



LOWELL PARKING STUDY

JUNE 30, 2021



PREPARED FOR: CITY OF LOWELL DEPARTMENT OF PLANNING & DEVELOPMENT



Stantec



TABLE OF CONTENTS

- 1. INTRODUCTION AND GOALS..... 6
- 2. PUBLIC OUTREACH..... 28
- 3. RECOMMENDATIONS..... 34
- 4. NEXT STEPS..... 62



Wayfinding signs in Downtown



Parking on a residential street in Centralville



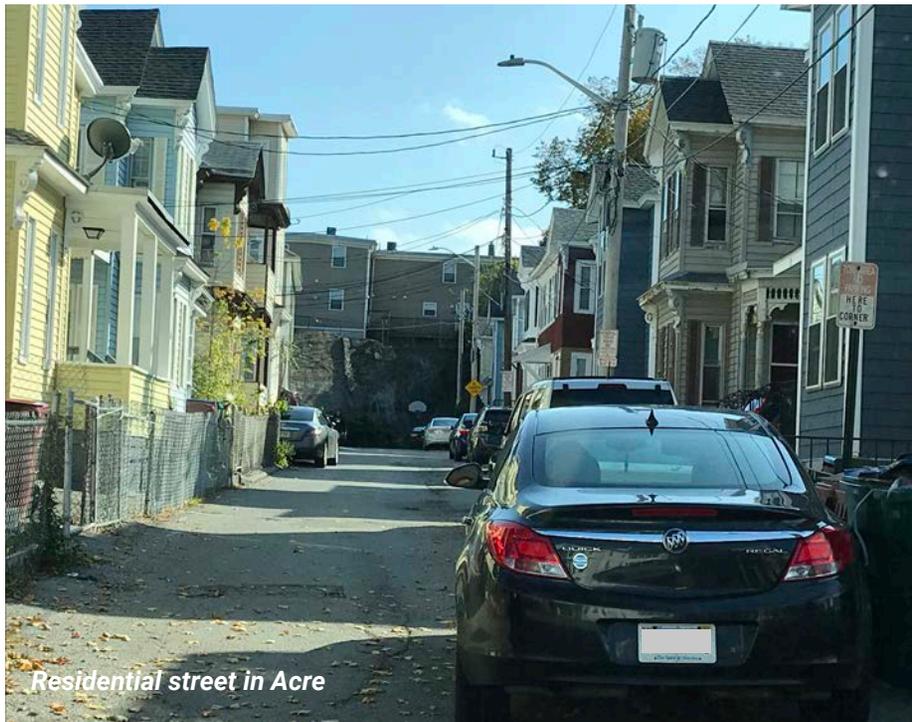
Cars often park illegally on sidewalks



Reserved parking sign/placard posted on a fence



Parking entrance off of Middlesex Street



Residential street in Acre



The Hamilton Canal Innovation District Parking Facility



INTRODUCTION AND GOALS

This report summarizes the findings and presents strategies associated with the Lowell Parking Study. The Study reviewed over 43,000 parking spaces in Lowell across parts of seven neighborhoods, evaluating how parking was regulated for residential and commercial usage and how rates of parking usage varied by neighborhood, associated land use, and time of day. The operations of the Lowell Parking Department, including practices employed at the six municipal facilities in Downtown Lowell and regulations related to on-street parking, were queried. Residential parking practices, including how permit programs were used to protect parking spaces on residential streets, were assessed for effectiveness.

Eight goals for the Parking Study were developed in fall 2020. These goals were posted on the study's website and shared at the six public meetings held for the study in the winter and spring of 2021.

The outcomes of this effort are several recommendations, detailed on the following pages, which seek to better manage parking demand, introduce more user-friendly practices into the parking system, ensure pricing for on-street parking, garage passcards, and residential permits reflect system costs, and incorporate a greater degree of fairness into parking policies.

GOALS



Align parking with the City's economic development by reducing areas of parking congestion, particularly at the curb and Downtown and incentivizing parking where there is availability, such as in public parking facilities.



Improve the City of Lowell parking experience by making the parking system intuitive, convenient, safer, and more consistent for residents, businesses, and visitors.



Adjust parking pricing to better manage demand, ensure space availability, and reflect the cost to manage, operate and enforce the parking system.



Incentivize greater use of the City's underutilized parking garages by making it more attractive to park in the City's public parking facilities.



Update the parking system to reflect citywide policies and goals such as improved fiscal management, quality placemaking, and those contained in plans like GoLowell including encouraging transit use to reduce parking demand and reducing vehicle miles travelled.



Reduce parking congestion and promote parking availability to reduce "cruising" and create an environment where drivers only need to park once.



Streamline the City's residential parking programs to better respond to neighborhood needs, reduce visual impacts, and relieve the cost of program administration.



Determine potential future parking needs to support growth in Downtown Lowell by identifying the right amount of parking based on projected development.

1.1 INVENTORY SUMMARY

There are over 43,000 parking spaces across Downtown Lowell and portions of, or the entirety of, the Acre, Back Central, Centralville, Lower Belvidere, Lower Highlands, and Pawtucketville neighborhoods. Although not covering the entire community, this inventory is meant to represent parts of Lowell where demand for parking between residents, employees, customers, and other types of visitors is mixed.

Key inventory findings...



46% of the study area spaces are open to the PUBLIC

1,346 of the study area spaces are PAID PARKING

\$1.50 per hour CONSISTENT PRICING throughout the city

10,153 spaces are located in DOWNTOWN

68% (6,940 spaces) in Downtown are in the PUBLIC SUPPLY
(Includes off-street public parking facilities and on-street parking not reserved for specific users)

8% of the study area are RESERVED SPACES for residential permit programs

2,907 RESERVED PARKING SIGNS in circulation between 2017 and 2019

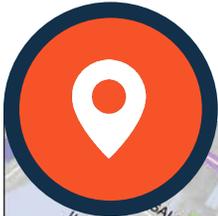
Evaluation of Lowell’s parking system reveals several key findings about how parking works in the community. The scale of the public parking supply in commercial areas, particularly in Downtown, creates a readily-available supply for visitors, employees, and customers of office and retail establishments.

Today, **the Lowell Parking Department leases space in its Downtown parking facilities as a way to limit growth in the private parking supply** as businesses expand or new developments come online. This practice supports economic development by limiting development costs and providing more space feet for people to live, work, and visit in Downtown. Usage rates for passcards, which are sold by the Parking Department for monthly parking in garages, shows that approximately **72% of garage users hold passcards**. The number of passcards in circulation nearly exceeded the total number of parking spaces in the garages prior to the opening of the Hamilton Canal Innovation District garage in 2020, indicating how the garages serve the needs of several user types over the course of the day and week.

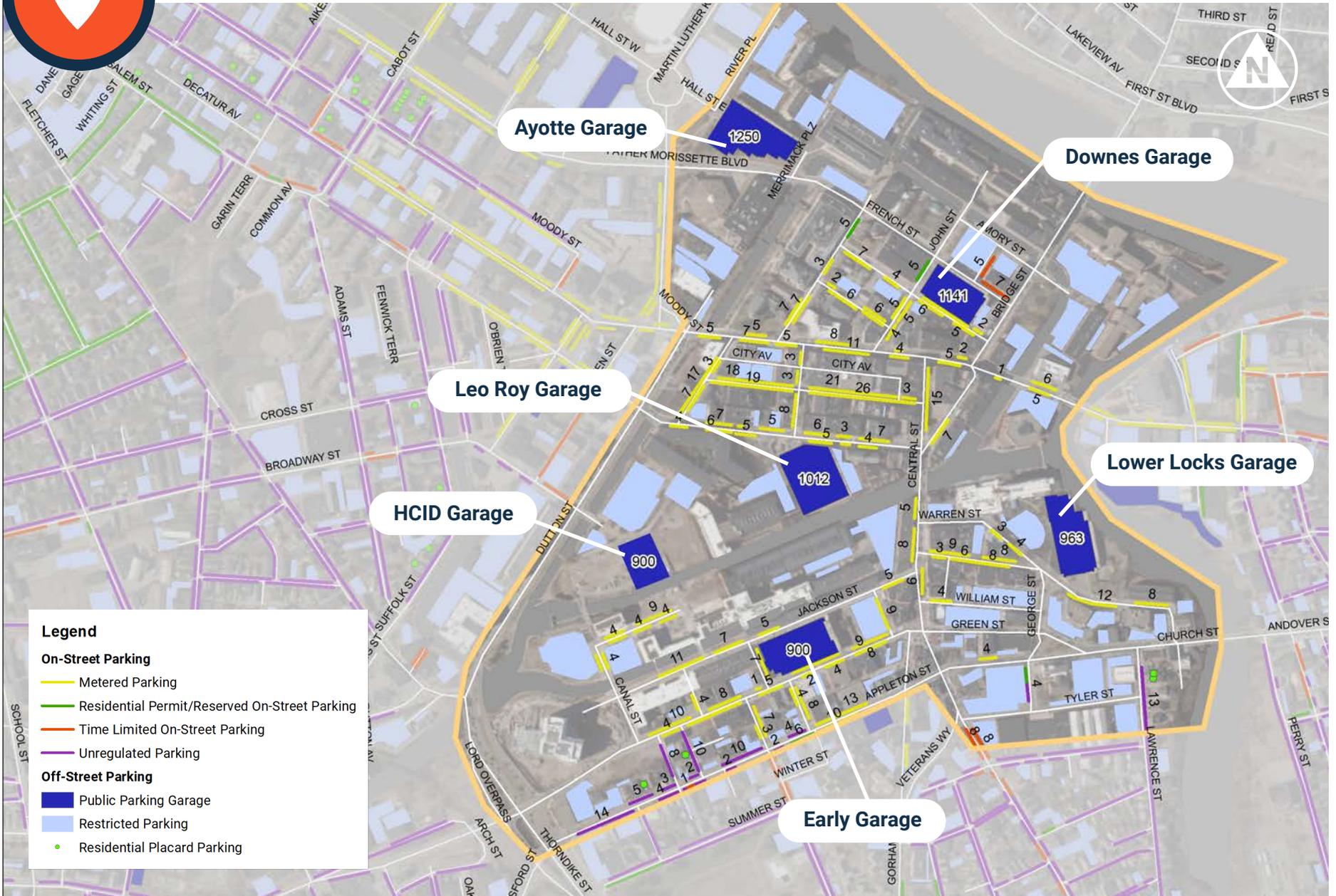
The consistent pricing for paid parking across the community and presence of two-hour time limits for most paid parking speaks to a **uniform approach to parking management in the community**. A “one size fits all” approach like this requires those desiring longer visits to move their cars or park in a garage or unreserved space, such as on a residential street. Short-duration parking spaces (often limited to 15 or 30 minutes of free parking) are prevalent in Lowell’s neighborhood business districts (NBD’s). City staff have noted that management of these spaces, typically administered on a space-by-space basis at the request of nearby business owners, is burdensome of time and resources. City staff have noted that **management of short-duration spaces is burdensome of time and resources**, as these are typically administered on a space-by-space basis at the request of nearby business owners.



Photo Caption:

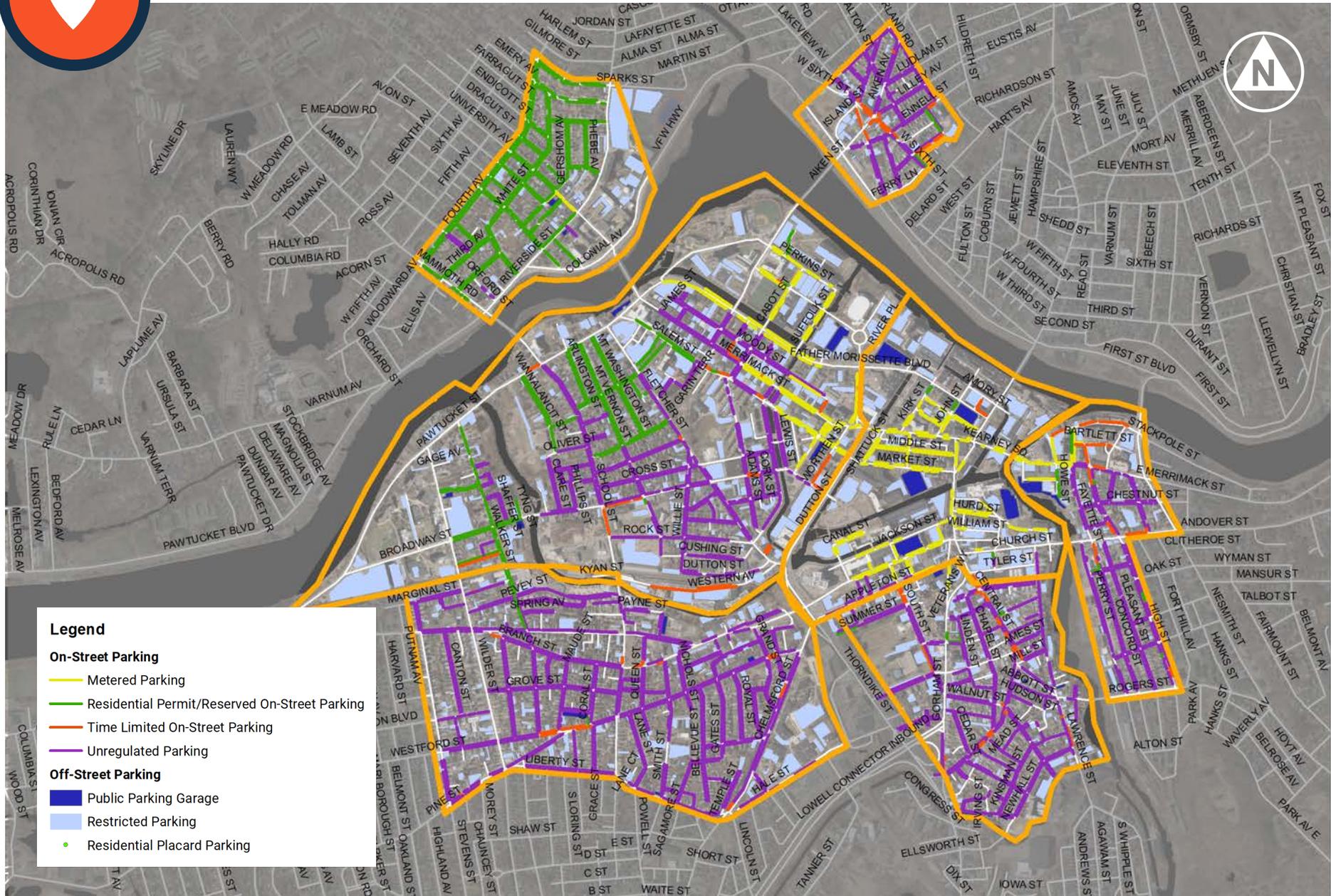


Downtown Parking Inventory and Regulations





Neighborhood Parking Regulations





Underutilized parking lot downtown

1.2 DOWNTOWN UTILIZATION ANALYSIS

Several blocks and parking garages approach capacity during the weekday midday peak hour, defined as around lunchtime when parking is traditionally the highest. **The Early, Downes, and Leo Roy garages are each at 80 percent capacity or higher** during this time period, when workers are in offices, restaurants are in operation, and many vehicles belonging to residents of Downtown Lowell remain idle in these parking facilities. **The Merrimack, Middle, and Market Street corridors are all near capacity**, with several other blocks, such as along Kirk Street and Paige Street, also well utilized.

