Downtown Binghamton Comprehensive Parking Study and Strategic Plan

Final Report

June 2016

NELSON
NYGAARD

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1 INTRODUCTION

ABOUT THE STUDY

Binghamton's downtown revitalization continues with recent investments in streetscape and gateway improvements, new housing, and Innovation District developments, a comprehensive parking management system is needed to accommodate the current and future needs. Parking should be identified as an asset, rather than a barrier, to downtown development. Downtown Binghamton has numerous destinations that attract local, regional, and event visitors. Parking is often where many of these uses come together. Corporate offices, the City and County courts and related businesses, and County, City and State governments bring significant daily traffic and parking demand to downtown.

The Downtown Binghamton Comprehensive Parking Management Study and Strategic Plan is a ten-month effort jointly undertaken by the Binghamton Metropolitan Transportation Study (BMTS) and the City of Binghamton. The study analyzes current parking activities and patterns through the collection of on-the-ground parking data, field observations, input from public workshops, stakeholder meetings, and an online survey. Using new and existing data, the Comprehensive Parking Management Plan identifies challenges and opportunities, and recommends smart parking options through a mix of demand-responsive pricing, new technology, more user-friendly and convenient ramp parking, sufficient information and signage, and context-sensitive policy and regulations. The strategies are tailored to respond to the concerns of the business community, residents, and commuters, and to support Binghamton's growth and future development.

The final report summarizes the key findings and strategies proposed to achieve Binghamton's development goals. Detailed analysis of the existing conditions, public outreach process, zoning review and land use analysis are documented in the attached Technical Appendices.

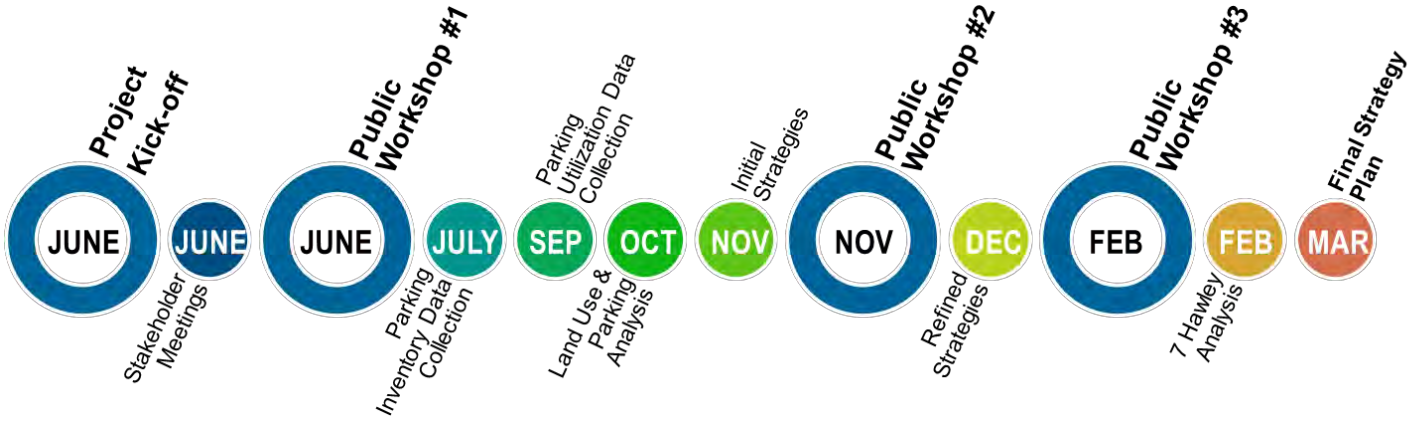
STUDY PROCESS

The Downtown Binghamton Comprehensive Parking Management Study is a ten-month effort that uses quantitative and qualitative data to recommend a series of strategies to achieve larger city goals. To document the current state of Binghamton's parking assets, the study began with a

PROJECT GOALS

- Analyze existing parking supply and demand
- Assess the existing and expected future demand
- Identify deficiencies of existing and expected future parking demand
- Propose new strategies to mitigate deficiencies and/or provide and promote optimal conditions to support continued growth and development within the central business district
- Analyze impact of bicycle, pedestrian traffic, and transit
- Identify supportive parking needs: special event issues, business needs, disabled parking, etc.

parking inventory and utilization data collection on a typical weekday and weekend. Relying on collected data and field observations, stakeholder meetings, and a series of public workshops, the team identified issues and opportunities with the current parking program. The team also analyzed the parking data in the context of existing and expected future land use. Taken together, the strategies developed stem from available data and input from study participants and are intended to directly address existing and expected future issues and opportunities.



PUBLIC OUTREACH

The Comprehensive Parking Management Study was developed with participation from the business community, City staff, property owners, developers, residents, students, and others. The study process began with an Open House in June 2015 that identified the priorities for the effort. The Open House was complemented by nearly 1,000 online survey responses. Initial findings were presented at a Public Meeting in November 2015, and feedback was used to guide strategy development. The third public input session in February 2016 focused on a presentation and discussion of the draft plan. Input received was used to refine the strategies included in this document. Throughout the project, the team worked with stakeholders to understand challenges and refine strategies to best address parking management.

Stakeholder Interviewees:
City and BMTS staff
Mayor and City Council
NYSDOT
Housing Developers
Downtown Binghamton Businesses
Broome County Arena
Broome County Jury
Broome County Security
Broome County Courts
City, County & State Office Building Facility personnel
LAZ Parking
Binghamton University

STUDY AREA

The Comprehensive Parking Management study area includes parking between the rail tracks to the north, Rt. 363 to the east, and the Susquehanna and Chenango Rivers to the south and west. The study area includes key areas of activity around the Central Business District (CBD), Broome County Courthouse, City Hall, County and State office buildings, major event destinations such as the NYSEG stadium, Floyd L. Maines Veterans Memorial Arena, and The Forum Performing Arts Theatre, as well as the future Innovative District east of the CBD. Figure 1 shows the study area boundary.

KEY FINDINGS

Existing and new data, documents and information, meetings and workshops, survey results from the public, and extensive observations resulted in several key findings regarding parking in downtown Binghamton:

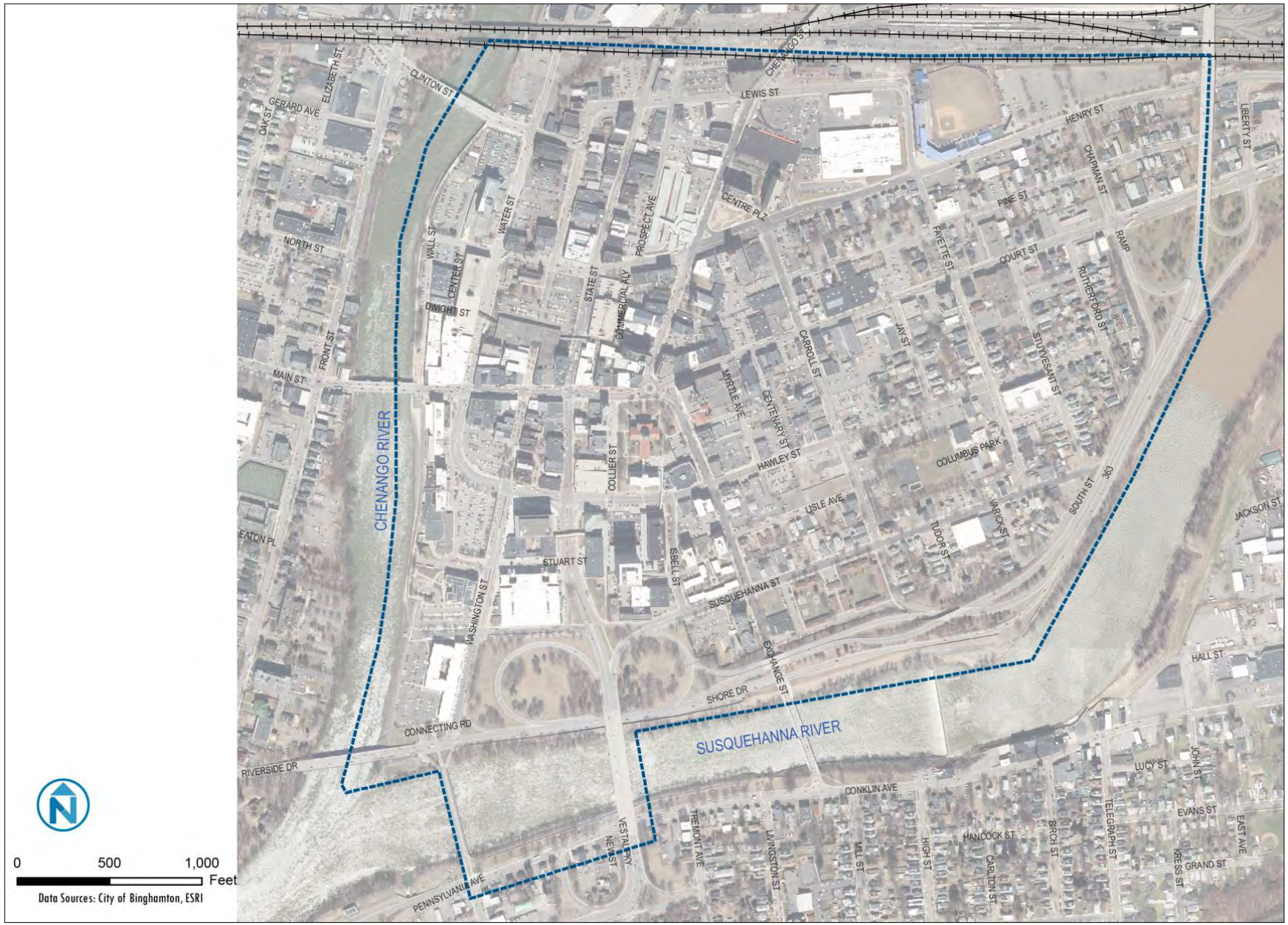
- On-street parking in the core is full at peak
- Little incentive to use off-street parking
- Easy-to-access event parking is in short supply
- Shortage of directional, informational, and regulatory signage
- **Walking barriers prevent a "Park Once" environment**
- **Lack of parking coordination hinders downtown's revitalization**

STRATEGIES

The following strategies are intended to address the issues summarized above. They are strategic planning level recommendations and will likely need further action, such as design, engineering, approval, etc. The strategies serve as overarching themes and guidance for parking management in downtown Binghamton. Strategies are interrelated and should be considered in conjunction with one another. Parking management strategies in Downtown Binghamton are:

1. Ensure on-street parking availability
2. Make off-street parking friendly
3. Improve overall event parking experience
4. Provide sufficient signage & information
5. Improve multimodal mobility and walking environment
6. Improve overall parking management and governance

Figure 1 Downtown Binghamton Parking Study Area



2 KEY FINDINGS AND STRATEGIES

The primary recommendations are organized to demonstrate how they address the key issues and findings developed through the study. The Technical Appendices provide the more detailed analysis, data and information from which the key findings were drawn.

The key findings were identified through data collected and field observations, conversations with stakeholders, and input from residents, employers and employees, and others through an online survey and public workshops. It should be noted that the study period predated the emergency closing of the balance of the Collier Street Ramp (a loss of over 300 off street parking spots) and prior to the introduction of planned introduction of several mixed use projects. Appendix E addresses the most challenging parking area adjacent to government offices, courts, large scale housing, restaurants and hotels.

The strategies were developed to directly address the key findings and were refined through stakeholder and public meeting input. The strategies are intended to be the foundation of an active comprehensive parking management system in Binghamton, both responding to existing issues and appropriate for a changing Downtown.

