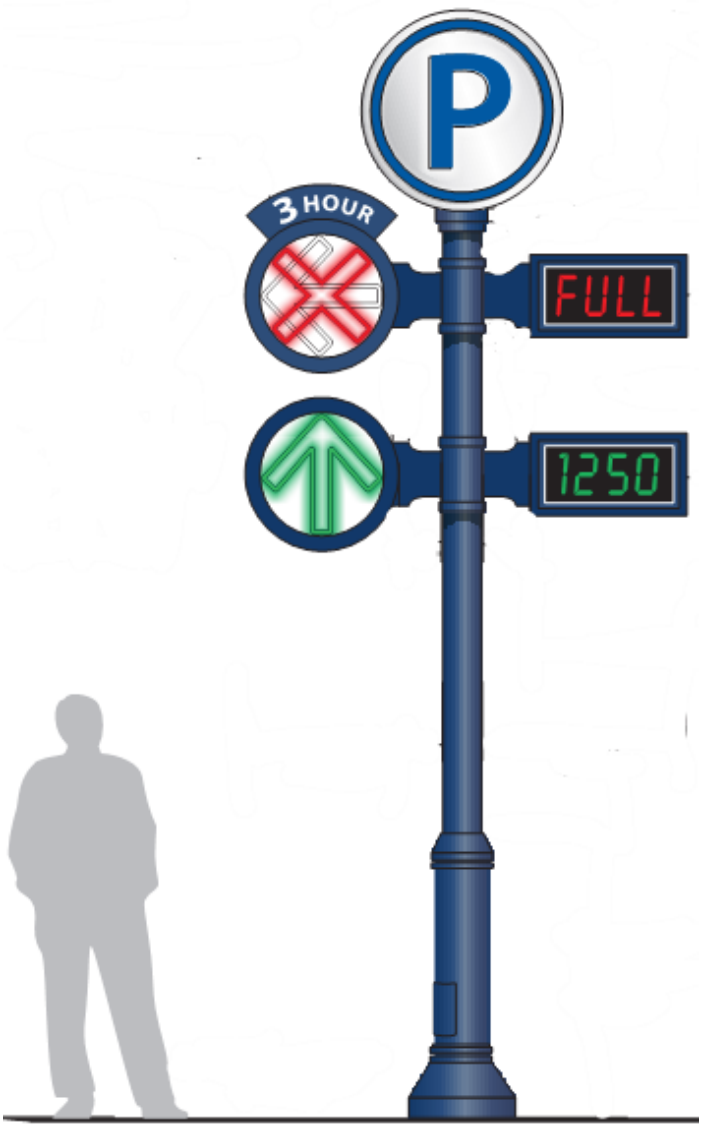


Figure 35: Sample Signage

	Single-Space Meter (SSM)	Multi-Space Meter (MSM)
Annual Revenue, per Meter	$400	$4,800
Pay-Off Time (Years)		2.08

Assumptions:
1. Eight (8) SSM's per block.
2. $1.00/hour in revenue collected for eight (8) hours per day.
3. Revenue collected 50 weeks per year.
4. Twelve (12) SSM's for every one MSM.
5. Cost of one (1) MSM is $10,000

Source: City of Racine, Walker Consultants, 2019

Figure 36: Single-Space vs. Multi-Space Meter Cost Comparison

Civic Center Ramp Analysis

A 174-room Sheraton Hotel is proposed for the parcel immediately south of Festival Hall, which is currently the Festival Hall surface lot. Additionally, a 10,000 square foot expansion of Festival Hall is proposed as part of the hotel development.

As part of the proposed development agreement, the hotel developer has requested the use of 200 spaces at the Civic Center Ramp, located immediately to the west across Festival Park Drive. It is yet to be determined if the 200 spaces will be of shared use, or if they will be nested and 100 percent controlled for the use of the new hotel and conference center. The spaces are proposed to be a mix of self- and valet-parking. Walker has provided analyses and recommendations for both operational scenarios:

Shared-Use Spaces

Assuming the hotel has an 80 percent room occupancy rate during the week, with, on average, one parked vehicle per room, there will be 139 parked vehicles associated with the hotel. Further, assuming a transportation mode split adjustment of 80 percent (20 percent arrive to the site via carpool, taxi, Uber/Lyft, or are already parked elsewhere in Racine), this equates to 111 parked vehicles associated with the hotel. When added to the observed 10:00 am peak parking demand on a weekday of 308 vehicles, this leaves an 18-space adequacy (Civic Center Ramp capacity of 437 spaces - (308+111). Furthermore, this assumes that all 111 parkers associated with the hotel will park in the Civic Center Ramp. With the 129-space Lakefront Lot located directly across the street from the main entrance of the proposed hotel, it can be assumed that some parkers will park there, especially with a less expensive rate ($2.00 per day versus the proposed $7.50 per day at the Civic Center Ramp).

Walker understands there are 428 monthly parkers (including 301 from Johnson Financial Group) with access to the Civic Center Ramp. The industry average show-up rate for monthly employee parkers is 70-80 percent (employees may work from home, may travel for work, may be sick or on vacation). Seventy-five percent of 428 is 321 vehicles, which is slightly higher than the 308 observed during Walker's site visits. Walker acknowledges the Civic Center Ramp could reach capacity on Thursday and Friday evenings (particularly during special events with an increase in transient parkers), in which case some parkers may have to utilize the Lakefront Lot, and/or the Lake Avenue Ramp. In this scenario, the Civic Center Ramp could operate similarly to how the Gaslight Ramp is currently operated, with partially-validated tickets pre-printed by the hotel for guest use. There would also be an option for hotel guests to park as a transient parker and pay the normal self-park rate.

Nested/Reserved Spaces

If the intent is for the 200 reserved spaces for hotel parking to be dedicated rather than shared, Walker suggests that the 5th Street entry and exit plaza be dedicated for hotel usage, allowing guests to enter and exit with a proximity card room key. The existing entry station can be re-programmed to no longer issue tickets, and require a hotel proximity card to enter and exit. At some point between the 2nd and 3rd levels, a physical barricade will need to be installed to prevent encroachment by hotel guests to the non-hotel portion of the garage, and vice versa (nesting). All other patrons of the garage will enter and exit the garage through the Lake Avenue entry/exit plaza. In the event that the City proceeds with this operating model, Walker recommends that signage for the garage be revised to clearly display the usage of the two entry/exit plazas and direct patrons to the appropriate plaza. This plan also requires all hotel guests to use a room key card to access the parking. Guests who have not yet checked in and do not have a room key will need to find another place to park while they check in. The hotel may be developed with a Porte Cochere which will allow for temporary parking during check-in. Additionally, the City may elect to provide some number of hotel spaces as temporary check-in spaces that are accessible via the Lakefront Lot or Civic Center Lake Street entry/exit plaza, with validation provided by the hotel.

Should the City/development team choose a fully reserved scenario, some monthly parkers will need to be moved to either the McMynn or Lake Avenue Ramps, or the Lakefront surface lot. In order to better utilize the existing parking assets, Walker recommends the City/development team utilize the shared parking option instead of the fully reserved space scenario.

03 Monument Square Design



Monument Square Design

Monument Square was originally known as Haymarket Square when it was built in the 1800s. It was the place where farmers purchased hay for their horses in Racine. In 1881, the town's people funded the veteran's monument and the site was renamed Monument Square on Independence Day, 1884 when the Civil War monument was unveiled. The 140-ton monument is the focal point of the square that is bounded by 5th Street to the north, Main Street to the east, 6th Street to the south, and buildings along to the west (whose backs face Wisconsin Avenue). The square has gone through several iterations including a design by the renowned landscape architect, Jens Jensen.

As the age of the automobile reshaped cities and development across North America, businesses and people departed Racine's downtown and the square lost its prominence for several decades. Now, with the renaissance of Racine's downtown, City officials and the business community engaged Toole Design to reinvigorate the square. The new concept plan creates a large civic plaza that removes the vertical curbs between street edges and gathering space to provide a flexible condition that can respond to various sizes of events. For example, during events, one or more streets can be closed to motorists so that the plaza space can increased for very large numbers of people in a barrier-free space. On typical days, the plaza space itself provides for a variety of users' needs including hard and soft spaces, a splash pad, seating and dining areas, and shade trees. The completely accessible plaza will be the central public space for Racine.

Observations

Racine stakeholders expressed enthusiasm for the existing functions of Monument Square but recognized that the square and its functionality could be improved to better provide for the needs of a thriving downtown. A summary of stakeholders' main observations included:

- A desire to retain parking along the western edge of the square to serve adjacent businesses,
- The speed of vehicles on adjacent streets made the square feel inaccessible and unsafe,
- The proportion of hard paved areas to soft landscape areas was useful during large scale events but not inviting to smaller scale activities throughout the year,
- The monument should remain in its historic location,
- Shade would make the square more inviting during summer days, and
- A farmers' market could return a historic use and reactivate the square.

The Toole Design team also observed:

- The plaza space was relatively small,
- The plaza and adjacent streets are closed off to motorists during large events like the 4th of July, Holiday Party, and St. Patrick's Day,
- A fixed stage location could not account for all potential entertainment formats so the flexibility to set-up different stage sizes in multiple configurations and locations is important,
- The street curbs made the space inaccessible for people with limited mobility and those that use mobility aids,
- The square does not connect well the Sam Johnson Park Walkway and the vistas to Lake Michigan,
- The square does not support or leverage the business uses along the western edge of the square with uses like patio seating, an additional splash pad, and restroom facilities,
- The streets act like barriers around the square due to their width, the traffic signals, and poor driver behavior; and
- Regional and local bicycling facilities are disconnected from the square.

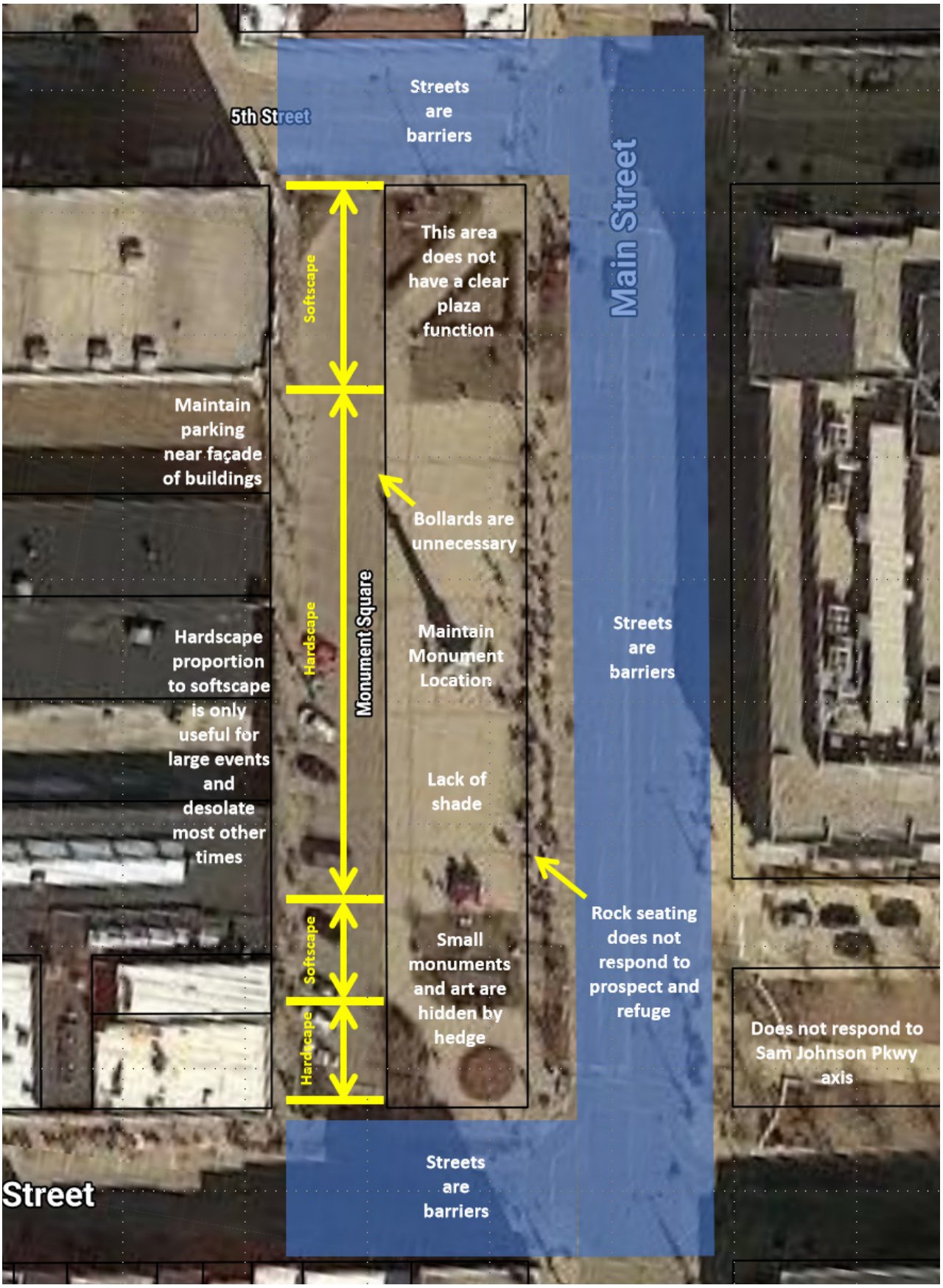


Figure 37: Simple Monument Square observations from stakeholders and the Toole Design team.

Function

Based on these observations, the Toole Design team developed a functional approach to the square layout by considering the entire space from building façade to building façade as the square–including the adjacent streets. This approach necessitates flush curbs around the square, allowing for universal access of the space during large events but still allow for motorists to travel through the area at other times.