Collectively, 61 percent of all parking in Downtown Lowell is occupied during the weekday midday peak period. On-street metered parking is utilized at 73 percent and off-street, private (restricted) parking is utilized at 51 percent, indicated excess capacity for this kind of parking. **Parts of Downtown Lowell and some garages are less well-used.** The Ayotte (51 percent) and Lower Locks (19 percent) facilities are not as well-utilized as other garages whereas the recently-opened Hamilton Canal Innovation District garage recently added 900 additional spaces to the Downtown supply. While the Early garage is the system's busiest, **many blocks south of the Hamilton Canal are not as busy as blocks closer to Merrimack Street.**

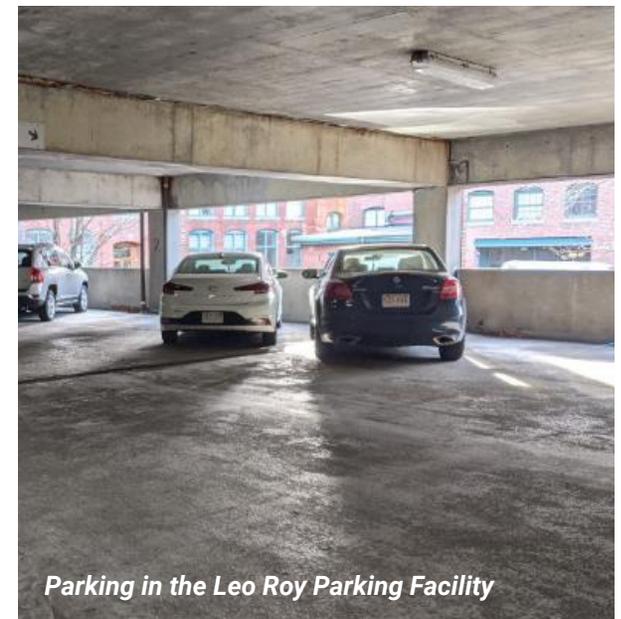
During overnight hours, an abundance of parking is available. Downtown residents take advantage of parking in the Early (53 percent), Downes (44 percent), and Leo Roy (40 percent) garages. However, utilization for all other parking in Downtown, including for each of the other three garages, is less than 10 percent.



As in-person parking counts were not feasible during the COVID-19 pandemic (and study period), parking utilization was collected using aerial imagery collected during a weekday midday time periods in 2016 and 2018. Counts in parking garages and estimates of overnight parking were conducted using location-based survey data provided by Streetlight, a vendor of vehicle travel activity.



Entrance to the Downes Parking Facility



Parking in the Leo Roy Parking Facility

The imbalance of parking demand, whether by location or over the course of the day, points to how **unvarying pricing and time limits (for metered parking) do not well respond to how parking is used in Downtown Lowell**. Those unable to find a space in a parking garage, which can close to non-passcard holders during busy times, or a busy street block must still pay the same \$1.50 per hour and adhere to a two-hour time limit despite being further from their destination.

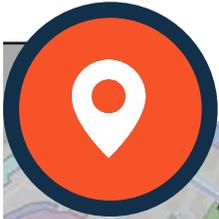
Today, pricing is not used as a mechanism to reflect demand in a way which ensures availability on all block faces and in all garages. Two-hour time limits encourage turnover, which in and of itself does not support economic development, even though many would pay a premium to park for longer at high-demand locations.



An **ideal utilization target** for a community is **85% of parking being used during peak periods**, although this figure can sit anywhere between 70% and 90%. Typically in a downtown setting with offices, retail, and other mixed-use activities, the peak period occurs during the midday of a weekday, such as around lunchtime. At an 85% utilization, motorists approaching an area can feel confident that a space will be available and the community is **supporting the use of the street** as a resource for access.



Leroy Surface Lot Kiosk



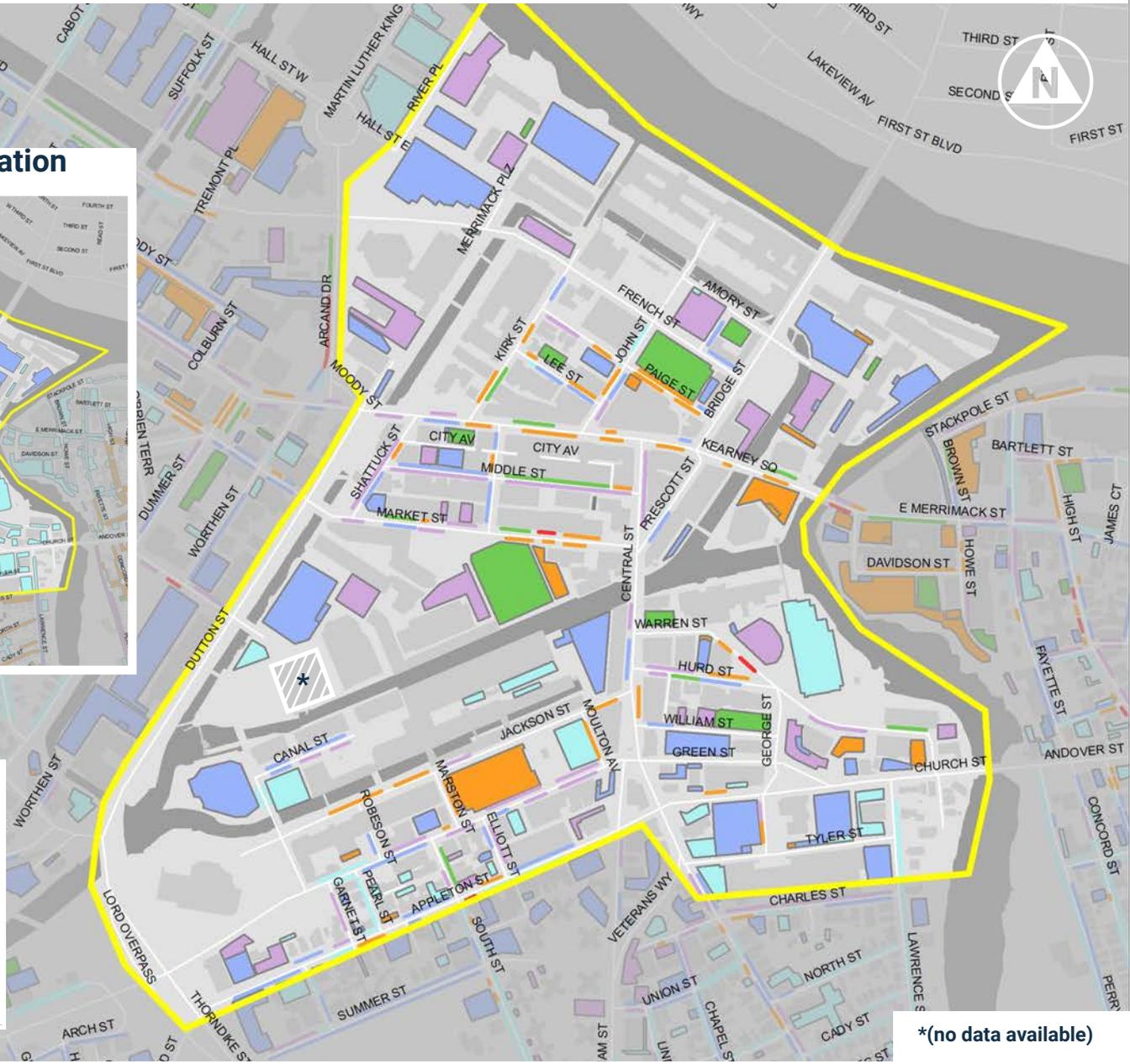
Weekday Midday and Weekday Overnight Utilization



Weekday Overnight Utilization



Legend	
On-Street Parking	Off-Street Parking
0 - 30%	0 - 30%
30 - 60%	30 - 60%
60 - 80%	60 - 80%
80 - 90%	80 - 90%
90 - 100%	90 - 100%
100%+	100%+



*(no data available)

1.3 NEIGHBORHOOD PARKING PATTERNS

Parking availability in neighborhoods and NBD's can vary across Lowell and over the course of the day. **During the weekday midday peak** period many residential streets **feature vacant spaces**. On-street and off-street parking, including municipal lots, closer to commercial districts is also widely available. Parking is less available in areas closer to UMass-Lowell's campuses. However, all neighborhoods under study were estimated to have **several blocks with little to no on-street availability during overnight hours**.

Current practices for residential parking in Lowell are unique in the privileges that are provided for residents. Two permit options are available in the community:



Reserved Parking Signs/Placards: Available for any residential property in the city, these green and white signs can be purchased or renewed for \$10 annually and posted in front of a property. A 20-foot portion of on-street parking is obligated to any resident of that property; the space cannot be used by anyone outside of the household.



Residential Parking Sticker: Vehicles registered on eligible streets in Acre and Pawtucketville can purchase stickers, free of charge, which allow for on-street parking in neighborhoods close to UMass-Lowell campuses.

Although the residential parking sticker program operates similarly to other residential permit programs in communities with competing demands for space, **the reserved parking sign/placard program allows special privileges which are rarely afforded in similar communities** and creates several harmful impacts on parking operations and the built environment, including:

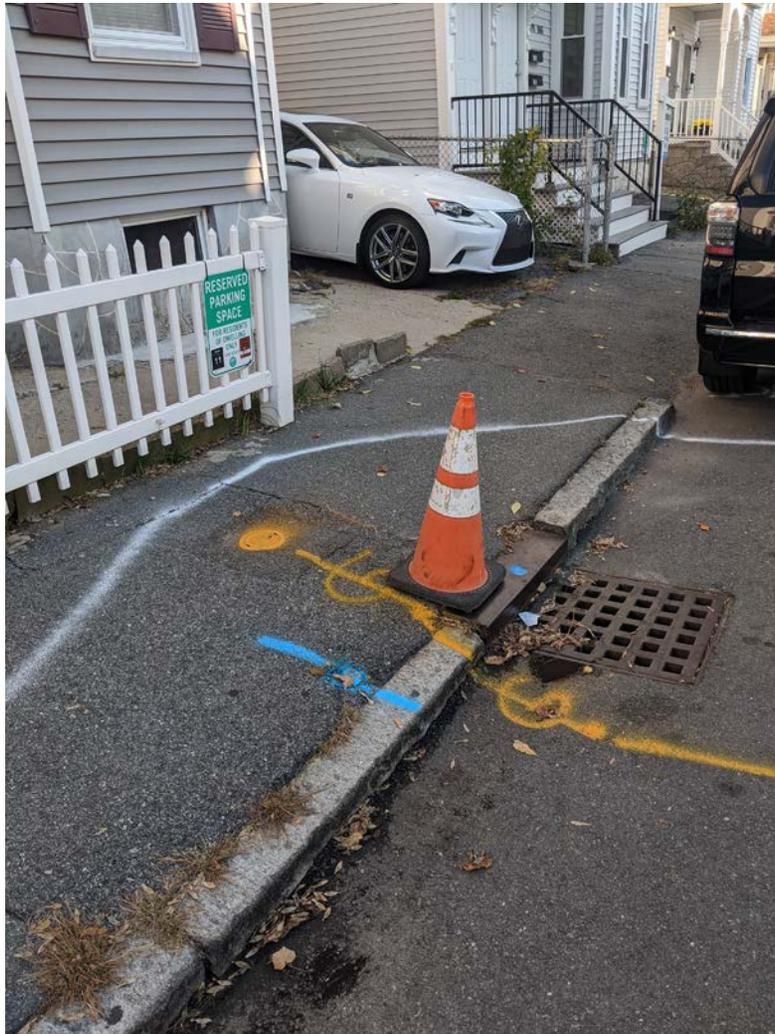
Parking Pattern Inefficiencies: As parking spaces associated with reserved parking signs cannot be used by other vehicle owners, on-street spaces may go unoccupied for extended periods of time. This can create situations where motorists are parking at distant locations despite free spaces being available near their destination. This can be particularly problematic for those with mobility impairments for which walking longer distances is more challenging.

Clutter: The green color of the reserved parking signs and the multiple ways in which signs can be posted by homeowners can create a sense of clutter in the built environment of residential neighborhoods.

Applicant Eligibility: Signs can be posted and on-street parking spaces occupied in front of properties where off-street parking is available, such as with driveways, reducing the availability of parking for others in the neighborhood.

Enforcement: In-person observations found instances where stickers were expired, in some instances by several years. City staff indicated that the scope of the program compared to staff resources renders it impractical to actively pursue instances where reserved parking signs had expired. Community feedback indicated that residents of some neighborhoods are reluctant to call the Lowell Police Department over parking disputes during nights and weekends.

Potential for Disputes: Despite local roadways being maintained for as a public good for all motorists, the reserved parking sign program can create a sense of entitlement for homeowners about on-street parking. By tying use of reserved parking signs to one space per household, other vehicle owners living on the property are also shut out of reserved on-street parking.



"No parking" street markings in Centralville



Weekday Midday Utilization





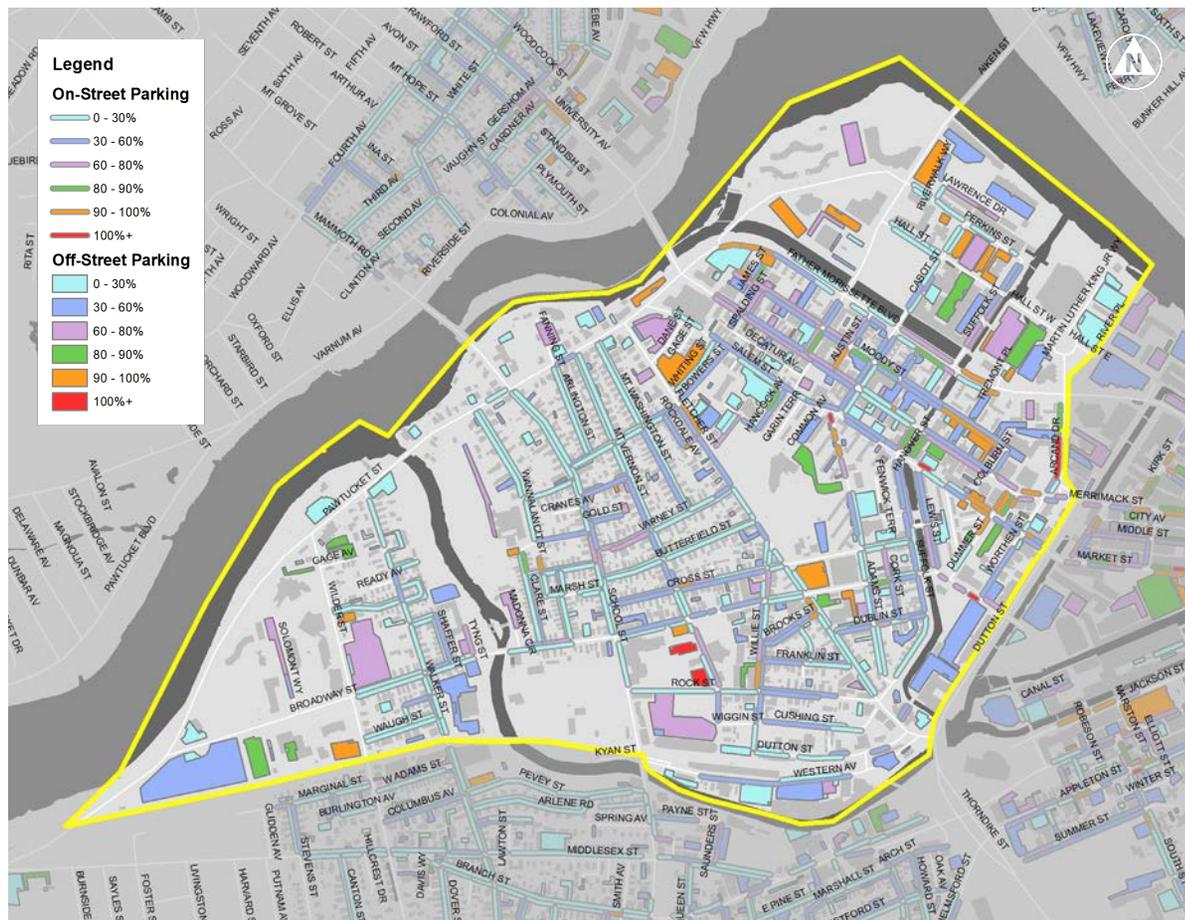
Weekday Overnight Utilization



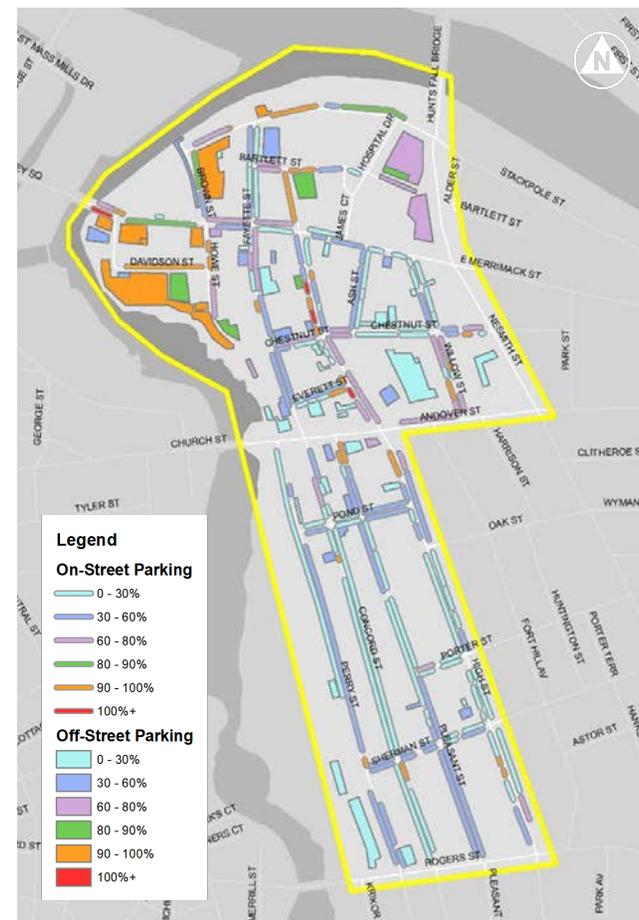


Davidson Street Lot in Lower Belvidere (Merrimack Community College was not in session when photo was taken)