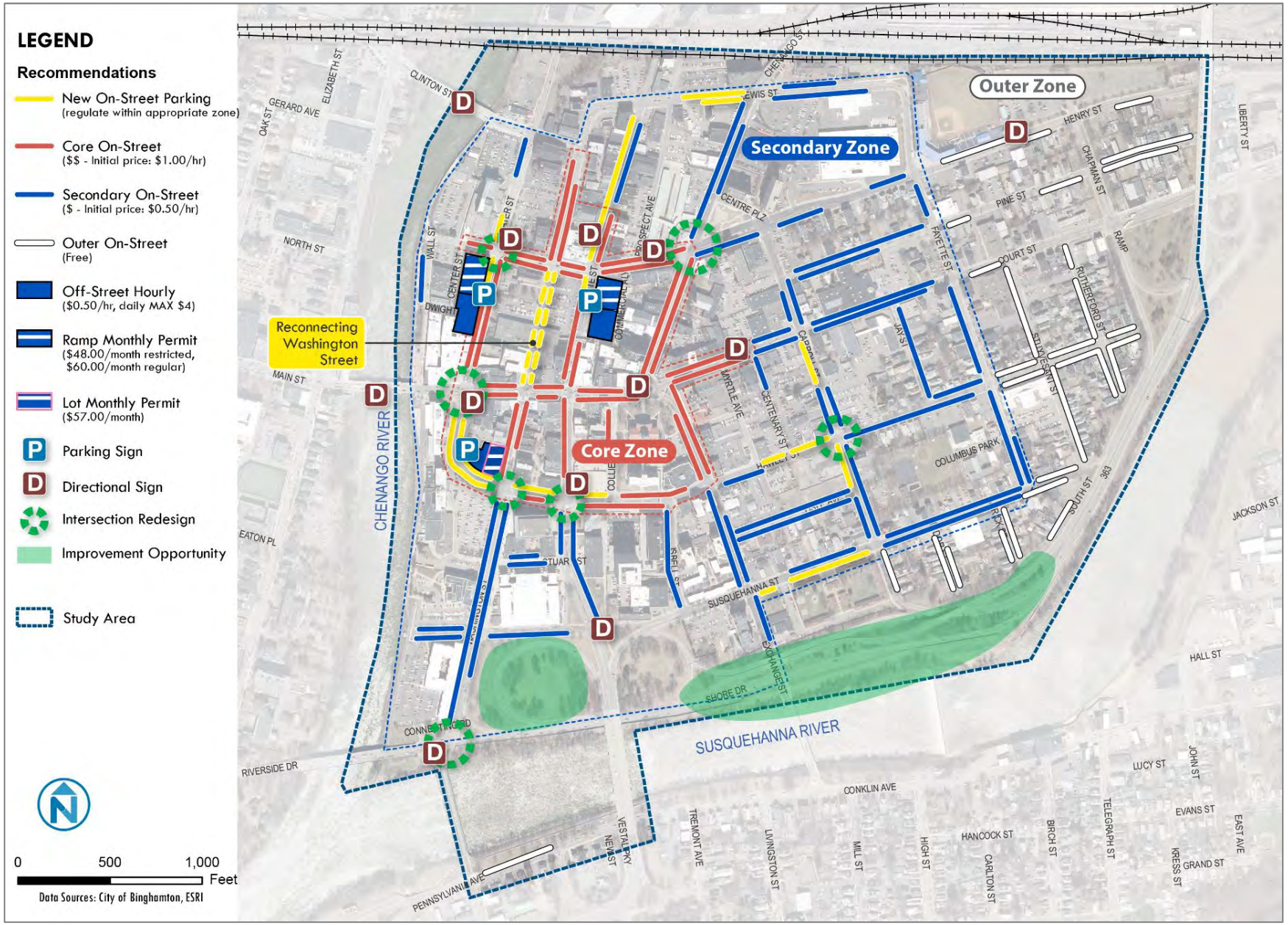
The set of strategies are interrelated and should be considered in conjunction with one another. They are strategic planning level recommendations and will likely need further actions prior to implementation, such as design, engineering review and approval. The strategies also include indirect parking improvement strategies, such as upgrades to the walking environment, which are intended to improve access, improve the overall downtown experience, and make the downtown environment and overall access to parking more inviting. As a whole, the strategies are intentionally supportive of an integrated and well-balanced transportation system for Downtown.

A summary of the key findings and strategies is in Figure 2.

Summary of Key Findings and Strategies

KEY FINDINGS		STRATEGIES
On-street parking in the core is full at peak	►	1. Ensure on-street parking availability
Little incentive to use off-street parking	►	2. Make off-street parking friendly
Easy-to-access event parking is in short supply	►	3. Improve overall event parking experience
Shortage of directional, informational, and regulatory signage	►	4. Provide sufficient signage & information
Walking barriers prevent a **"Park Once" environment**	►	5. Improve multimodal mobility and walking environment
Lack of parking coordination hinders downtown's revitalization	►	6. Improve overall parking management and governance

Figure 2 Integrated Parking Management Summary for Downtown Binghamton



FINDING:
ON-STREET PARKING IN THE CORE IS FULL AT PEAK

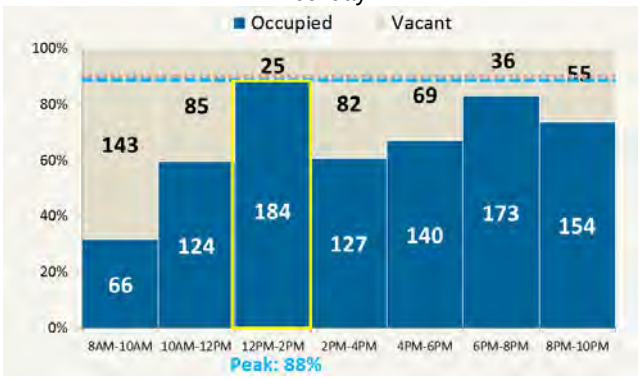
Binghamton's downtown study area has more than 10,000 public and private parking spaces, yet observations show that overall parking is only 50% full at peak demand. This demand, however, is not uniform across the day nor by geography. The highest demand is concentrated on-street within a core area, which coincides with most downtown retail and restaurants. This is the primary parking issue from which complaints originate, and is the location most go to first to look for parking, although often full. However, outside of this area, demand is substantially lower.

Curbside parking spaces adjacent to stores and restaurants are in highest demand, especially during meal times. Figure 3 shows that in the core area, curbside parking is nearly full during meal times: at lunchtime (80% full on weekdays, 64% on weekends) and in the evening (73% full on weekdays, 79% on weekends). When excluding government official, disabled, and loading spaces, the midday peak utilization for publicly-accessible spaces is even higher (88% on weekdays, 91% on weekends).

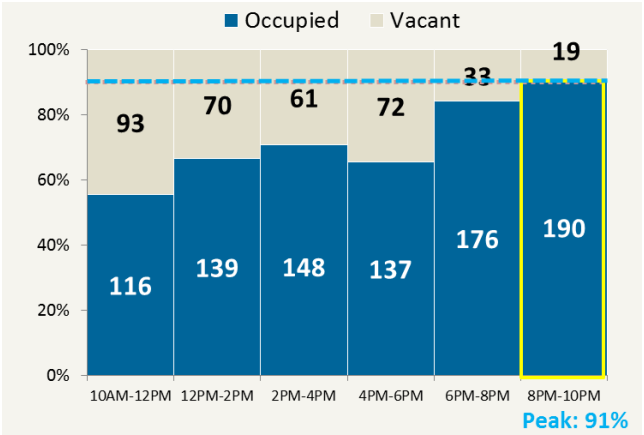
People prefer to park on-street. Even with two conveniently-located public ramps that have parking availability, most customers and residents have stated (and shown) that they prefer to park on-street. With a limited curbside supply, the lack of available on-street parking causes customer frustration and a perception of an overall parking shortage.

Figure 3 Core Area On-Street Publicly Available Parking Utilization

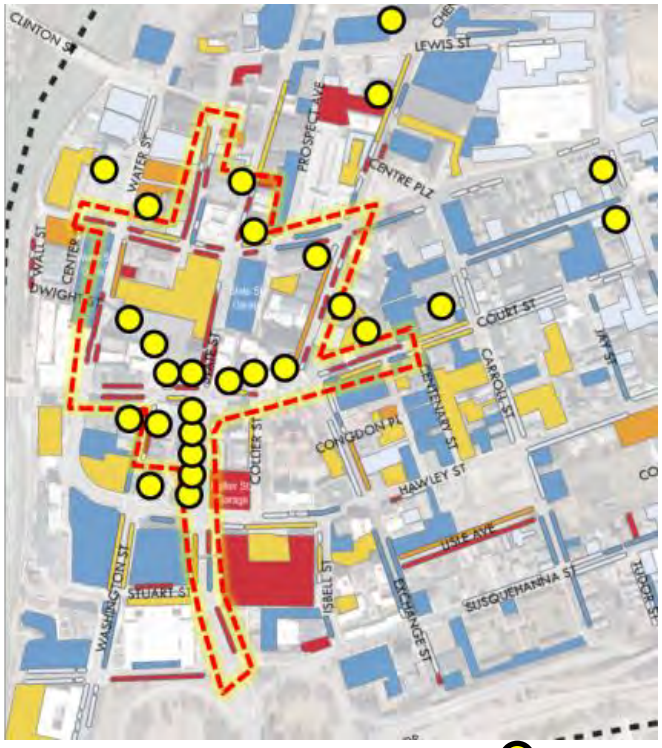
Weekday



Weekend



Core Area Boundary



Source: Utilization data collected on a typical Thursday and a typical Saturday in September, 2015

STRATEGY 1
ENSURE ON-STREET PARKING AVAILABILITY

To foster a strong economic climate in Downtown Binghamton and to support City's goals of supporting local business and future redevelopment, the City should adopt the following strategies to ensure parking availability on-street. These strategies are designed to significantly improve the perception and realities of the lack of available on-street parking, which is often the first (and last) impression of a visitor to Downtown.

1.1 Add More On-street Parking Supply

There is opportunity to add on-street parking within the existing right-of-way. Adding curbside spaces increases the total number of desirable "front door" spaces, is cost effective when using the existing right-of-way, and is a comparatively faster and easier option as compared to adding parking off-street (Example: Figure 4). On-street parking may also benefit the downtown environment: it creates a barrier between moving vehicular traffic and people on the sidewalk, slows down speeding vehicular traffic, and helps to promote the downtown setting.

Initial observations and analysis show that it may be feasible to add up to 300 new on-street parking spaces. Identified spaces must be further evaluated by City engineers for safety, access, and compliance with City policy.

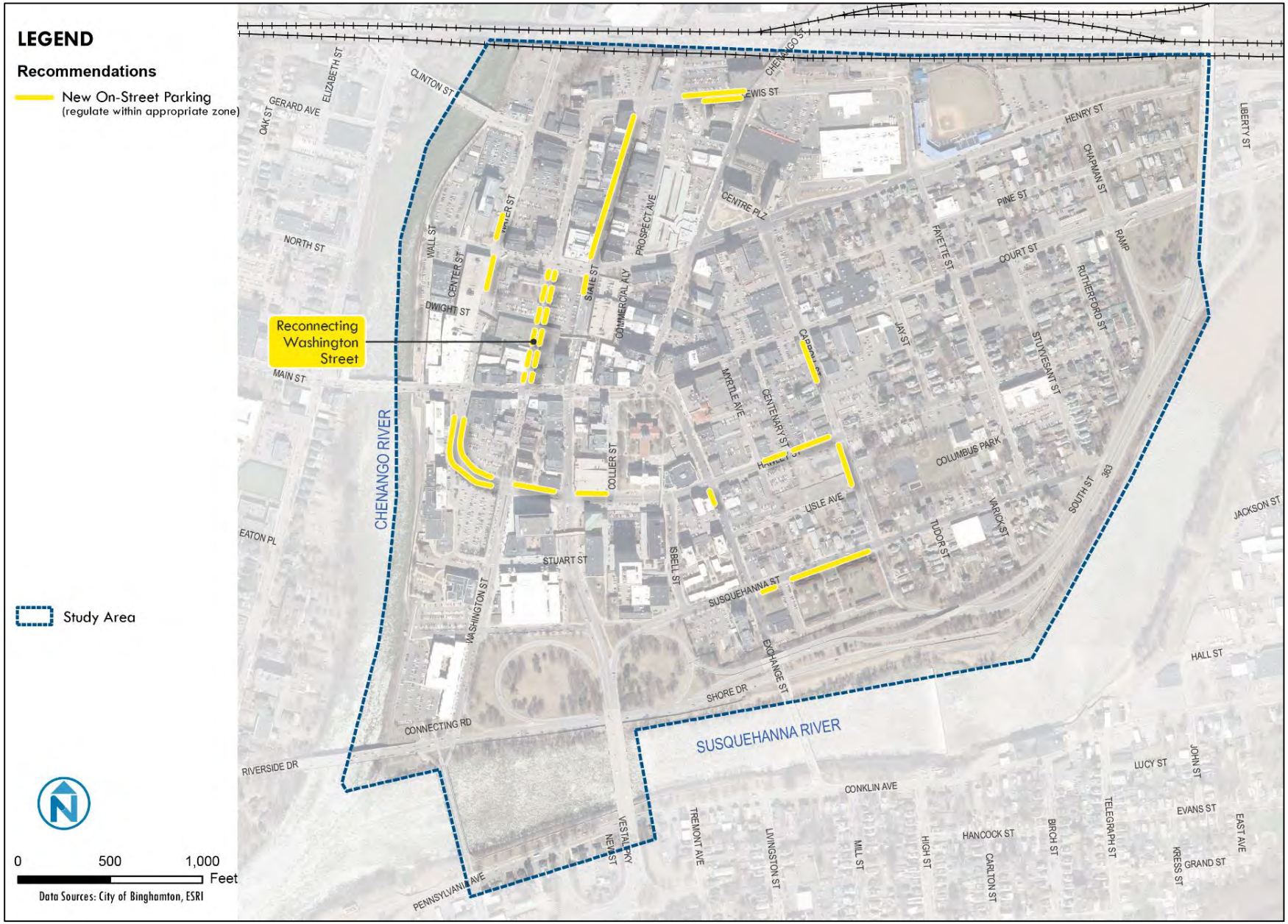
In general, new publicly-available on-street parking supply should be further evaluated in areas where:

- There are excess or very wide vehicular travel lanes.
- Restrictive on-street parking spaces are underutilized (e.g. some loading zones, taxi spaces, disabled or government only parking).
- There are redundant driveways or curb cuts that could be consolidated.

Where needed, extra curbside space that is not appropriate or long enough for vehicular parking should be considered for bicycle parking corrals or motorcycle/scooter parking.

Figure 4 Example: Striping ~20 new curbside spaces on Hawley Street

Figure 5 Potential Locations to Add New On-Street Parking Spaces



1.2 Introduce Demand-Based Pricing

The City should manage parking using visitor-friendly management practices that respond to parking demand to ensure availability of high demand spaces. Higher rates in areas of higher demand (and lower rates in areas with lower demand) will allow parkers to self-select options that work best for them. Regulations that allow for longer stays, and City staff authority for rate adjustments to create availability, are critical to have parking evolve along with downtown's growth.

Set Availability Goals

The City should adopt Availability Goals to effectively manage parking demand. Parking rates should be set to meet the Availability Goals with a dynamic system. This means that parking regulations should be responsive to the changing demand of Binghamton's parkers.