Universal access, comfort, usable and flexible space, business-friendliness, walkability, and views were the major design objectives, expressed by the community for the heart of downtown. To advance those objectives, several design elements were recommended, including:

- Flush curbs surrounding the square,
- Streets that are usable and flexible, as needed for various events,
- Connecting downtown to the regional bicycle network,
- Bulbouts at the corners of the intersections to self-enforce parking regulations and to shorten crossing distances for pedestrians;
- Protect and enhance the view corridors along Sam Johnson Park Walkway to the splash fountain and 6th Street.

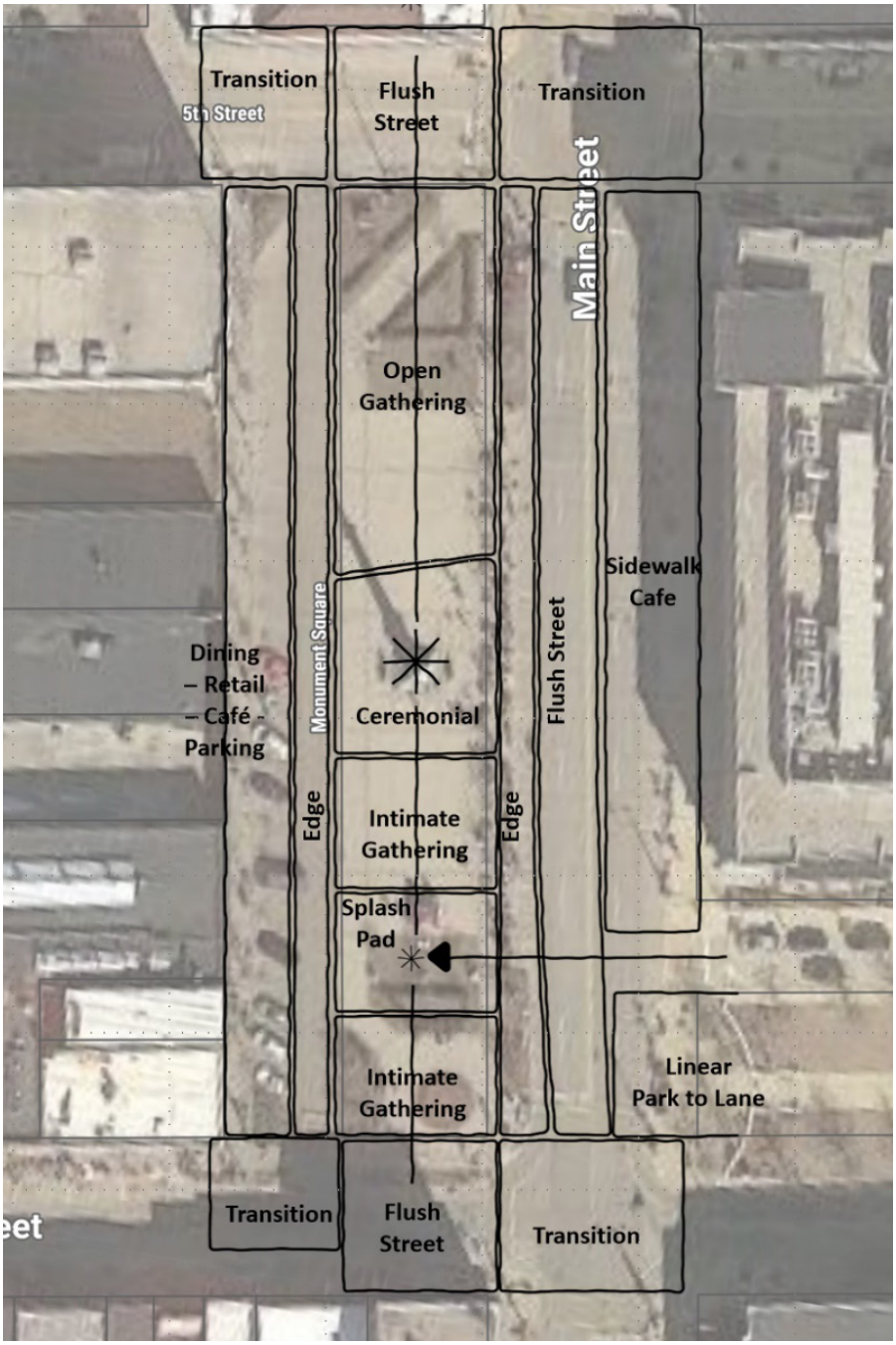


Figure 38: The functional areas that shaped the concept plan from Toole Design.

Monument Square Concept

From the functional areas diagram, we evolved the design that eliminates perpendicular parking in favor of parallel parking on the western edge of the square and includes the area liberated by the right sizing of Main Street to two lanes with parking on the east side only. This allows the open space in the square to increase in size.

We recommend the creation of several spaces, framed by shade trees, including a dining/game table area on the south end of the square. It accommodates movable furniture for public use and serves as a refuge for parents watching their children using the proposed splash pad. Next, the monument, which remains in place, are a small lawn to the south and a grand lawn to the north. These spaces accommodate events of varying sizes or can be combined during larger events. The surrounding streets include flush curbs so that the event space can include one or more streets such that they are accessible during large events.

Care should be taken to place new street trees so that they do not obstruct potential stage locations, in the cardinal directions for concerts, jazz festivals, etc., on the streets and within the plaza space. Notice the street trees on the plaza sides of the streets have been arranged to leave an opening for viewing purposes. In-street and in-ground handholes and conduits with electric power should be placed in any likely location for a stage. Potable water spigots, drains, and electric services should be located where food trucks operators or other temporary users might need them. This eliminates the food truck operators from running noisy generators, which spoils the ambiance during events. Finally, small parts of the open spaces should be available for areas informal gatherings (e.g., a place with movable chairs, tables, and umbrellas), chess boards with human-sized pieces, art installations with seating, etc., that allows for large events. Public restrooms that can be accessed easily will be required with the introduction of the splash pad and as a comfort facility for families enjoying the Square. Two locations for consideration would be as part of the proposed hotel at the north west corner of the square or in one of the spaces in the 524 Monument Square building.





Figure 39: The Monument Square concept as developed during the charrette is simple yet responsive to the context and potential uses. This design has evolved since the charrette and the revised design appears later in this document.

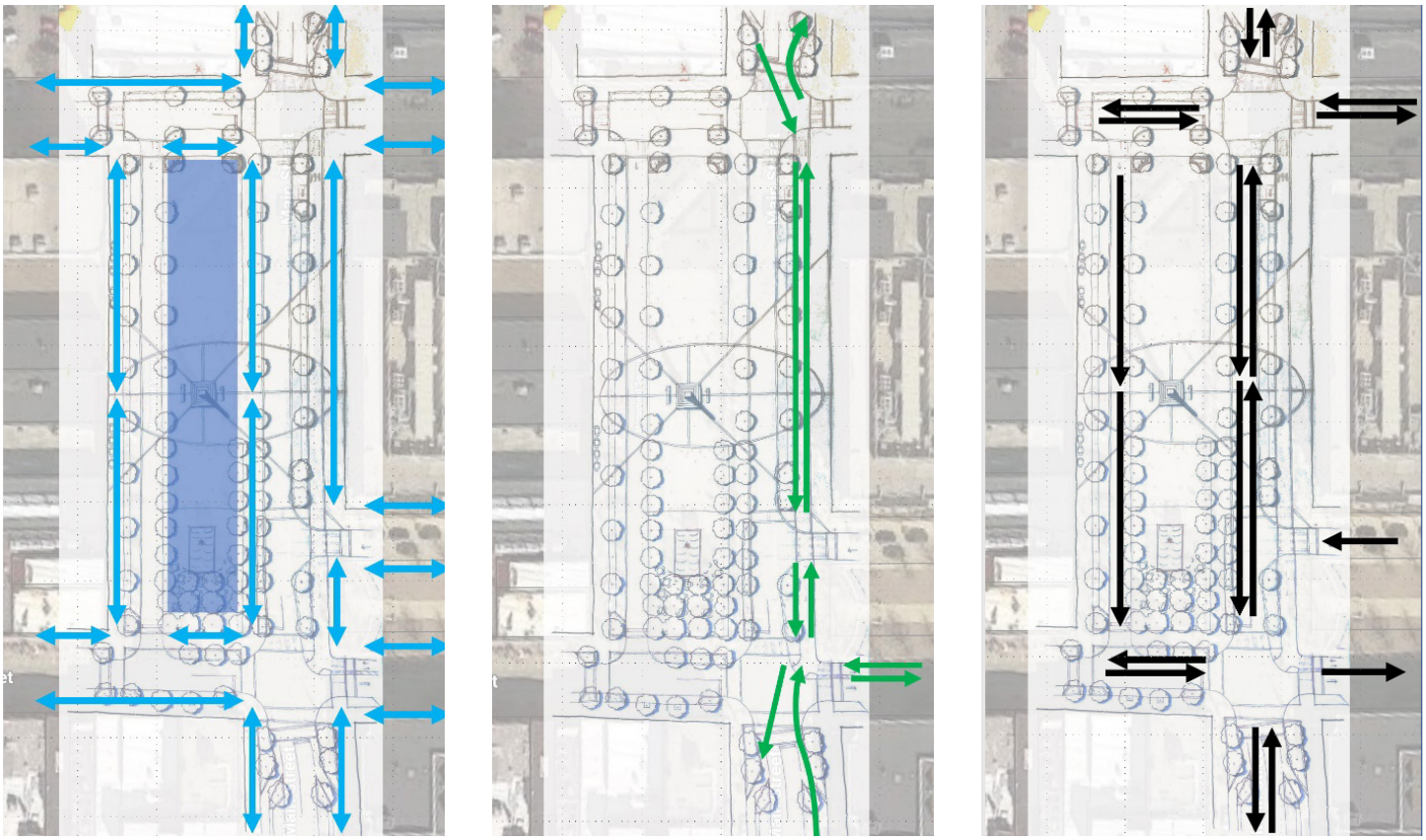


Figure 40: (Left) Pedestrian circulation remains unchanged during normal operations; (middle) new bicycling routing; and (right) new vehicle circulation requires 6th Street to return to 2-way operations, the travel-way direction adjacent to the buildings on the western edge to change directions and for 6th Street, east of Main Street to contain Sam Johnson Park Walkway as a median .

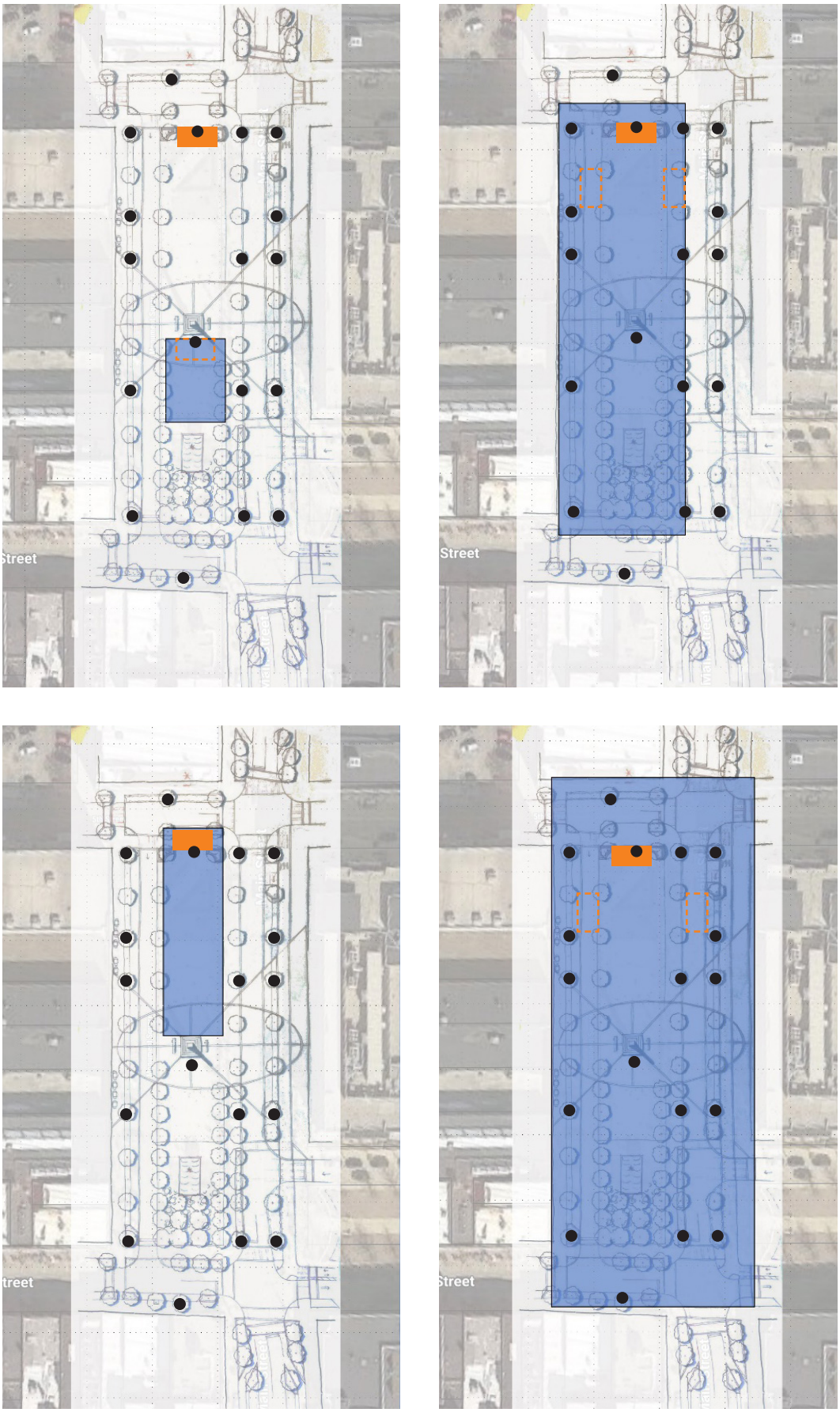


Figure 41: Monument Square can accommodate multiple sized events including (upper left) an intimate gathering; (lower left) a medium sized event; (upper right) a large event; or (lower right) a large scale event that closes all streets within the square. These spaces allow for modular stages to be set up in any location based on specific event needs.