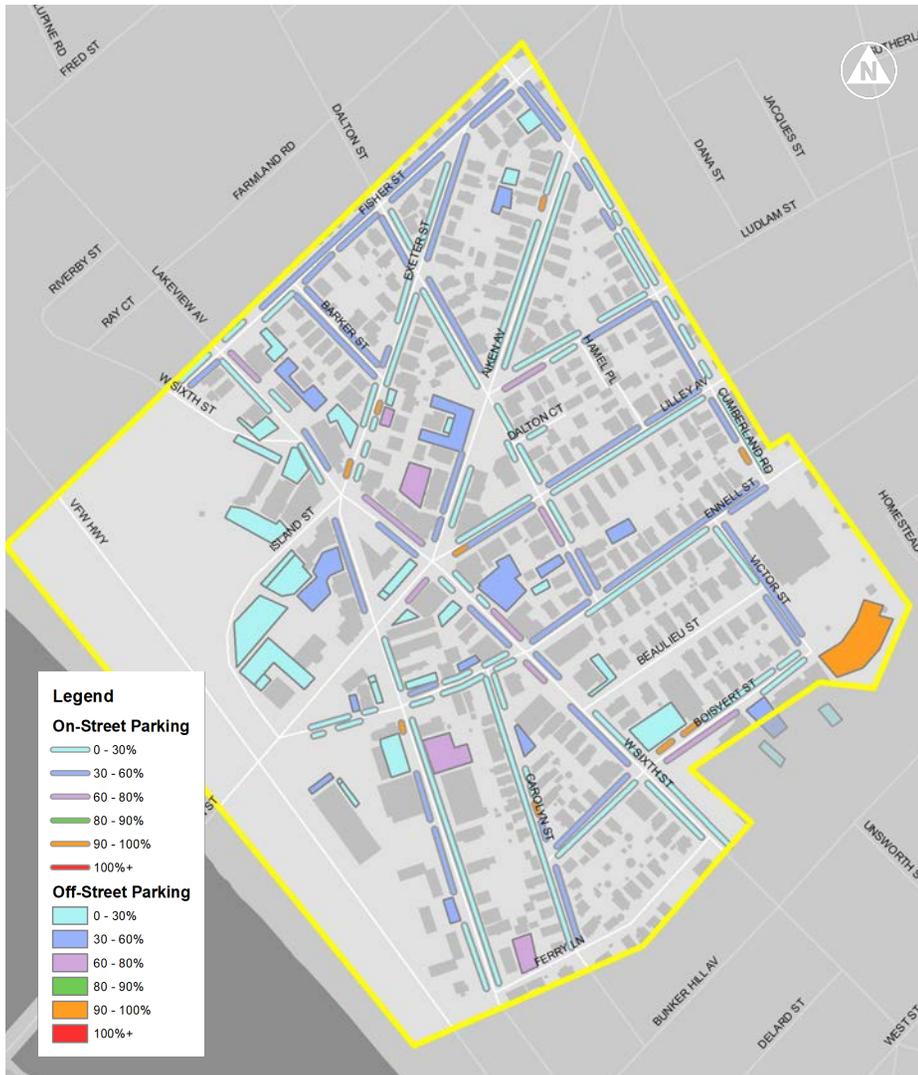
Acre Weekday Midday Utilization, 2018



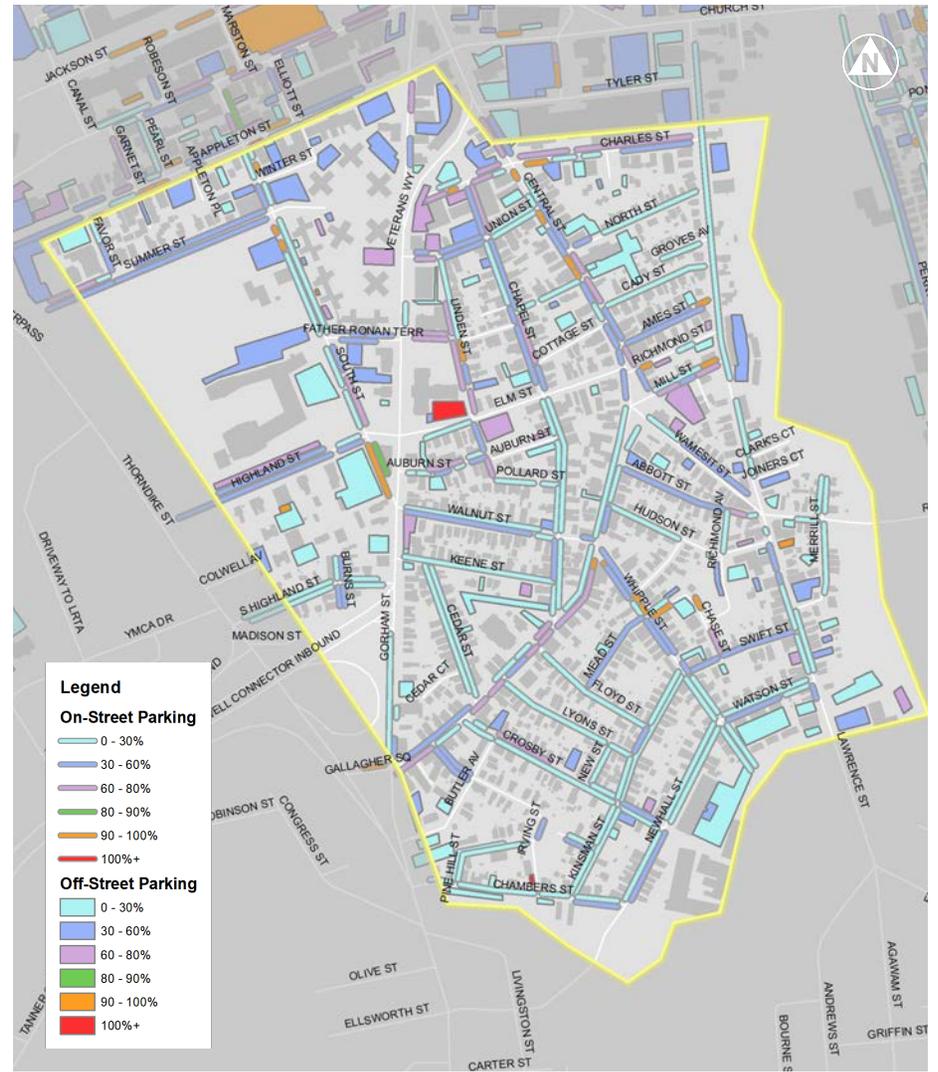
Lower Belvidere Weekday Midday Utilization, 2016



Centralville Weekday Midday Utilization, 2016



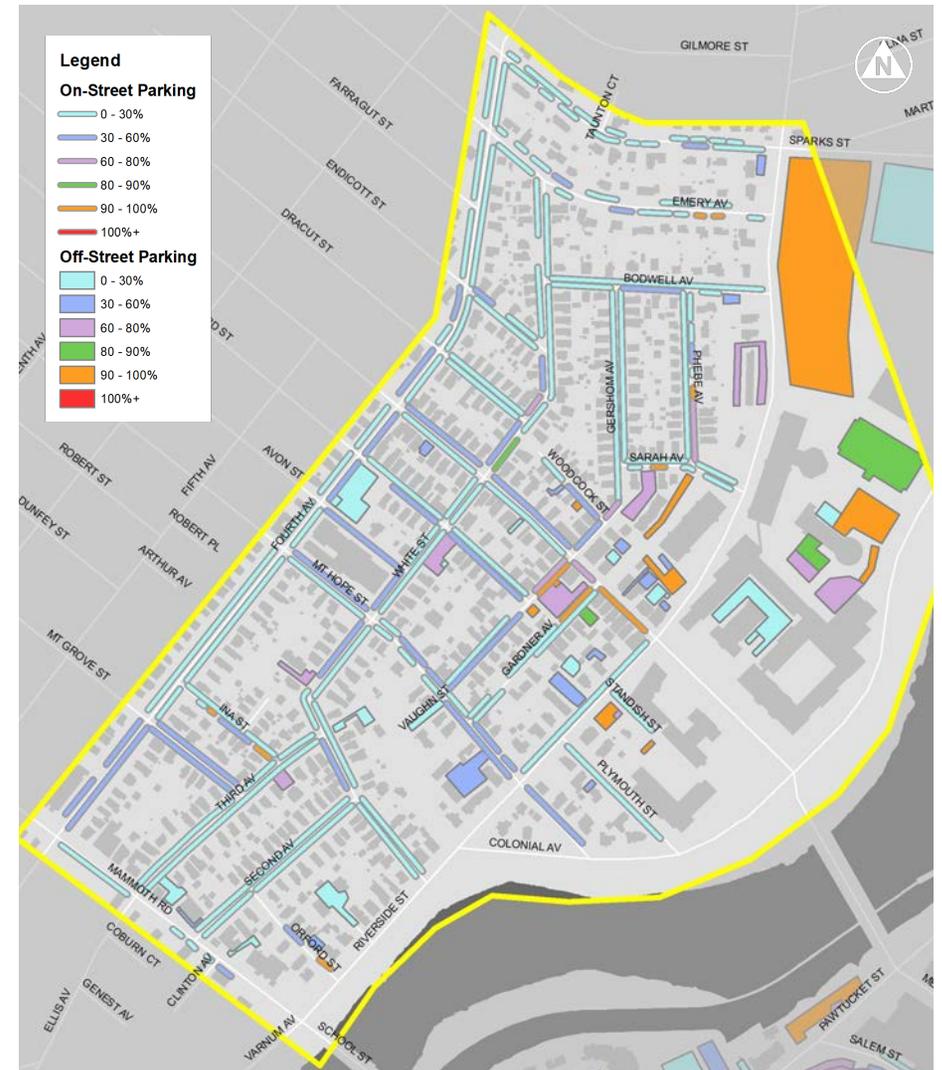
Back Central Weekday Midday Utilization, 2016



Lower Highlands Weekday Midday Utilization, 2016



Pawtucketville Weekday Midday Utilization, 2018



1.4 ACCOMMODATING FUTURE GROWTH IN DOWNTOWN

With six parking garages and **over 10,000 spaces total**, future growth in residential, office, retail, and institutional uses in Downtown Lowell can be **easily accommodated** by the existing parking supply. However, current practices for managing parking do not make this obvious. As profiled, the Early, Downes, and Leo Roy garages each operate close to capacity during peak time periods, with metered parking throughout Downtown nearly three-quarters full. Pricing is consistent \$1.50 per hour throughout Downtown, and motorists who wish to park for longer than two hours are directed to use one of the six parking garages.

As a result, some **blocks and parking facilities feature limited availability while spaces sit empty a block or two away**. When combined with a private parking supply that is only half full during peak hours, much **excess capacity is present during peak times** but **little incentive exists** for this capacity to be used. The graphs shown on the following pages depict parking demand according to Downtown Lowell's land uses (and potential parking availability throughout the day) in the context of both Institute of Transportation Engineer's (ITE's) requirements and future scenarios.

An analysis of existing land uses in Downtown Lowell found that, given how parking is currently utilized by all land uses in Downtown, use of the **4,200 spaces which sit empty** in Downtown could accommodate nearly **7,000 additional housing units or nearly 1.2 million square feet of additional commercial development while keeping a 10 percent buffer in the parking supply**. This buildout would more than triple the Downtown housing supply and grow the commercial supply by 72 percent.

Tapping into this **reserve supply will require changes in how parking is presently managed in Downtown Lowell today**, including evaluating pricing and time limits to better spread demand through the area. **Current practices** of the Lowell Parking Department and Lowell's zoning requirements already **support limiting growth in the parking supply with new development projects**. Residential projects can lease space in publicly-owned off-street parking facilities within 1,500 feet of a building entrance, whereas non-residential uses are exempt from parking requirements if within 1,500 of a publicly-owned off-street parking facility.



THE PARKING DEMAND MODEL

The study distinguishes between the unshared demand that results from all parking facilities exclusively supporting a single use and the real demand that reflects when different land uses truly demand their full range of parking.

The parking demand model is built based on the total built floor area by land use according to national average demand rates from the Institute of Transportation Engineers (ITE). Reduction factors were used to simulate building vacancies. These were derived from past national studies, the U.S. Census, and data pulled from 2019 market analysis studies developed for Lowell along with study area contextual knowledge.

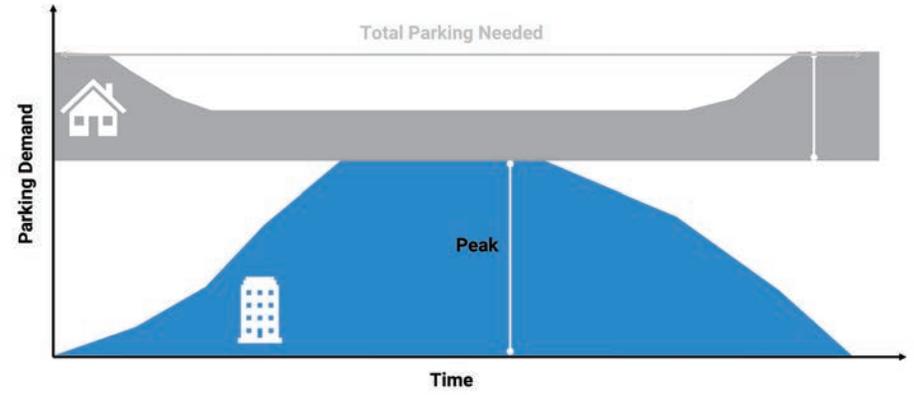
While the models theoretically demonstrate which land uses might be able to share parking supply, where the shared supply could be located is dependent upon existing regulations, ownership, the proximity of the type of potentially usable spaces to the destinations they should support.