The City should adopt Availability Goals where, at minimum, parking rates should be adjusted to create:

- 15-20% availability of each block's on-street parking (Core and Secondary areas)
- 10-15% availability of off-street parking (Core and Secondary areas)

Managing parking to meet an Availability Goal, rather than arbitrary rates and time limits, would require periodic adjustments. With this, some communities have set boundaries for rate adjustments, e.g. limiting rate increases and decreases to $0.25/hour per adjustment or instituting an overall cap, such as $3.00/hour, before warranting elected official consent. When a block exceeds the Availability Goal, the price is too low; when a block is below the Availability Goal, the price should be reduced.

Furthermore, new parking technology allows for easy rate adjustments and is a source for parking utilization or revenue data. Most new parking payment technologies provide specific, on-demand reporting that can be used as a data stream to determine availability.

Why is Availability Important?

Curbside parking is critical to support businesses, and if managed effectively, supports the perception that downtown is a convenient place to visit. This begins with ensuring that curbside, on-street and preferably front-door parking is available for customer use. If these spaces are always full, customers may choose shop elsewhere where parking is more convenient, and those that stay will be forced to circle for another space, causing additional congestion.

The ideal scenario is that parking is well used, but managed so there is consistent availability – even during periods of peak demand. When this happens, downtown districts often thrive as a convenient place to visit and do business. By setting an "Availability Goal", the City will be able to adjust regulations to create the ideal amount of available curb space to support downtown.

Eliminate Time Limits

Time limits for metered on-street spaces should be eliminated and instead managed with Demand-Based Pricing. In residential neighborhoods where time limits exist to protect resident parking (and where no resident parking permits apply), time limits can remain as they are.

Two-thirds of all on-street parking spaces in Downtown Binghamton are regulated by time limits, including disabled parking. Parking time limits reduce the length of customer and visitor

What we heard:
"30 minute spaces are useless. Not much you can do downtown in 30 minutes."

stays. Good economic development policy suggests that inviting patrons to stay for a longer time period will have a positive impact on the local economy. Eliminating time limits gives visitors and customers an option to stay as long as they'd like.

Plus, no time limits creates a streamlined enforcement system: enforcement officers only need to determine whether or not a meter is paid. This eliminates tickets for overstaying time limits and is a less labor intensive enforcement practice.

Adopt a Tiered Demand-Based Pricing System and Extend Time Span

Higher parking rates in the areas of greatest demand, lower in the areas of modest demand, and free in the areas of little to no demand helps to best utilize the existing parking resources, and it offers drivers a choice on where to park. The City should rely on demand-based pricing to manage parking to incentivize more availability in areas that have high demand, and more parking demand in underutilized areas. The City can adjust regulations, such as price, time limits, and time span, based on meeting its Availability Goals. The City should also only price parking when demand exists; this may mean that the rates are extended into later in the evening in some areas, and end earlier in other areas.

Parking utilization patterns indicate clear boundaries of high and low demand for on-street spaces in downtown Binghamton. Parking along Court Street, State Street, and part of Washington, Water and Henry Street is over 80% full at peak and over 60% full throughout most of the day (Figure 3), while metered parking outside the core area is less than 40% utilized. Figure 2 identifies these areas of higher demand ("Core") and lower demand ("Secondary" and "Outer").

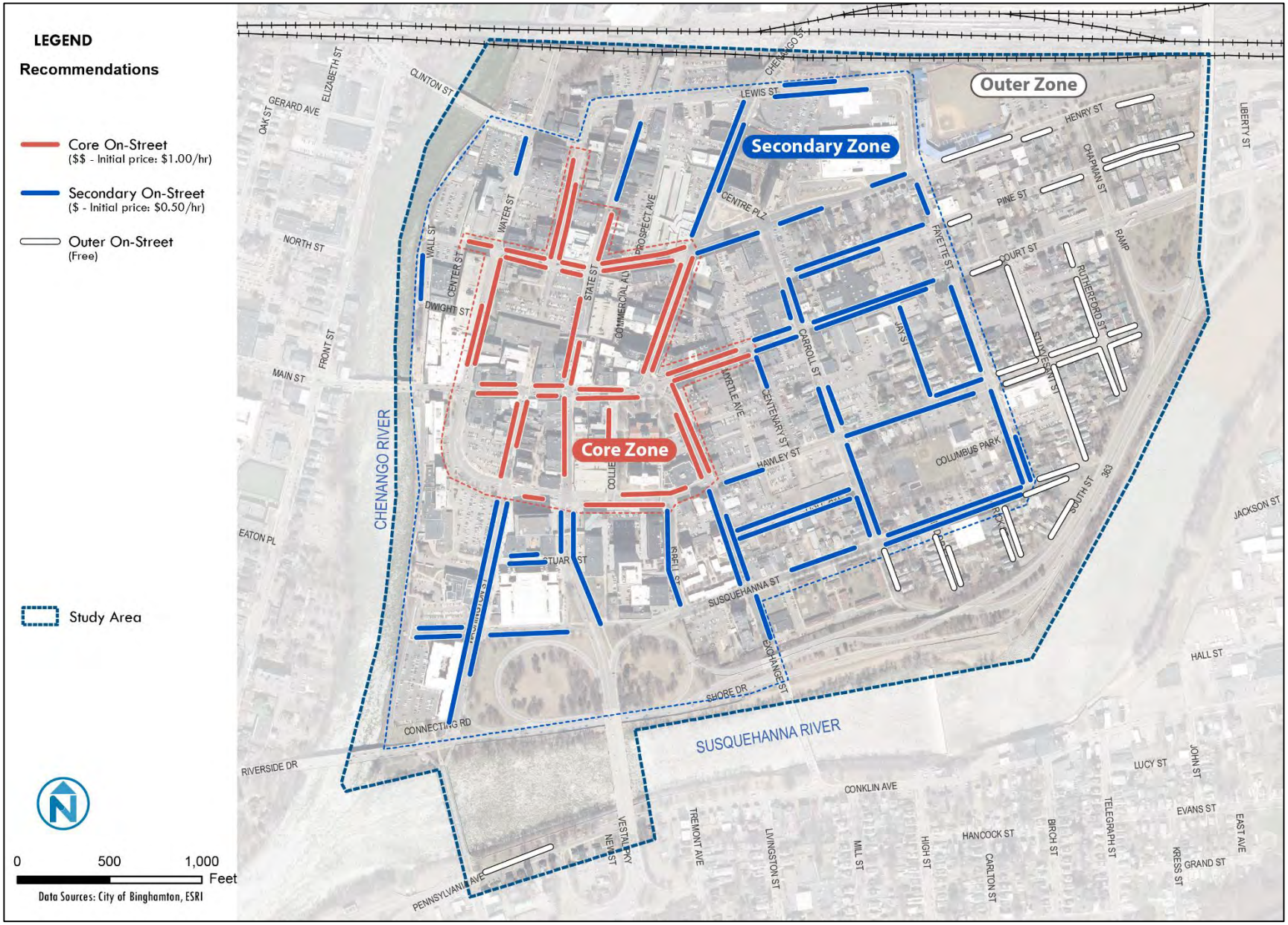
Enforcement spans should also be adjusted to reflect observed patterns. On-street parking in the Core is busy on Thursday, Friday, and Saturday nights, plus during evening events, and is a primary source of driver frustration. Extending (and enforcing) pricing until later in the evening will help create on-street parking availability.

Based on existing information, on-street parking could be initially managed based on the rates, time limits, and spans outlined in Figure 6.

Figure 6 On-Street Parking Pricing Strategy

Location	Rate	Time Limit	Span per Day	Days of Week
Today				
Various locations	$0.50/hr	15 min, 30 min, 1 hour, 2 hour, 4 hour, or no time limit	8 a.m. – 6 p.m.	Mon-Fri
Part of Carrol, Exchange, Fayette, Henry, and Lewis Streets	$0.25/hr	2 hour	8 a.m. – 6 p.m.	Mon-Fri
Court Street	Free	30 min	8 a.m. – 6 p.m.	Mon-Sat
Various locations	Free	15 min, 1 hour, 2 hour, or no time limit	8 a.m. – 6 p.m. (majority)	Mon-Fri (majority)
Proposed (Initial; to be Periodically Adjusted based on Parking Demand)				
Core Zone	$1.00/hr	Unlimited	8 a.m. – 6 p.m., Mon-Wed 8 a.m. – 10 p.m., Thu-Sat & Event	
Secondary Zone	$0.50/hr	Unlimited	8 a.m. – 6 p.m.	Mon-Sat
Outer Zone	Free	Unlimited	8 a.m. – 6 p.m.	Mon-Sat

Figure 7 Recommended Tiered On-Street Parking Pricing Zone



1.3 Upgrade Payment Technology

The City should invest in smart parking technology that accepts debit/credit cards to improve the user experience, increase compliance rates and enforcement efficiency, and provide parking data and back-end reporting. When implementing the new payment technology, the City should coordinate with Binghamton University and other nearby institutions or municipalities that use parking technology to implement the same or similar systems. When the City installs new payment technology, they should use this as an opportunity to revisit and clarify curbside regulations, such as loading zones and alternate side of street parking in evenings, and update appropriate signage.

Currently, Binghamton's downtown parking system is managed by traditional coin-operated meters. With the meters limited by coins-only, it is difficult to raise rates, change rates by geography or time of day, or provide dynamic messaging to users. Coin collections are also cumbersome. Parkers (and downtown business owners) are frustrated by the constant search for change just to feed the meters.

The City is currently pursuing new parking payment technology. Upon selecting a vendor, the City should consider options that:

- Make payment easy and convenient
- Use technology to pay by coin, debit/card, and cellphone
- Use "virtual" permits, using licenses plates, not stickers or hangtags to avoid the inconvenience of "pay-and-display"
- Make enforcement easy
- Integrate with enforcement equipment
- Provide easy and regular "back-end" data reporting to the City

In addition to payment technology hardware, whether it be single-head smart meters or kiosks, the City should implement two other supportive parking technology systems:

- Pay by phone, where a parker can pay to park (or add time) via a cellphone and receive reminders on when payment expires. Pay by phone is extremely convenient for the user and is typically no cost to the City. Pay by phone should be promoted through info cards and pilot incentive programs that explain how it works.
- License plate recognition for enforcement officers, where a vehicle-mounted or handheld unit can easily and quickly scan license plates and reconcile whether or not payment is valid.

Figure 8 Payment Technologies Including Pay by Phone and Multi-Space Kiosks

STRATEGY 1 SUMMARY: Ensure On-Street Parking Availability

Everyone is fighting for the same most convenient curbside spaces - customers, visitors and employees all want to find parking spaces close to their destinations. With the least expensive and most convenient spaces on-street, there is little incentive to look for a space anywhere else but on-street near the "front door" of destinations. To ensure both the perceived and actual parking availability are successfully increased to reduce frustration, the strategies in this section should work together as a comprehensive package. Strategies include:

- Add more on-street parking to uncover the hidden supply
- Adopt an Availability Goal to dynamically manage parking
- Eliminate time limits to invite patrons to stay as long as they want
- Adopt tiered, demand-based pricing to reflect demand
- Extend the time span to increase availability at night and during events
- Upgrade the payment technology to improve the user experience

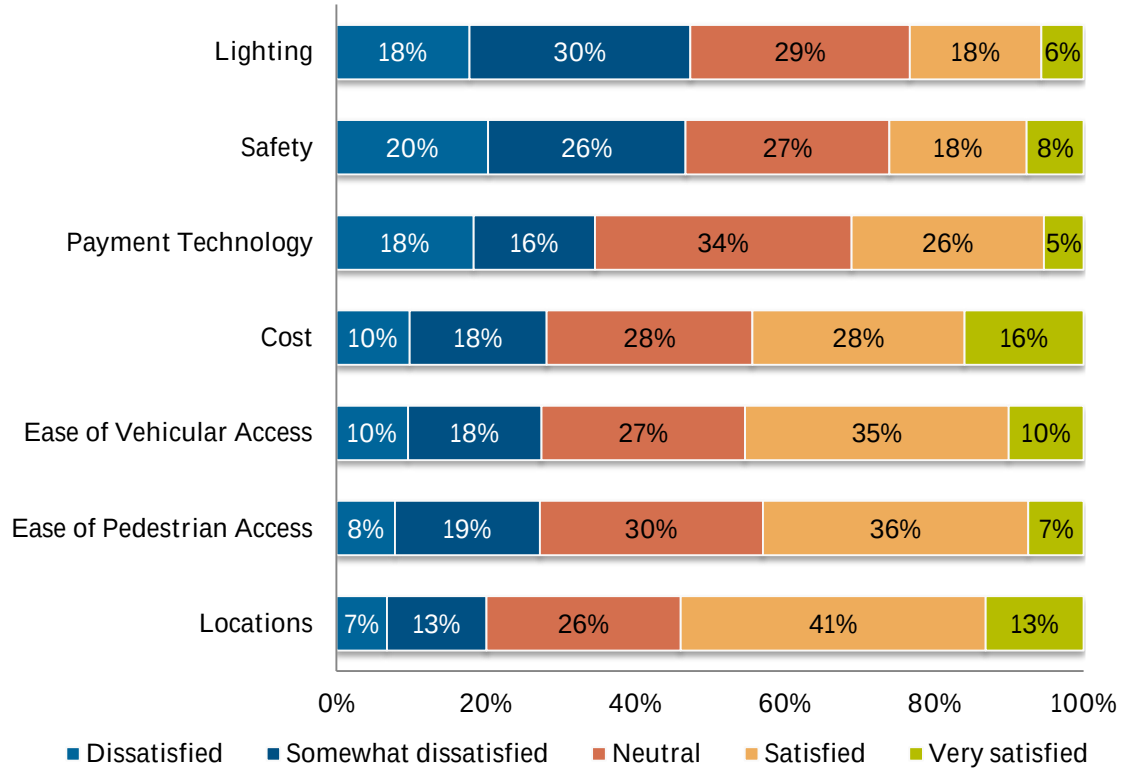
FINDING:
LITTLE INCENTIVE TO USE OFF-STREET PARKING

Although Binghamton's existing public ramps are located in the heart of downtown, they are underutilized facilities and have hundreds of parking spaces unused at the busiest times of day. There are several primary reasons why today's City-owned off-street facilities are underutilized:

- Parking in municipal ramps is more expensive than parking on-street.
- The interior conditions are not inviting and lack of a sense of safety and security. Collier Street Ramp was nearing the end of its functional service life due to significant deterioration. State Street and Water Street Ramps also require maintenance to address the current structural and waterproofing deterioration. The facilities lack general cleanliness, adequate lighting, signage, and accessibility.
- The ramps' exterior conditions lack active uses, do not provide adequate accommodations for people walking, and do not have visible signage.
- Payment technology is outdated and causes significant inconvenience for parkers.

