



RIDE • PARK • WALK • ROLL

Smart Parking & Mobility Management Plan

Parking Technology, Policy, and Management Recommendations

July 2023

Contents

1. Context Review and Project Update

Parking Recommendations:

2. Equipment Upgrades

3. Policies and Management



01 | Context Review and Project Update

Request for Proposal

Study existing parking and mobility needs

Smart Parking and Mobility Management Plan, Focus on Parking

- Current conditions analysis
- New technology evaluation
- Parking system financial modeling and evaluation
- Finalization of Plan
 - Technology/Infrastructure
 - Programs
 - Policies

Next Phase

- Design and technology procurement, implementation

**CITY OF DUBUQUE
ENGINEERING DEPARTMENT**

REQUEST FOR PROPOSAL



*Smart Parking & Mobility Management Plan Development
and Implementation Project
City of Dubuque, Iowa*

December 21, 2021

Project Guiding Principles

- Parking is a key ingredient for keeping the downtown **economically viable**.
- Parking needs to be a **partnership between the public and private sectors**.
- **Equitable and inclusive** mobility solutions are one of the core components of a community's livability because it provides **access** to living wage jobs, healthcare services, quality education, cultural institutions, and recreation opportunities.
- Parking access and any updated policies need to meet the **needs of a diverse group of users**.

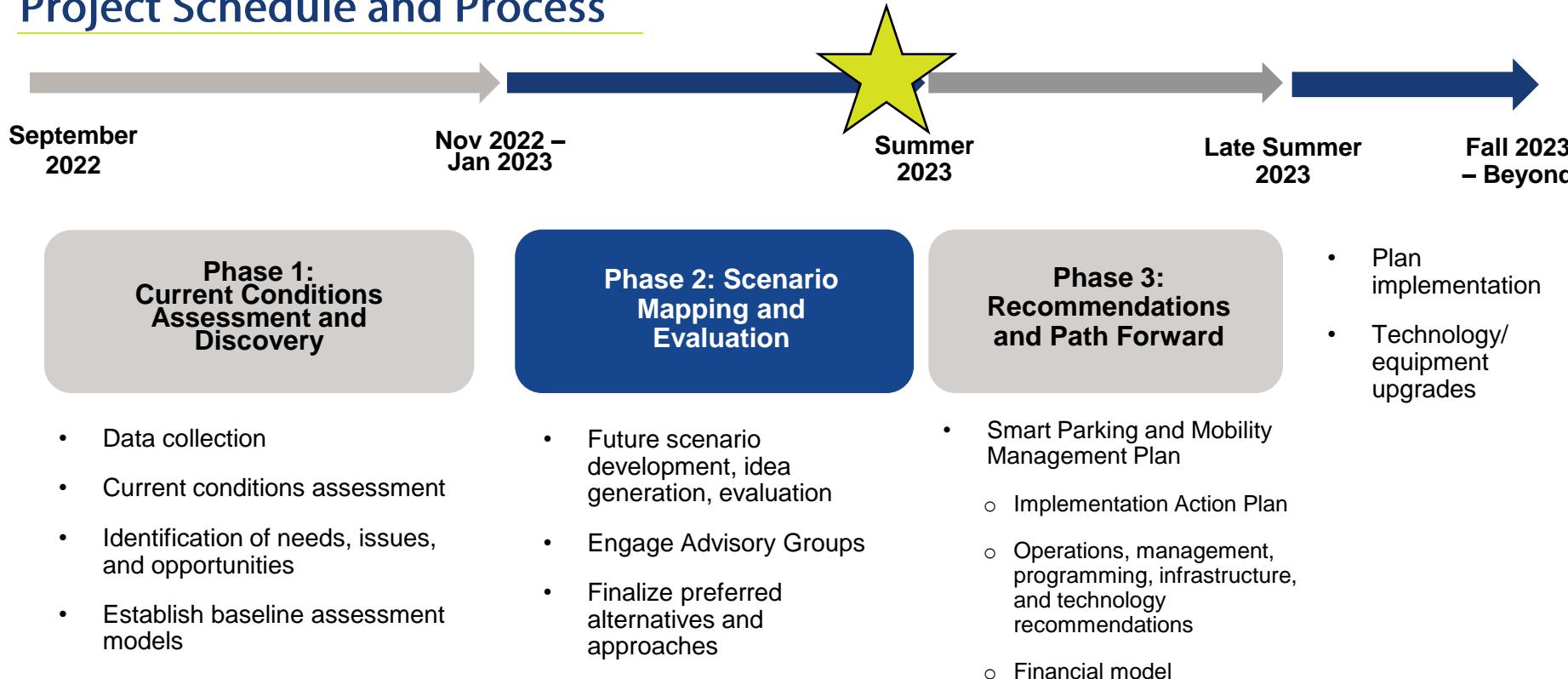


Project Guiding Principles

- Parking must be **fully integrated with Transit and other forms** of transportation system mobility in order to maximize efficiencies and customer experience.
- Parking and transportation mobility is not free, and an **equitable revenue fee structure needs to be established.**
- Parking and mobility solutions need to utilize the most **up-to-date technology.**
- To the maximum extent feasible, parking, and subsequent models of travel to final points of destination must feel **“safe” for customers.**
- **A business strategy that works** in a post pandemic environment needs to be developed



Project Schedule and Process



Stakeholder and City Council Engagement

- **Fall/Winter 2022 – 2023:**
 - October Bike Ride
 - October Night Market
 - Stakeholder Interviews
 - Public Survey
 - Advisory Groups
- **January 30** City Council meeting to share Phase 1 Key Takeaways
- Phase 2 Advisory Group review
- **September** City Council draft recommendations/preferred alternatives



Project Outcomes



Parking

- Operations and management and policy **recommendations, work plan, and revenue model**
- **Technology recommendations**
- **Implementation Action Plan** with phasing, roles/responsibilities, conceptual cost estimates
 - Implementation and technology procurement and project conclusion