How to Read the Parking Demand Charts

1. Parking Demand Without Sharing



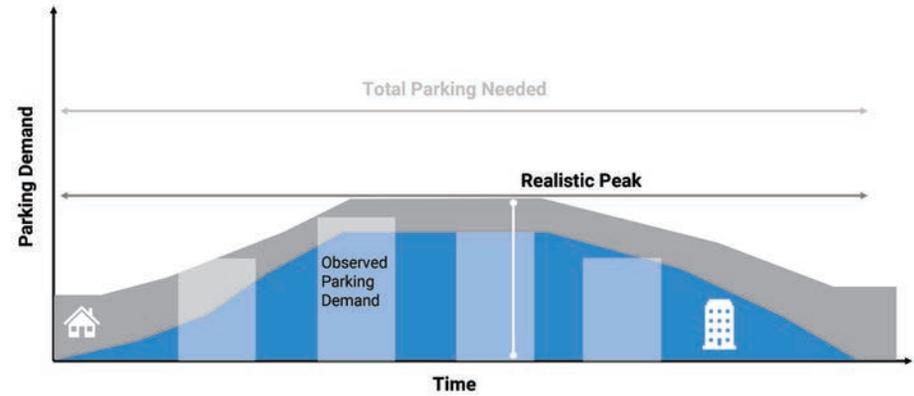
2. Realistic Parking Demand Without Sharing



3. Realistic Parking Demand With Sharing

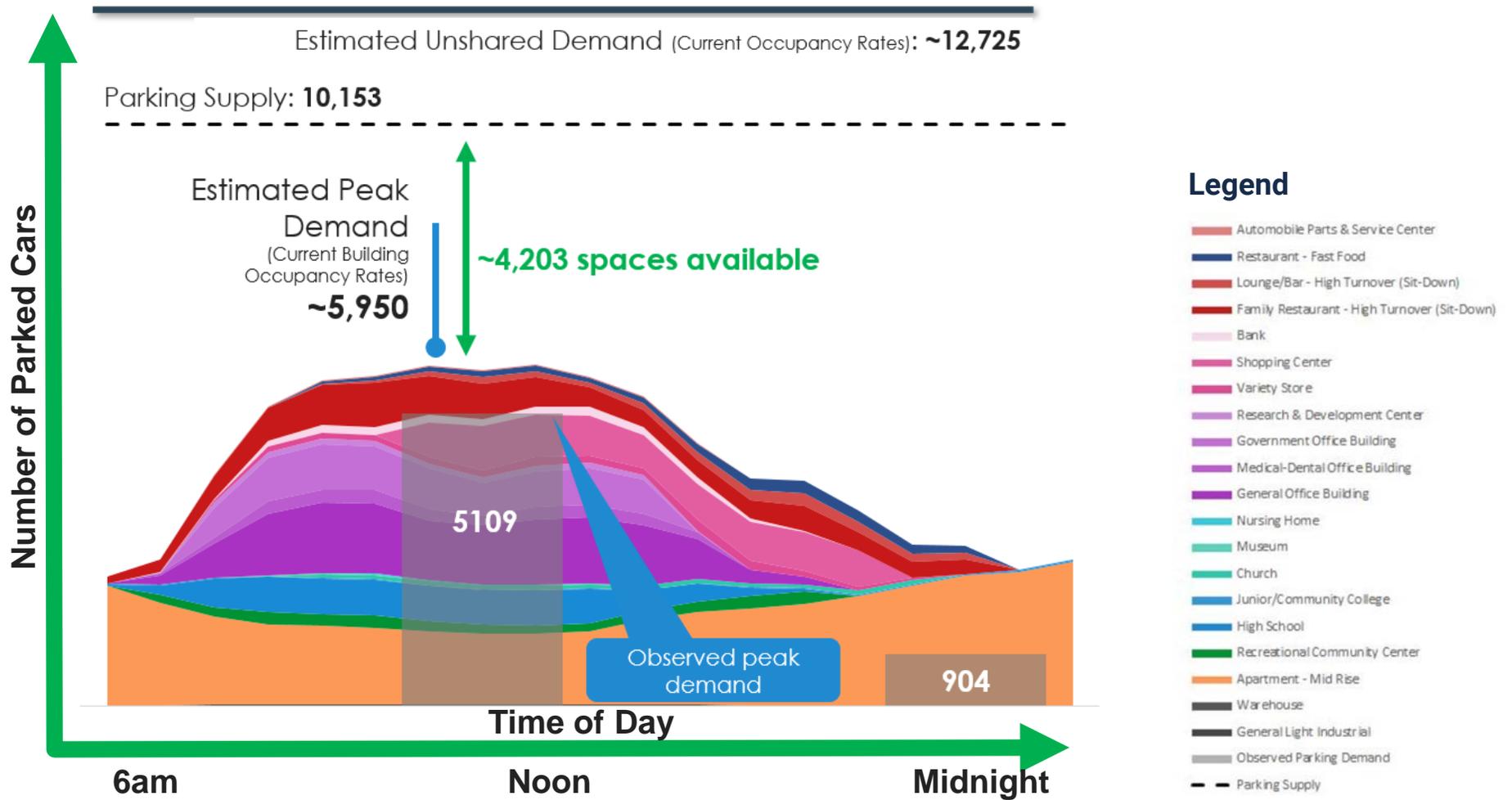


4. Realistic Shared Parking Demand With Observed Demand

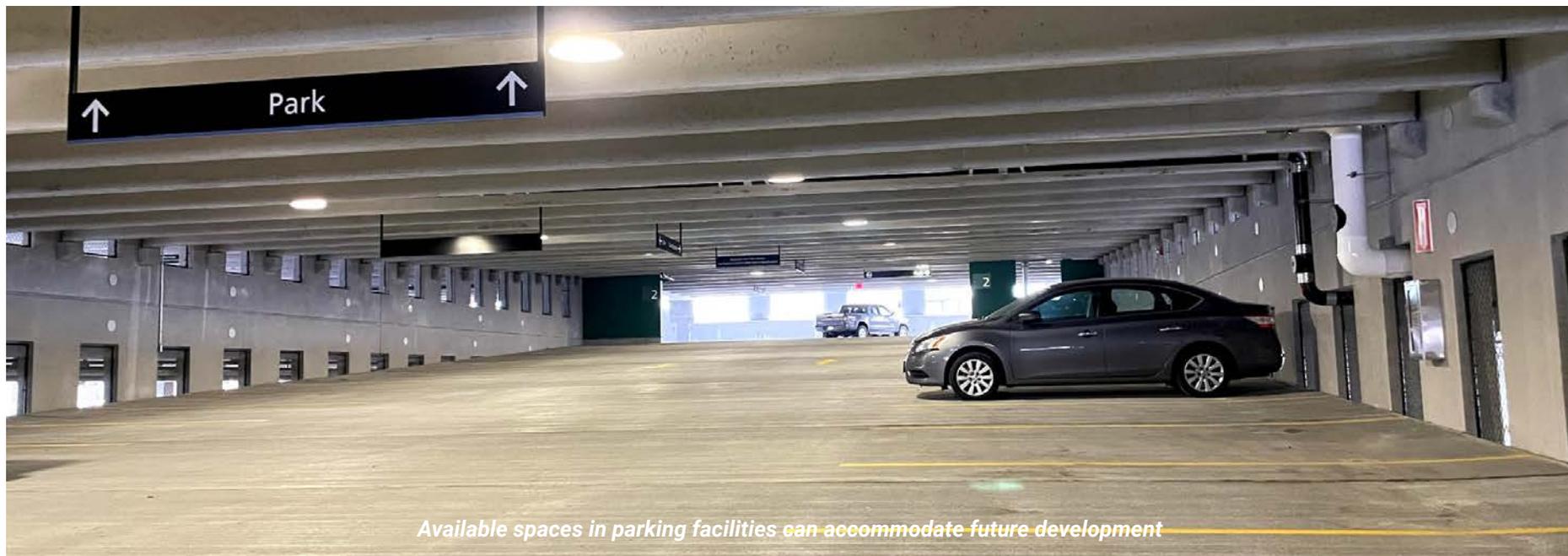
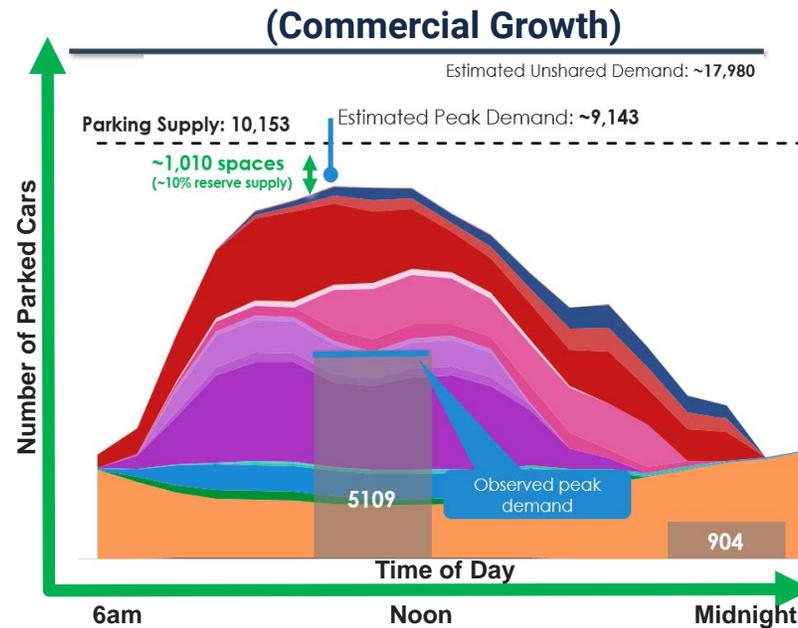
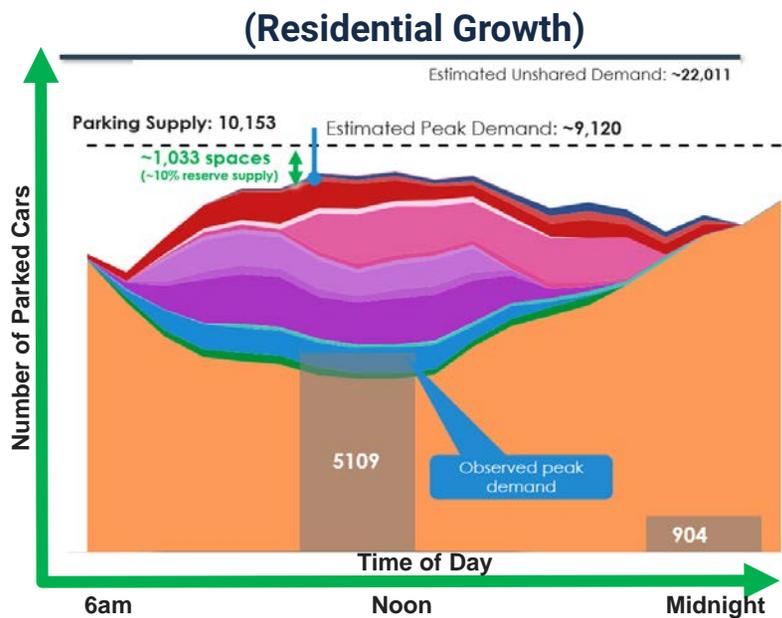


The tables on the following page provide information on the applied vacancy rates, reduction assumptions, and parking shares assumptions for the residential and commercial future scenarios as seen in their corresponding graphs. These tables also indicate the additional residential and commercial development (future scenario programs) added to the existing parking demand model.

Existing Parking with Some Sharing



Future Parking with Full Sharing



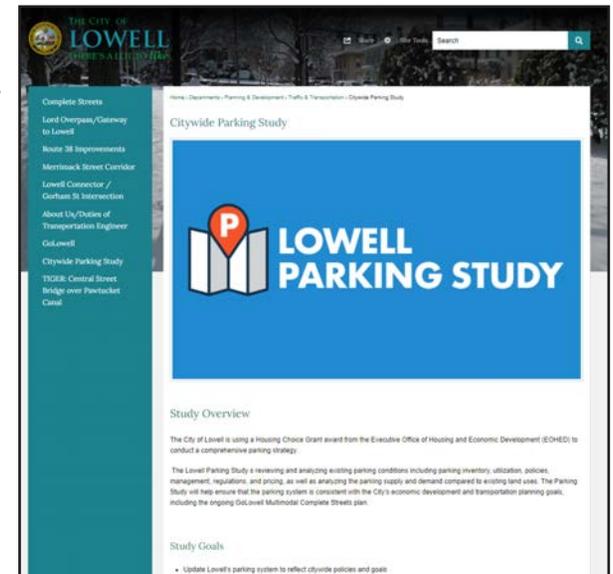


PUBLIC OUTREACH

Public outreach was conducted at regular intervals throughout the study to better understand how parking functions in Downtown and in Lowell's neighborhoods. Due to COVID-19, all meetings were held virtually, so as to reach all neighborhoods, residents, business owners, and Downtown visitors. The feedback collected from all outreach efforts helped to provide insight on Lowell's parking system and ultimately inform the project recommendations.

PROJECT WEBSITE

A project website provided information about the study's purpose and goals, with methods for the public to provide feedback including links to the online survey. The website also contains all recordings of public meetings and translations of meeting materials including presentations. Meeting presentations were translated into Portuguese, Spanish, and Khmer. The public could also subscribe to the "Parking Study Newsletter" to voice their concerns about the parking system and receive updates on public outreach efforts for the study.



COMMUNITY MEETINGS

Two citywide public meetings were held for the project in the winter and spring of 2021. The first of these meetings, hosted on February 2, 2021, was intended for a general audience and focused on **citywide issues, the study goals, and project schedule**. The second meeting, hosted on May 27, 2021, shared **preliminary project recommendations and highlighted key findings** from other outreach efforts and parking operations and demand analyses.

Although virtual, the meetings focused on collecting feedback in an open house style format and provided all attendees the opportunity to participate via polls and the Question-and-Answer period. Both meetings were conducted in English with closed captioning and offered live simultaneous interpretation in Khmer, Portuguese, and Spanish. All flyers and meeting materials were translated into Portuguese, Spanish, and Khmer to reach as many residents as demographically possible. Key takeaways from each community meeting are noted in the blue box below.



KEY TAKEAWAYS

COMMUNITY MEETING 1 FEEDBACK:

- Increase parking enforcement in residential areas and in Downtown,
- Reluctance to call the Lowell Police Department regarding parking issues
- Residential parking permit programs were problematic, particularly whether reserved parking signs/placards were needed
- The two-hour time limit for on-street meters should be extended
- Meters and kiosks need to be better maintained

COMMUNITY MEETING 2 FEEDBACK:

- Shared parking should be formalized in the City, especially in Downtown garages and during snow emergencies.
- Strategies focused on the residential permit program should be clearly defined to note how permits would apply to each household and where residents would be allowed to park.
- Performance-based pricing recommendations should create more affordable parking for residents in garages and should not negatively impact handicapped parking
- More details are needed about how enforcement and monitoring efforts would work with a new residential permit program, shared parking, and performance-based parking



All translated meeting materials and recordings were uploaded to the project website for those who could not attend the virtual meeting.

NEIGHBORHOOD MEETINGS

Four neighborhood meetings were hosted throughout February 2021, which targeted smaller groups, and focused on gaining individual neighborhood feedback. Similar to the Community Meetings, all neighborhood meetings were conducted in English with closed captioning and offered live simultaneous interpretation in Khmer, Portuguese, and Spanish. All meeting materials were translated into Khmer, Portuguese, and Spanish and were uploaded, with the meeting recordings, to the project website for those who could not attend the virtual neighborhood meetings. Neighborhood meetings were conducted for the neighborhoods listed below:

- **Belvidere/South Lowell/Sacred Heart Neighborhood Meeting:** February 10
- **Downtown/JAMBRA Neighborhood Meeting:** February 11
- **Pawtucketville/Centralville:** February 24
- **Back Central/Acre/Highlands:** February 25

Neighborhood meetings gave residents the opportunity to learn about parking demand and regulations in their neighborhood, voice their issues and concerns with the current residential parking program, and provide input on opportunities for the parking system.