Potential Moveable Stage Location

Potential Fixed Stage Location

Event Power Outlet Location

Based on the analysis of the current Monument Square and stakeholder insight, the design team drew inspiration from other successful places through a search of comparable images that demonstrate the potential for activities in the new Monument Square.



Figure 42: Small and large lawn areas can accommodate informal moments through movable furniture that allows people to sit in the shade on a sunny day or in the sunshine during spring and autumn. (Photo source: unknown)



Figure 43: Lawn spaces also support programed activities throughout the year. (Photo source: unknown)



Figure 44: Paved plaza areas with movable furniture permit informal seating for people watching or dining. (Photo source: unknown)



Figure 45: Paved areas surrounding the plaza and lawns can accommodate food trucks and other vehicles to serve special events. (Photo source: unknown)



Figure 46: Farmers' Market stalls can be located along surrounding drive aisles to reduce wear on the lawns. (Photo source: unknown)



Figure 47: Night time activities, such as movies on the square, can be programmed at different scales. Modular stages and screens allow for multiple locations to stage shows for maximum flexibility. (Photo source: Cindy Rolles)



Figure 48: Carefully considered lighting elevates the potential of nighttime activities while following “dark skies” principles to reduce impacts to migratory birds following the Great Lakes. (Photo source: Cindy Rolles)



Figure 49: A splash pad brings children and their parents to the square and animates surrounding businesses.(photo source: City of Sulphur Springs, TX)

Temporal and seasonal uses can be programed to expand the Use of Monument Square. The splash pad can be used for staging the holiday tree and then converted to a winter play area for children after the holidays. The lawn areas provide ample space for ice skating resulting from wintry weather or aided and prolonged through refrigeration infrastructure concealed underground.



Figure 50: The splash pad can be used for the holiday tree while the surrounding plaza functions as a winter market space. The splash pad could also house a winter play structure after the holidays. (Photo source: unknown)



Figure 51: The expanded open lawn areas can support ice skating naturally through the winter weather permitting or enhanced through underground refrigeration.

Based on feedback from City of Racine, the Monument Square design developed during the charrettes was modified in two ways as shown in the final conceptual plan:

- The dedicated bicycle facility in the square was removed noting that all vehicles in the square must be conscious the pedestrians within the curbless street area.
- Three parallel parking spaces along the north west corner of the square were removed as per the development agreement with the adjacent hotel owner.



Figure 52: The square can be used throughout the year with programming such as this winter tubing course set-up in Celebration Square in Sulphur Springs, TX.



The design maintains parking along the frontage of buildings facing the square. The plaza space is expanded into the Main Street right-of-way to increase the area of lawn space.

Bicycle lanes stop at the edges of the square to reduce conflicts between pedestrians and cyclists in the flush curb plaza. Cyclists may choose to dismount and walk or cautiously ride through the square at speeds conducive to pedestrian activity.

Potential Fixed Stage Location

Figure 53: The final conceptual plan for Monument Square based on the charrettes and City comments.

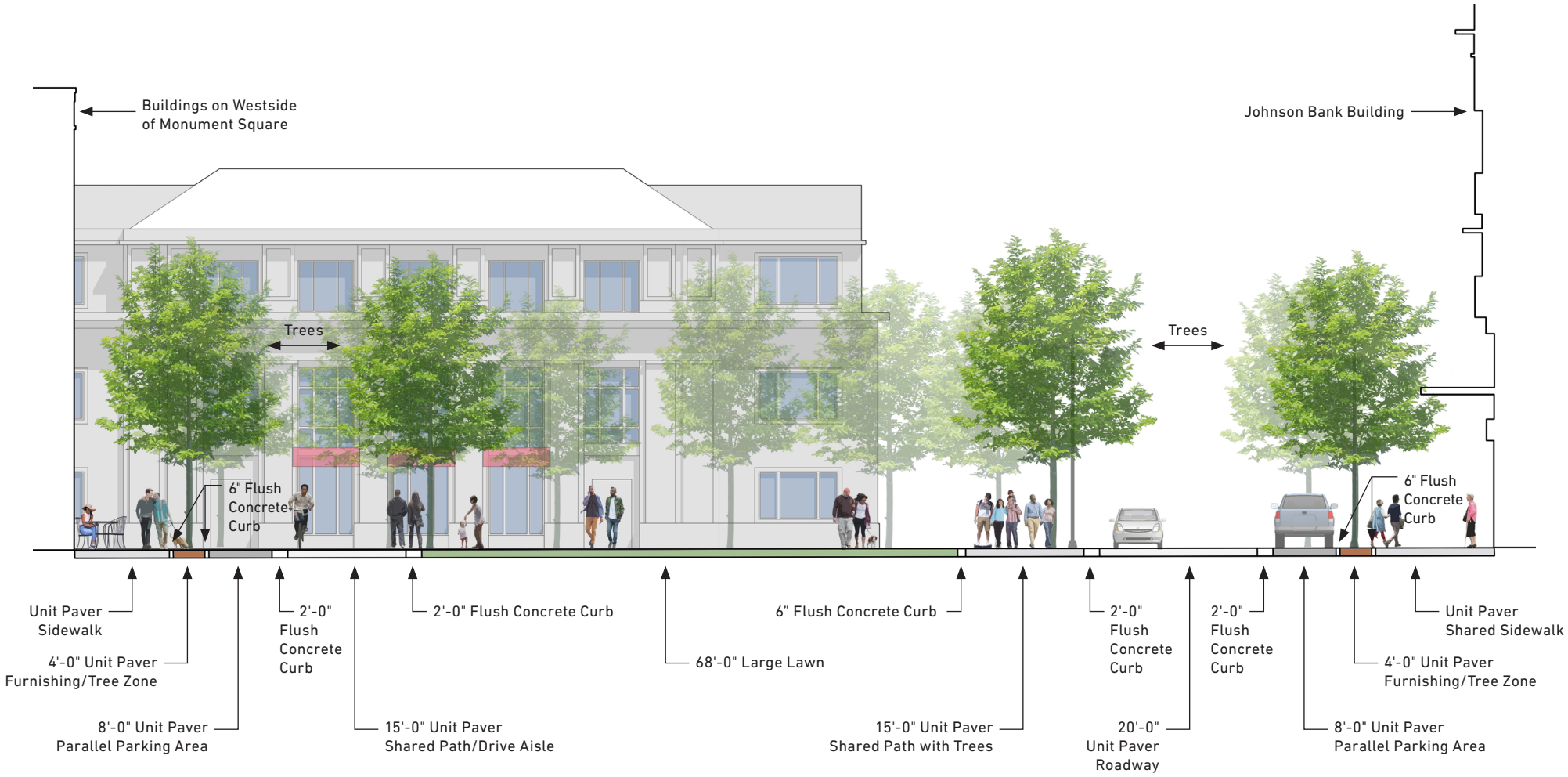


Figure 54: Section A



Figure 55: Aerial view looking toward the northwest from the southeast corner of the new curbless Main Street and Monument Square.



Figure 56: Children enjoying the lawn and splash pad in the Square.



Figure 57: The parking aisle on the west side of the Square provides space for food trucks and farmers' markets.



Figure 58: The open lawns and paved area around the monument provide ample space for different sizes of formal and informal events.

Next Steps

Consensus for positive change within the community was strong at the end of the second workshop. That energy should continue to grow as the City and State move forward with the next steps. The following next steps should be explored to keep the momentum going:

- Adopt the Racine Downtown Public Realm and Parking Plan,
- Form a Downtown Racine Steering Committee,
- Promote and encourage the use of downtown parking ramps,
- Transition to multi-space meters throughout downtown,
- Update the bicycle masterplan to include the recommendations from his study,
- Restore Lake and Wisconsin Avenues to 2-way operations,
- Move the State Trunk Highway 32/20 to Wisconsin Avenue and off of 6th Street,
- Restore 2-way operations on 6th and 7th Streets,
- Right size Main Street,
- Advance Monument Square design and construct the project, and
- Establish the 6th Street Bicycle Lanes East of Main Street connection to Pershing Park through policy and development means and create a strong relationship between the square and the waterfront via Sam Johnson parkway and 6th Street.

Downtown Public Realm and Parking Plan

City of Racine, WI

Exploring Solutions for Traffic, Monument Square, & Parking

October 2019

RACINE ON THE LAKE

Prepared by:

TOOLE DESIGN

WALKER CONSULTANTS



Downtown Racine

Pedestrians, Plaza & Parking
City of Racine, WI

APPENDICES - Estimate of Conceptual Probable Cost and Parking Report

October 2019

RACINE ON THE LAKE

Prepared by:

TOOLE DESIGN

WALKER CONSULTANTS

APPENDIX A–CONCEPTUAL ESTIMATE OF PROBABLE COST

The following costs are conceptual in nature and may not reflect local availability of materials and skilled labor as well as being limited in reliability based on the precision of data sources such as aerial photographs. While some material costs have been derived from the WisDOT's Average Unit Price List website (https://wisconsindot.gov/hccidocs/contracting-info/average-unit-price.pdf) for FY 19, many estimates of probable costs are based on experience from other projects executed by the project team. The WisDOT web source does not contain many items unique to the place-making goals of this project: removal/relocation of traffic signals and controllers, use of brick or granite paving surface materials and installation, plaza design that includes a water feature and site furnishings. In addition, unknown subsurface conditions may not be apparent from visual infrastructure condition assessments or not accurately reflected in as-built drawings. Unknown utility issues may also arise for services outside of the control of the City of Racine/provided by third. For these reasons, the City should compare the estimate of probable cost generated against recent bids and identify discrepancies and adjust accordingly.

Racine Downtown Public Realm and Parking Plan
Conceptual Estimate of Probable Cost

Monument Square

10/4/2019

Item	Units	Qty	*Unit Cost	Item Cost
Site Preparation				
PREPARING ROW	LF	1310	$32.00	$ 41,920.00
REMOVING CONC (PAV)	SY	3555	$6.00	$ 21,330.00
REMOVING CONC (SIDEWALKS)	SY	4400	$9.00	$ 39,600.00
REMOVING CONC (CURB AND GUTTER)	LF	3340	$9.00	$ 30,060.00
EXCAVATION	CY	7410	$15.00	$ 111,150.00
Landscape				
TOPSOIL	CY	304	$30.00	$ 9,120.00
PLANT MATERIAL - SHRUBS	SF	8750	$5.00	$ 43,750.00
PLANT MATERIAL (MIN 2" CAL) (B&B)	EA	76	$500.00	$ 38,000.00
Hardscape				
BRICK STREET PAVING	SY	3490	$200.00	$ 698,000.00
GRANITE COBBLE	SY	3055	$216.00	$ 659,880.00
LANDSCAPE PAVERS	SY	3055	$160.00	$ 488,800.00
CONC VALLEY GUTTER/FLUSH CURB	LF	3340	$35.00	$ 116,900.00
CONC CURB (6" LANDSCAPE)	LF	535	$30.00	$ 16,050.00
DETECTABLE WARNING MATERIAL - BRICK	SF	140	$18.00	$ 2,520.00
SPLASH PAD	LS	1	$120,000.00	$ 120,000.00
TRASH RECEPTACLES	EA	20	$1,000.00	$ 20,000.00
TABLES AND CHAIRS SETS	EA	30	$2,500.00	$ 75,000.00
BIKE RACK (INSTALL)	EA	15	$2,000.00	$ 30,000.00
CONDUIT DUCT (4")	LF	2200	$18.00	$ 39,600.00
LANDSCAPE LIGHTING (TRANSFORMER)	EA	2	$1,000.00	$ 2,000.00
DECORATIVE LANDSCAPE LIGHTING (UPLIGHT)	EA	30	$250.00	$ 7,500.00
			Project Subtotal	$ 2,855,240.00

MOBILIZATION	LS	1	5%	$ 142,762.00
TEMPORARY TRAFFIC CONTROL	LS	1	5%	$ 142,762.00
LIGHTING	LS	1	5%	$ 142,762.00
SIGNING	LS	1	1%	$ 28,552.40
PAVEMENT MARKINGS	LS	1	1%	$ 28,552.40
ELECTRICAL SERVICE	LS	1	5%	$ 142,762.00
MISCELLANEOUS UTILITY WORKS	LS	1	10%	$ 285,524.00
			30% Contingency	$ 856,572.00
			Rounded Total	$ 4,625,500.00

All costs are in 2019 dollars and must be adjusted for future construction years when budgeting

Racine Downtown Public Realm and Parking Plan
Conceptual Estimate of Probable Cost

Ultimate Main Street

10/4/2019

Item	Units	Qty	*Unit Cost	Item Cost
Site Preparation				
PREPARING ROW	LF	1500	$32.00	$ 48,000.00
REMOVING CONC (SIDEWALKS)	SY	4400	$9.00	$ 39,600.00
REMOVING CONC (CURB AND GUTTER)	LF	3000	$9.00	$ 27,000.00
EXCAVATION	CY	13300	$15.00	$ 199,500.00
Landscape				
TOPSOIL	CY	160	$30.00	$ 4,800.00
PLANT MATERIAL - SHRUBS	SF	9000	$5.00	$ 45,000.00
PLANT MATERIAL (MIN 2" CAL) (B&B)	EA	40	$500.00	$ 20,000.00
Hardscape				
BRICK STREET PAVING	SY	4000	$200.00	$ 800,000.00
LANDSCAPE PAVERS	SY	1000	$160.00	$ 160,000.00
CONC VALLEY GUTTER/FLUSH CURB	LF	3000	$35.00	$ 105,000.00
CONC CURB (6" LANDSCAPE)	LF	1500	$30.00	$ 45,000.00
TACTILE WARNING STRIP - IRON	LF	200	$120.00	$ 24,000.00
TRASH RECEPTACLES	EA	20	$1,000.00	$ 20,000.00
BENCHES	EA	40	$2,500.00	$ 100,000.00
BIKE RACK (INSTALL)	EA	30	$2,000.00	$ 60,000.00
CONDUIT DUCT (4")	LF	4200	$18.00	$ 75,600.00
LANDSCAPE LIGHTING (TRANSFORMER)	EA	5	$1,000.00	$ 5,000.00
DECORATIVE LANDSCAPE LIGHTING (UPLIGHT)	EA	80	$250.00	$ 20,000.00
			Project Subtotal	$ 2,112,600.00