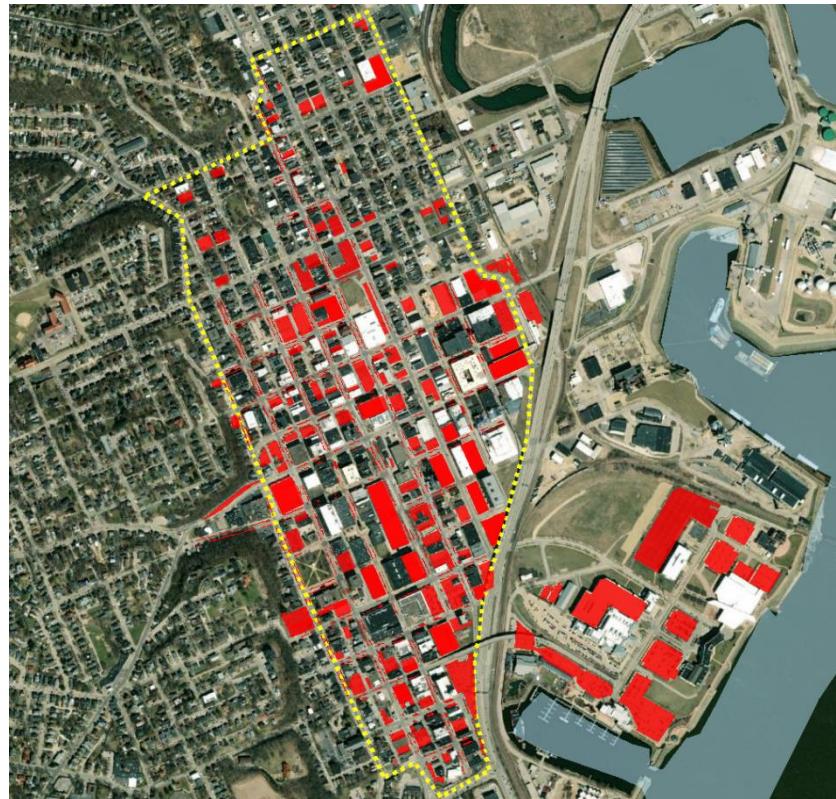


Mobility

- Policy, program, and infrastructure recommendations: **improving safety, comfort, convenience, and connectedness** of walking, bicycling, rolling, and transit
- Planning and policy concepts and themes

Dubuque Downtown Off-Street Parking

- Total off-street parking footprint (not including additional levels in parking ramps) = 1,546,510.7 square feet or 35.5 acres.



Off-Street Parking

Key Findings:

- Facilities are significantly underutilized (1,000s of empty spaces at peak demand).
- Policies managing permit and transient parking are not in accordance with best practices.
- There is an opportunity for a more flexible and efficient management approach.
- Technology upgrades are a priority.
- Deferred maintenance exists.



On-Street Parking & Curb Management

Key Findings:

- There are pockets of high utilization, but overall, on-street occupancies are low.
- Opportunity to simplify, modernize, and increase equitability of:
 - Paid parking
 - Rates
 - Time limit types and locations
 - Enforcement practices
- Opportunity for more deliberate and unified management of right-of-way / curb use beyond parking.
- Technology upgrades are a priority.
- Managing parking turnover is critical.



Current Parking Technology



Technology

Key Findings:

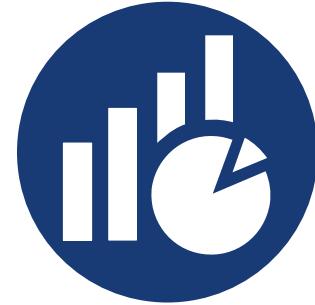
- Technology is patchwork, functionally obsolete, and unsupported by manufacturers/vendors.
- Frequent customer support, operations, and maintenance issues.
- No data is available for informed, data-driven management or provision of real-time information to customers.
- Technology is a critical barrier for modern, efficient, best-practices based management of system.



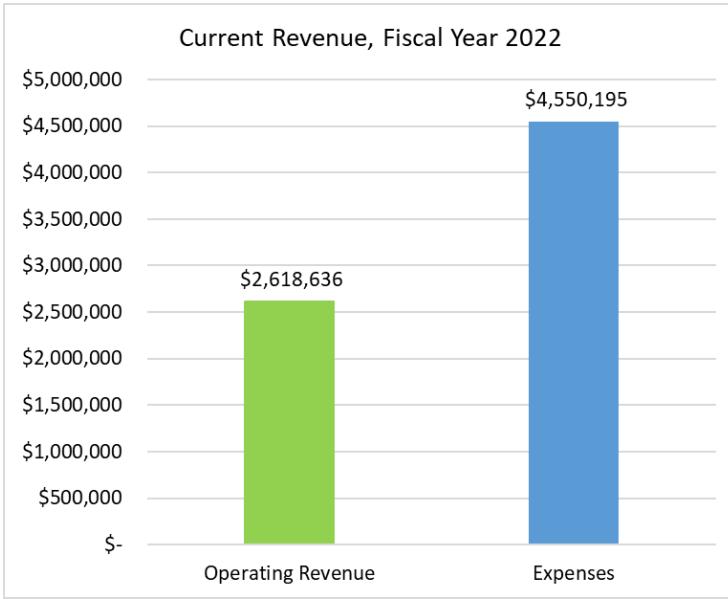
System Finances

Key Findings:

- Both currently and pre-pandemic, the parking system has not been fully user-funded.
 - *The system has been receiving over \$2 million annually in tax-payer funded subsidies from other City sources to balance its budget.*
- Parking system revenue has recovered to ~85% of pre-pandemic levels.
- **Parking Division has controlled expenses but deferred maintenance on the parking ramps exists.**



Current Parking System Revenue and Expenses



Operating revenue pays for 58% of total operating expenses and debt service.