All neighborhood meeting participants had the opportunity to learn more about the parking system in their neighborhood, as well as the residential parking permit program. Participants could voice their concerns during the “breakout sessions,” which included a subset of participants and a facilitator (from the project team). Interpreters also participated in non-English breakout sessions, as needed.

The infographic is titled "Stakeholder Outreach Efforts" and features a dark blue header with a parking 'P' icon. It contains four orange vertical panels, each with an icon, a title, and dates. A small video inset in the top right shows a man speaking, with the text "LOWELL PARKING" and "Michael Clark, Proje..." visible. A timestamp "2021-05-27 18:12:56" is in the bottom right corner.

Outreach Effort	Dates
Virtual Community Meeting	February 2, 2021
Virtual Neighborhood Meetings	February 10, 2021 February 11, 2021 February 24, 2021 February 25, 2021
Public Outreach Survey	Fall 2020/ Winter 2021
Key Stakeholder Meetings	City Staff Developers UMass Lowell

ADDITIONAL STAKEHOLDER OUTREACH

The project team engaged with key stakeholders to collect feedback on parking issues and opportunities, as well as understand how other City initiatives have and will impact parking. The project team worked with the City to setup a series of meetings that gave insight on how parking is managed in the City, ongoing and future multimodal efforts, and the impact of large traffic and parking generators (such as UMassLowell). The list of all invited stakeholders is noted below.

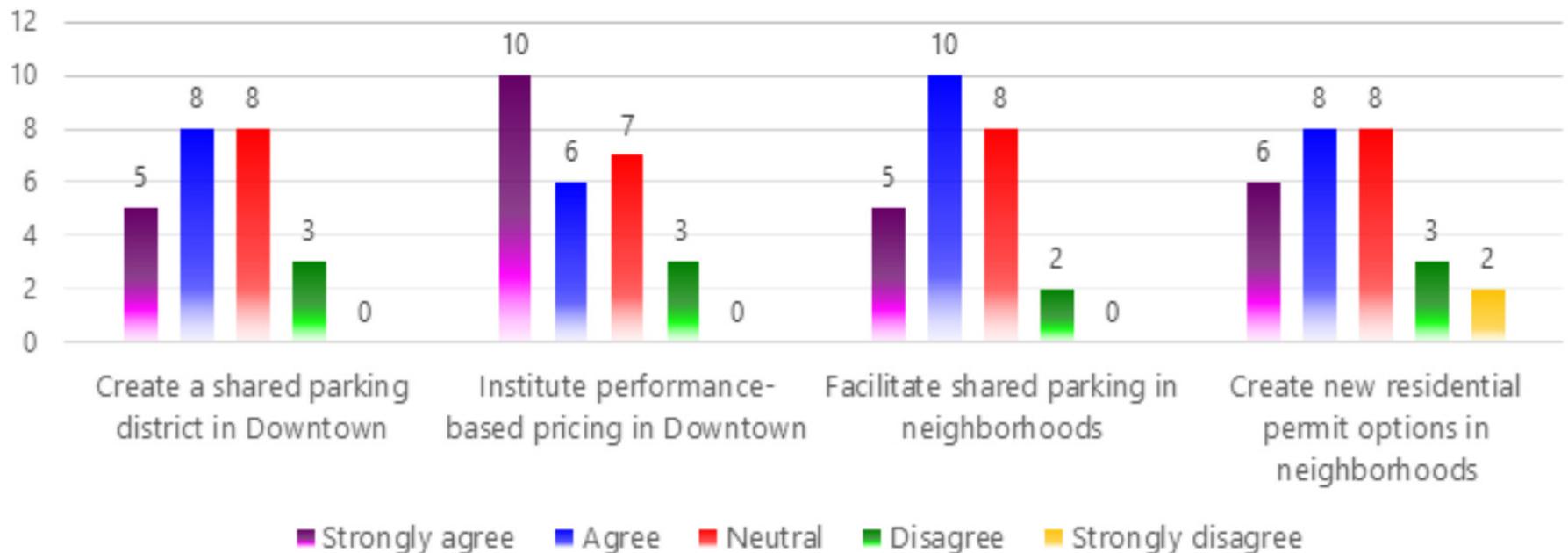


WHO DID WE TALK TO?

- Lowell Neighborhood Residents
- Parking Department
- GoLowell City Team
- City Staff
- UMass Lowell Representatives
- LAZ Parking
- Downtown Lowell Businesses
- City Councilors

During the second community meeting in May, participants had the opportunity to provide feedback on the draft study recommendations. As illustrated in the chart below, most participants strongly agree with the recommendation to institute performance-based pricing in Downtown. Attendees also supported the overall strategy to facilitate shared parking in Lowell's neighborhoods.

Q. Please share how much you agree or disagree with the following recommendations.



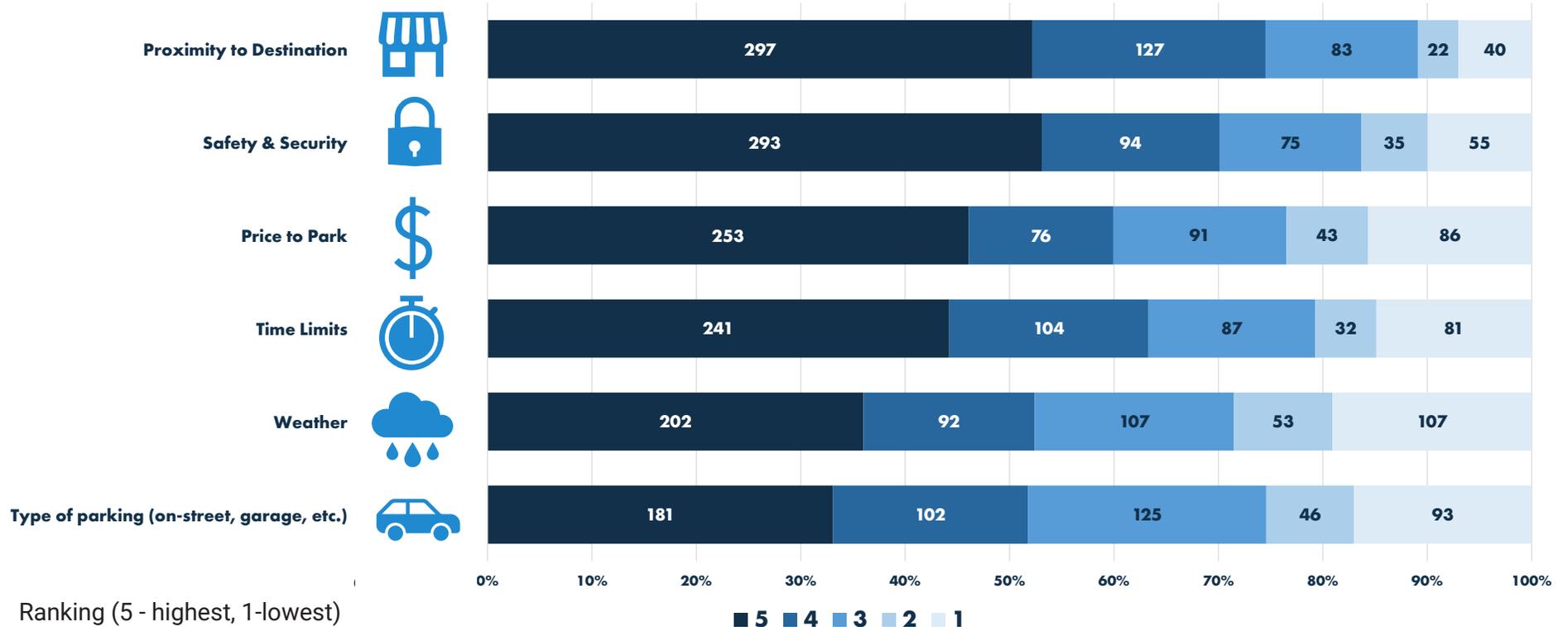
ONLINE SURVEY

An online survey was made available to gain input from Lowell residents and other stakeholders about their experiences finding and using parking in Downtown Lowell. Those interested in participating in the survey could access it via the project website and paper copies distributed in City Hall. The City promoted the survey through flyers, project-related public meetings, and local advocacy group. The survey received 629 participants, with over 400 respondents participating between December 21 - 23, 2020. Questions were asked covering the following topics:

- How frequent respondents visited Downtown Lowell
- Where respondents parked most frequently when they drove to Downtown Lowell
- How close to their destinations respondents typically parked in Downtown Lowell
- What influenced where respondents parked when they visited Downtown Lowell
- Whether respondents were residents of Lowell and what neighborhood they lived in
- How difficult it is to find an on-street parking spot in respondents' neighborhoods

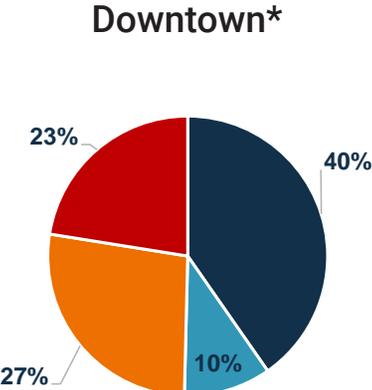
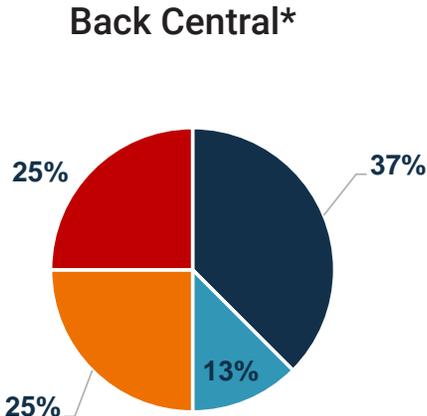
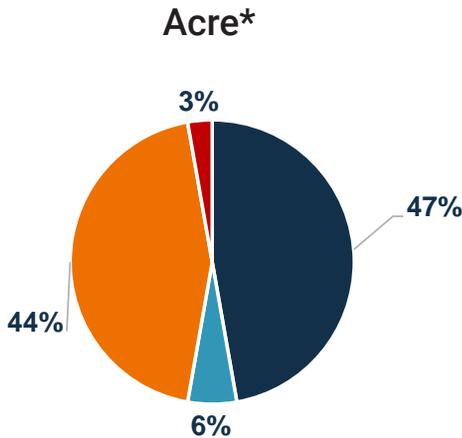
629
online survey
participants

Q. What influences where you park when you visit Downtown?

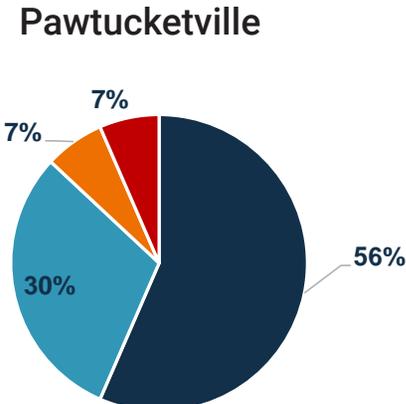
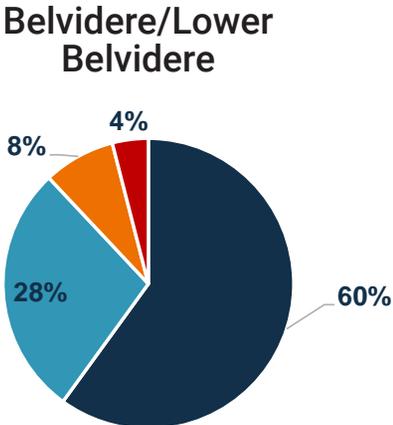
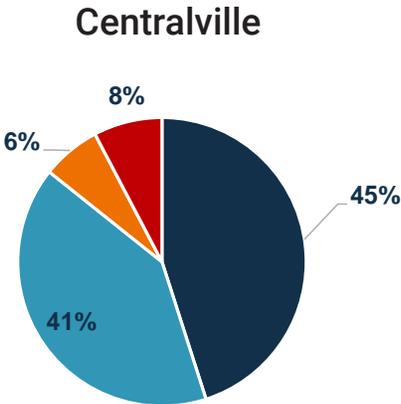
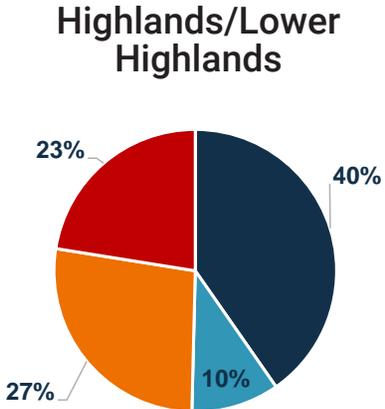


Survey results found that respondents prioritized proximity to their destination and safety and security when parking in Downtown Lowell. In neighborhoods, residents of Acre, Back Central, and Downtown expressed greater difficulty finding a place to park close to their homes.

Q. How difficult is it to find an on-street parking space in your area?



*** Close to half of residents have greater difficulty finding a place to park in these areas.**



-  I have an off-street space (e.g. driveway) and don't park on-street.
-  Sometimes I find a space within a 2-min. walk, but not always.
-  There's always a space where I find it.
-  I'm usually unable to park within a 2-min. walk of my home.



RECOMMENDATIONS

Historic communities such as Lowell were not built around the car but have nevertheless sought to accommodate more and more parking over the past several decades. As a result, the built environment of **Downtown and several neighborhoods have prioritized finding parking and long-term vehicle storage instead of travel by other modes such as walking, bicycling, and transit use.** This persists despite the presence of populations, such as students at UMass-Lowell and Merrimack Community College, which may be less likely to own an automobile.

Limited curb space in neighborhoods results in vehicles parked on sidewalks, and the abundance of reserved parking signs/placards on fencing and properties lends itself to a sense of clutter which makes walking less enjoyable. **All residents in Lowell support the parking system's maintenance and operations costs whether they own a car or not.** Provision of short-duration parking of 15 or 30 minutes in front of select retail establishments limits the utility of these types of parking spaces and makes more difficult the conversion of on and off-street parking spaces for other uses.

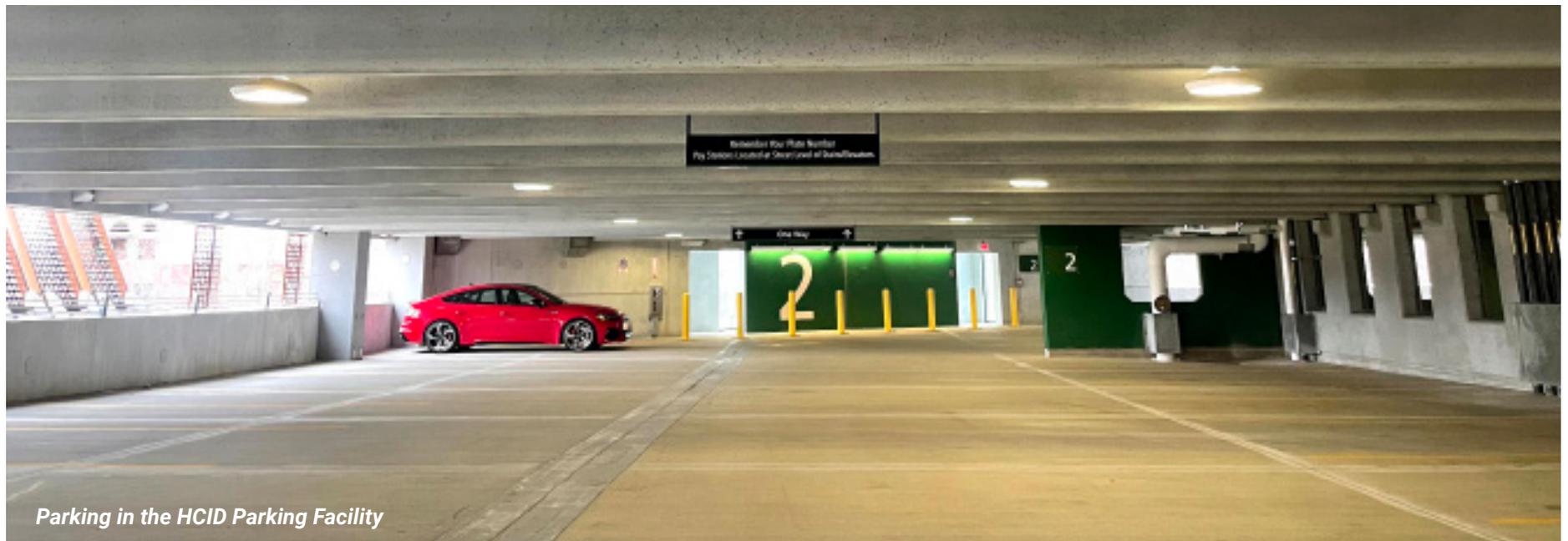
Past and ongoing planning efforts, such as the Downtown Lowell Evolution Plan and the GoLowell Multimodal Complete Streets Plan, seek to ensure Lowell's transportation system is equitable in enabling access by all modes and supporting increased investment by developers. This study seeks to **advance towards a more sustainable, equitable, and cost-effective parking system** and build upon these plans.