MOBILIZATION	LS	1	5%	$ 105,630.00
TEMPORARY TRAFFIC CONTROL	LS	1	5%	$ 105,630.00
LIGHTING	LS	1	10%	$ 211,260.00
SIGNING	LS	1	1%	$ 21,126.00
PAVEMENT MARKINGS	LS	1	1%	$ 21,126.00
ELECTRICAL SERVICE	LS	1	5%	$ 105,630.00
MISCELLANEOUS UTILITY WORKS	LS	1	10%	$ 211,260.00
			30% Contingency	$ 633,780.00
			Rounded Total	$ 3,528,100.00

All costs are in 2019 dollars and must be adjusted for future construction years when budgeting

Racine Downtown Public Realm and Parking Plan
Conceptual Estimate of Probable Cost

Interim Main Street Paint Road Diet - 2nd Street to 5th Street

10/4/2019

Item	Units	Qty	*Unit Cost	Item Cost
Road Diet Using Paint				
MARKING REMOVAL 4"	LF	9000	$0.43	$ 3,870.00
MARKING SAME DAY PAINT 4"	LF	12000	$1.20	$ 14,400.00
TYPE D CURB	LF	1080	$21.12	$ 22,809.60
LANDSCAPE MATERIAL TREE 2" CAL	EA	18	$500.00	$ 9,000.00
REMOVE SIGNALS	EA	3	$3,500.00	$ 10,500.00
			Project Subtotal	$ 60,579.60

MOBILIZATION	LS	1	5%	$ 3,028.98
TEMPORARY TRAFFIC CONTROL	LS	1	5%	$ 3,028.98
SIGNING	LS	1	1%	$ 605.80
PAVEMENT MARKINGS	LS	1	1%	$ 605.80
MISCELLANEOUS UTILITY WORKS	LS	1	10%	$ 6,057.96
			30% Contingency	$ 18,174.00
			Rounded Total	$ 92,100.00

All costs are in 2019 dollars and must be adjusted for future construction years when budgeting

Racine Downtown Public Realm and Parking Plan
Conceptual Estimate of Probable Cost

Wisconsin and Lake Avenues Two-way Conversions

10/4/2019

Item	Units	Qty	*Unit Cost	Item Cost
Two-way Conversion				
MARKING REMOVAL 4"	LF	24900	$0.43	$ 10,707.00
MARKING SAME DAY PAINT 4"	LF	33200	$1.20	$ 39,840.00
REMOVE SIGNALS	EA	3	$3,500.00	$ 10,500.00
			Project Subtotal	$ 61,047.00

MOBILIZATION	LS	1	5%	$ 3,052.35
TEMPORARY TRAFFIC CONTROL	LS	1	5%	$ 3,052.35
SIGNING	LS	1	1%	$ 610.47
PAVEMENT MARKINGS	LS	1	1%	$ 610.47
MISCELLANEOUS UTILITY WORKS	LS	1	10%	$ 6,104.70

30% Contingency	$	18,315.00
Rounded Total	$	92,800.00

All costs are in 2019 dollars and must be adjusted for future construction years when budgeting

Racine Downtown Public Realm and Parking Plan
Conceptual Estimate of Probable Cost

6th and 7th Avenues Two-way Conversions

10/4/2019

Item	Units	Qty	*Unit Cost	Item Cost
Two-way Conversion				
MARKING REMOVAL 4"	LF	21000	$0.43	$ 9,030.00
MARKING SAME DAY PAINT 4"	LF	28000	$1.20	$ 33,600.00
REMOVE SIGNALS	EA	7	$3,500.00	$ 24,500.00
			Project Subtotal	$ 67,130.00

MOBILIZATION	LS	1	5%	$ 3,356.50
TEMPORARY TRAFFIC CONTROL	LS	1	5%	$ 3,356.50
SIGNING	LS	1	1%	$ 671.30
PAVEMENT MARKINGS	LS	1	1%	$ 671.30
MISCELLANEOUS UTILITY WORKS	LS	1	10%	$ 6,713.00
			30% Contingency	$ 20,139.00
			Rounded Total	$ 102,100.00

All costs are in 2019 dollars and must be adjusted for future construction years when budgeting

APPENDIX B–PARKING PLAN



Downtown Public Realm Parking Plan

City of Racine, Wisconsin

Final Draft

September 30, 2019

WALKER CONSULTANTS

CONTENTS

1 - Introduction..... 3
2 - Study Area..... 4
3 - Current Conditions..... 5
4 - Future Conditions..... 10
5 - Technology Recommendations..... 13
6 - Implementation..... 18
7 - Appendix..... 23

1 - INTRODUCTION

Parking and parking facilities are essential components of a downtown. They are also among the most common areas needed for improvement. Parking conflicts can be defined in terms of an insufficient supply, also known as inventory (limited spaces are available within the system, and we need more) or in terms of management (available parking facilities are used inefficiently and should be better managed).

Parking, parking facilities, the pedestrian streetscape and the public realm, public transportation, bicycle infrastructure, and new modes of transportation will become important and interconnected issues as Downtown Racine continues to grow and develop. To help address future growth, the City must have a strategy to analyze future parking needs of the downtown area.

The purpose of this plan is to evaluate the existing parking inventory, technology, and operation of the downtown Racine parking system. The information gathered will assist in shaping and developing recommendations that can be implemented over the course of the next five years.

The following analysis is presented in a way to show the context of the study area, current conditions, future projections, and recommendations. Recommendations will be presented through an implementation schedule on a Near-Term (0-2 years), Mid-Term (2-5 years), and Long-Term (5+ years) basis. Please note a summary of our two primary recommendations may be found within the body of the report as part of the Public Realm Plan.

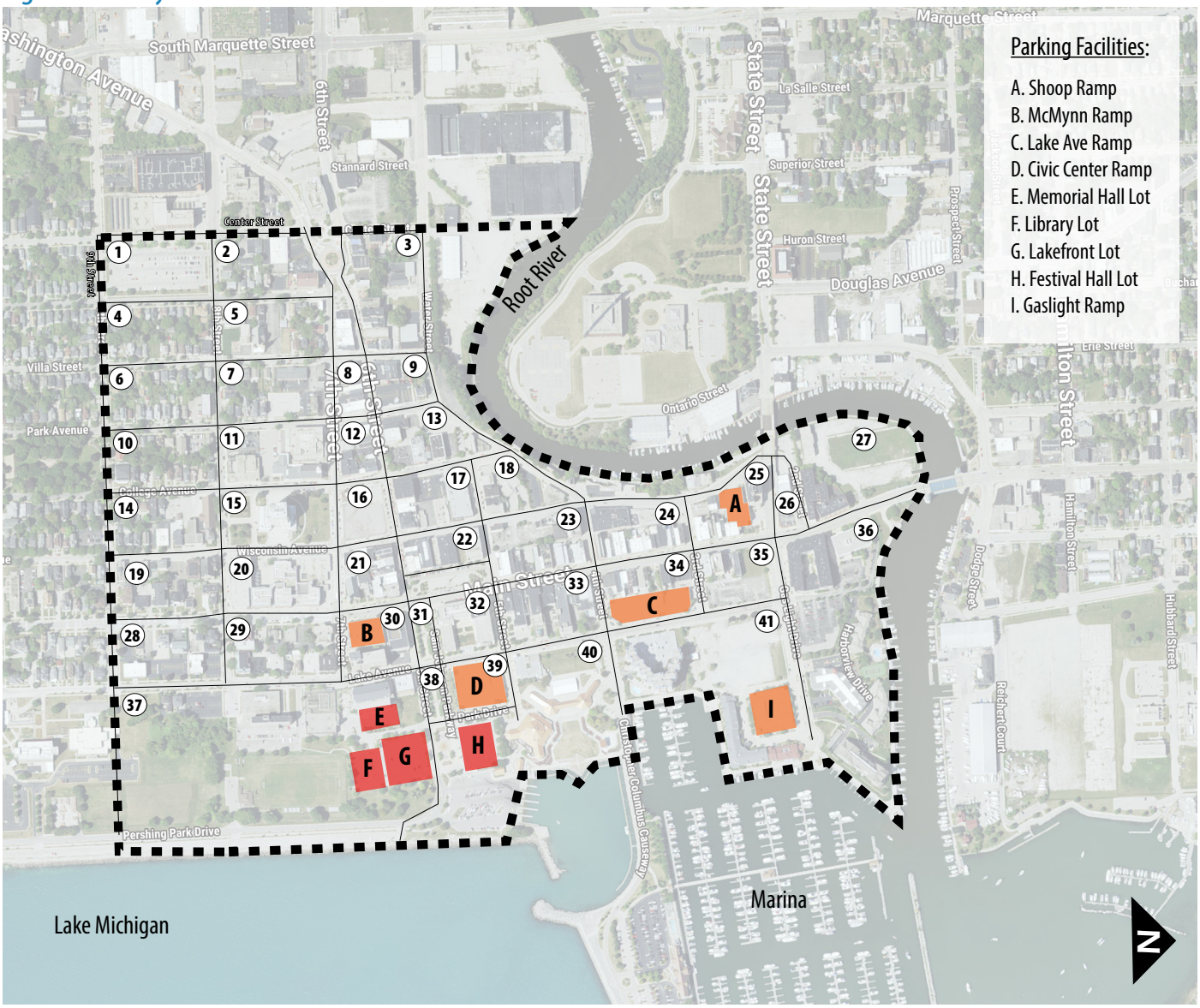


Downtown Wayfinding

2 - STUDY AREA

For the purposes of this analysis, the study area boundary includes the majority of downtown Racine. The boundaries are the Root River to the north, Lake Michigan to the east, 9th Street to the south, and Center Street to the west *(as shown in Figure 1: Study Area)*. The 41-block study area includes major employment centers and local and regional destinations, such as the Racine Civic Center and Festival Hall, the Racine Harbor and Marina, Racine City Hall and Police Department, Racine County Circuit Court, and the public library, in addition to the shops and restaurants along Main Street, 6th Street, and Monument Square.

Figure 1: Study Area



LEGEND

Study Area Boundary | Public Parking Ramp | Public Surface Lot

3 - CURRENT CONDITIONS

DATA COLLECTION

The data collection was performed by Walker to analyze occupancy counts within the study area boundaries. The occupancy counts were performed on Wednesday, July 24th at 10:00am, 1:00pm, and 5:00pm. In addition to those survey times, Walker Consultants performed spot checks for both on-street and off-street facilities on Wednesday, July 31st and Thursday, August 1st to confirm the previous data. On-street parking inventory data was provided by the City of Racine Department of Public Works, and off-street inventory information was provided by the parking operator, ABM, and supported by inventory counts performed by Walker.

The occupancy counts were collected for on-street spaces, along with nine (9) off-street facilities as shown in *Figure 1: Study Area*. The off-street facilities include both public parking ramps and public surface lots.

The survey days and times were selected to analyze typical peak demand parking patterns in the downtown Racine commercial district during a typical mid-week work day.

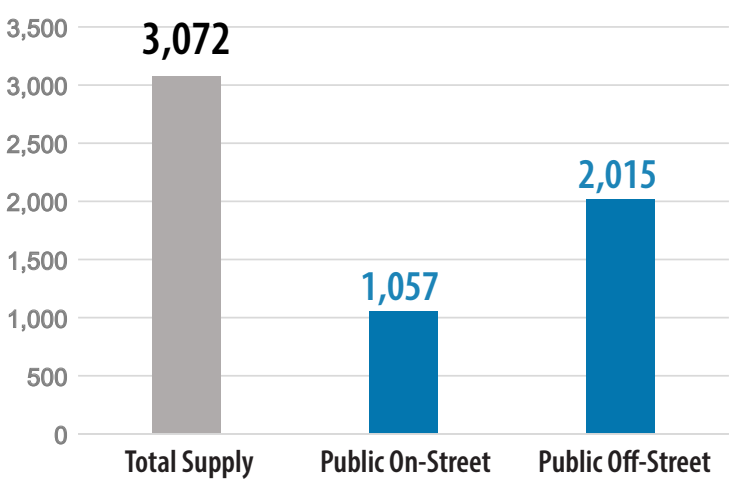
PARKING SUPPLY

Knowing the allocation of parking supply within the downtown helps us better understand where future strategies and recommendations need to be focused. Within the 41-block study area, there is a total of **±3,072** off-street and on-street supply of publicly available parking spaces. There are **±2,015** public off-street spaces located in five (5) parking ramps and four (4) primary surface lots. Please note there are a few smaller surface lots (under 35 spaces) that are largely used for reserved (contract) parking and therefore were not included in this analysis. The largest and most frequently used facilities are the Civic Center Ramp (437 spaces), Lake Avenue Ramp (373 Spaces), and Shoop Ramp (229 Spaces). There is a total of **±1,057** on-street spaces, the majority (856) of which are marked and metered. The parking supply in the study area is summarized in *Figure 2: Parking Supply Allocation*.



Civic Center Ramp

Figure 2: Parking Supply Allocation



PARKING OCCUPANCY

The weekday parking occupancy for on-street and off-street demand patterns is summarized in the following maps and tables. Total demand was generally lower throughout the early morning and stayed consistent throughout the remainder of the day, before dropping off again after 4:00 pm. Walker observed the highest on-street occupancy at 10:00 am and reached an occupancy percentage of **47.9%**. The Civic Center Ramp had the highest occupancy of the off-street facilities, reaching **70.5%** during the peak. Even during the most utilized time (10:00 am), there were approximately **1,979** unoccupied parking spaces in the study area (35.6% total occupancy or 64.4% unoccupied).