Current rates and policies

Parking Facility	Reserved Permit Cost	Unreserved Permit Cost	Transient - Hourly Cost	Transient - Daily Maximum
Locust Street Ramp	\$70/\$65/\$53	N/A	\$1.00	\$10.00
Iowa Street Ramp	\$65/\$53	N/A	\$1.00	\$10.00
5th Street Ramp	N/A	\$57.00	N/A	N/A
Five Flags Ramp	N/A	\$38.00	\$1.00	\$10.00
Central Avenue Ramp	N/A	\$57.00	\$1.00	\$10.00
Intermodal Ramp	N/A	\$57.00	\$1.00	\$10.00
Port of Dubuque Ramp	Free	Free	Free	Free

Revenue Summary and Assumptions:

1. Based on 2022 actual figures.
2. Includes transient, permit, and other revenue from on-street, off-street surface lots, and off-street ramps.
3. Does not include TIF and Bond revenue.
4. Expenses include operating expenses and debt service only.
5. Does not include capital expenses needed to remedy deferred structural maintenance.

Information and Wayfinding

Key Findings:

- Inconsistency in color, placement, and messaging.
- No consistent unified brand.
- Confusion on location, entrance/exit, pedestrian access, and rules/regulations.
- Gap in communication of parking-related information.



Parking User Types and Use Cases

ON-STREET (Short-Term)

- Short-term parking (customers, visitors)
- Resident parking
- Passenger and goods pick-up/drop-off / loading/unloading
- Mobility and placemaking: parklets, street dining, bicycle and pedestrian facilities, etc.

OFF-STREET (Long-Term)

- Contract permit parkers: Reserved and unreserved
 - Employees and residents
- Short-term/transient parking
- Validations
- Hotel parking
- Event parking/reservations
- Other

Parallel Process: Parking Equipment Upgrades

- Upgraded on-street and off-street parking equipment design and procurement

Summer 2023 – Spring/Summer 2024

1. Schematic Design
2. Construction Documents
3. Develop Request for Proposal(s) (RFPs)
4. Construction Contract Administration
5. Acceptance Testing

➤ Equipment Go-Live: **Upgraded on-street payment, off-street payment/access control, and City enforcement system**



02 | Equipment Upgrades

On-Street Parking Recommendations

On-Street Parking: Existing

Payment Collection

- a) Single-space meters (coin only)
- b) Passport mobile payment (requires app download and account)

Enforcement

- a) Manual enforcement on foot, checking meters and Passport payment record
- b) Paper ticket issuance

Customer-Facing Experience and Information

- a) None

City Operations/Performance Management

- a) Passport payment data only
- b) No data from single-space meters to understand revenue/demand patterns
- c) No enforcement data



On-Street Parking: Recommended



On-Street Parking: Recommended



On-Street Parking: New Customer Experience

- Multi-space meter pay stations:**
 - Enter license plate number upon parking
 - Can extend time up to time limit, with app or pay station
 - Retain old meter posts with stickers to direct users to pay stations or mobile app
 - Placed ~1 every block face (TBD on design)
 - Accepts coin and credit card
- Other payment options:**
 - Mobile application (requires download)
 - Text-to-pay/QR-code-to pay (does not require download)



Managing Resident Parking Permits

- Managed in conjunction with on-street and gateless off-street systems; Built into RFPs
- **Customer Permits:**
 - Virtual, license-plate based credential
 - Guest permits available
 - Online portal for payment and renewal
- **Enforcement:** Mobile LPR
- Manage distribution of permits and monitor permit use in conjunction with on-street occupancies to ensure on-street occupancies do not exceed 80 – 85%



02 | Equipment Upgrades

Off-Street Parking Recommendations

Off-Street Parking: Existing

Payment Collection

- a) Lots: Single-space meters, some mobile payment
- b) Ramps: In-lane equipment only



Credentialing/Enforcement

- a) Lots: Manual enforcement on foot, checking meters and Passport payment record, paper ticket issuance , permit parkers with hang tags and stickers
- b) Ramps: Gates, permit parkers with hang tags and stickers

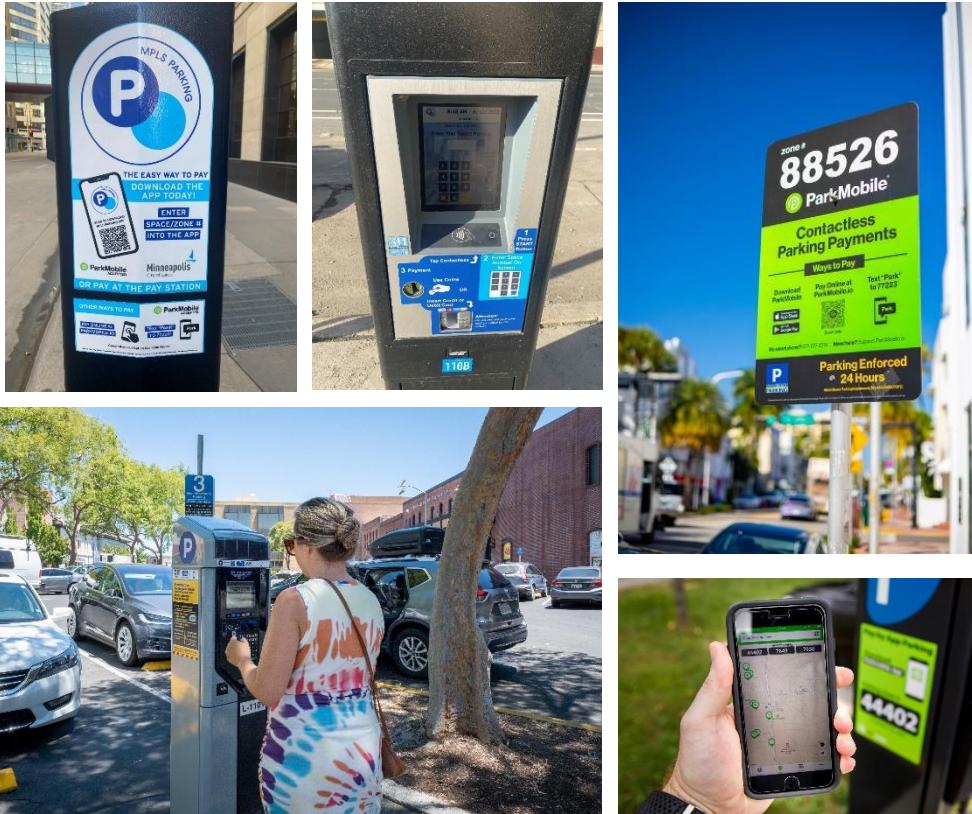
Customer-Facing Information (e.g., space availability)

- a) None

City Operations/Performance Management

- a) No information on revenue, occupancy, transient vs. permit holder, etc.