The public ramps in Downtown Binghamton are simply not attractive and inviting to patrons and employees. Parking survey results show that lighting and safety are the public's top two concerns when using ramps (Figure 9). In addition, entries and exits are unclear and are unsafe for people walking. The structures, without active ground-floor uses, result in blank street walls, discourage people walking, and create a gap of local street life.

Figure 9 How satisfied are you with Downtown Binghamton's parking ramps?



Source: Online Parking User Survey, 2015.

Figure 10 Existing Ramp Conditions

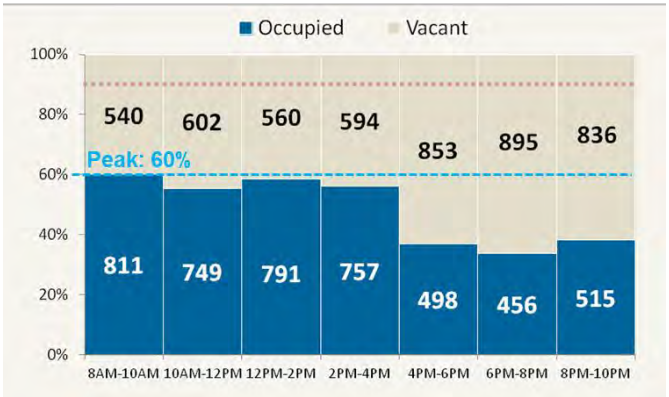
Overall, off-street parking is underutilized. Off-street public parking is only 60% full at peak, while restricted-access private parking is even less occupied (Figure 11). There are nearly 3,500 privately-owned and/or restricted access parking spaces unused at the busiest time of day. Note that the utilization data was collected on a typical weekday and weekend in September 2015, prior to Collier Street Ramp's full closure.

By the time of the data collection, of the three public ramps, Collier Street Ramp was busiest and most heavily used before its closure in November 2015 (Figure 12). Based on available vehicle entry data, Water Street Ramp picked up some of the parkers from Collier Street; State Street has not seen much impact (Figure 13).

More detailed analysis on parking utilization is included in Technical Appendix A.

Figure 11 Off-**Street Parking Utilization (Weekday): Before Collier Ramp's Closure**

Public Parking



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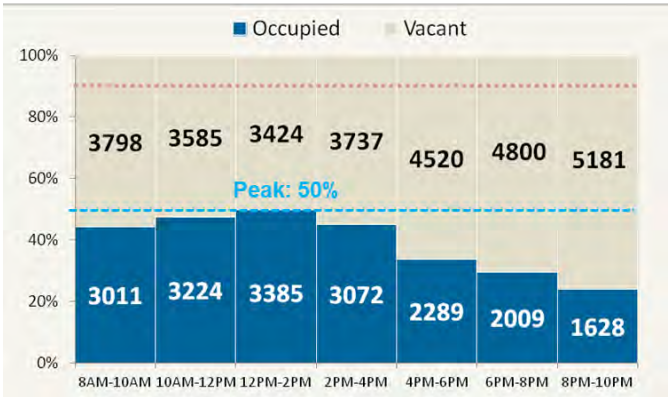
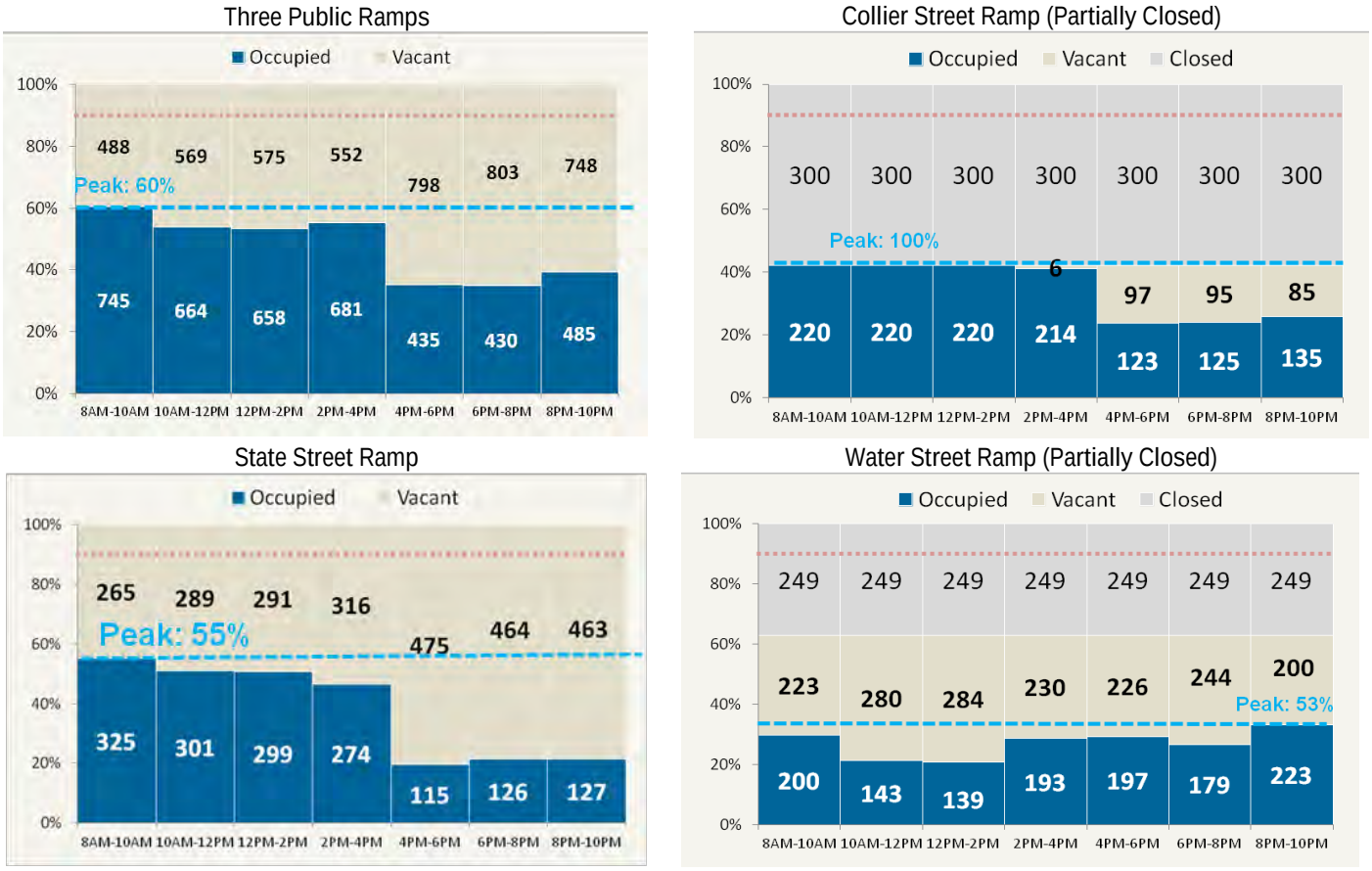


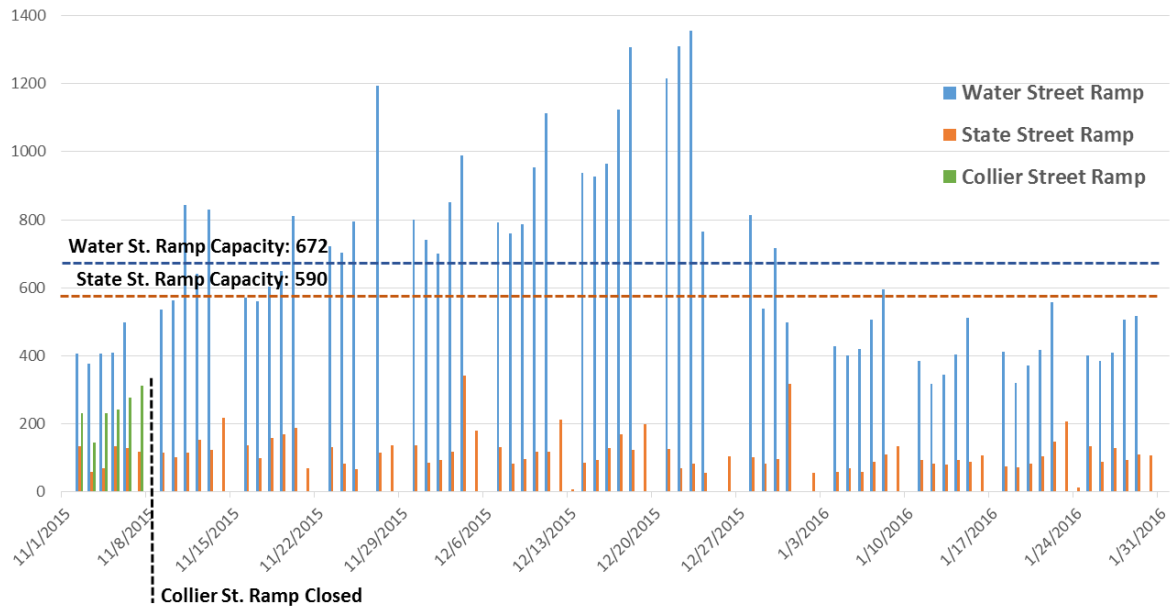
Utilization data was collected on a typical Thursday (no major events in Downtown) in September 2015, when the Collier Street Ramp was partially closed.

Figure 12 Municipal Ramps Parking Utilization (Weekday)**: Before Collier Ramp's Closure**



Source: Utilization data collected on a typical Thursday (no major events in Downtown) in September, 2015, before Collier Street Ramp's closure.

Figure 13 Cumulative Daily **Ramp Entries after Collier Ramp's Closure**, November 2015 **–** January 2016



Source: LAZ transaction data, November 2015 – January 2016

STRATEGY 2
MAKE OFF-STREET PARKING FRIENDLY

Off-street parking management should complement and coordinate with on-street parking management. Since off-street parking has more unused spaces than on-street, setting up a parking management system that incentivizes use of off-street parking will help relieve the crunch on-street. The parking assets, both on- and off-street, should be managed as a single system.

Essentially, pricing the higher-demand on-street spaces higher, and pricing the off-street spaces lower, is one element in making off-street parking more desirable. This pricing approach should ensure and increase the availability of the most desirable spaces for those who are willing to pay, while providing options and alternatives for those who are more price sensitive. Customers, employees or visitors can then choose to park in the place that best fits their needs. Other elements of making off-street parking friendlier are described below.

2.1 Incentivize Off-street Parking with Price

Off-street parking should be less expensive than on-street parking. Existing utilization patterns of off-street public parking assets indicate that pricing should be slightly lower than core on-street spaces and comparable to the secondary on-street pricing zones. All public off-street facilities, including 7 Hawley Lot, State Street Ramp, and Water Street Ramp should be priced initially at $0.50 per hour, with a daily maximum rate of $4.00.

In the short term, the monthly permits should remain discounted as compared to hourly parking rates. The City should continue the existing monthly permit structure to allow flexibility in month-to-month purchases (as compared to annual or quarterly leases). Rates for any new public ramps should be determined based on expected parking demand, not cost of facility construction.

The operating hours for all facilities should be from 8:00 a.m. to 6:00 p.m., which is consistent with the proposed on-street span. However, to continue to incentivize off-street parking, the public facilities should be free after 6:00 p.m. and on weekends to attract downtown patrons, except during evening events. A summary of the proposed recommendation by facility is shown in Figure 14.

Figure 14 Off-Street Parking Pricing Strategy

Location	Type	Rates	Span per Day	Days of Week
Today				
Municipal ramps & lots	Hourly Parking	$1.00/hr (daily max $6.00)	7 a.m. – 5 p.m.	Mon-Fri
State & Water St. Ramp	Monthly Parking	$48.00 restricted, $60.00 regular	-	-
7 Hawley St Lot	Monthly Parking	$57.00	-	-
State St Ramp	Late Night Rate	$3.00	After 9:30pm Thu After 8:00 pm Fri & Sat	
Municipal ramps & lots	Event Parking	$5.00		
Proposed (Initial; to be Periodically Adjusted based on Parking Demand)				
Municipal ramps & lots	Hourly Parking	$0.50/hr (daily max $4.00)	8 a.m. – 6 p.m.	Mon-Fri
State & Water St. Ramps	Monthly Parking	$48.00 restricted, $60.00 regular	-	-
7 Hawley St Lot	Monthly Parking	$57.00	-	-
New ramps and lots	TBD	Price based on demand	-	-
Municipal ramps & lots	Event Parking	$5.00		

2.2 Invest in Improving Existing Ramps

The public ramps in Downtown Binghamton are simply not attractive and inviting to patrons and employees, primarily due to safety, operational and lighting concerns. The Collier Street Ramp was nearing the end of its functional service life and was fully closed in November 2015 due to its significant deterioration. The Water Street and State Street Ramps are in fair condition but both require beyond routine maintenance to address the current structural and waterproofing deterioration and extend the life cycle of the structures.