Figure 3: On-Street/Off-Street Occupancy Percentage at Peak Demand Time of 10:00 AM

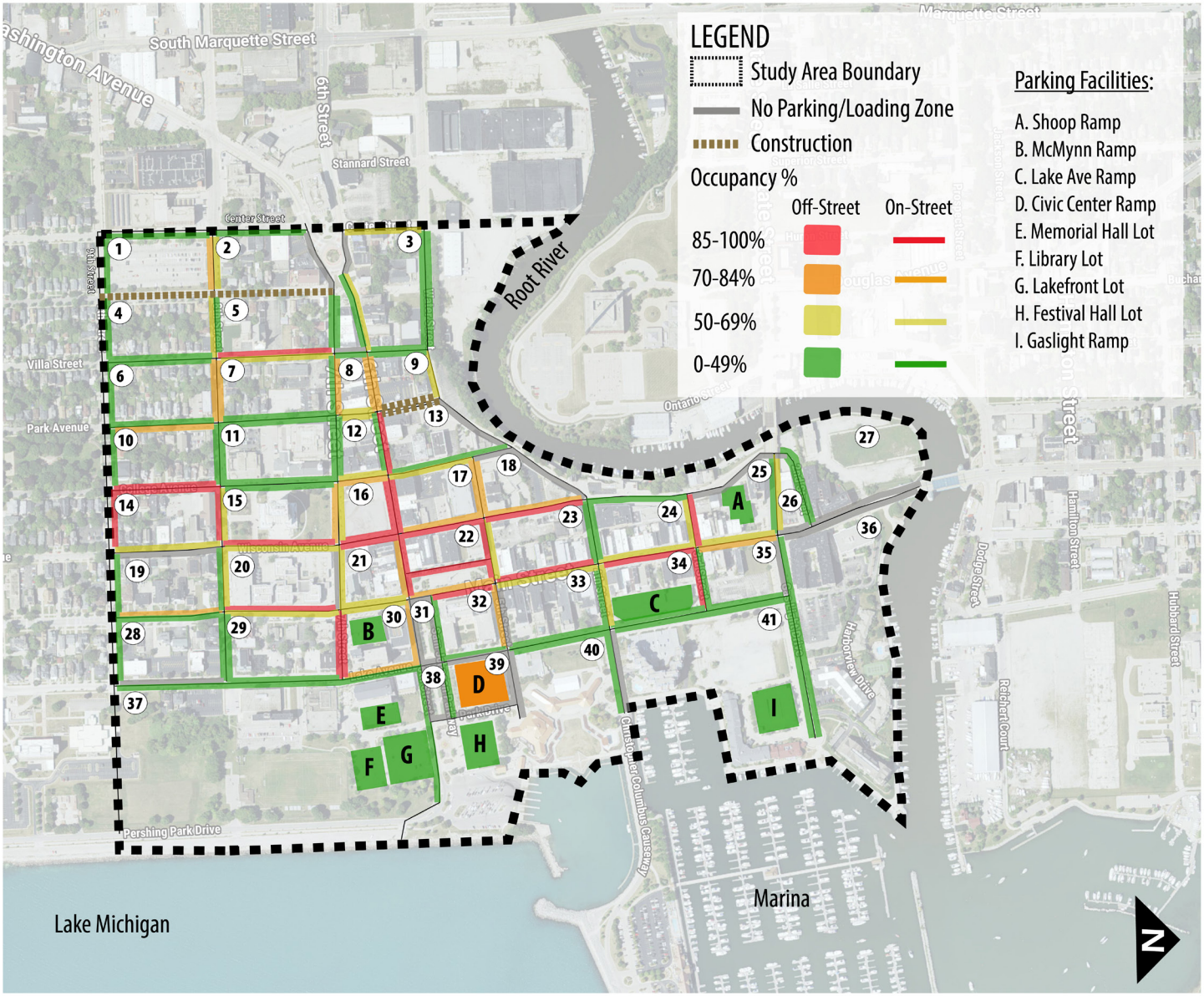


Figure 4: Total Parking Inventory and Occupancy Comparisons

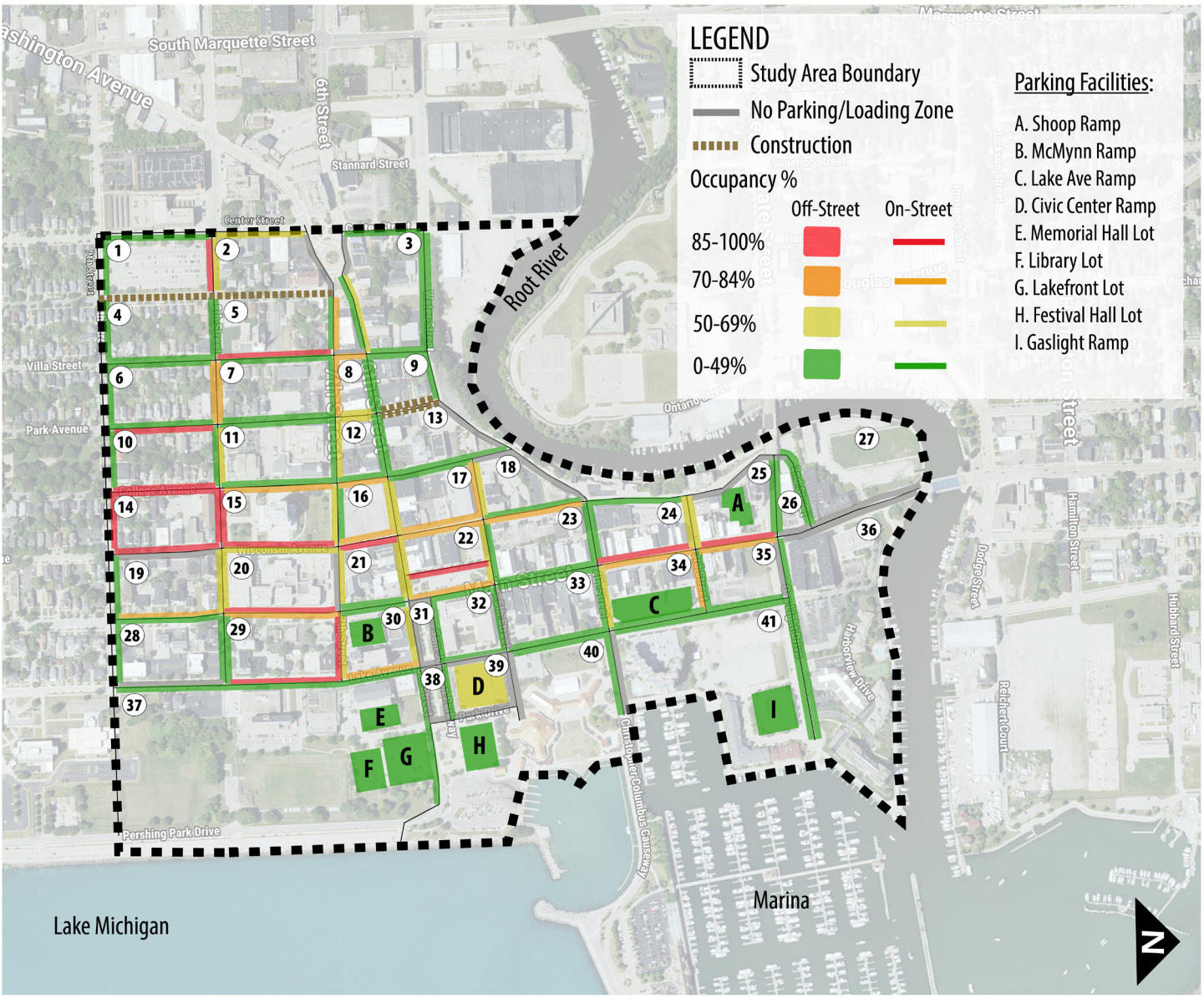
Parking Inventory		Parking Occupancy					
		10:00 AM	Occ. %	1:00 PM	Occ.%	5:00 PM	Occ.%
On-Street Spaces	1,057	506	47.9%	465	44.0%	381	36.0%
Off-Street Spaces	2,015	587	29.1%	572	28.4%	518	25.7%
Total	**3,072**	**1,093**	**35.6%**	**1,037**	**33.8%**	**899**	**29.3%**

Figure 5: Off-Street Inventory and Occupancy Comparisons for Key Facilities

Parking Inventory		Parking Occupancy					
		10:00 AM	Occ. %	1:00 PM	Occ.%	5:00 PM	Occ.%
Civic Center Ramp	437	308	70.5%	283	64.8%	252	57.7%
Lake Avenue Ramp	373	47	12.6%	58	15.5%	50	13.4%
Shoop Ramp	229	65	28.4%	64	27.9%	47	20.5%
Total	**1,039**	**420**	**40.4%**	**405**	**39.0%**	**349**	**33.6%**



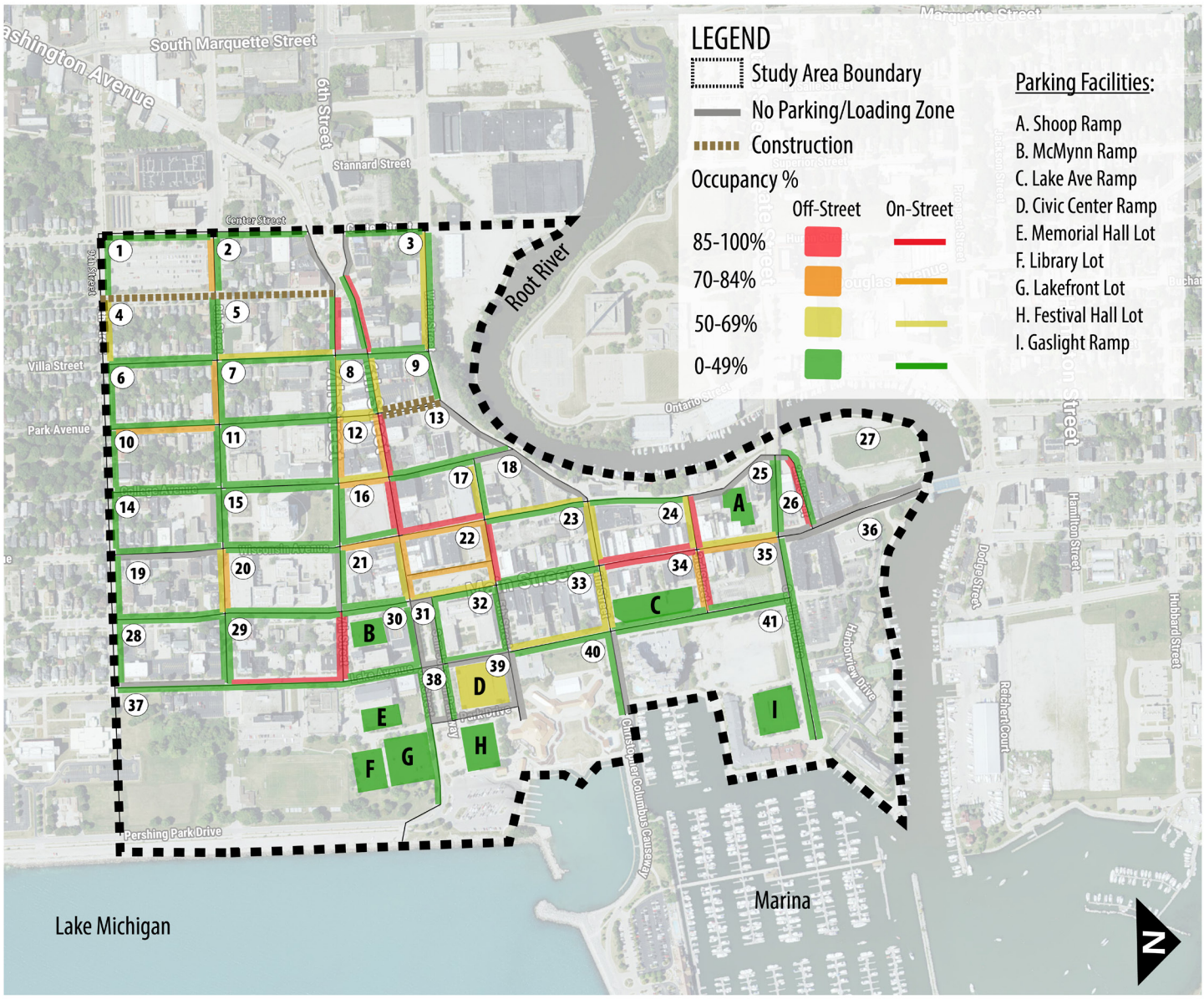
Figure 6: On-Street/Off-Street Occupancy Percentage at 1:00 PM



Observations 1:00 PM:

- Occasional "hot-spots" of demand along Main Street, particularly north of 4th Street
- High demand for parking in blocks 14 and 15 to accommodate the Racine County Circuit
- Off-street and on-street parking demand patterns remained consistent throughout the day
- Overall parking occupancy in the study area was 33.8%
- Select parking inventory was limited due to construction on Grand and Park Avenue's

Figure 7: On-Street/Off-Street Occupancy Percentage at 5:00 PM



Observations 5:00 PM:

- Select parking inventory was limited due to construction on Grand and Park Avenue's
- Off-street and on-street parking demand patterns remained consistent throughout the day
- Overall parking occupancy in the study area was 29.3%

4 - FUTURE CONDITIONS

In order to gain an understanding into future parking conditions in downtown Racine, Walker projected parking demand within the study area under future development build-out conditions. Walker utilized *Shared Parking*[1] to project the future demand associated with various developments proposed to come online over the next five to ten years. The following program information provides the basis of what was inputted into the Shared Parking model, using two planning horizons:

FIVE-YEAR PLANNING HORIZON

Sheraton Hotel Development

- Spring 2020 project start date
- 174 guest rooms
- Includes expansion of Festival Hall
  10,000 sf banquet/meeting room expansion
  (17,000 sf currently; 27,000 sf at full build-out)