Surface Lots: Recommended



Surface Lots: New Customer Experience

- Same as on-street
- **Multi-space meter pay stations:**
 - Enter license plate number upon parking
 - Can extend time up to time limit, with app or pay station
 - No space numbers or single space meters
 - Place 1 kiosk per surface parking lot that accepts transient parking
 - Accepts coin and credit card
- **Other payment options:**
 - Mobile application (requires download)
 - Text-to-pay/QR-code-to pay (does not require download)
- License-plate based virtual permits for permitholders (no hang tags)



Gated Ramps: Recommended Parking Access and Revenue Control (PARCS)



Gated Ramps: New Customer Experience and Operations

Payment Collection

- a) In-lane equipment (credit card only)
- b) Pay-on-foot machines (credit card and coin, no paper bills)
- c) Mobile payment, text-to-pay, QR-code-to-pay configurations



Credentialing/Enforcement

- a) Gates, Prox card or LPR access for permit parkers, pull ticket (or advanced payment QR code/bar code) for transient customers
- b) Fixed LPR to facilitate frictionless entry/exit for permit holders



Customer-Facing Information and Information

- a) Dynamic message signage with space availability

City Operations/Performance Management

- a) Integrated backend platform with real-time occupancy, revenue, and permit vs. transient information
- b) Allows for non-reserved permit parking, nuanced management and balancing of short-term and permit parkers
- c) Reserved permit, non-reserved permit, daytime/overnight permits, transients, event rates, validations, etc.

Gateless Ramps: Recommended



Gateless Ramps: New Customer Experience and Operations

Payment Collection

- a) Multi-space pay stations (pay-on-foot stations) and mobile payment, pay-by-plate configuration (same as on-street)



Credentialing/Enforcement

- a) All permits are virtual and license-plate based
- b) Mobile LPR enforcement
- c) Fixed LPR to facilitate enforcement deployment

Customer-Facing Information and Information

- a) Will explore based on LPR and payment solution



Off-Street Parking: Recommended Theory of Operation

Gated PARCS

- Iowa Street Ramp
- Locust Street Ramp
- 5th Street Ramp
- Intermodal Ramp

Gateless

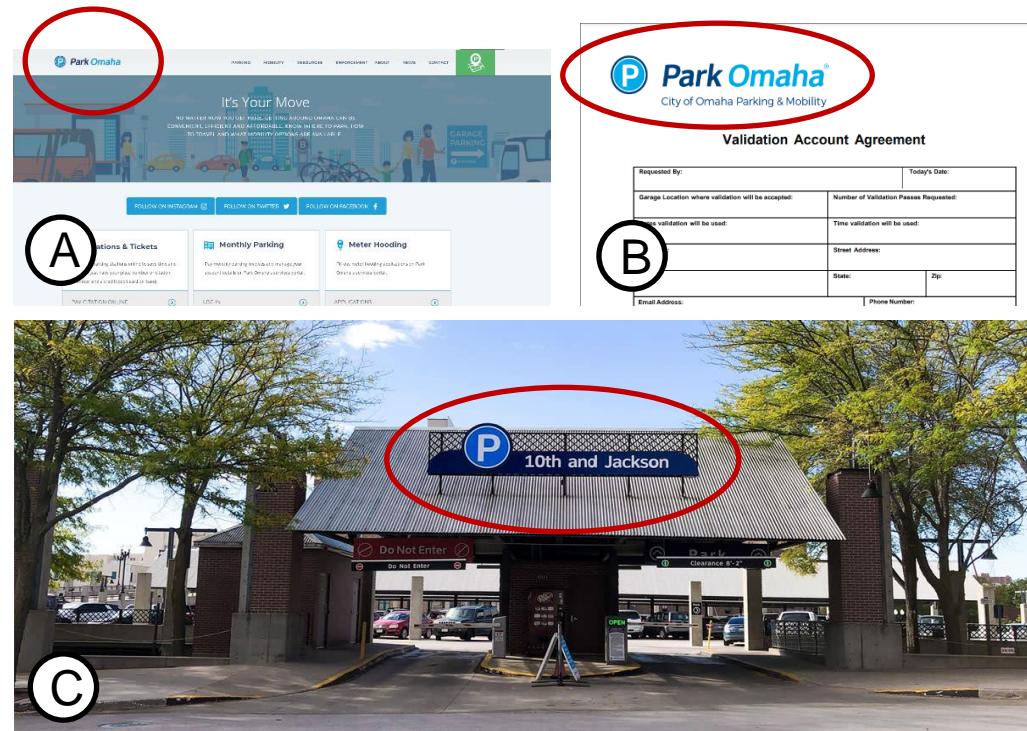
- Central Avenue Ramp
- Five Flags Ramp
- All surface parking lots

Branding, Communications, and Wayfinding: Recommendations

Brand Identity and Communications

- Uniformity in the parking brand and logo
- Recognizable visual theme across all mediums (i.e., website communications, parking signs and forms, etc.)
- Increase visibility

Consistent and uniform theme with colors, branding and design (A: Park Omaha website B: Park Omaha related documents C: parking facility signage with "P" and same color scheme)



***Re-brand as first step before roll-out of new equipment/technology; This should come before signage and wayfinding upgrade.**