The Garage Condition Appraisal study completed by TimHaahs in 2014 (Appendix F) recommended investments and actions needed to extend the useful life of the ramps. The study estimated order of magnitude cost of repairs of $168,000 for the Water Street Ramp and $51,000 for the State Street Ramp. These costs were to address immediate and pro-active repairs to extend the ramps' functional service life for up to five additional years. The recommended repairs were mostly structural and drainage in nature. With the recent closing and planned demolition of the Collier Street ram, the need to invest in the repairs of the Water and State Street ramps has become more critical due to the reduction of the parking supply. An updated order of magnitude was conducted by TimHaahs in May 2016 (Appendix F), with a total estimate of $2,700,000 for Water Street Ramp. Immediate repairs and upgrades include structural repairs, elevator, lighting and signage upgrades, parking equipment and technology upgrades, as well as interior and exterior aesthetic improvements. Similarly, it is expected that additional work is needed in the State Street Ramp as well, which is expected to be approximately hundreds of thousand dollars. These investments in the repair and upgrade of existing parking facilities in Downtown Binghamton will ensure the safe use of parking structure, extend their functional lives, and enhance overall user experience.

The Comprehensive Study and Strategic Plan recommends the City pursue the investments identified in the 2014 report and determine the lifespan of the existing facilities. The City should also provide additional funds to increase the attractiveness, utility, and functionality of the existing ramps. While it is impossible to understand the expected lifespans of these structures at this juncture, it is advisable that the City seek to build a new facility before the end of the useful life of one of the existing facilities. Opportunities exist with the proposed 7 Hawley Street project and potential redevelopment on the Collier Street Ramp site.

Improvements of the existing ramps include expanding regular maintenance standards; interior and exterior upgrades such as paint, signage, security, and lighting; ensuring ADA accessible entrances and exits are working properly; and introducing new payment technology. The City should also evaluate larger-scale improvements, such as making entries and exits safer for people walking and adding active ground-floor uses.

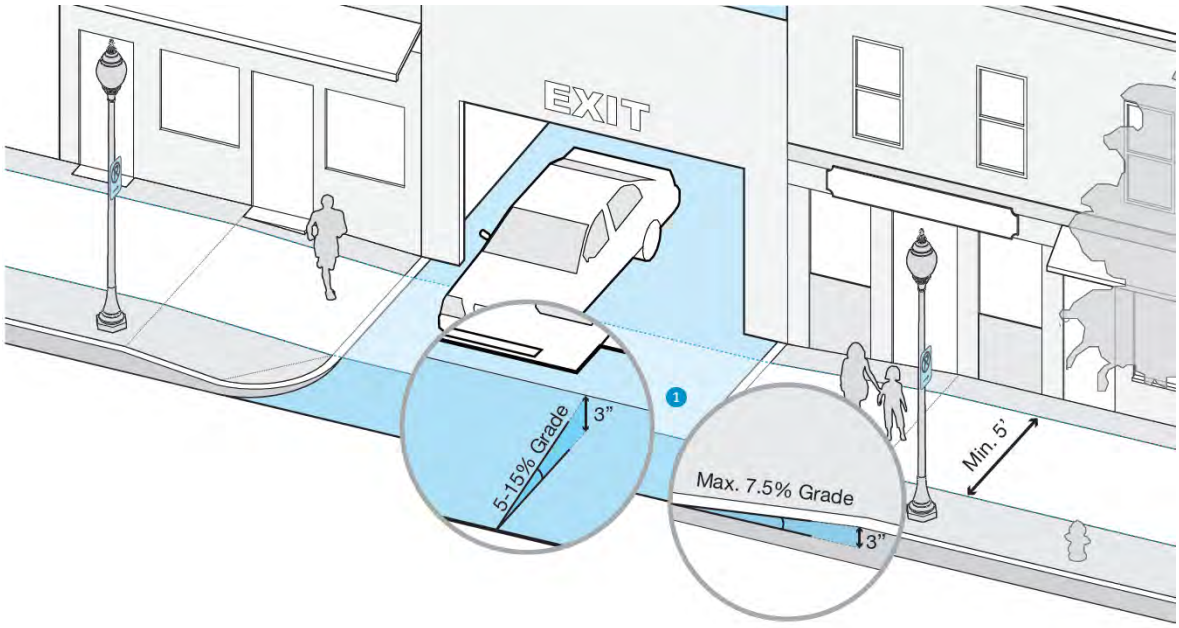
In addition, regular and ongoing maintenance is important to ramp lifespan; the City should act on recommendations from previous reports and condition appraisals.

Figure 15 Example of Ramp Exterior Improvement

Figure 16 Best Practice: Lighting, Interior Paint, Clean Stairwells, Technology, and Elevators

The City should also require people-friendly design on driveway curb cuts, adequate crosswalks near ramp entrances, safe sightlines for motorists exiting the ramp and entering the roadway, and ADA compliant sidewalk slopes.

Figure 17 Best Practice: Garage Driveway Design

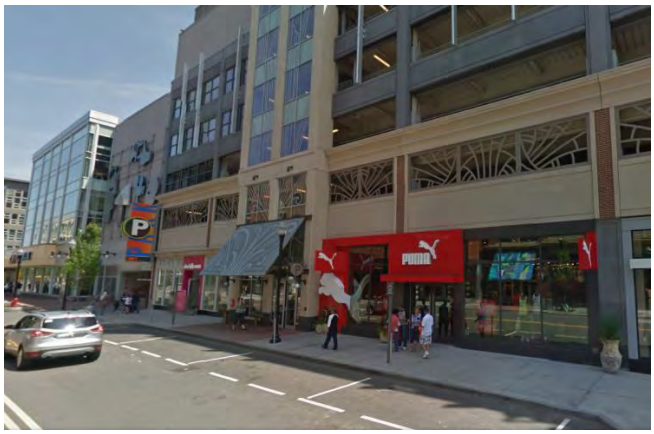


Source: Boston Complete Street Design Guidelines

Figure 18 Best Practice: Continuous Sidewalk and Raised Garage Driveway – Boston, MA

Any new ramps, regardless if they are public or private, should not be stand-alone structures. The City should consider requirements such as ground floor activities, such as a minimum amount of transparent street frontage and ground-floor retail allocation, an active wrap of residential units, and other features to contribute to street activity.

Figure 19 Best Practice: Ground-floor retail of garages – Somerville, MA



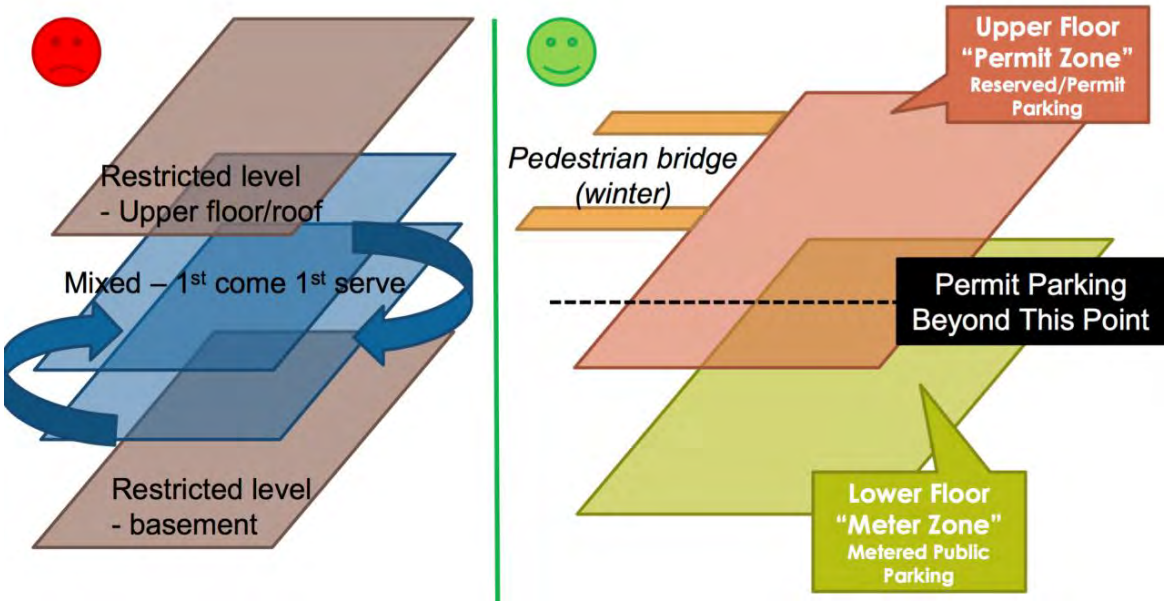
2.3 Optimize the Customer Experience

Improve Ramp Configuration

The City should adopt a "customer-first" policy in municipal ramps. As shown below (Figure 20), the ramps should be managed to have the most convenient floors available for transient parking and upper (or lower) floors for permit holders. This way, daily downtown commuters can confidently drive to the "Permit Zone" to find spaces, leaving ground floors open for short-term downtown visitors. Transient parkers should be permitted to park in the "Permit Zone", but permit holders should not park in the customer spaces. Signage should reflect the defined boundaries, which should undergo periodic review and rearrangement based on actual utilization of transient and permit parking. If permit spaces are in higher demand, the permit zone can be enlarged and vice versa. Periodic enforcement is needed inside the ramps to ensure compliance.

Today's management of the public ramps is not customer friendly. With the exception of disabled spaces on the first floor and some restricted spaces on certain floors, all other spaces are open to transients and monthly permit holders on a first-come, first-served basis. This causes frustration for transient parkers as the most convenient spaces are occupied by long-term permit holders (mostly downtown employees) all day, while shorter-term, hourly parkers have to cruise around upper floors trying to find an empty space, sometimes only to encounter more restricted spaces above a certain point with no knowledge of what is beyond them.

Figure 20 Existing and Proposed Ramp Configuration



Upgrade Ramp Payment Technology

The City should invest in new payment technology for off-street facilities. Today's off-street public parking areas are using outdated payment technology. State Street Ramp's pay station only accepts cash; Water Street Ramp has staff attended and accepts cash or check; Hawley Street lot only takes cash for its pay-by-space station and accepts cash or check for monthly permit purchases. Event parking is typically managed in-person by LAZ staff, who accept cash only.

Figure 21 **Today's Ramp Payment Technology Is Outdated**

The City should adopt a gate-controlled pay-on-foot system that accommodates both transient parkers and permit holders. Gated access involves using parking arms or other barriers that must be broached by taking a parking ticket or swiping an access card (a "key fob," "proxy card," or "access transponder"). Gated access can also be used in conjunction with credit cards, electronic debit cards, monthly pass cards (or other time-periods) or license plate readers, ticket-pull machines, pay-on-foot machines, manned parking attendant booths, or combinations of the above.

The City should work with potential vendors to further evaluate the cost and benefit of pay-on-foot technology. The advantages of a new payment technology are:

What is Pay-on-Foot?

A Pay-on-Foot system requires the driver to pay at a payment machine before returning to their vehicle. The payment steps are:

- When you arrive at the garage, push the gate button to get a ticket;
- Take your ticket with you while you go and enjoy downtown Binghamton;
- When you return to the garage, pay at the pay station. Your ticket becomes an exit pass before returning to the vehicle;
- When your vehicle reaches the exit, insert the ticket and go!

- Acceptance of debit and credit cards, plus integration with pay-by-cell.
- Potential to display real-time availability information.
- A self-monitoring system that limits the human resources necessary to effectively enforce payment in a parking ramp.
- The same technology can be employed to charge for parking on an hourly, daily, or monthly basis.
- Allows flexibility for daily parkers, visitors, or other non-regular parkers who no longer need to guess how long to stay and be worried about length of stay.
- Allows for easier monitoring of vehicle in-and-out activity and parking occupancy levels. This data is useful to periodically change rates or other management elements.
- Increased compliance when compared to manually monitored systems.