Zahn's Site Hotel Development

- Spring 2020 project start date
- 125 guest rooms
- Boutique hotel

TEN-YEAR PLANNING HORIZON FULL BUILD OUT

Porter's Site Development

- 5,000 sf restaurant
- 5,000 sf retail
- 190 residential rental units
  30% studio
  50% one-bedroom
  20% two-bedroom

[1] *Shared Parking, Urban Land Institute, Institute of Transportation Engineers, by Mary Smith*

Additionally, the following assumptions were made to the future downtown parking inventory, applied to both the five- and ten-year planning horizons:

FIVE + TEN YEAR PLANNING HORIZON

- Approximately 15 on-street spaces will be lost around Monument Square as angled parking becomes parallel parking; in conjunction with angled parking being added on Wisconsin Avenue
- Six parking spaces will be eliminated along the east side of Main Street at Monument Square
- The 91-space Festival Hall surface lot will be removed for the Sheraton Hotel Development

Equals a total net loss of 66 spaces

The following downtown developments were not included in this analysis, as it was noted in communication with City officials that they will satisfy their own parking needs on-site:

Hotel Development at Gaslight Point

- Spring 2020 project start date
- 110 guest rooms
- 190 residential units (Phase 1), 150 residential units (Phase 2)
- Development will self-park

Wisconsin Street Residential Development

- 49 residential units
- Development will self-park

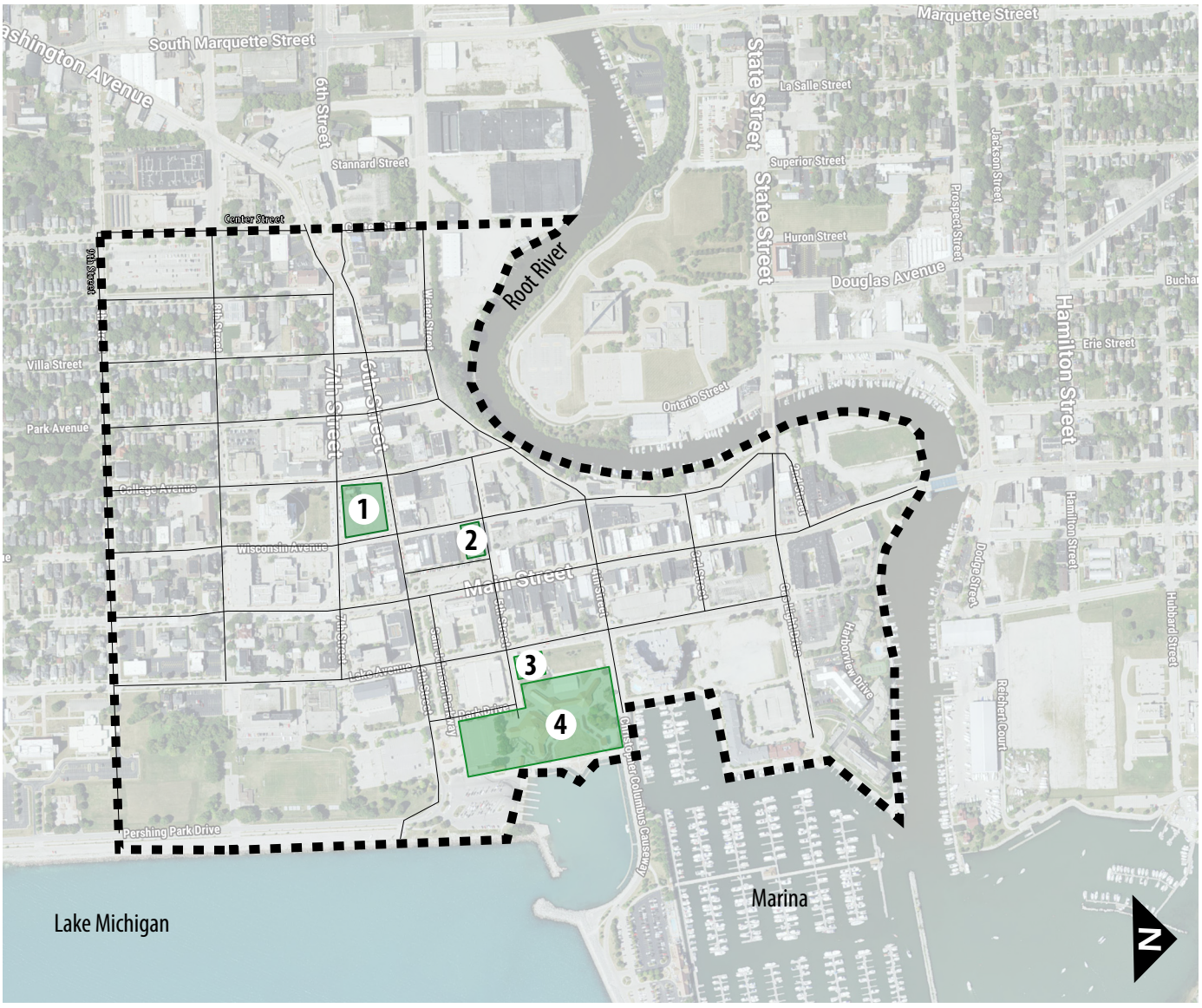
YMCA/Residential Development
- Intersection of 8th and Lake
- Development will self-park

Two Foxconn Developments
- Main Street at the Root River and;
- Intersection of Lake and Sam Johnson Parkway
- Developments will self-park

Belle Harbor County Site Development
- Main Street at the Root River
- Development will self-park

Water Street Redevelopment
- East of Marquette Street between Water Street and the Root River
- 27-acre development will self-park

Figure 8: Areas of New Development Included in this Analysis



LEGEND

Study Area Boundary **1.** Porter's Site **2.** Zahn's Site Hotel **3.** 5th + Lake Ramp **4.** Sheraton Hotel + Festival Hall Expansion

BASE PARKING DEMAND RATIOS AND SHARED PARKING ADJUSTMENTS

The *Shared Parking* model was developed in conjunction with the Urban Land Institute and Institute of Transportation Engineers, utilizing base parking demand ratios and adjustments made to these ratios that are detailed below.

Figure 9: Base Parking Demand Ratios

Land Use	Base Ratio	
Retail	2.90	/ksf GLA
Employee	0.70	/ksf GLA
Restaurant	12.75	/ksf GLA
Employee	2.25	/ksf GLA
Hotel	0.90	/Room
Employee	0.25	/Room
Convention	20.00	/ksf GLA
Residential - Studio	1.00	/Unit
Residential - One-Bedroom	1.50	/Unit
Residential - Two-Bedroom	1.75	/Unit
Residential Guest	0.10	/Unit

Shared Parking Demand Adjustments

A transportation mode split reduction was used to account for the use of other modes of transportation. Reflecting 2017 US Census (American Community Survey) figures for the City of Racine and greater Racine area, a 92 percent employee drive ratio, and a 95 percent customer drive ratio, were used in this analysis. Further, to account for the affects of a downtown shared parking environment, monthly and hourly demand adjustments, and a non-captive adjustment, were used.

PARKING OCCUPANCY - FUTURE DEMAND PROJECTION

As shown in Figure 10 below, at a five-year planning horizon, there is a weekday future demand (peak period) projection of approximately 1,457 vehicles, or 49 percent of the total inventory. At a ten-year planning horizon, there is a future demand projection of approximately 1,698 vehicles, or 57 percent of the total inventory. At full build-out, at the peak demand time of 10:00 am, approximately 43 percent of the total downtown parking inventory will remain available.

Figure 10: Future Demand Projections

Parking Inventory		Parking Occupancy					
		10:00 AM	Occ. %	1:00 PM	Occ.%	5:00 PM	Occ.%
Current Conditions	**3,072**	1,093	35.6%	1,037	33.8%	899	29.3%
Future Conditions (5-year)	**3,006**	1,457	48.5%	1,367	45.5%	1,250	41.6%
Future Conditions (10-year)	**3,006**	1,698	56.5%	1,637	54.5%	1,527	50.8%

5 - TECHNOLOGY RECOMMENDATIONS

After reviewing the City's current parking operation and related technologies, and participating in the project Design Charrettes, Walker has assembled the below roster of technology-based recommendations to meet the City's goals of increasing resident, visitor, and employee satisfaction and downtown experience, managing operational costs, and maintaining the incoming revenue stream. The improvements can be broken down into three primary categories; on-street operations, off-street operations, and guidance, wayfinding, and analytics. Although some of the recommendations have dependencies, many can be implemented independently or as a part of a phased approach to minimize impact to stakeholders.

ON-STREET OPERATIONS AND DOWNTOWN MULTI-SPACE METERS

The City currently operates approximately 856 single-space on-street meters in the downtown area. The meters accept coins only, and the rate is $0.65 per hour. Patrons may use the Passport mobile application to pay for on-street parking. However, mobile app-based payments currently account for less than 20% of overall meter payments. Walker recommends that the City switch to multi-space meters, and alter the operating model of the mobile payment system to simplify operations as well as the patron experience. Walker recommends that the City adopt "pay-by-plate" meter technology. In this model, patrons will park their car and pay for parking either via the mobile app or at a multi-space meter located on the block. If they choose to pay at the meter, they will enter their license plate number at the meter, select the duration of time to pay for and make a payment. Walker recommends that receipts not be printed, but emailed or text messaged to the patron. This service feature eliminates moving parts inside of the meters, and therefore reduces maintenance requirements, as well as wear on the unit, and it decreases power usage. Please note that the machines can be specified to have receipt printers if the City would like to pursue this.

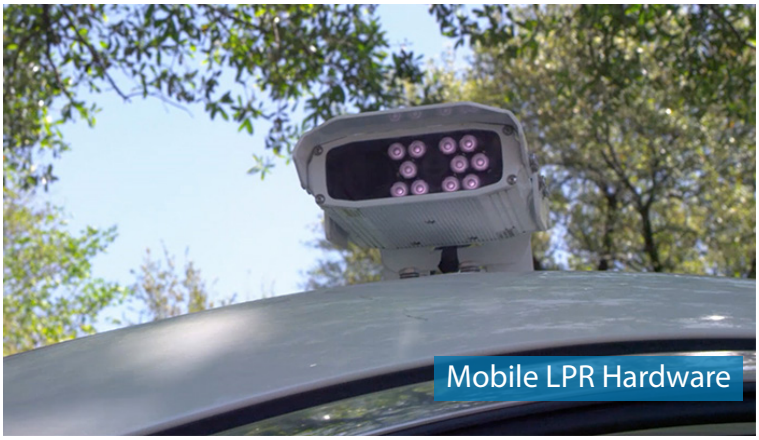
The meters would likely be placed one per block, along Main Street and 6th Street. The cost range for meters of this type is between $8,000 and $16,000 per meter depending on payment methods accepted and additional features. The meters are most typically battery-powered and use cellular devices to communicate. Walker estimates 24 total multi-space meters are required for the downtown area along Main and 6th Streets. Shown in the following Exhibit is a conceptual layout of where the multi-space meters could be located. Removal costs of the existing single-space meters will vary considerably depending on the new concrete patch that may be required, with costs ranging from $100 to $1,500 per meter. Twenty-four blocks of single-space meters would need to be removed based on the conceptual installation plan.



Pay By Plate
Multi-Space Meter

Currently, the existing mobile app, Passport, allows patrons to pay by space number, which is provided in the form of a sticker placed on each meter. Walker recommends that the mobile app operating model also switch to "pay-by-plate" to match the new meter methodology. In this methodology, patrons would register their vehicles with the app, providing the license plate for each vehicle they register. After parking, the patron would select the vehicle they are parking with (if they have multiple vehicles on their profile), optionally select the zone, select the time to purchase, and complete their transaction. Patrons may be able to complete this process before leaving their car, depending on if zones are used and the on-street signage developed for these zones. There should be little to no cost to change the mobile app operating methodology to pay-by-plate. However, additional signage would be recommended to provide an enhanced and convenient customer experience.

Converting both the meters and app-based payments to "pay-by-plate" provides an advantage to the City in the form of simplified enforcement of on-street parking violations. Since all vehicles parked on the street have their payments tied to a license plate, enforcement can


Mobile LPR Hardware

be completed exclusively using mobile License Plate Recognition (LPR) equipment. Walker understands that the City has already purchased a mobile LPR system. This system may be able to be modified to accept payment/license plate data from both the new meters and the mobile app. After the two payment technologies have been integrated with the existing (or new, if an additional system is required) mobile LPR system, the enforcement operation will be as simple as driving the streets and issuing tickets through the software when a violation is detected. The citations can be mailed to the violating vehicle owners automatically. If the violating vehicle is tied to a mobile app account, the citation can be paid through the app. This enforcement model should be significantly faster than an on-foot approach to enforcement. Potential issues with the technology that may require limited manual or on-foot enforcement include vehicles parking too close to each other, and heavy snowfall that obscures license plates. Should the mobile LPR system require replacement, Walker estimates the cost to be between $30,000 and $50,000.

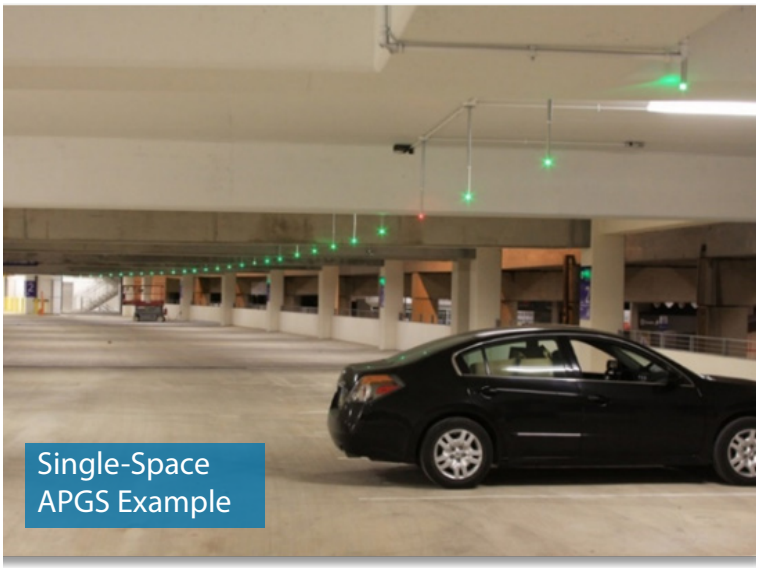
OFF-STREET OPERATIONS

The City owns five ramps and four primary downtown surface lots to provide off-street parking to the general public on both a transient and contract basis. The ramps and surface lots are operated by ABM on a contract basis. Four of the five ramps all utilize SKIDATA-brand Parking Access and Revenue Control Systems (PARCS) to control access and revenue. The fifth (McMynn) ramp utilizes reserved and unreserved single-space meters. Walker recommends that the City consider upgrading the PARCS payment card processing technology, and investing in an Automated Parking Guidance System, or APGS.