The recommendations detailed on the following pages seek to create a citywide parking system which is more **user-friendly and better reflects the economic development goals of Lowell**. This includes planning to guarantee availability on street blocks and in parking facilities, positioning public parking resources as a way to limit the growth of the private parking supply, and better defining parking in residential neighborhoods and NBD's.

The recent opening of the Hamilton Canal Innovation District garage, which will serve economic development in this portion of Downtown, speaks to the mission of providing public parking to head off growth in the private parking supply. **Parking which can be used by several different types of users over the course of the day reduces development costs for those tapping into this parking nearby.** Instead of subsidizing parking for residents or tenants which may sit empty for hours at a time, developers can forego the provision of new parking and allocate more space for housing, office space, or other kinds of activities.

At a per space cost of approximately \$40,000, the new parking facility is positioned to recoup this investment in a way which private developers cannot. **Typically, the costs of constructing parking are typically passed on to residents and tenants regardless of whether these parties need parking.** When private parking is constructed despite the presence of available parking nearby, or not paired with pricing which shifts demand between locations, Lowell's investment in its parking system becomes less justified.

With policy and infrastructure changes to support the shared use of citywide parking resources in a way which does not lose the convenience of expecting to find a space where one needs it, a community designed for travel by all kinds of modes will function with less of a car-first mentality.



Parking in the HCID Parking Facility

3.1 GOAL REVIEW AND RECOMMENDATION SUMMARY



Align Parking Standards with Economic Development Goals

Devoting space to parking, both in Downtown as well as throughout the community, prevents land from being used for purposes like housing, retail, and community space. The cost of constructing and maintaining on-site parking for development projects is difficult to recoup, especially in comparison to rentable space.

Lowell's parking standards should align with economic development efforts. A more convenient parking system helps increase foot traffic for merchants, and fewer drivers looking for parking in fewer location creates space for walking, bicycling, and transit use.

BEST PRACTICE

- Reduce or eliminate parking requirements
- Prevent growth in private parking supply
- Repurpose parking when appropriate
- Set a utilization target
-

RECOMMENDATIONS

- **Connect and Coordinate Parking in Downtown**
- **Create Availability with Performance-Based Pricing**
- **Unlock Underutilized Parking in Neighborhoods**
- **Monitor Performance to Keep on Top of Change**



Improve the Parking Experience

Frustrations with a community's parking system can discourage visitors from making trips. Unfamiliarity with where parking is allowed, where parking is available, an inability to pay for parking in a convenient fashion, and a sense of unease in parking facilities can all prevent visitors from making driving trips to Downtown Lowell.

A well-run parking system should feature availability throughout Downtown, feature safe facilities with bright lighting and clear wayfinding, and provide an abundance of updated payment options.

BEST PRACTICE

- Implement safety improvements in facilities
- Facilitate different payment options
- Update wayfinding
- Reduce time spent looking for parking

RECOMMENDATIONS

- **Connect and Coordinate Parking in Downtown**
- **Create Availability with Performance-Based Pricing**
- **Unlock Underutilized Parking in Neighborhoods**
- **Invest in Neighborhoods with Parking Benefit Districts**
- **Equip Parking Operations with the Right Tools**



Adjust Parking Pricing to Better Manage Demand and System Costs

A user-friendly parking system assures drivers that spaces will be available where they desire it. This is accomplished by using price as the controlling mechanism; at the right price, demand for parking in one location will meet supply.

Pricing throughout Lowell today is \$1.50 per hour, despite demand for parking differing by location. This price is too high in some spots and potentially too low in others, resulting in lost revenue opportunities to cover operating costs.

BEST PRACTICE

- Set a utilization target
- Reduce time spent looking for parking
- Ensure revenues meet expenses
- Manage operating costs

RECOMMENDATIONS

- **Create Availability with Performance-Based Pricing**
- **Re-Imagining Residential Parking Permits**
- **Equip Parking Operations with the Right Tools**
- **Monitor Performance to Keep on Top of Change**



Incentivize Greater Use of the City's Parking Garages

Over 6,000 spaces in Downtown parking garages provides a ready supply for visitors, residents and employees of Downtown who purchase or are provided leased space in these facilities. Yet some garages feature extra capacity at peak periods, and all garages can fit more vehicles during overnight hours.

By encouraging use of garages, particularly through lease agreements, the future growth in the Downtown parking supply can be contained. Infrastructure upgrades can improve the attractiveness of these facilities.

BEST PRACTICE

- Keep garages utilized
- Implement safety improvements in facilities
- Update wayfinding
- Share parking availability with the public

RECOMMENDATIONS

- **Connect and Coordinate Parking in Downtown**
- **Create Availability with Performance-Based Pricing**
- **Equip Parking Operations with the Right Tools**
- **Monitor Performance to Keep on Top of Change**



Update Parking System to Reflect Citywide Goal

Past and ongoing planning efforts in Lowell have sought to build a more sustainable community, with safety for all types of roadway users and a quality placemaking to build upon Lowell as a regional destination. A sensible parking system should serve these goals, including by cutting down on the time drivers spend looking for parking.

Additionally, management and operating costs of the parking system should be adequately served by user fees, including permit and passcard prices and parking rates.

BEST PRACTICE

- Prevent growth in private parking supply
- Repurpose parking when appropriate
- Ensure revenues meet expenses
- Reduce time spent looking for parking

RECOMMENDATIONS

- **Create Availability with Performance-Based Pricing**
- **Re-Imagining Residential Parking Permits**
- **Invest in Neighborhoods with Parking Benefit Districts**
- **Equip Parking Operations with the Right Tools**
- **Monitor Performance to Keep on Top of Change**



Reduce Parking Congestion and Promote Parking Availability

Time spent looking for parking, also known as “cruising”, can be frustrating for drivers who are in a hurry or are determined to park in a particular location. In Lowell, Downtown garages can close when capacity is reached without advance warning to drivers.

A parking system which reduces congestion in busy spots and promotes where parking is available can sharply reduce time spent looking for parking. A “park once” environment, where users can park where preferred for several hours, is preferable to one where cars must be moved every few hours.

BEST PRACTICE

- Set a utilization target
- Keep garages utilized
- Reduce time spent looking for parking
- Share parking availability with the public

RECOMMENDATIONS

- **Connect and Coordinate Parking in Downtown**
- **Create Availability with Performance-Based Pricing**
- **Re-Imagining Residential Parking Permits**
- **Unlock Underutilized Parking in Neighborhoods**
- **Monitor Performance to Keep on Top of Change**



Streamline the City's Residential Parking Programs

Lowell's reserved parking sign program is unique in privileging residents to sole use of on-street parking in front of their residences. This system can result in desired parking sitting empty for long periods of a time, results in sign clutter, and makes parking disputes commonplace.

A more efficient residential permitting program should continue to protect residential parking assets, but in a more dynamic way. Extending additional benefits to residents and monetizing non-resident parking can ensure spaces are well-utilized while affording extra convenience to permit holders.

BEST PRACTICE

- Prioritize residential availability
- Ensure revenues meet expenses
- Reduce time spent looking for parking
- Manage operating costs

RECOMMENDATIONS

- **Re-Imagining Residential Parking Permits**
- **Unlock Underutilized Parking in Neighborhoods**
- **Equip Parking Operations with the Right Tools**
- **Monitor Performance to Keep on Top of Change**
- **Invest in Neighborhoods with Parking Benefit Districts**



Determine Future Parking Needs to Support Growth in Downtown

Downtown Lowell is overbuilt for parking today; parking within a short walk of popular destinations sits empty during peak time periods. When development projects are considered, new on-site parking can add to this supply while taking up space that could be better served.

A more resourceful parking system anticipates where parking may be scarce in the future and expands capacity when other options are exhausted. Shared parking is the most beneficial way for Lowell to accommodate growth in a practical way.

BEST PRACTICE

- Keep garages utilized
- Reduce or eliminate parking requirements
- Prevent growth in private parking supply
- Repurpose parking when appropriate

RECOMMENDATIONS

- **Connect and Coordinate Parking in Downtown**
- **Monitor Performance to Keep on Top of Change**

3.2 BEST PRACTICE TOOLKIT

Downtown Parking Management



Downtown Parking

BEST PRACTICE

Parking in a downtown should implement performance-based pricing to spread parking demand. All parking facilities should be well advertised and connected to the downtown.



Downtown Zoning

A progressive zoning code can ensure that growth in travel demand is absorbed by other travel modes, and that those requiring vehicle access utilize nearby parking resources and only construct new parking as needed.



Shared Parking Districts

Broadening the use of shared parking agreements between private landholders can ensure that growth in the restricted, off-street parking supply is kept to a minimum.

LOWELL'S EXISTING PRACTICE

Parking pricing is the same across the community, and most visible and convenient spaces are full. Available parking farther away is underutilized and not visible to visitors.

Zoning code encourages shared parking reductions for mixed-use developments and waives non-residential requirements in Downtown. Residential parking may be leased from public parking facility.

No shared parking district exists. Outside of Downtown, two or more non-residential uses may share a common parking area provided it is located within 400 feet of building entrance.

Parking Regulations and Permit Management



Parking Pricing

BEST PRACTICE

Pricing should be performance-based, using the cost of parking to achieve ideal parking availability by setting the cost of parking to allow users to pay more for the most desirable spaces and less for spaces that are less convenient.



Parking Payment Mechanisms

Mechanisms should provide an array of options for users (i.e. coins, credit card, smartphone). Mechanisms should use the same gate control & billing systems.

LOWELL'S EXISTING PRACTICE

Parking pricing is a flat rate, particularly in the Downtown. On-and off-street public facilities are set at a uniform rate of \$1.50 per hour.

Metered parking kiosks for on-street parking allows for users to pay via a smartphone application, coins, or credit cards. Certain parking garages use different gate control and billing processes.

	BEST PRACTICE	LOWELL'S EXISTING PRACTICE
 Time Limits	Time limits are several hours or discouraged entirely to allow for more flexibility for visits; cost is a more appropriate mechanism to ensure parking spaces are valued appropriately by drivers.	Parking is limited to two-hours, which forces motorists planning for longer visits to park in garages.
 Short-Duration Parking	Short-duration spaces are discouraged but a free period of parking can be provided at the start of parking visits while keeping flexibility for long-term parking.	Short-term duration parking throughout Lowell allows for 15 or 30-minute parking typically located in front of businesses. This prevents longer-term visits by other potential parking users.
 Residential Permits	Residential permits protect residential parking assets during high demand periods, accounting for non-residential users and those with driveway parking.	Reserved parking sign/placard program obligates spaces in front of homes to residents of that property, restricting use of on-street parking by all others.

Parking Enforcement Efforts

	BEST PRACTICE	LOWELL'S EXISTING PRACTICE
 Downtown Enforcement	Enforcing agency (whether it be a Department, Authority, or other entity) is equipped with technology which quickly determines whether vehicle is in violation of time limit, regulation type, or is subject to unpaid violations.	Parking Department has no means to control access to different parking facilities. On-street kiosks are older and will soon be in need of replacement. The current enforcement system tells visitors, employees, and visitors where they cannot park, rather than where they can.
 Residential Enforcement	Residential permits are tied to vehicles and administered in a centralized manner which allows the Parking Department to quickly discern potential violation status.	Enforcement is carried out on a case-by-case basis; violations can go unenforced or require intervention by the Police Department.

1

Connect and Coordinate Parking in Downtown



WHAT IS RECOMMENDED

Shared parking identifies and fills underutilized parking at times of the day when other kinds of parking, such as metered parking or restricted off-street spaces, are full or do not meet the needs of users. This can include employees desiring longer-term parking when metered parking is time-limited, retail proprietors who desire additional parking for their customers, and residents of Downtown for whom on-site parking is not available.

HOW DOES IT WORK?

A shared parking district would bring public and private parking resources under one system to better manage availability, costs, and pricing. Parking ownership may still be disparate but the City would take the lead in working with private parking owners to develop a coordinated system. This entity can provide various levels of incentives, including providing a forum for parking owners and operators to discuss issues and ideas, revenue sharing, and supporting partial or full operational needs, including staffing and equipment.

Once operational, parking areas are branded and signage provided to note the regulation (visitor parking, reserved parking, etc.).

WHY IS THIS RECOMMENDED?

Benefits of a shared parking district include:

- Ability to institutionalize a performance-based pricing system based on parking type (on-street and off-street) and location.
- Modernization of information and reporting practices, enabling real-time information for users regarding parking availability and pricing and long-term management based on utilization data.
- Standardization of signage and wayfinding.
- Facilitation of advance planning for special events.

Today, the Lowell Parking Department effectively effectively acts as a shared parking district by leasing spaces in public parking facilities to residential and commercial developers. This function has limited the growth in the Downtown parking supply than might otherwise have occurred, leaving space for higher-value uses. Growing the shared parking district to incorporate private lots provides more opportunities to manage demand within and between desirable parking areas more efficiently. This would decrease pressure on the Parking Department to close popular garages during peak periods and support a user-friendly system where parking is available at more convenient locations.

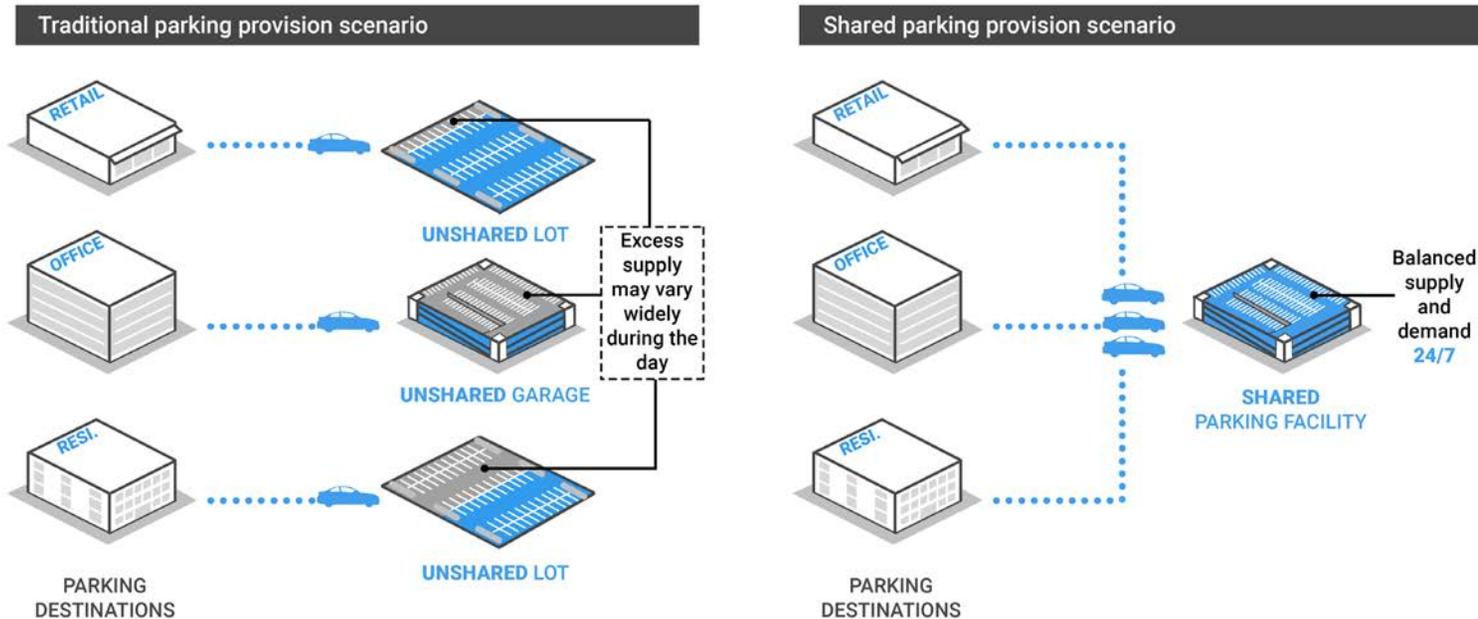
HOW WOULD THIS BE IMPLEMENTED?