STRATEGY 2 SUMMARY: Make Off-street Parking Friendly

Off-street parking in Downtown Binghamton should continue to serve as a resource for employees, downtown visitors, and long-term parkers. The Water Street and State Street Ramps are two valuable parking assets to the City and they should be managed and utilized to maximize their efficient use in service of larger downtown goals. Off-street parking strategies in this section should work in tandem and as a complement to the on-street management strategies to manage the parking system together. Strategies include:

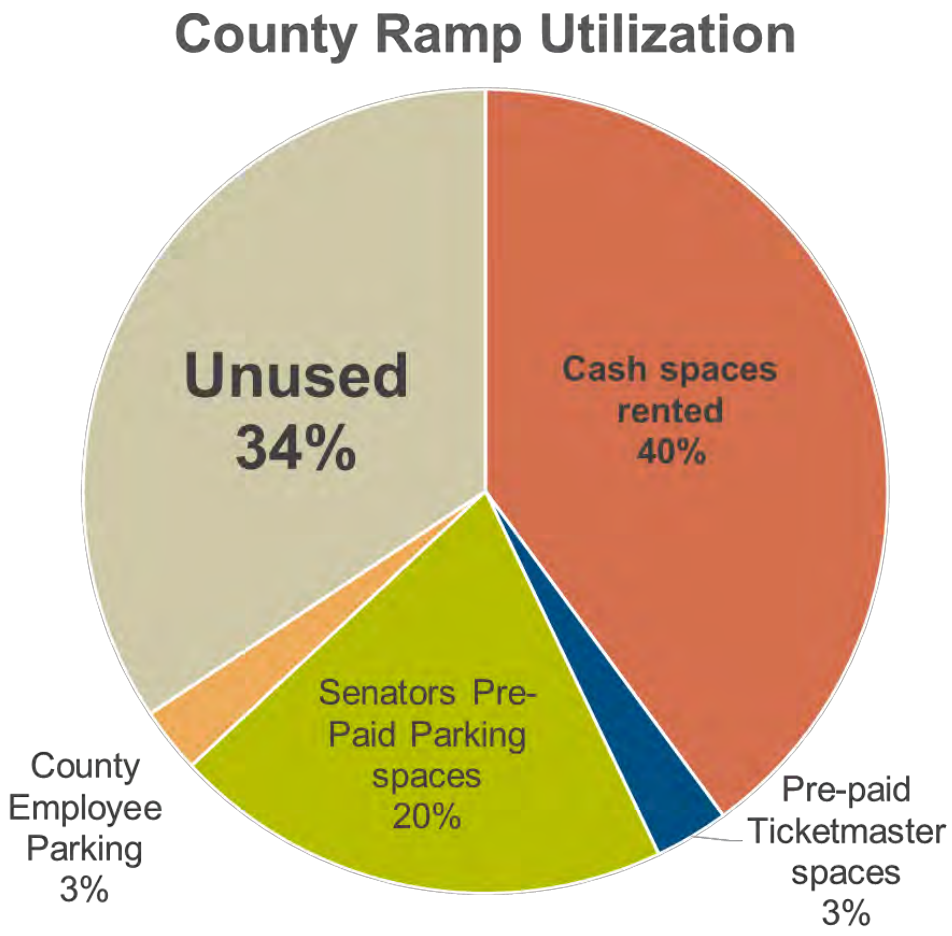
- Incentivize off-street parking with price to relieve on-street areas and encourage patrons to park off-street
- Invest in improving existing ramps to ensure the long-term parking supply and unlock the underutilized supply
- Improve ramp configuration to prioritize customer convenience
- Upgrade ramp payment technology to improve user experience

FINDING:
EASY-TO-ACCESS EVENT PARKING IS IN SHORT SUPPLY

The Downtown Binghamton study area includes several major event destinations, such as the NYSEG Stadium, the Floyd L. Maines Veterans Memorial Arena, and the Forum Performing Arts Theatre. On event nights, stakeholders and survey results indicate that parking is very difficult to find around the Stadium and Arena. Spillover parking into the surrounding neighborhood near the Stadium is reported by residents as problematic. The stakeholder and public comments also indicate a lack of management and regulation of private parking pricing of nearby lot owners.

The experience of trying to find parking near a major event destination in downtown is challenging. However, data made available for this study indicates that the two municipal ramps and the underground garage below Government Plaza (Figure 22) have unused parking spaces during events. More data is needed to fully model the parking patterns during events. With the exception of the parking shortage outlined in the Downtown Core area, and as studied in Appendix E, the primary parking challenge facing the City of Binghamton today is not necessarily a shortage of supply, but rather parking management, including a lack of clear information and directional signage leading patrons to available spaces.

Figure 22 Parking Utilization below Government Plaza



Source: Data collected on a hockey game night on Dec 5, 2015.

STRATEGY 3
IMPROVE OVERALL EVENT PARKING MANAGEMENT

The City should work with staff at event venues in downtown to actively manage the existing parking supply during events. Primarily, clear information and directional signage should be provided to help patrons navigate to designated event parking facilities. A parking management strategy for events should:

- Provide sufficient information before and at the arrival points, including:
  - Directions and parking information on City, visitor, and event venue websites
  - Distribution of parking maps at major downtown destinations
  - Parking information and status at variable message signs temporarily installed along major corridors
  - Communication of parking information during the event, such as when facilities are full
  - Clear signage to direct patrons to parking facilities nearby
- Create and advertise a designated and safe pick-up/drop-off area
  - Incorporate a place for cars (including cabs or other car services) to wait near the venue entrance/exit
  - Consider valet parking at remote lots or ramps, using technology with text/phone-based valet systems
  - Encourage employees, vendors, performers, or players to park off-street in designated areas
- Advance sales of parking permits on event venue website
- Negotiate shared parking agreements with private facilities for event times only

Figure 23 Example of Parking Information Display (Concept)

STRATEGY 3 SUMMARY: Improve Overall Event Parking Management

Special events draw crowds to Downtown Binghamton. Each event has a different dynamic, mix of users, and impact on parking, but they all create extra parking pressure in the study area. Events at the large venues and jurors coming to the courthouse often attract visitors unfamiliar with downtown who know least where to find parking. Information and signage to assist these visitors are critical to support a great downtown experience. Strategies include:

- Provide sufficient information before and at the arrival points
- Create and advertise a designated and safe pick-up/drop-off area
- Advance sales of parking permits on event venue website
- Negotiate shared parking agreements with private facilities for event times

FINDING:
DIRECTIONAL, INFORMATIONAL, AND REGULATORY SIGNAGE IS LARGELY MISSING

Easy-to-read parking and wayfinding signage is a critical component of deciphering a parking system. Signage that guides motorists to on-street and off-street parking — along all decision points from the driver's perspective — deters drivers from excessive cruising and frustration.

Today, parking regulations are confusing for downtown patrons, especially for visitors coming from outside of the City. This is in part because directional and regulatory parking signage is largely missing in downtown. Issues include:

- A majority of the 1-hour, 2-hour and 4-hour metered parking doesn't have any signage indicating the time limits and enforcement span. One must park and get out of the car to see this information on the meter head.
- Few directional signs exist, and most are difficult to see from a distance, making it hard for parkers to safely and successfully navigate to parking facilities.
- Signage, including identification signage, at municipal ramp entrances is difficult to read and confusing. Garage entrances and egresses are not clearly labeled.

Figure 24 **Today's Regulatory, Directional, and Informational Parking Signage**

STRATEGY 4
PROVIDE SUFFICIENT SIGNAGE & INFORMATION

The City should integrate a well-designed wayfinding program to encourage a "park once" or "park and walk" environment. The system should focus not just on getting cars into the parking facilities, but getting people to visit multiple destinations on foot without moving their cars. In addition to parking facility signage, the wayfinding program should identify key sites of interest, area businesses, social activity centers, municipal buildings, and other points of interest, plus direct patrons to alleyway shortcuts. Recommended locations to install parking and directional wayfinding signage is in Figure 2.

There are four major decision points for drivers that can be made easier with signage and information. These decision points are:

1. Before You Arrive: Making parking information available for visitors and customers before arriving to Downtown Binghamton will allow parkers to plan their trips ahead of time and find parking nearby with ease. Binghamton already has a nicely-designed parking and street map (with popular restaurants, retails and destinations labeled) available in hard-copies at City Hall (Figure 25). Having this map or a similar, simple map posted on the City's website, downtown business and activity websites, event venue websites, and other activity centers, will provide a consistent informational map for Binghamton. Off-street municipal parking lots and ramps should have consistent branding on the website as well as at the facility, so drivers can easily recognize the facilities based on location.
2. At Your Arrival: Today, when you arrive in downtown, there are a few parking signs posted. The signs that exist are small, inconsistently designed, and often placed in obscure locations which make it difficult to navigate to parking. Signage should be clearly visible, designed consistently, placed in strategic locations, and should provide clear guidance to and from parking locations.

Figure 25 Hard-Copy Downtown Parking Map

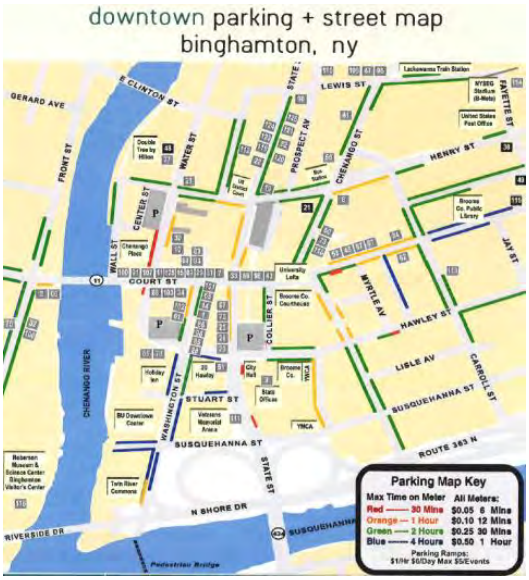


Figure 26 Best Practice: Parking Signage

3. When Parking: On-street spaces should have clear and simple signage indicating the time span. Water Street and State Street Ramps should have easy-to-read entrance signs and egress signs to avoid confusion and traffic bottleneck. Signage as easy as a blue "P" could be installed to get parkers' attention from distance.

Figure 27 Concept: Water Street Ramp Signage

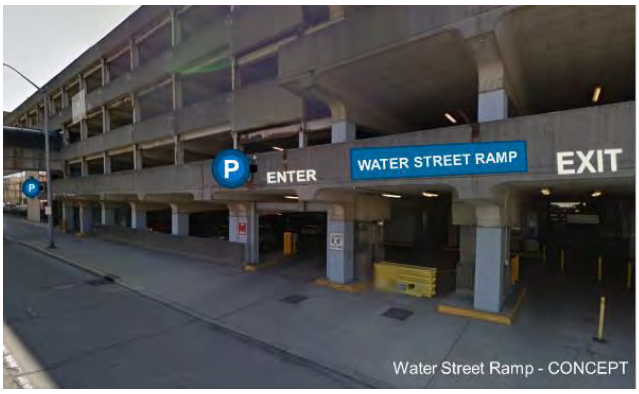
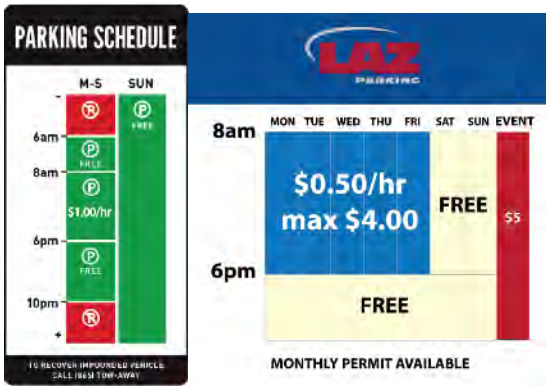


Figure 28 Examples of Clear On-Street and Off-Street Parking Signage Design



4. During Your Stay: Pedestrian-oriented signage that includes information about parking locations and other attractions helps orient and enhance the downtown experience for all users. Providing clear walking signage helps to create and promote a "park once" district, allowing customers to park once and walk to multiple locations on foot. To do so, creating clear and visible walking signage to both local destinations and to and from parking locations is critical. The municipal public garages should have easy-to-read entrance and egress signs.

Figure 29 Best Practice: Wayfinding and Parking Signage

STRATEGY 4 SUMMARY: Provide Sufficient Signage & Information

Parking-related frustrations can be eased with excellent information and signage. Providing clear, visible wayfinding and parking signage in coordination with branded parking facilities will holistically improve the experience of visiting Downtown Binghamton. Strategies include:

- Make parking information available for visitors and customers before arriving to Downtown Binghamton
- Have clearly visible, and consistently designed signage placed in strategic locations to provide clear guidance to and from parking locations
- Provide clear signage on regulations and pricing for on- and off-street public parking
- Provide clear walking and wayfinding signage to create and promote a "park once" district

FINDING:
WALKING BARRIERS PREVENT A "PARK ONCE" ENVIRONMENT

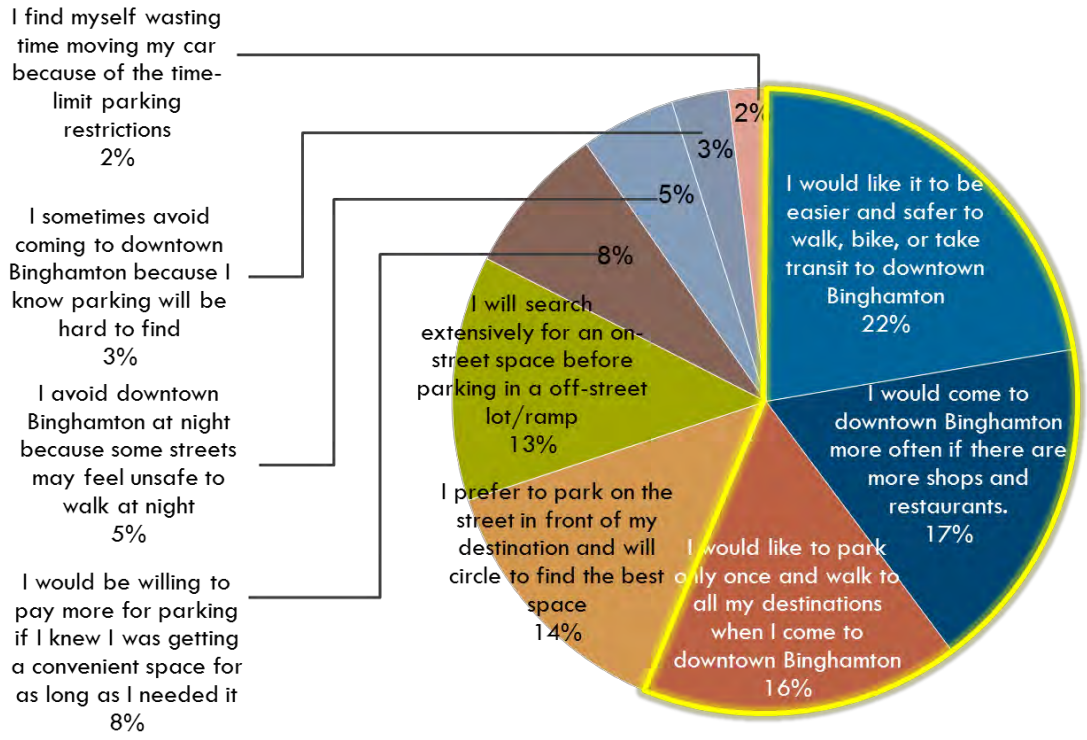
Parking is not just about a parking space for your vehicle; it is about the experience of getting to and from your parked vehicle, finding your destination, and the quality of the walking environment. Downtown Binghamton is blessed with a vibrant, mixed-use urban environment that connects retail, office, and restaurants to residential buildings and neighborhoods. The City should continue to build upon this environment. Enhancing the street-level atmosphere, in particular the walking environment, can make a parking facility that is farther away be a more attractive place to park.