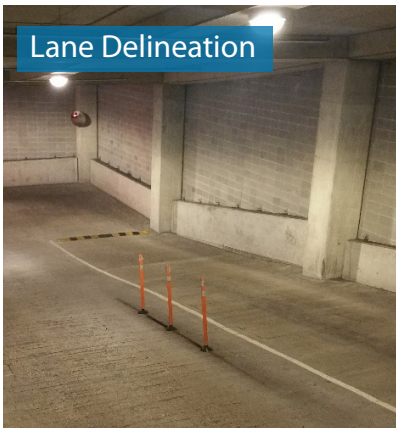
The current payment (credit/debit) card processing technology is provided natively by the SKIDATA hardware, and almost certainly includes software to transmit the payment card data from the machine to the merchant bank controlled by either the City or ABM, the parking operator. This methodology has been the standard in the parking industry for many years; however, the advent of newer technology that has been developed in response to significant data breaches (both within and outside of the parking industry), have given owners and operators tools to mitigate risk from handling payment cards.

Specifically, Walker recommends the City procure and install Payment Card Industry Certified Point to Point Encrypting (PCI-P2PE) payment card terminals in all devices that accept payment cards. These devices are supplied by a third-party and handle the reading, encryption, and transmission of the payment card data in a significantly more secure manner than the SKIDATA system can do natively. The decryption of the payment card does not occur until it reaches the bank. These systems (hardware, software, and network) are certified by the Payment Card Industry Security Standards Council after undergoing rigorous testing of the physical security of the units, and the security of the software used to encrypt and transmit the payment card data. The devices typically cost between $2,000 - $3,000 per unit, and an additional transaction fee typically applies. The devices will be sold and integrated by SKIDATA. Once installed (and as long as the devices are the only "handlers" of payment cards within the parking system), the burden of PCI Compliance becomes much lighter, and the risk of a data breach becomes lower.

While on site, and in discussion with ABM personnel, Walker observed that some of the SKIDATA equipment had difficulty reading payment card magnetic strip data. Walker believes this is likely resolvable with a thorough cleaning of the units. This is something the SKIDATA vendor or the operator should be doing on a regular basis. SKIDATA manufactures cleaning kits for this specific purpose that could be used to potentially resolve this issue.



Single-Space APGS Example



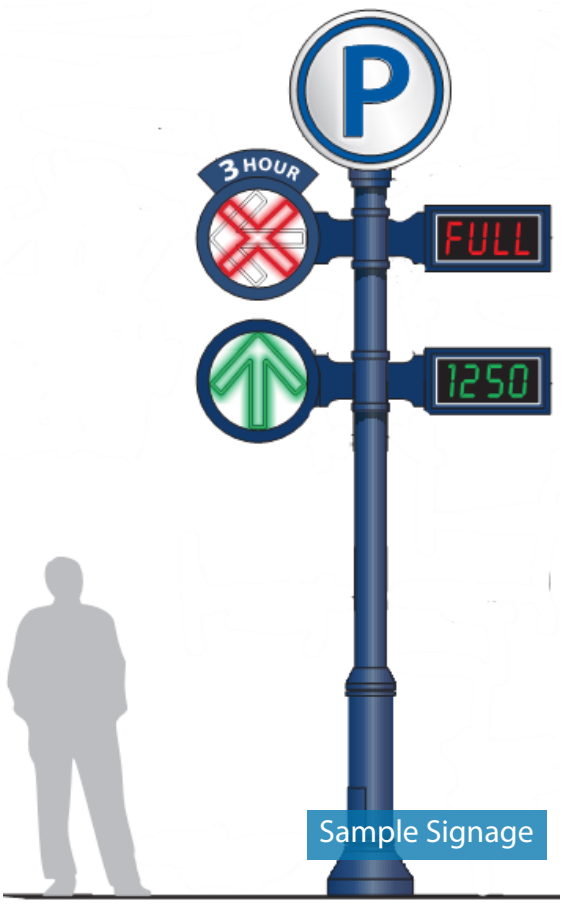
Lane Delineation

Walker observed that the parking ramps do not currently communicate the number of available spaces to patrons. This communication is often accomplished with an APGS that counts vehicles by facility, level or space, and stores the information in a database which can then send the number of available spaces to electronic signs, web sites, and mobile apps. Although it is possible that the SKIDATA system can provide occupancy data to an APGS, it has been Walker's experience that PARCS systems typically only provide counting accuracy up to 80% as they are dependent on inductive loops, pre-formed or cut into the drive aisles adjacent to the PARCS equipment.

Walker recommends the City consider implementing a single-space, level-count APGS (or combination thereof) at the Civic Center, Lake, and Gaslight ramps. Single space APGS are very accurate, but typically cost between $600 and $1,200 per space to implement. Level-count systems typically cost between $10,000 and $20,000 per counter, which are typically located at each entrance and exit lane from the ramp, as well as each level demarcation point in both up and down directions. Single-space systems are generally near 100% accurate and self-correcting. Level-count systems are at best 90% accurate and will require both lane delineation to ensure vehicles are counted, and manual adjustment on a daily basis. At the Civic Center ramp, parking occupancies typically reach 70%-80% of capacity. In this case, a single-space APGS will be accurate and precise enough to direct patrons to the remaining open spaces, even in times of high occupancy. The ramp will be able to achieve a higher load factor, and the single-space system will provide patrons with an easier time of finding the available spaces. At the Lake and Gaslight ramps, occupancy is typically 20%-30% of capacity. These ramps would benefit from a level counting system that can alert motorists via electronic signage or through a mobile application that parking is available near their destination.

GUIDANCE, WAYFINDING, AND ANALYTICS

If the City were to elect to procure and install some level of Automated Parking Guidance System (APGS) for the parking ramps, the downtown static signage and wayfinding system could be enhanced through digital signage directing patrons to the ramps with available capacity. Signs could be attached to other visual or navigational elements at key roadway decision points, such as the intersection of Main and 6th Streets. Additionally, electronic signage could be placed near the entry points of the ramps to communicate the location of the parking facility nearest the final destination. Combined with the recommendations discussed earlier, this would help to balance the parking demand between on-street and off-street facilities.



Sample Signage

With the addition of accurate occupancy data, the City could provide greater decision-making capabilities to parking patrons, and potentially offer pre-booking services for event parking. Patrons can decide where to park in advance of their trip, instead of searching near their destination, adding to traffic and congestion. Additionally, shared usage between different groups of parkers becomes more easily implementable. Data could even be combined within a greater transportation and mobility app, potentially tying in with Racine Transit arrival time and route information, ride, bike, and scooter-share services, and information about bike routes and multi-use trails.



Sample Signage

An additional benefit to collecting detailed occupancy information is the ability to capture data and develop data analytics. The City would have access to detailed occupancy information, provided on an hour-by-hour basis that can be used in conjunction with revenue data to plan staffing and enforcement hours, perform financial modeling related to parking rates, plan for expansion of ramps or building new ramps, and/or the removal of parking inventory. The data can help to determine the potential future benefits resulting from, for example, change in the allocation of parking between uses, the rate differential between on and off-street, and even potential rate differential between off-street ramps. The reporting could be provided by an APGS vendor, the City's business intelligence staff, or a third-party firm specializing in business intelligence and analytics.

OFF-STREET FUNCTIONAL DESIGN

Walker suggests that the City undertake a functional review of some of or all of the parking ramps. The purpose of the functional review is to observe vehicle movements, static signage, and vehicle/pedestrian conflict points, in order to develop layout, striping, and signage options to increase efficiency. Walker recommends the Lake Avenue and Civic Center Ramps as a priority for a functional review.

During our site visits, Walker noted that making vehicular turns into the exit lanes is difficult at both ramps. At the Lake Avenue Ramp, when exiting from the speed ramp from the upper levels, vehicles have to make a wide turn to the left for the driver to be able to reach the exit pay station. The bollard at this pay station appears to have been hit several times and is now bent. Additionally, a concrete island located at the bottom of the speed ramp (that once housed PARCS equipment), adds to the difficulty of making this turn. An additional bollard or new painted lines south of the exit lane would encourage people to begin to make the turn earlier. At the Civic Center Ramp, the northern exit lane onto 5th Street also requires a sharp turn to make the exit. Signage here encouraging wider turns would aid drivers in making access to the pay station (and exiting) easier. Walker also recommends a structural condition assessment be performed every five years at parking ramps.

Please note that Walker performs functional reviews and condition assessments and would be happy to provide a proposal for these services if the City is interested in pursuing this option.



Shoop Public Parking Ramp

6 - IMPLEMENTATION

PARKING PLAN IMPLEMENTATION MATRIX

Primary recommendations bolded in blue, below.

Near Term (0-2 Years)

#	Recommendation	Process	Timeline	Responsibility
1	Increased advertisement for Passport Mobile App	Promote advertisement of the app at downtown businesses and in City-provided materials	2020	Parking Manager
2	City parking website improvements	Improve navigation to and within the City's parking webpages, particularly the page containing Passport App information. Complete link for City parking facility locations	2020	City Web Developer
3a	**Raise rates to $1.00 per hour on Main and 6th Streets downtown**	**Manually adjust single-space meters on Main and 6th, approximately one to two hours per meter**	**2020**	**Public Works**
3b	**Encourage the use of ramps**	**Implement way finding plan and promote reasonable walking distance to/from ramps**	**2020**	**Parking Manager**
3c	**New/revised static signage for ramps**	**Add static signage consistent with City-wide visitor signage package. Incorporate into wayfinding plan and rename ramps for simplicity.**	**2020**	**Parking Manager**
4	Increased ABM (parking operator) presence at ramps on select special event days	Request a contract amendment with ABM to allow for staffed ramps (parking pre-payment and opened gate arms) during Italian fest and one to two other downtown special events (in addition to Party on the Pavement)	2020	Parking Manager and ABM

5	2-hour parking at Monument Square angled spaces	Manually adjust single-space meters on Main and 6th, approximately one hour per meter	2020	Public Works
6	Free, 2-hour parking at Library Lot	Engage parking meter supplier to adjust single-space meters at Library Lot, allowing for first one to two hours free per meter.	2020	Public Works
7	Off-street functional design review and/or conditions assessment	Perform a functional review of some or all the parking ramps (Walker recommends Civic Center and Lake Avenue Ramps as priorities). Structural condition assessments are also recommended once every five years	2020	Public Works
8	Weekend Free Parking Pilot Program at Lake Avenue Ramp	Start with Summer season of 2020, if program is success (higher ramp usage and visitor satisfaction) consider extending into the Fall and/or weekdays	2020	Transit and Parking Department

Mid - Term (2-5 Years)

#	Recommendation	Process	Timeline	Responsibility
1	**Install Multi-Space Meters on Main and 6th Streets**	**Select a technology and provider. Remove single-space meters. Install multi space meters (pay-by-plate recommended) between State and 7th on Main, and between Grand and Festival Hall on 6th (24 meters total)**	**2021**	**Parking Manager / Public Works**
2	Switch Passport app to pay-by-plate capability	This would occur simultaneously with the multi-space meter installation and allow for LPR enforcement	2021	Passport Parking
3a	LPR (License Plate Recognition) parking enforcement on Main and Sixth	Should tie-in with multi-space meter installation. Allows for fast and efficient enforcement as paid vehicle license plates are already listed in database. Please note on-foot enforcement would need to continue at remaining single-space meter spaces	2022	Police Department
3b	100% LPR enforcement	Would require a complete conversion of downtown single-space meters to multi-space. May also require an additional LPR system	2023	Public Works / Police Department

Long - Term (5+ Years)

#	Recommendation	Process	Timeline	Responsibility
1a	Automated Parking Guidance System (APGS) at Civic Center, Lake, and Gaslight Ramps	Feasibility study. Select a technology and provider. Install system at one or all ramps based on desired results	2024	Public Works / Transit and Parking Department
1b	New dynamic signage for APGS	Installed in conjunction with Main Street re-design project. Data collected would aid in City-wide transportation Smart City initiatives and signage	2024	Public Works / Transit and Parking Department
2	Re-name ramps	Consider renaming ramps. Possibilities include system-wide naming scheme (color coded, or Racine inventor names) or individual wayfinding locations (Lake & 3rd, State & Main, etc.). New naming scheme should align with new APGS dynamic signage installation	2024	Public Works / Transit and Parking Department
3	Smart City data collection techniques and mobility app	Aides City in making infrastructure and policy decisions (transportation, mobility, parking, safety, visitor satisfaction, etc.). Parking information (availability, cost, reservations, payments) and capabilities could be presented within a greater transportation/mobility app	2025	Public Works / Transit and Parking Department

STATEMENT OF LIMITING CONDITIONS

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

1. This report is based on some assumptions that are outside the control of Walker Consultants ("Walker") and our client. Therefore, Walker does not guarantee the results.
2. The conclusions, projections, and recommendations presented herein 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 events or circumstances that take place or change after the date of our engagement.
4. All information, estimates, and opinions obtained from parties not employed by Walker are assumed to be accurate. We assume no liability resulting from the 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 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 our analysis assume responsible ownership and competent management. Any departure from this assumption may have a negative impact on the results.
7. Computer models that use and generate precise numbers generate some of the Tables, Figures, and recommendations 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 projections. Conversely, some numbers are rounded, and as a result, some results may be subject to small rounding errors.
8. This report was prepared by Walker, and all opinions, conclusions, recommendations, and projections expressed during the engagement period are rendered by the staff of Walker 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 revenue, expenses, net income, and relative cost and is not to be used for financing purposes.