When working with private landholders opening their parking supply for broader use, the City would directly lease parking on a per space basis from a private landowner or entity for use of public parking or a specific need (e.g. employee parking). This may mean that the entire facility or part of the facility is open for public use, or that the facility is publicly available for only certain hours or days of the week. To overcome current resistance and inertia against shared parking, straightforward shared parking agreements should be developed which cover costs, revenue, liability, maintenance, and facility upgrades.

Management, and potentially limited or complete aspects of operations of these private lots could fall under the purview of the City as desired by the private landowners in return for a share of district revenues. Transparency regarding why pricing may differ by location and where revenues are being invested helps justify price differentials throughout the district and supports future price changes.

WHAT GOALS ARE ADDRESSED?

-  Align Parking Standards with Economic Development Goals
-  Improve the Parking Experience
-  Incentivize Greater Use of the City's Parking Garages
-  Reduce Parking Congestion and Promote Parking Availability
-  Determine Future Parking Needs to Support Growth in Downtown



✦ A secondary option for Lowell is to encourage shared parking agreements between private stakeholders. Today's zoning relieves residential and non-residential uses in the Downtown Mixed-Use District (which covers the entirety of the CBD study area) of providing on-site parking within 1,500 feet of a publicly-owned parking facility; residential uses must meet requirements under this condition but non-residential uses become exempt from requirements. Shared parking arrangements are allowed at a 400 foot distance; however, this benefit is restricted to parking provided under common ownership.

The zoning code can allow for private facilities to absorb existing or future demand at nearby development projects by:

- Removing the provision that shared parking must be in common ownership
- Matching the 1,500 foot distance allowed for use of publicly-owned off-street facilities
- Ensure two or more uses can be in different zoning districts

CASE STUDY

Sacramento Shared Parking Program

For several years, the City of Sacramento has proactively pursued and maintained shared parking agreements with private lot owners. This success is largely in part due to the support of the city managers and elected officials.

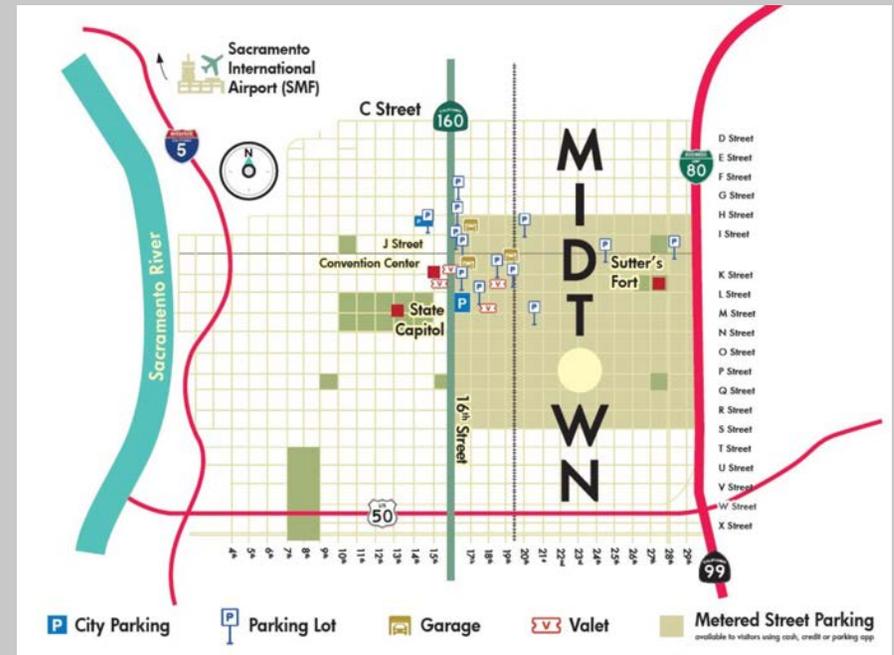
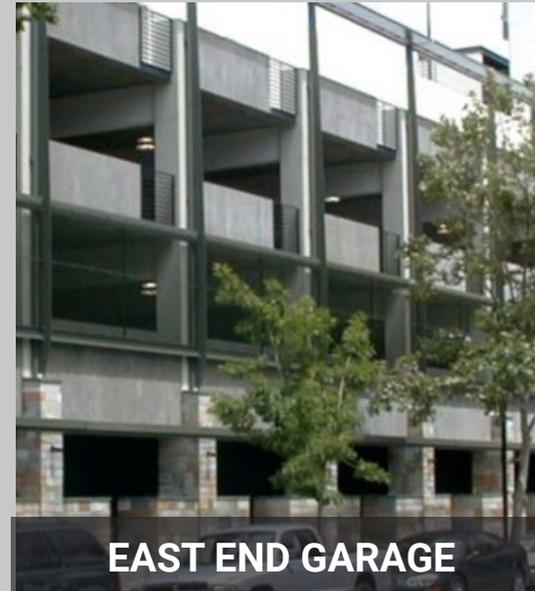
Through opening the use of over two dozen privately-owned parking facilities to public use at set periods during the day, the City is able to provide parking in some of the most dense areas near the most popular destinations without the need of building new facilities. The East End garage is one example- the 600-space facility is owned by the State of California and is located in an area popular for activity in the evening. The garage is made available to the public after 4:30pm during the week, all weekend, and at a flat rate of \$2.

The City sees several financial advantages to the public/private parking agreements, and has estimated that the combination of 10,000 spaces under shared parking agreements, and 7,000 spaces owned by the City (2015 Nelson Nygaard Study), are saving them more than \$40 million, and providing over \$1 million in revenue from the shared facilities, annually.

Two shared parking models are used, although details are typically tailored depending on the facility and owner:

Enforcement Only: City enforces the private lot only; no management fee and no revenue sharing. Private owners give right of entry to City.

Full Management: City manages private facility as if it is its own, including revenue collection, insurance, citations, branding, and maintenance.



WHY IS THIS RECOMMENDED?

An important principle of a performance-based approach is shifting from using time to manage demand to using cost. A cost-based approach allows for motorists to park for longer periods of time where it is most convenient for them, provided they accept the cost of doing so.

A key challenge faced with parking operations in Downtown Lowell today is managing system demand during peak periods. When desired parking is not available but motorists have no way of knowing this in advance, time is spent looking for parking in places that it may not materialize (known as “cruising”), drivers are made late for appointments or work shifts, or visiting time is cut short. The Lowell Parking Department often must close garages for transients when they approach capacity.

HOW WOULD THIS BE IMPLEMENTED?

Using a utilization target rather than a set hourly fee is a better overall management approach and should be the goal of policy-makers and legislators. Best practice parking departments are asked by their local legislative bodies to meet and report on adherence to a target rather than setting prices, avoiding the politics of setting the right fee and instead focusing on the goal of parking availability for economic development.

The extension or elimination of time limits associated with on-street metered parking should also be implemented under a performance-based structure, given the use of *price* rather than *time* to manage turnover.

WHAT GOALS ARE ADDRESSED?

-  Align Parking Standards with Economic Development Goals
-  Improve the Parking Experience
-  Incentivize Greater Use of the City’s Parking Garages
-  Reduce Parking Congestion and Promote Parking Availability
-  Adjust Parking Pricing to Better Manage Demand and System Costs
-  Update the Parking System to Reflect Citywide Goals

3

Invest in Neighborhoods with Parking Benefit Districts

WHAT IS RECOMMENDED

A parking benefit district at the neighborhood level is a formalized way to invest revenues from residential and non-resident parking back into the community. By creating visitor parking options in neighborhoods, spaces can be utilized over the course of the day in a way which protects parking when residents need it most.

HOW DOES IT WORK?

A residentially-focused parking benefit district would take the revenues from residential permits, non-residential permits, and visitor parking and re-invest revenues in the neighborhoods where these charges are incurred. By expanding permit programs across all residential streets, including imposing time limits on non-residents, these types of users will not be able to park by-right in unregulated spaces as can be done at present. A future system would enable these users to pay for parking or purchase permits for more expanded use.



WHY IS THIS RECOMMENDED?

Demands are placed on residential streets by many types of users, including residential visitors, nearby employees, customers of businesses, and traffic associated with uses like UMass-Lowell. In many places throughout Lowell these types of users can park their vehicles in an unregulated environment, restricting access for residents at time periods where they need it, such as following an evening commute home.

A residentially-focused parking benefit district would formalize parking regulations for non-residents as well as take the revenues from residential permits, non-residential permits, and visitor parking and re-invest revenues in the neighborhoods where these charges are incurred. Sidewalk upgrades, accessibility improvements, pavement resurfacing, multimodal improvements, and curb improvements to prevent sidewalk parking are some ways revenues from the parking benefit district could be re-invested back into neighborhoods.

A key detail of a residential parking district is the use of ambassadors, and municipal staff to enforce violations, such as parking on sidewalks. Forgiveness for first-time offenders can be built into the program, with tickets provided which educate motorists on parking rules. A short-term approach to enforcement could be to ensure accessibility for mobility-impaired individuals on sidewalks; a longer-term approach built through program fees could involve improvement designs such as new crosswalks, curbs, parking lanes, and street re-paving.

HOW WOULD THIS BE IMPLEMENTED?

By expanding permit programs across all residential streets, including imposing time limits on non-residents, these types of users will not be able to park by-right in unregulated spaces as can be done at present. Signage would need to be updated noting that unregulated parking is by permit only, with options for pay-by-phone or advance purchase of visitor permits made possible. Regulations must be clearly posted.

The pricing structure for non-passholders on residential streets should be priced competitively with nearby meter rates, public garage rates, and as a benchmark use rates for daily parking options at UMass Lowell to encourage faculty, staff, and students to utilize on-campus parking resources before parking on nearby residential streets.

WHAT GOALS ARE ADDRESSED?

-  Improve the Parking Experience
-  Update the Parking System to Reflect Citywide Goals
-  Streamline the City's Residential Parking Programs

4

Re-Imagining Residential Parking Permits



WHAT IS RECOMMENDED

By transitioning away from today's residential permitting, new options can offer similar privileges to what is currently provided for residents, expand benefits for parking privileges within the community, and control administrative expenses for the city. Parking on residential streets can be protected to support availability when residents need it most.

HOW DOES IT WORK?

A "master permit" and "super permit" concepts are proposed with this recommendation. The "master permit" can be thought of as an evolution of the reserved parking sign/placard program; the ability to park in front of one's own residence would continue to be offered, with permits tied to vehicles and allowances for more than one vehicle per household to purchase a permit.

Given the deficiencies of the reserved parking sign/placard program detailed earlier in this report, a "super permit" should be designed as a more attractive option for residents. Parking privileges would be allowed throughout all neighborhoods of Lowell and discounts for parking Downtown would be afforded.

WHY IS THIS RECOMMENDED?

The two types of permit options available in Lowell (residential parking stickers in Acre and Pawtucketville and reserved parking signs/placards citywide) do not serve the study's goals of ensuring space availability for those who need it, making good use of available capacity, and reducing the potential for disputes. Particularly with the reserved parking sign program, on-street parking is made privatized and sign clutter leads to an unwelcoming built environment.

Permit options should spread demand out across available spaces and encourage residences with driveways to make use of them. Enforcement practices must be in place which can realistically be carried out by the Parking Department, including tying permits to vehicles rather than properties.

HOW WOULD THIS BE IMPLEMENTED?

Many residential streets in Lowell are unregulated, except where reserved parking signs are posted. Expansion of residential permitting would require new signage in residential neighborhoods to note where parking is allowed by permit only.

A transition period from today's practices and incentives to encourage residents and others in the community to make use of permit programs must be considered. Grandfathering existing reserved parking sign/placard users is encouraged. Pricing associated with the "master permit" and "super permit" options should help recoup City expenses, particularly for curbside management, and offset the costs of program administration that today are borne by all residents whether they own a car or not.

WHAT GOALS ARE ADDRESSED?

-  Streamline the City's Residential Parking Program
-  Reduce Parking Congestion and Promote Parking Availability
-  Adjust Parking Pricing to Better Manage Demand and System Costs
-  Update the Parking System to Reflect Citywide Goals

Today's residential permit options are unique in the privileges they provide to permit-holders. A future system should position alternative permit options, shown here as a "super permit", which provides additional privileges while retaining the flexibility for residential streets to serve different kinds of users.

TODAY	Reserved Parking Sign/Placard 	Residential Parking Sticker 
Can Be Used By	 One vehicle per household	 Any vehicle in household
Allows for Parking	 In front of house	 On whole street
Other Benefits	None	None
Price	 Pennies a week	None
POTENTIAL	Master Permit 	Super Permit 
Can Be Used By	 Any vehicle in household with surcharge for more than one	 Any vehicle in household (surcharge above two per address)
Allows for Parking	 In front of house	 Throughout City (with limits)
Other Benefits	None	 Additional Time  Garage Discount
Price	 Cup of coffee a week (grandfather existing users)	 Pennies a week

CASE STUDY

Fort Lauderdale Residential Permit Program

In July 2021 parking prices for the City’s parking lots, garages, and on-street spaces will be set based on their location within one of three new parking zones. The parking revenue is intended to fund structural repairs and maintenance in City parking facilities as well as technology upgrades that provide options to users (e.g., digital permits, and meter payment options like Apple Pay or Google Pay). Using the PayByPhone app also offers users a special price at spaces not associated with parking meters.