The recent Court Street streetscape improvements has already proven successful in creating a vibrant main street. However, there are many areas in downtown that are walking barriers, effectively becoming points which walkers, and even parkers, avoid.

Disconnected sidewalks, large intersections, unsafe crossings (or crossings that feel unsafe), lengthy wait and crossing times, speeding traffic and other unpleasant walking experiences deter walkers and ultimately make people want to park as close to their destinations as possible. A poor walking environment makes parking seem farther away and the experience of finding a space nearby even more frustrating. Thus, although space may be available in a lot just around the corner or across the street, it is not a desirable option and all of the spaces "right out front" fill quickly.

In a mixed-use area like Downtown Binghamton, the desire of a multimodal downtown and to "park once" and walk to multiple destinations exists. The prioritization exercise at the first Public Workshop indicates such desire.

Figure 30 Priority Voting Exercise – First Public Workshop (June, 2015)



STRATEGY 5
IMPROVE MULTIMODAL MOBILITY & WALKING ENVIRONMENT

As Binghamton's downtown continues to revitalize with investments in streetscape and gateway improvements, and new housing and High-Tech Incubator developments, the downtown area is expected to attract more employees, residents, and customers at all times of the day. Improving the multimodal mobility and the walking environment in downtown is critical to support a vibrant downtown and various future developments.

5.1 Safer Intersection Design

Improving intersections is a high-impact approach to increase safety and walkability. Smaller intersections offer shorter walking distances, a more connected network, and added public spaces. Another important benefit of shorter, safer walks is that parking facilities are in closer proximity to destinations. Many smaller intersections, particularly with updates to traffic signal cycles, can allow for the same vehicle throughput but in a much different environment.

Considerations for improving downtown intersections include:

- Crosswalk Paint Standards – Use a more visible "ladder" striping pattern instead of a standard crosswalk (two lines) design.
- Curb Extensions – At intersections, extend the curb of the sidewalk into the intersection to slow traffic, decrease crossing times, and increase pedestrian visibility.
- Raised Crossings – A raised crossing in an intersection makes pedestrians more visible to vehicles as well as slowing traffic.
- Leading Pedestrian Interval – Allows pedestrians to begin crossing before the vehicular traffic signal changes to allow cars in a compatible configuration. This ensures that pedestrians are at a visible point in the crosswalk while traffic is active.
- Pedestrian Island/Refuge – Giving pedestrians a place to pause in the middle of a large intersection can make the intersection seem less daunting, as well as narrowing lanes slightly and thus slowing traffic.
- Maintenance – Regularly re-stripe pedestrian markings like crosswalks with bright, reflective paint in a standard "ladder" pattern.
- ADA Compliance – Ensure curb cuts and sidewalk ramps are ADA compliant and push buttons use the latest technology.

With respect to walking and circulating around Downtown Binghamton, the following three intersections and areas were identified as particularly challenging from a safety and convenience perspective and key to parking access:

- Hawley Street and State Street (at the time of this report, the City was undergoing redesign)
- Hawley Street and Washington Street
- Henry Street and Water Street

Concepts below show examples of how these key intersections could be improved. These concepts are tailored to supporting a downtown environment, slowing down traffic, and adding on-street parking. All ideas are concepts and are subject to engineering assessment before implementation. However, with some engineering evaluation, these concepts could be implemented as a temporary pilot to measure their impact before full design and construction.

Figure 31 Concept: Intersection Redesign of Hawley Street and State Street

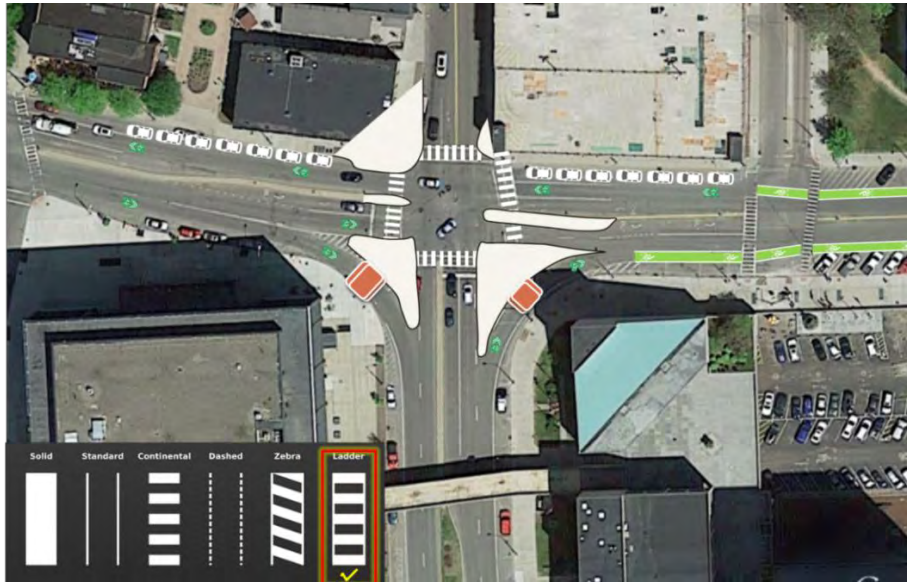


Figure 32 Concept: Intersection Redesign of Hawley Street and Washington Street

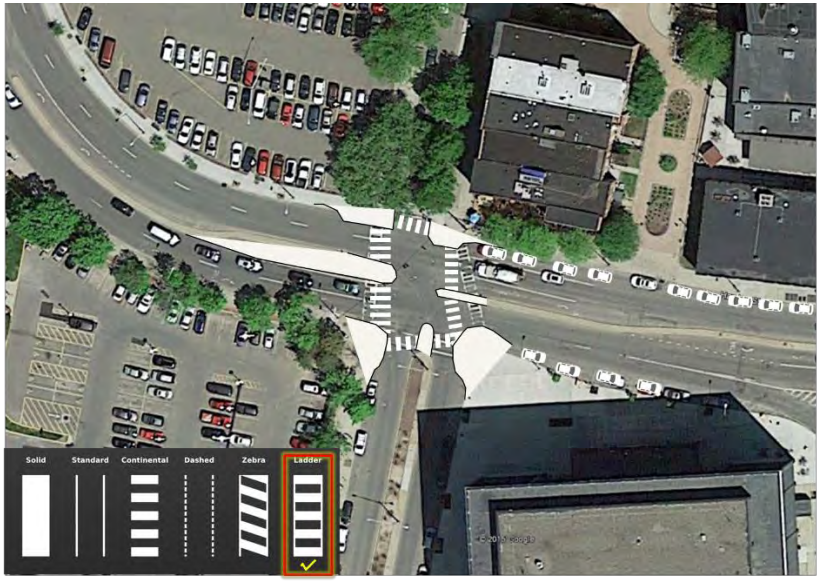


Figure 33 Concept: Intersection Redesign of Water and Henry Street

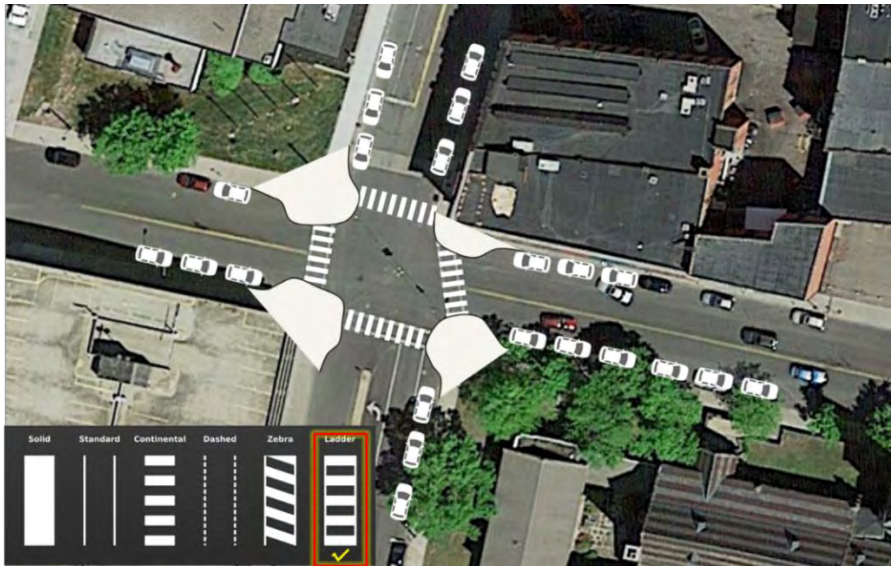


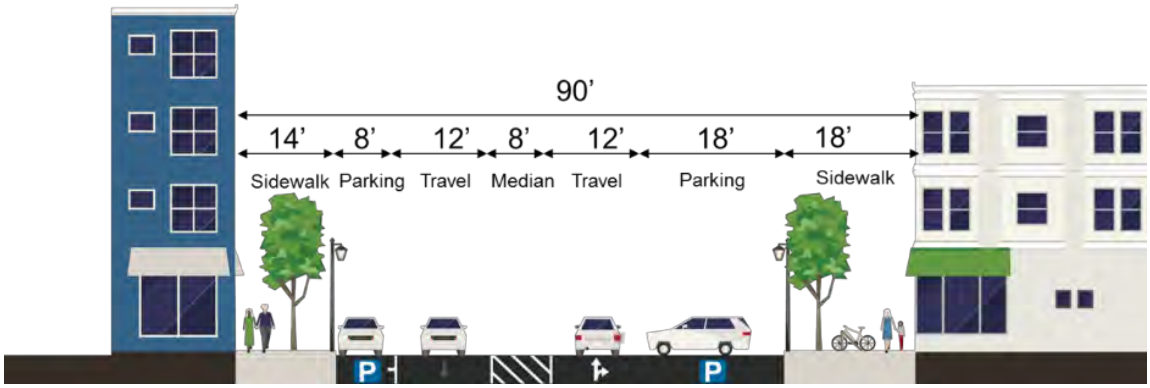
Figure 34 Best Practice: Curb Extensions

5.2 Rethink Court Street Design

When evaluating street design and provision of on-street parking, the City could consider alternative layouts for on-street parking on Court Street. Stakeholders and members of the public expressed mixed impressions of the back-in angled parking on Court Street. Benefits of the back-in parking design include maximizing on-street parking supply, slowing traffic, increasing visibility for drivers pulling out of a space, allowing for safer loading/unloading of vehicles from the sidewalk, and increasing safety for cyclists. However, some expressed that fewer spaces and a different design is preferable.

Some conceptual alternatives to consider and evaluate are available in Figure 36. The City should further explore design, planning, engineering, and process to determine the most appropriate approach for Court Street.

Court Street Cross-Section (Today: Back-in Parking)



5.3 Reconnect Washington Street

A walkable street grid is a key element to successful downtowns. The City should pursue extending the character and feel of Washington Street to the north, through the existing Metro Center. Although likely long-term and complex, this type of "reconnecting the street grid" has precedents in other downtowns across the country.