7 - APPENDIX

ON-STREET DATA COLLECTION

			Wednesday 7/24/19 Occupancy Counts						NOTES
Block #	Face	Total Spaces	10:00 AM	Occ. %	1:00 PM	Occ. %	5:00 PM	Occ. %	
1	N	**4**	3	75.0%	4	100.0%	3	75.0%	
1	E	**0**	0	0.0%	0	0.0%	0	0.0%	**Grand Ave was closed due to contruction
1	S	**5**	1	20.0%	1	20.0%	1	20.0%	
1	W	**17**	3	17.6%	3	17.6%	0	0.0%	
2	N	**0**	0	0.0%	0	0.0%	0	0.0%	
2	E	**0**	0	0.0%	0	0.0%	0	0.0%	**Grand Ave was closed due to contruction
2	S	**9**	6	66.7%	5	55.6%	3	33.3%	
2	W	**6**	1	16.7%	4	66.7%	2	33.3%	
3	N	**8**	2	25.0%	3	37.5%	4	50.0%	
3	E	**6**	1	16.7%	2	33.3%	1	16.7%	
3	S	**9**	5	55.6%	6	66.7%	8	88.9%	
3	W	**8**	4	50.0%	3	37.5%	0	0.0%	
3	S *(Adjacent)*	**8**	1	12.5%	1	12.5%	0	0.0%	
4	N	**6**	3	50.0%	2	33.3%	2	33.3%	
4	E	**14**	2	14.3%	6	42.9%	3	21.4%	
4	S	**8**	3	37.5%	3	37.5%	4	50.0%	
4	W	**0**	0	0.0%	0	0.0%	0	0.0%	**Grand Ave was closed due to contruction
5	N	**4**	1	25.0%	0	0.0%	1	25.0%	
5	E	**10**	10	100.0%	9	90.0%	6	60.0%	
5	S	**9**	1	11.1%	2	22.2%	2	22.2%	
5	W	**0**	0	0.0%	0	0.0%	0	0.0%	**Grand Ave was closed due to contruction
5	N *(Adjacent)*	**7**	2	28.6%	4	57.1%	6	85.7%	
6	N	**10**	7	70.0%	7	70.0%	5	50.0%	
6	E	**15**	7	46.7%	6	40.0%	5	33.3%	
6	S	**7**	1	14.3%	0	0.0%	2	28.6%	
6	W	**14**	2	14.3%	3	21.4%	4	28.6%	
7	N	**5**	1	20.0%	0	0.0%	1	20.0%	
7	E	**13**	6	46.2%	5	38.5%	4	30.8%	
7	S	**9**	7	77.8%	7	77.8%	1	11.1%	
7	W	**15**	10	66.7%	5	33.3%	6	40.0%	
8	N	**8**	6	75.0%	2	25.0%	2	25.0%	
8	E	**4**	2	50.0%	2	50.0%	2	50.0%	
8	S	**5**	4	80.0%	4	80.0%	3	60.0%	
8	W	**2**	0	0.0%	1	50.0%	0	0.0%	
9	N	**7**	4	57.1%	0	0.0%	3	42.9%	
9	E	**0**	0	0.0%	0	0.0%	0	0.0%	
9	S	**6**	5	83.3%	2	33.3%	3	50.0%	
9	W	**4**	0	0.0%	1	25.0%	0	0.0%	
10	N	**8**	0	0.0%	1	12.5%	0	0.0%	
10	E	**14**	13	92.9%	14	100.0%	5	35.7%	
10	S	**7**	3	42.9%	3	42.9%	0	0.0%	
10	W	**14**	11	78.6%	12	85.7%	10	71.4%	
11	N	**9**	0	0.0%	3	33.3%	4	44.4%	

Block #	Face	Total Spaces	Wednesday 7/24/19 Occupancy Counts					
			10:00 AM	Occ. %	1:00 PM	Occ. %	5:00 PM	Occ. %
11	S	**6**	1	16.7%	3	50.0%	1	16.7%
11	W	**16**	0	0.0%	1	6.3%	2	12.5%
12	N	**9**	4	44.4%	2	22.2%	7	77.8%
12	E	**6**	3	50.0%	2	33.3%	3	50.0%
12	S	**7**	0	0.0%	4	57.1%	5	71.4%
12	W	**3**	2	66.7%	1	33.3%	1	33.3%
13	N	**0**	0	0.0%	0	0.0%	0	0.0%
13	E	**12**	3	25.0%	4	33.3%	4	33.3%
13	S	**7**	7	100.0%	1	14.3%	6	85.7%
13	W	**0**	0	0.0%	0	0.0%	0	0.0%
14	N	**8**	7	87.5%	8	100.0%	3	37.5%
14	E	**15**	9	60.0%	13	86.7%	7	46.7%
14	S	**8**	7	87.5%	7	87.5%	1	12.5%
14	W	**11**	11	100.0%	11	100.0%	5	45.5%
15	N	**7**	5	71.4%	4	57.1%	0	0.0%
15	E	**13**	12	92.3%	14	107.7%	0	0.0%
15	S	**8**	5	62.5%	8	100.0%	0	0.0%
15	W	**16**	3	18.8%	10	62.5%	0	0.0%
16	N	**9**	8	88.9%	5	55.6%	9	100.0%
16	E	**8**	8	100.0%	6	75.0%	3	37.5%
16	S	**6**	4	66.7%	2	33.3%	2	33.3%
16	W	**4**	3	75.0%	2	50.0%	3	75.0%
17	N	**6**	5	83.3%	5	83.3%	4	66.7%
17	E	**5**	4	80.0%	4	80.0%	5	100.0%
17	S	**9**	9	100.0%	5	55.6%	9	100.0%
17	W	**9**	5	55.6%	0	0.0%	4	44.4%
18	N	**0**	0	0.0%	0	0.0%	0	0.0%
18	E	**8**	4	50.0%	3	37.5%	4	50.0%
18	S	**8**	3	37.5%	4	50.0%	1	12.5%
18	W	**0**	0	0.0%	0	0.0%	0	0.0%
19	N	**13**	5	38.5%	7	53.8%	7	53.8%
19	E	**8**	6	75.0%	6	75.0%	3	37.5%
19	S	**12**	1	8.3%	1	8.3%	3	25.0%
19	W	**0**	0	0.0%	0	0.0%	0	0.0%
20	N	**0**	0	0.0%	0	0.0%	0	0.0%
20	E	**10**	9	90.0%	10	100.0%	4	40.0%
20	S	**5**	3	60.0%	3	60.0%	4	80.0%
20	W	**12**	6	50.0%	6	50.0%	0	0.0%
21	N	**8**	6	75.0%	4	50.0%	6	75.0%
21	E	**6**	4	66.7%	2	33.3%	3	50.0%
21	S	**7**	4	57.1%	4	57.1%	0	0.0%
21	W	**7**	7	100.0%	3	42.9%	5	71.4%
22	N	**4**	4	100.0%	2	50.0%	3	75.0%
22	E	**6**	5	83.3%	5	83.3%	4	66.7%
22	S	**6**	6	100.0%	4	66.7%	5	83.3%
22	W	**12**	12	100.0%	10	83.3%	9	75.0%
22	Interior (Park)	**27**	27	100.0%	26	96.3%	22	81.5%
23	N	**5**	0	0.0%	0	0.0%	3	60.0%

			Wednesday 7/24/19 Occupancy Counts					
Block #	Face	Total Spaces	10:00 AM	Occ. %	1:00 PM	Occ. %	5:00 PM	Occ. %
23	E	**11**	10	90.9%	2	18.2%	5	45.5%
23	S	**2**	1	50.0%	0	0.0%	2	100.0%
23	W	**11**	10	90.9%	9	81.8%	2	18.2%
24	N	**3**	2	66.7%	2	66.7%	2	66.7%
24	E	**12**	8	66.7%	12	100.0%	12	100.0%
24	S	**6**	1	16.7%	0	0.0%	3	50.0%
24	W	**7**	2	28.6%	1	14.3%	0	0.0%
25	N	**5**	2	40.0%	2	40.0%	0	0.0%
25	E	**4**	2	50.0%	4	100.0%	2	50.0%
25	S	**2**	2	100.0%	1	50.0%	2	100.0%
25	W	**0**	0	0.0%	0	0.0%	0	0.0%
26	N	**3**	0	0.0%	1	33.3%	3	100.0%
26	E	**0**	0	0.0%	0	0.0%	0	0.0%
26	S	**4**	2	50.0%	1	25.0%	0	0.0%
26	W	**0**	0	0.0%	0	0.0%	0	0.0%
27	E	**0**	0	0.0%	0	0.0%	0	0.0%
27	S	**8**	0	0.0%	1	12.5%	3	37.5%
28	N	**5**	0	0.0%	0	0.0%	1	20.0%
28	E	**0**	0	0.0%	0	0.0%	0	0.0%
28	S	**8**	0	0.0%	0	0.0%	0	0.0%
28	W	**7**	1	14.3%	0	0.0%	2	28.6%
29	N	**3**	3	100.0%	2	66.7%	2	66.7%
29	E	**14**	3	21.4%	2	14.3%	1	7.1%
29	S	**9**	0	0.0%	2	22.2%	0	0.0%
29	W	**8**	5	62.5%	8	100.0%	3	37.5%
30	N	**5**	4	80.0%	3	60.0%	0	0.0%
30	E	**5**	4	80.0%	4	80.0%	0	0.0%
30	S	**2**	2	100.0%	1	50.0%	2	100.0%
30	W	**3**	2	66.7%	0	0.0%	1	33.3%
31	N	**0**	0	0.0%	0	0.0%	0	0.0%
31	E	**0**	0	0.0%	0	0.0%	0	0.0%
31	S	**0**	0	0.0%	0	0.0%	0	0.0%
31	W	**0**	0	0.0%	0	0.0%	0	0.0%
32	N	**5**	4	80.0%	0	0.0%	0	0.0%
32	E	**3**	0	0.0%	0	0.0%	0	0.0%
32	S	**9**	0	0.0%	3	33.3%	0	0.0%
32	W	**7**	7	100.0%	3	42.9%	3	42.9%
33	N	**5**	2	40.0%	1	20.0%	3	60.0%
33	E	**9**	4	44.4%	3	33.3%	6	66.7%
33	S	**0**	0	0.0%	0	0.0%	0	0.0%
33	W	**12**	7	58.3%	4	33.3%	5	41.7%
34	N	**4**	4	100.0%	3	75.0%	3	75.0%
34	E	**9**	0	0.0%	0	0.0%	0	0.0%
34	S	**4**	2	50.0%	2	50.0%	2	50.0%
34	W	**11**	10	90.9%	9	81.8%	11	100.0%
35	N	**0**	0	0.0%	0	0.0%	0	0.0%
35	E	**5**	1	20.0%	1	20.0%	0	0.0%
35	S	**6**	1	16.7%	0	0.0%	6	100.0%
35	W	**4**	3	75.0%	3	75.0%	3	75.0%

Block #	Face	Total Spaces	Wednesday 7/24/19 Occupancy Counts					
			10:00 AM	Occ. %	1:00 PM	Occ. %	5:00 PM	Occ. %
36	N	**0**	0	0.0%	0	0.0%	0	0.0%
36	S	**22**	5	22.7%	5	22.7%	5	22.7%
37	N	**13**	0	0.0%	0	0.0%	2	15.4%
37	E	**0**	0	0.0%	0	0.0%	0	0.0%
37	S	**0**	0	0.0%	0	0.0%	0	0.0%
37	W	**41**	9	22.0%	6	14.6%	4	9.8%
38	N	**0**	0	0.0%	0	0.0%	0	0.0%
38	E	**0**	0	0.0%	0	0.0%	0	0.0%
38	S	**0**	0	0.0%	0	0.0%	0	0.0%
38	W	**0**	0	0.0%	0	0.0%	0	0.0%
39	N	**0**	0	0.0%	0	0.0%	0	0.0%
39	E	**0**	0	0.0%	0	0.0%	0	0.0%
39	S	**8**	0	0.0%	0	0.0%	0	0.0%
39	W	**0**	0	0.0%	0	0.0%	0	0.0%
40	N	**6**	0	0.0%	2	33.3%	1	16.7%
40	E	**0**	0	0.0%	0	0.0%	0	0.0%
40	S	**0**	0	0.0%	0	0.0%	0	0.0%
40	W	**11**	0	0.0%	0	0.0%	3	27.3%
41	N	**10**	3	30.0%	0	0.0%	0	0.0%
41	S	**0**	0	0.0%	0	0.0%	0	0.0%
41	W	**6**	0	0.0%	0	0.0%	0	0.0%
Total		**1057**	**506**		**465**		**381**	

OFF-STREET DATA COLLECTION

Facility Name	Inventory Total Spaces	Wednesday, 7/24/19 Occupancy Counts					
		10:00 AM	Occ %	1:00 PM	Occ %	5:00 PM	Occ %
Civic Center Ramp	**437**	308	70.5%	283	64.8%	252	57.7%
Lakefront Lot	**129**	45	34.9%	40	31.0%	31	24.0%
Festival Hall Lot	**93**	11	11.8%	17	18.3%	21	22.6%
Lake Avenue Ramp	**373**	47	12.6%	58	15.5%	50	13.4%
Shoop Ramp	**229**	65	28.4%	64	27.9%	47	20.5%
McMynn Ramp	**238**	80	33.6%	82	34.5%	75	31.5%
Gaslight Ramp	**417**	17	4.1%	16	3.8%	28	6.7%
Library Lot	**71**	7	9.9%	6	8.5%	4	5.6%
Memorial Hall Lot	**28**	7	25.0%	6	21.4%	10	35.7%
Total	**2,015**	**587**	**29.1%**	**572**	**28.4%**	**518**	**25.7%**