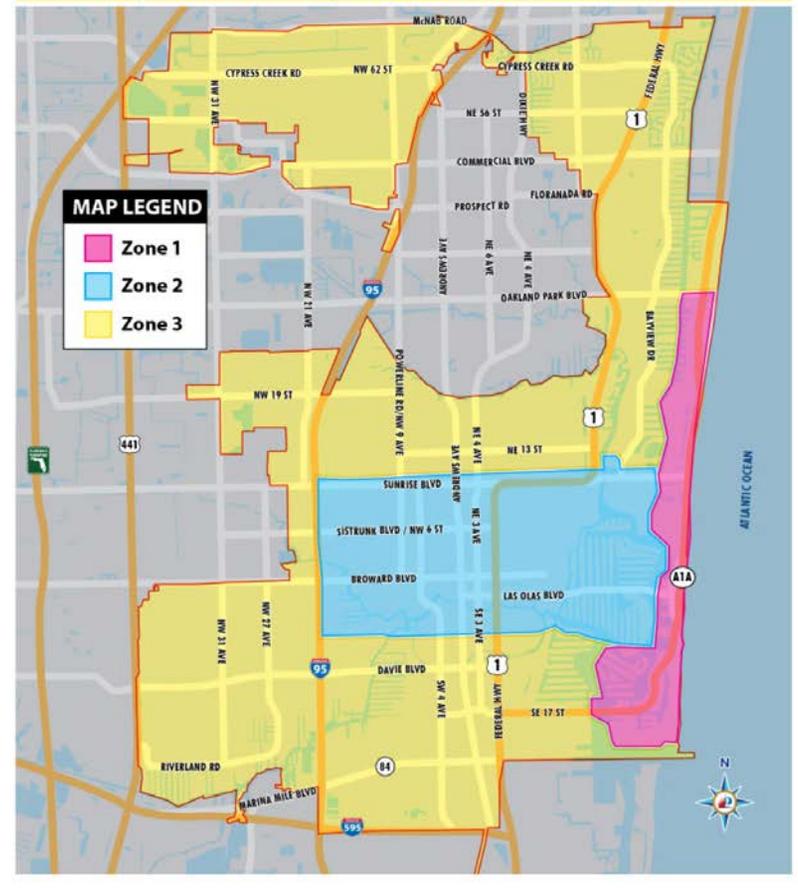
The program is managed by the City of Fort Lauderdale’s Transportation and Mobility Department and has provided a comprehensive website and toolkit of information for residents to notify them of the changes, address typical FAQ’s, outline the application process, and provide a clear, easy-to-understand map of the new zones and rates.



RESIDENT PARKING RATE PROGRAM

PARKING ZONES AND HOURLY RATES

	RESIDENT	NON-RESIDENT
ZONE 1	\$1.50	\$4.00
	East of the Intracoastal Waterway and south of Oakland Park Boulevard	
ZONE 2	\$1.50	\$3.00
	East of I-95, west of the Intracoastal Waterway, south of NE 11 Street, and north of SW 7 Street	
ZONE 3	\$1.00	\$2.00
	Any land outside of Zones 1 and 2	



5

Unlock Underutilized Parking in Neighborhoods

WHAT IS RECOMMENDED

By tapping into nearby vacant spaces, drivers are afforded convenient options for regular parking and revenue opportunities are potentially created for owners of private parking lots.

HOW DOES IT WORK?

Shared parking arrangements can be publicly or privately arranged.

Publicly-facilitated shared parking arrangements can enable public use of vacant spaces as a benefit derived from purchase of a residential parking permit. Signage would be posted at lots signifying hours of operation for resident or public parking with regulations regarding use of the lot. Revenues generated from permit sales would be shared with lot operators to cover operating costs.

Shared parking arrangements can also be undertaken between two private parties, which may be better suited for a business seeking employee parking spaces at a nearby, restricted (private) off-street lot.



WHY IS THIS RECOMMENDED?

In several residential neighborhoods, overnight parking utilization was estimated to be at or near capacity for on-street parking. As a result, many motorists are unable to find spaces proximate to their homes when arriving in the evening. This condition exists despite the presence of off-street lots, whether associated with a public use such as a school or municipal lot or with a private use such as office, daytime retail, or churches, with an abundance of vacant spaces in overnight hours.

HOW WOULD THIS BE IMPLEMENTED?

For residential parking, the Parking Department will likely need to play a role in facilitating lease agreements for use of off-street lots for general residential parking. Privileges to park in off-street lots can be included as part of residential permit options, such as the “super permit” profiled earlier.

Most shared parking agreements are codified in some way to guarantee protections to each party as well as the community. For example, agreements are typically required to last over a multi-year time period, until the sale of the property providing the parking, or in perpetuity through successors. Agreements are typically approved by a city attorney’s office and kept on file with planning and/or community development departments. Simplicity and flexibility are encouraged with shared parking agreements between private parties.

WHAT GOALS ARE ADDRESSED?

-  Align Parking Standards with Economic Development Goals
-  Improve the Parking Experience
-  Reduce Parking Congestion and Promote Parking Availability
-  Streamline the City’s Residential Parking Programs

6

Equip Parking Operations with the Right Tools



WHAT IS RECOMMENDED

Technology upgrades at parking facilities and updated enforcement practices are necessary to implement other recommendations in this report and ensure their long-term success. Technology which enables dynamic pricing at parking facilities, for on-street parking, and across neighborhoods is a critical piece of this recommendation. Other upgrades including lighting in parking facilities, strategic attempts to recoup parking fines, and equipping staff with updated technology to allow for better enforcement.

HOW DOES IT WORK?

Upgrades at parking facilities improves the attractiveness of these parking options, including lighting upgrades and security cameras for evening and overnight parking. More centralized collection and dissemination of parking information, such as pricing and availability in parking facilities, would allow travelers to make informed decision-making on approach to Lowell.

Drivers should be aware of current pricing prior to arriving at their destination to best engage with the system and feel comfortable parking anywhere public parking is maintained. Planning for availability with a utilization target is not feasible without methods to facilitate dynamic pricing.

WHY IS THIS RECOMMENDED?

Today's parking system is not positioned to carry out operations in a more dynamic way. Malfunctioning kiosks, dependence on security staff during off-hours, and an uncoordinated gate control and billing system limit the ability to raise additional revenues while controlling expenses. There does not appear to be any collection strategies for outstanding parking citations, with fees lower than standard practice and many fines going unpaid for extensive periods of time. Some parking facilities give off the appearance of discouraging their use with poor lighting and other signs of wear-and-tear.

Other customer-friendly upgrades involve lighting improvements and installation of emergency call boxes in parking facilities to create a better sense of safety.

HOW WOULD THIS BE IMPLEMENTED?

Management of all six garages should occur using the same gate control and billing processes, requiring investments in a system-wide gate control and billing system. The newer HCID Parking Facility utilizes WESCOR/Design gate control and billing along with license plate recognition (LPR) technology, a more efficient way to track vehicles entering and exiting the facility. Use of LPR technology would be beneficial for on-street parking enforcement; meter enforcement officers could more quickly determine whether a vehicle is in violation of a parking regulation and write a ticket. Radio-frequency identification is another practice the Parking Department could utilize to track vehicles, including for residential permit programs.

To retain flexibility for users in a new system, passcards should be customized for use in specific facilities or for specific time periods. These restrictions do not necessarily mean passcards are unable to be used across the system. However, using a higher-priced facility with a passcard obligated for a different garage should be managed in a way that allows the Parking Department to track this type of use and, if merited, add a surcharge.

WHAT GOALS ARE ADDRESSED?

-  Improve the Parking Experience
-  Adjust Parking Pricing to Better Manage Demand and System Costs
-  Incentivize Greater Use of the City's Parking Garages
-  Update the Parking System to Reflect Citywide Goals
-  Streamline the City's Residential Parking Programs

7

Monitor Performance to Keep on Top of Change

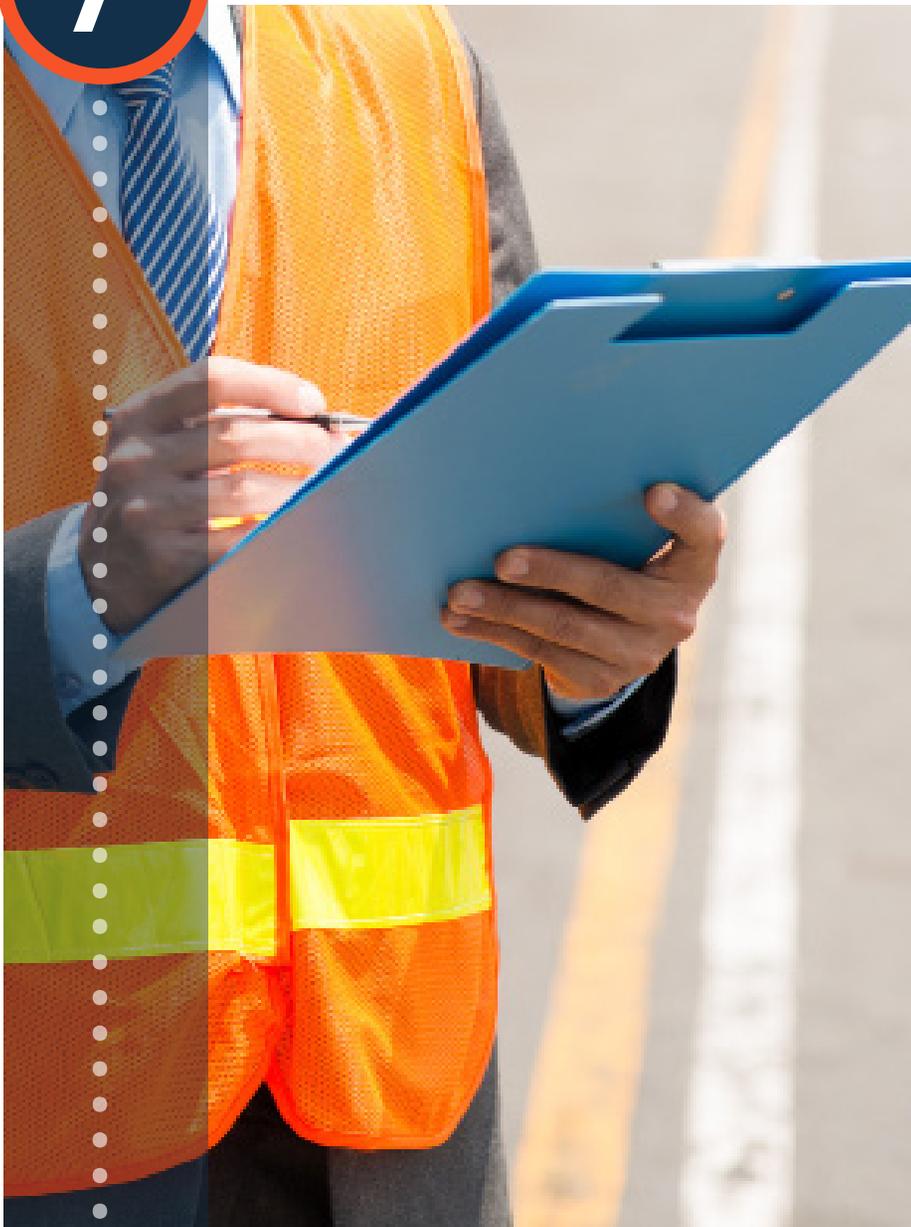
WHAT IS RECOMMENDED

Ongoing tracking of system performance is paramount in maintaining Lowell's parking system in the long-term. Without understanding how parking is used across the City, the recommendations detailed in this report (shared parking districts, performance-based pricing, residential permitting) risk becoming antiquated.

HOW DOES IT WORK?

This method for reviewing parking habits is not resource-intensive, as the work involved does not require special skill sets and can be achieved over the course of a day. Each year, the City should collect parking utilization on a block-by-block basis and adjust pricing by location and time of day in accordance with observed demand.

Data can be collected over the course of the entire day (until two hours after paid parking ends) on a Tuesday, Wednesday, or Thursday to reflect typical parking conditions. Utilization data and rate adjustments should be shared annually, which change based on keeping to a utilization target such as 85%.



WHY IS THIS RECOMMENDED?

Using a utilization target rather than a set hourly fee is a better overall management approach and should be the goal of policy-makers and legislators. Best practice parking departments are asked by their local legislative bodies to meet and report on adherence to a target rather than setting prices, avoiding the politics of setting the right fee and instead focusing on the goal of parking availability for economic development.

By attaching performance of the downtown parking system with a utilization target, less concern over the fate of individual parking spaces can materialize as a broader understanding of parking availability on a block-by-block basis is realized. This allows for better curbside management within the downtown transportation system, broadening the possibilities to install or shift important uses such as disabled access, commercial loading, bus stops, bicycle lanes, and passenger pick-up and drop-off zones. Opportunities to repurpose on-street parking for outdoor dining or gathering spaces becomes easier to argue.

HOW WOULD THIS BE IMPLEMENTED?

The ability to set rates according to a utilization target (such as 85 percent) rather than as determined by City Council is necessary in order to implement a performance-based approach. This would allow daily meter rates as well as monthly passcard pricing to evolve with changes in demand. While communities with a performance-based system produce annual reports tracking historical changes in parking supply, Lowell could simply issue press releases and update website information regarding parking prices. The key, in any arrangement, is transparency which allows the public to understand why changes in parking pricing are taking place.

WHAT GOALS ARE ADDRESSED?

-  Align Parking Standards with Economic Development Goals
-  Reduce Parking Congestion and Promote Parking Availability
-  Adjust Parking Pricing to Better Manage Demand and System Costs
-  Streamline the City's Residential Parking Programs
-  Incentivize Greater Use of the City's Parking Garages
-  Determine Future Parking Needs to Support Growth in Downtown
-  Update the Parking System to Reflect Citywide Goals



Other Recommendations

Phase out short-duration parking

Short-duration parking in NBD's benefits a few select businesses which encourage short visits at the disadvantage of other businesses, or drivers desiring more leisurely shopping experiences. City of Lowell staff indicated that an inordinate amount of time is spent legislating use of these spaces on a case-by-case basis. Given how parking is utilized in NBD's currently, eliminating short-duration parking spaces will have limited impact on drivers with a time premium, particularly if metered options allow for a 15 or 30-minute free time period at the beginning of visits in the future.

Expand shared parking provisions in zoning code across City

Commercial corridors studied on the outskirts of Lowell found an oversupply of parking compared to demand. This provides an opportunity for shared parking agreements between two or more uses, particularly for uses of two nearby projects. Zoning regulations should be amended to increase the distance between sites allowed for off-site parking up to 1,000 or 1,500 feet across the community.

Lower parking requirements

Utilization of parking in four commercial corridors examined for this study found rates not exceeding 41 percent, suggesting that existing parking requirements can be lowered and still accommodate demand. Comparing parking requirements throughout Lowell compare well to national standards published by the Institute of Transportation Engineers found that restaurant uses in Lowell require more than double the standard.



Other Recommendations

Harmonize daily and monthly garage pricing

At today's market rate price, drivers parking in a Downtown garage only need to use a facility nine times to make the passcard price worthwhile. This suggests that passcards are priced at a significant discount for daily users of parking facilities. Passcard pricing, or the hourly or daily rates in parking facilities, should be adjusted to position passcards as an appropriate option for those accessing garages at least three to four days per week.

Consider fee in-lieu program

A fee in-lieu program imposes obligations on developers who construct parking outside of defined minimum and maximum ranges. These obligations include demand-reduction amenities, such as bicycle provisions or improvements to the nearby pedestrian network, or a requirement to provide on-site parking in the public supply. This incentive-based approach to parking provision for development projects controls the growth of parking and protects the existing parking supply by broadening alternative travel options for project visitors.

Reform snow emergency practices

Community feedback indicated that moving vehicles to Downtown parking garages during snow emergencies is inconvenient, particularly the two-hour grace period following the end of an emergency to remove vehicles. Peer communities do not require the clearance of both sides of streets during snow emergencies, often adopting odd or even-side parking which changes every year or allowing for parking in nearby municipal lots such as schools.



NEXT STEPS

There are several steps which must be realized in order to implement the changes detailed in this study. Some of these include procurement of new technology and signs, administrative changes to best carry out new programs, and legislative changes to enable parking rates to be tied to performance. Critical paths to success include:

- **Coordinate with City Council:** Parking rates are currently decided by City Council, which is not conducive to a performance-based system where prices are aimed at meeting an availability target. Other changes concerning zoning code or administrative practices require the buy-in of City Council.
- **Engage with the Public:** Concerns over the impact of reforming residential permitting practices should be addressed through constant engagement with neighborhood groups, including local elected officials. Permit options should be communicated as building upon existing programs.
- **Pilot Early Changes:** Providing several months to test new changes, such as with variable rates with parking facilities or options like the “super permit” for residential parking, allows drivers in Lowell to experience how programs play out in practice without committing to long-term change.
- **Develop a Phased Implementation Plan:** A phased implementation approach can help guide pilot program scheduling and new purchases. Larger-scale changes, such as investment in new technologies in garages or upgrades of parking kiosks, should only be phased following any pilot programming.