Branding, Communications, and Wayfinding: Recommendations

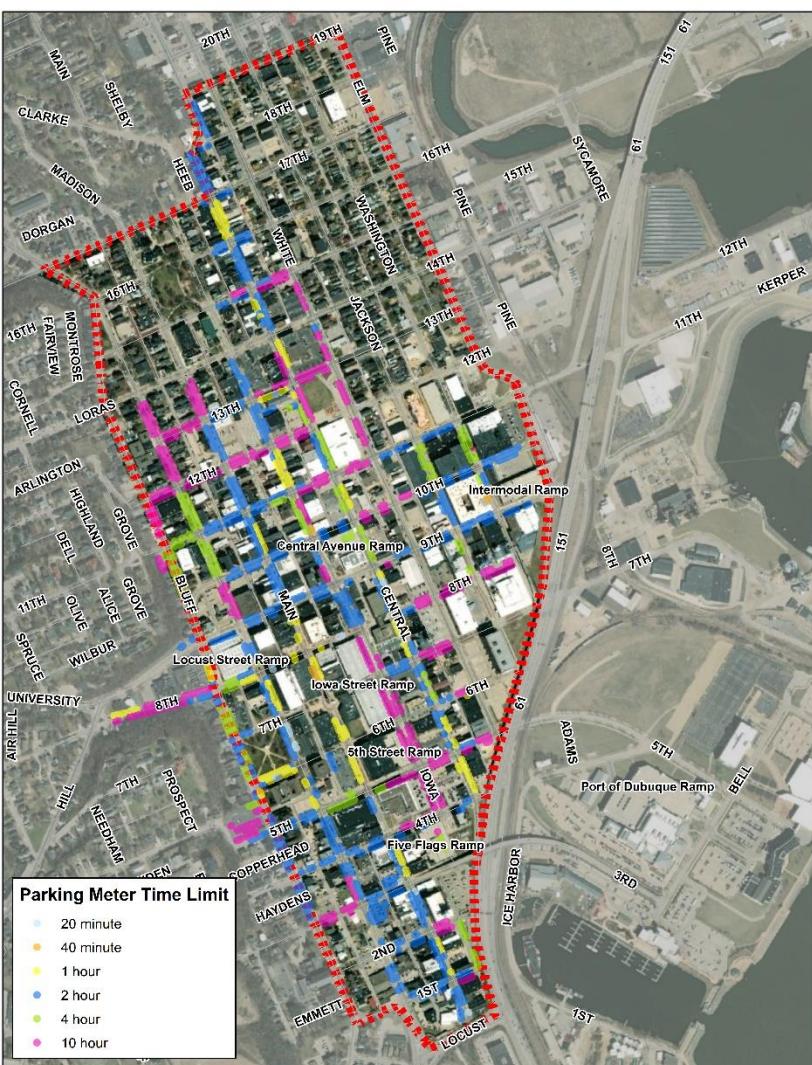


03 | Policies and Operations

On-Street Parking Recommendations

On-Street Parking

- Unmetered parking
- About 1,800 on-street metered parking spaces
 - 44% are 2-hour spaces
 - 30% are 10-hour spaces
- 8 Residential permit districts



On-Street Parking: Recommendations

- **Time Limits and Rates**
 - Recommended meter time limits and initial rates:

1. **Free 10-minute pick-up/drop-off spaces, strategically placed**
2. **3-hour spaces: \$1.00/hour**
3. **10-hour spaces: \$0.50/hour**

Goal: Parking in core areas beyond ~3 hours happens in off-street surface lots and ramps.

Meter Time Limit	Current Hourly Rate	Proposed Hourly Rate
20-Minute	\$0.75	Eliminate
40-Minute	\$0.75	Eliminate
1-Hour Meter	\$0.75	Eliminate
2-Hour Meter	\$0.75	Eliminate
3-Hour Meter	N/A	\$1.00
4-Hour Meter	\$0.75	Eliminate
10-Hour Meter	\$0.50	\$0.50

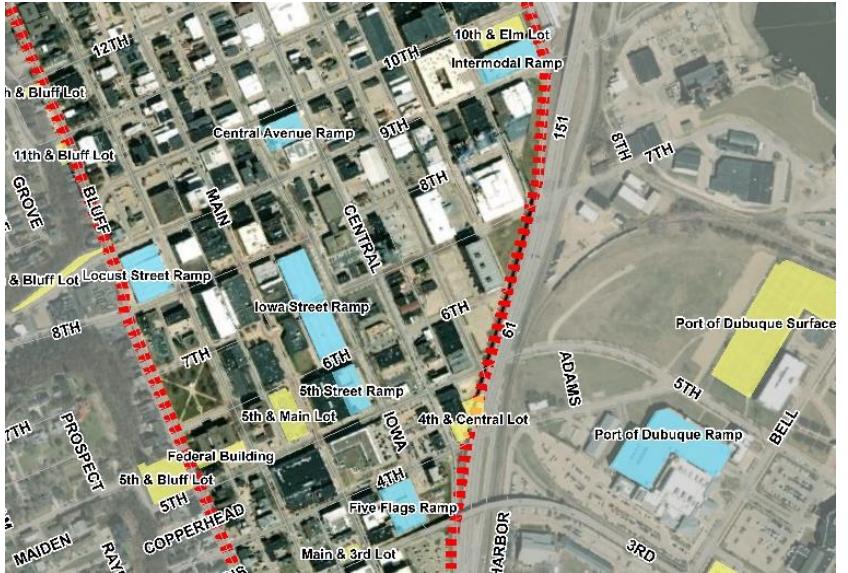


03 | Policies and Operations

Off-Street Parking Recommendations

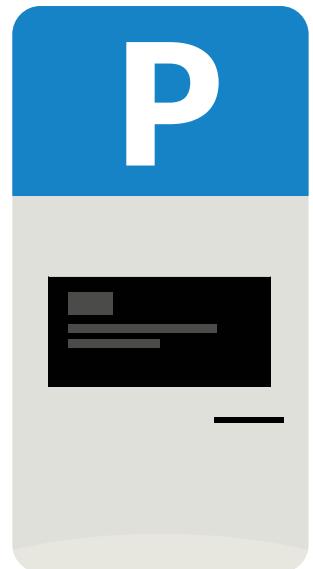
Off-Street Parking: Facilities

- Ramps (blue) and surface parking lots (yellow).



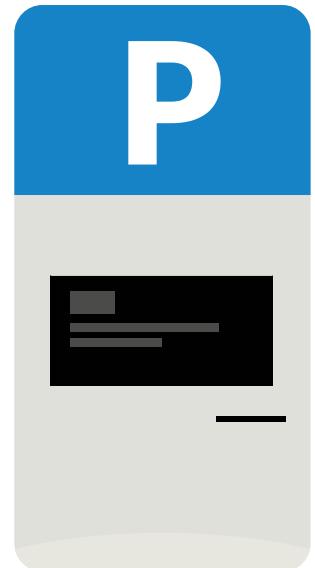
Reserved Permit Parking Level Set

- **Reserved permits:**
 - a) Exclusive numbered and/or assigned space
 - b) Space sits empty when permit holder is absent
 - c) Very high level of service
 - d) Space is protected by City staff via enforcement
 - e) User is renting public real estate for exclusive use
 - f) City cannot sell or otherwise use these reserved spaces for other uses, thus limiting system efficiency, customers served, and revenue potential
 - g) Should be priced accordingly



Unreserved Permit Parking Level Set

- **Unreserved permits**
 - a) Unreserved parking permits grant access to a facility during eligible hours
 - b) User can park in any standard/unreserved space
 - c) Modern PARCS ensure that parking operators can operate facilities to balance short-term and long-term parkers and ensure that permit parkers will be able to find a space available
 - d) Data provides trends of short-term and permit parker use
 - e) Not all parking permit holders are present at the same time, so City can oversell and serve more customers with the same number of spaces





Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



Short-Term Parkers

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Existing

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max

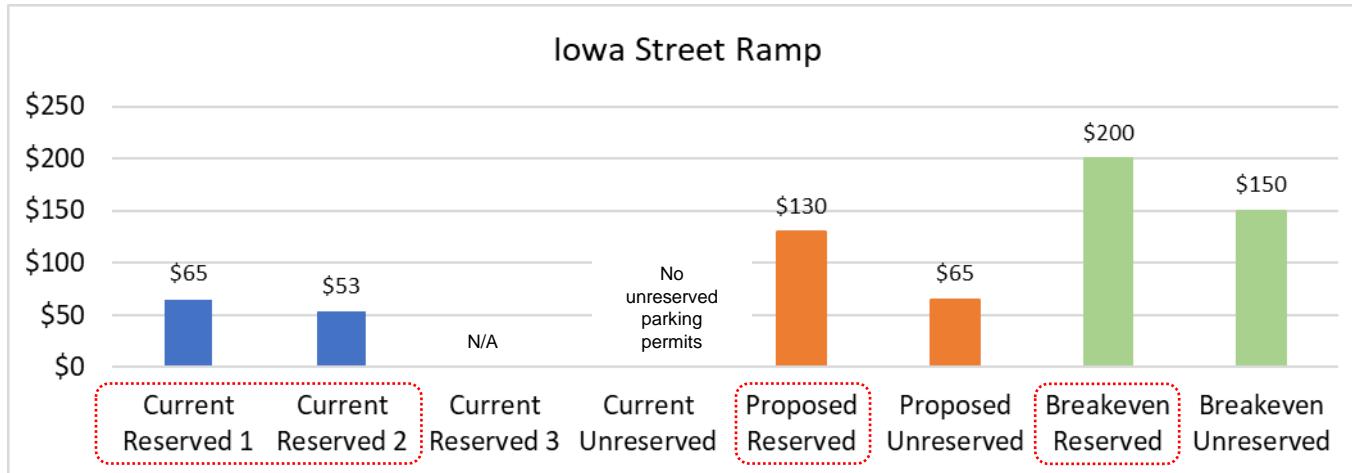


Permit Parkers

- 519 reserved spaces
- \$65/\$53 per mo. (depending on covered/location), all 24/7 reserved

- ~30 reserved spaces
- \$130 per mo. reserved; \$65 per mo. daytime unreserved
- Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: Iowa Street Ramp





Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



Short-Term Parkers

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Existing

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max

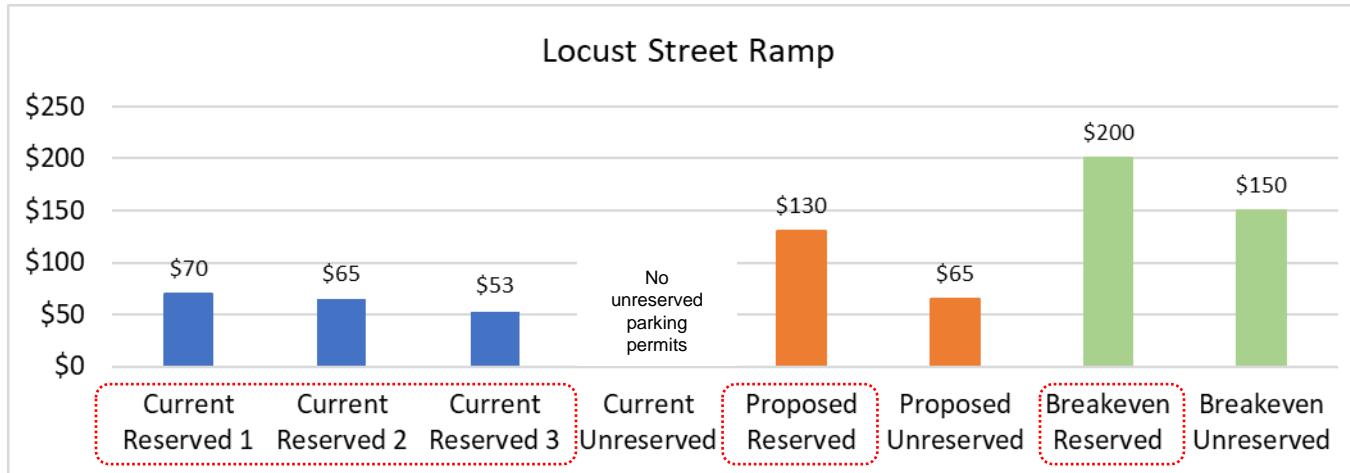


Permit Parkers

- 387 reserved spaces
- \$70/\$65/\$53 per mo. (depending on covered/location), all 24/7 reserved

- ~20 reserved spaces
- \$130 per mo. reserved; \$65 per mo. daytime unreserved
- Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: Locust Street Ramp





Short-Term Parkers

Existing

- No transients allowed – permit parking only

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



Short-Term Parkers

Existing

- No transients allowed – permit parking only

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



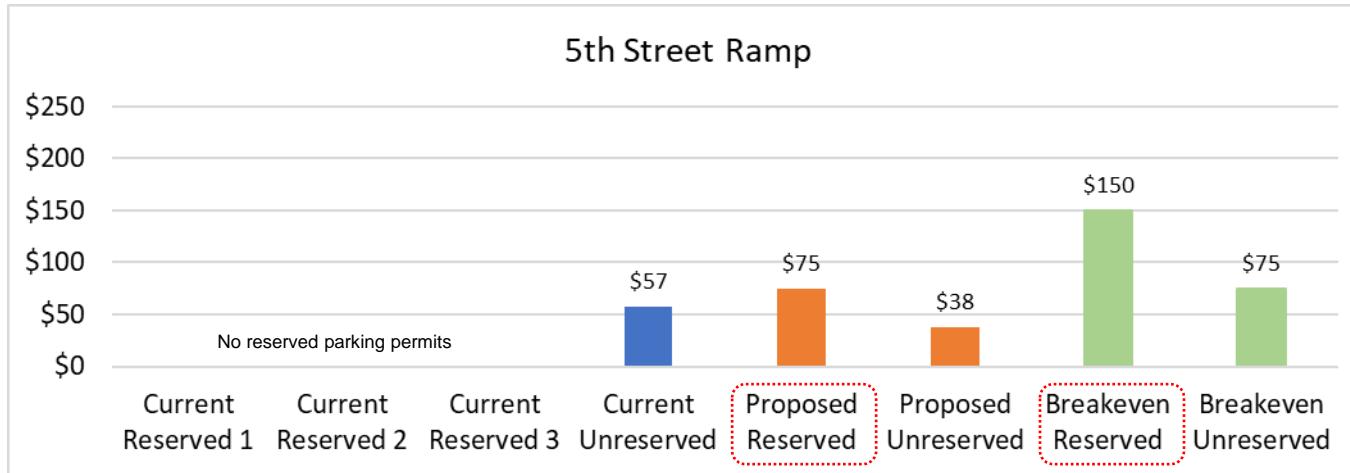
Permit Parkers

Existing

- No reserved permit spaces
- \$57 per mo.

- ~60 reserved spaces
- \$75 per mo. reserved; \$38 per mo. daytime unreserved
- Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: 5th Street Ramp





Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max

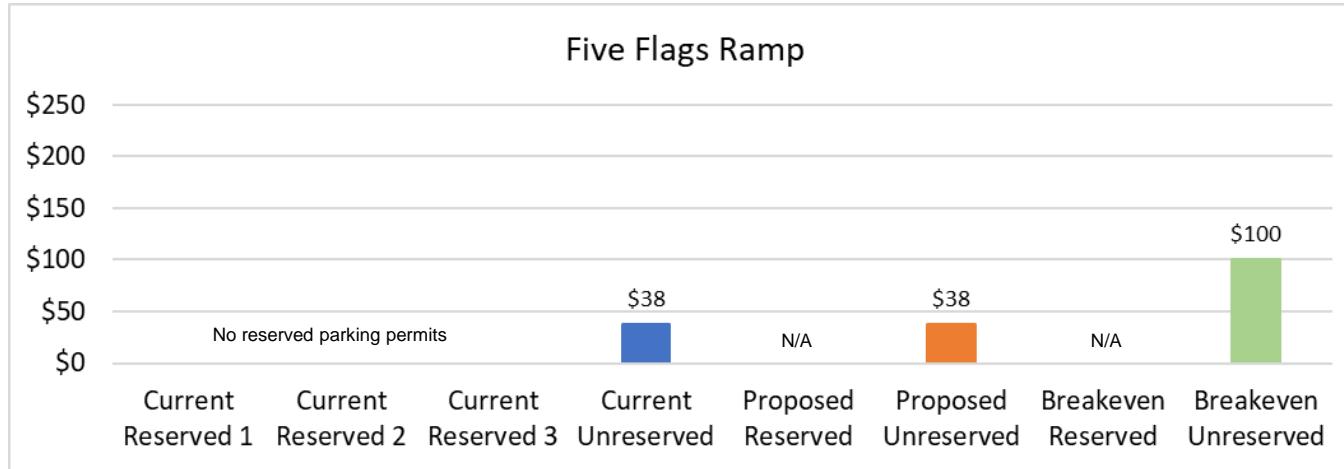


Permit Parkers

- No reserved permit spaces
- \$38 per mo.

- No reserved spaces
- \$38 per mo. daytime unreserved
- Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: Five Flags Ramp





Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max



Short-Term Parkers

Existing

- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max

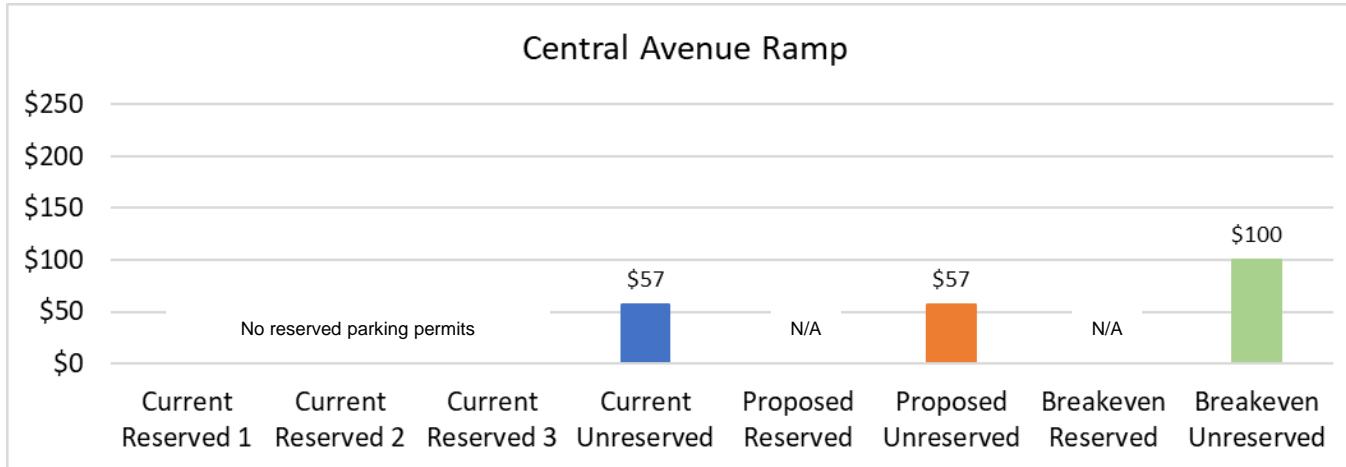


Permit Parkers

- No reserved permit spaces
- \$57 per mo.

- No reserved spaces
- \$57 per mo. daytime unreserved
- Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: Central Avenue Ramp





Short-Term Parkers

Existing

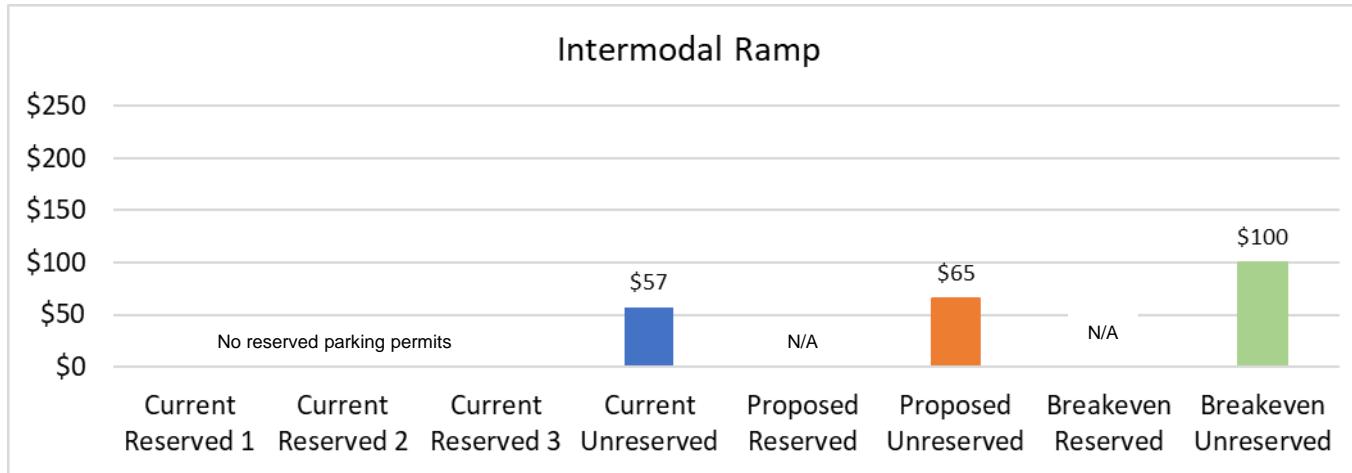
- Transients can park in unreserved spaces
- \$1.00/hr, \$10.00 daily max

Recommended

- Transients can park in any unreserved/standard space
- First hour free, \$1.00/hr after, \$10.00 daily max

	Existing	Recommended
 Short-Term Parkers	<ul style="list-style-type: none">• Transients can park in unreserved spaces• \$1.00/hr, \$10.00 daily max	<ul style="list-style-type: none">• Transients can park in any unreserved/standard space• First hour free, \$1.00/hr after, \$10.00 daily max
 Permit Parkers	<ul style="list-style-type: none">• No reserved permit spaces• \$57 per mo.	<ul style="list-style-type: none">• No reserved spaces• \$65 per mo. daytime unreserved; \$TBD overnight unreserved• Unreserved permit holders can park in any unreserved/standard space

Ramp Permit Rate Summary: Intermodal Ramp



Ramp Permit Rate Summary

Parking Facility	Current				Proposed				Breakeven			
	Reserved Permit Cost	Unreserved Permit Cost	Transient - Hourly Cost	Transient - Daily Maximum	Reserved Permit Cost	Unreserved Permit Cost	Transient - Hourly Cost	Transient - Daily Maximum	Reserved Permit Cost	Unreserved Permit Cost	Transient - Hourly Cost	Transient - Daily Maximum
Locust Street Ramp	\$70/\$65/\$53	N/A	\$1.00	\$10.00	\$130.00	\$65.00	\$1.00; 1st Hour Free	\$10.00	\$200.00	\$150.00	\$1.00; 1st Hour Free	\$10.00
Iowa Street Ramp	\$65/\$53	N/A	\$1.00	\$10.00	\$130.00	\$65.00	\$1.00; 1st Hour Free	\$10.00	\$200.00	\$150.00	\$1.00; 1st Hour Free	\$10.00
5th Street Ramp	N/A	\$57.00	N/A	N/A	\$75.00	\$38.00	\$1.00; 1st Hour Free	\$10.00	\$150.00	\$75.00	\$1.00; 1st Hour Free	\$10.00
Five Flags Ramp	N/A	\$38.00	\$1.00	\$10.00	N/A	\$38.00	\$1.00; 1st Hour Free	\$10.00	N/A	\$100.00	\$1.00; 1st Hour Free	\$10.00
Central Avenue Ramp	N/A	\$57.00	\$1.00	\$10.00	N/A	\$57.00	\$1.00; 1st Hour Free	\$10.00	N/A	\$100.00	\$1.00; 1st Hour Free	\$10.00
Intermodal Ramp	N/A	\$57.00	\$1.00	\$10.00	N/A	\$65.00	\$1.00; 1st Hour Free	\$10.00	N/A	\$150.00	\$1.00; 1st Hour Free	\$10.00
Port of Dubuque Ramp	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free



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THANK YOU!

QUESTIONS?