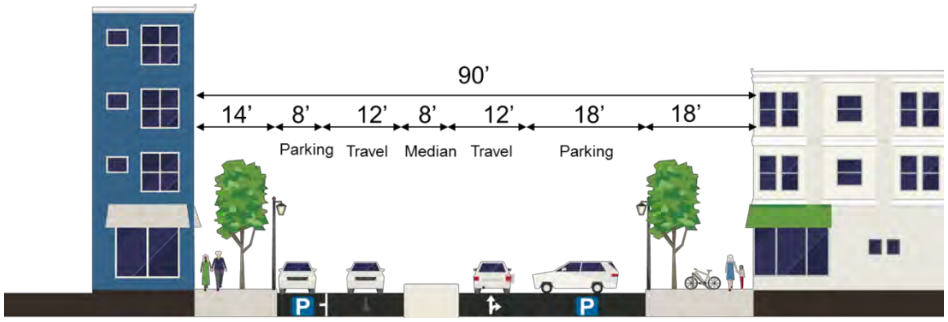
Figure 35 Reconnecting Washington Street

Now

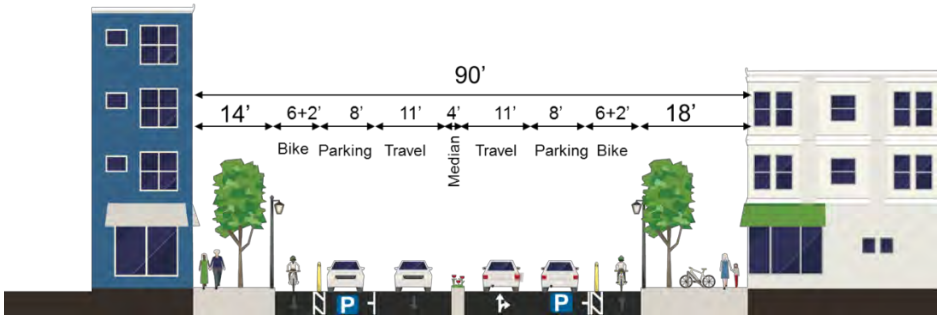
Concept

Figure 36 Concepts: Examples of Court Street Cross-Sections

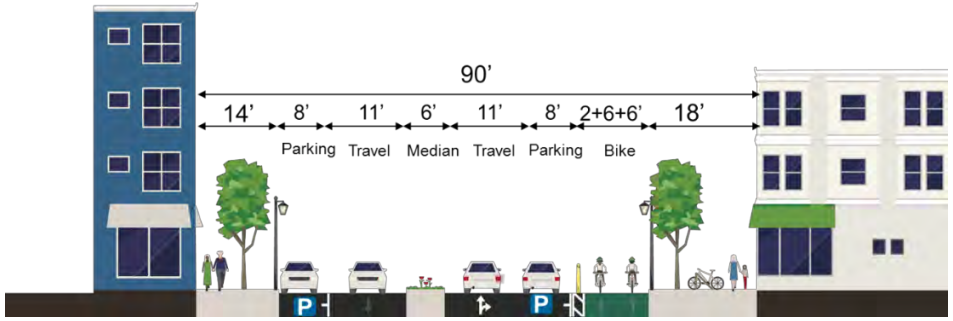
Concept: Back-in Parking with Raised Median (maintain parking as is)



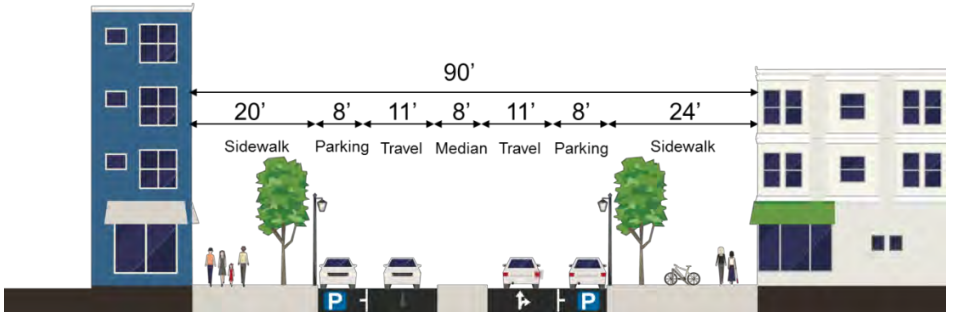
Concept: Parallel Parking with Protected Bike Lane on Each Side (lose 7 parking spaces)



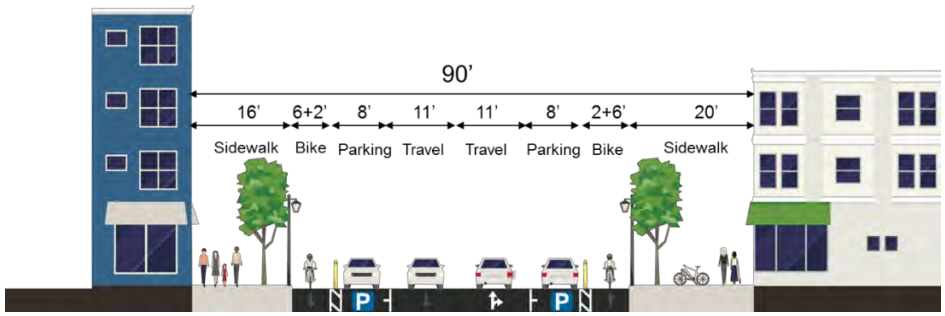
Concept: Parallel Parking with Protected Two-Way Bike Lane on One Side (lose 7 parking spaces)



Concept: Parallel Parking with Raised Median and Wider Sidewalks (lose 7 parking spaces)



Concept: Parallel Parking with Protected Bike Lanes and Wider Sidewalks (lose 7 parking spaces)



Concept: Parallel Parking with Two-Way Protected Bike Lane and Wider Sidewalks (lose7 parking spaces)

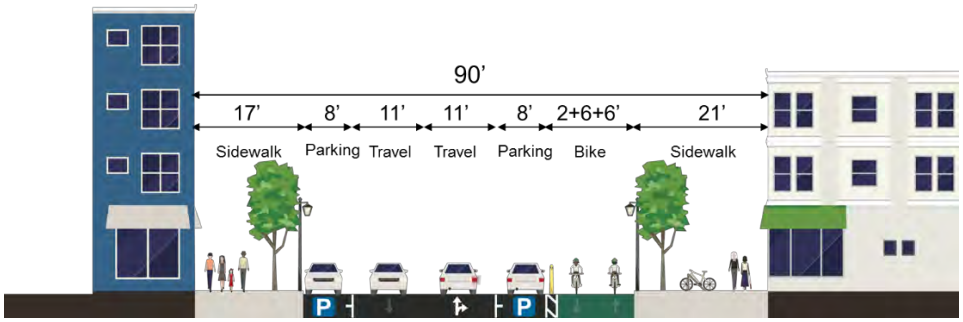


Figure 37 Best Practice: 8th Street, Washington DC

Before

After

Figure 38 Best Practice: The Commons on Jackson Street, Columbus, IN

Before

After

Side entrance to the Commons Mall from Jackson Street. This portion of the Mall is now demolished and the street has been reopened, the lovely tree-lined parking lot to the left is now a parking garage.

Source: http://52weeks.rickyberkey.org/2011/06/15/week-22/

5.4 Support Travel Options

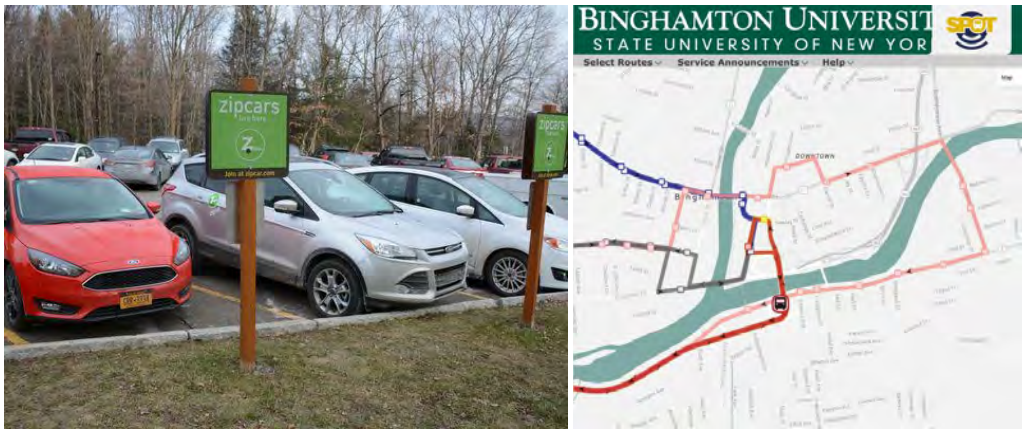
Today, private vehicles are no longer the only means of getting around. Study shows that younger generation is now less likely to own or drive a car[1] compared to 20 or 30 years ago. The City of Binghamton recognizes these changes and should continue to support a multimodal downtown. Some key elements include:

- Transportation Network Companies: TNCs such as Uber, and other transportation network companies, to provide alternative transportation options to Binghamton's residents, visitors, students, and employees. The City should continue to work with the NY Needs Uber Coalition and with other partners to promote non-single occupancy vehicle options.
- Car share: Zipcar car sharing service is on BU's campus and is available to community members. Three vehicles are available on campus. Throughout this study, many participants at the Public Meetings and downtown stakeholders expressed a desire of bringing this car share service to downtown.

[1] http://www.npr.org/2016/02/11/466178523/like-millennials-more-older-americans-steering-away-from-driving?utm_source=SFFB

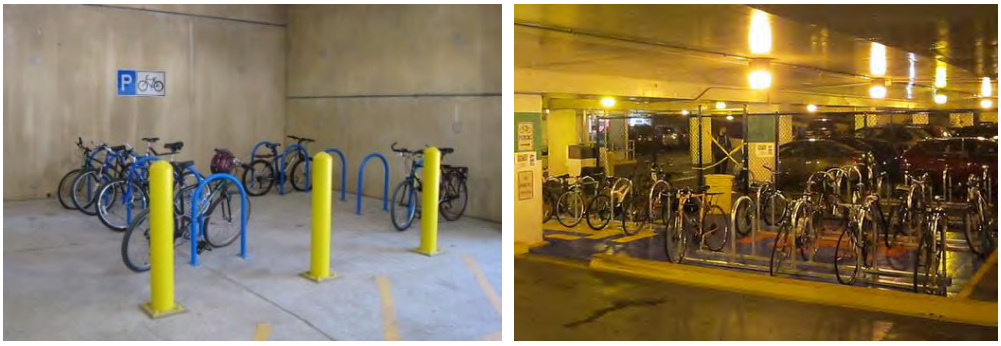
- Real-time transit information: Making existing public transportation more convenient and reliable is key to encourage ridership. Real-time information can greatly help transit riders to better plan their trip and reduce the anxiety of waiting at the bus stops. Currently, Binghamton University's Off Campus College Transport (OCCT) provides an app and a web portal platform[2] with real-time shuttle information that allows riders to track the location and estimated time of arrival at any stop of their entire fleet of blue buses. The City of Binghamton should encourage and support real-time information on Broome County Transit.

Figure 39 Binghamton University – Zipcar & Real-Time Transit Information



- Biking infrastructure: To encourage biking as a viable option to get to and from downtown, the City should continue planning for and developing protected bike lanes, bike trails and greenways, and installing bike racks and other parking facilities. The City should:
  - Add more bike racks at front door, visible locations.
  - Add secure, protected, well-marked and lit bicycle parking for longer-term stays in public ramps or lots.
  - Identify major bicycle corridors and reconnect the missing gaps.
  - Require bicycle parking in new developments.
  - Add showers and locker rooms in major employment center to encourage bike commuting.

Figure 40 Best Practice: Indoor/ Garage Bike Parking



[2] http://bupublic.etaspot.net/

STRATEGY 5 SUMMARY: Improve Multimodal Mobility & Walking Environment

Parking is not just about parking: it is about getting from one's car to his/her destination, about not driving when there are other transportation options, and about which parking facilities are used based on easy and safe access. In Downtown Binghamton, the City should continue to invest in its downtown environment and multimodal connections to provide a friendly walking network, improved public spaces, and a dynamic transportation system with attractive options. Strategies include:

- Improve key intersections design to increase safety and walkability
- Rethink Court Street design to explore alternatives to back-in angled parking
- Reconnect Washington Street to extend the character and feel of a walkable downtown and fill the gaps of the grid street network
- Support Travel Options such as Transportation Network Companies, car share, real-time transit information and bicycle infrastructure to accommodate the growing desire of alternative travel means

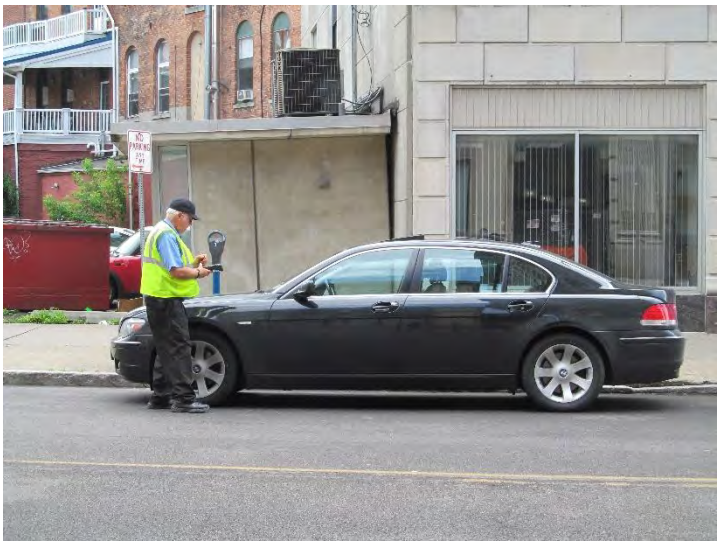
FINDING:
LACK OF PARKING COORDINATION HINDERS DOWNTOWN'S REVITALIZATION

Coordination among departments, parking managers, and stakeholders is deficient. Some stakeholders expressed concern on the overall parking management and financial sustainability of the system. Stakeholders noted the lack of coordination between City agencies, private parking managers, and others that "touch" parking in downtown Binghamton. There is a need to communicate and coordinate with each other regarding both day-to-day management and long term parking strategies. Examples of this include inefficiencies of using parking during events, regulations with regards to new development, pricing mechanisms and coordination between on- and off-street, and enforcement practices to achieve broader City goals of using parking resources smartly and efficiently. Responsibilities between different departments and agencies are unclear, particularly to the community.

Coordination, management, and contracting with a third-party parking operator/manager is not sufficient. Current practices by today's operator limit the success of downtown Binghamton. There is a lack of transparent and timely reporting; permit sales by permit type for each facility is unclear; maintenance of facilities is deficient; and payment technology is outdated. The parking operations system is outdated and needs to be upgraded to support a growing downtown.

Most zoning requirements are not appropriate for a downtown environment. Many of Binghamton's required parking minimums are higher than guidelines from the Institute of Transportation Engineers (ITE). ITE parking generation rates are primarily derived from studies conducted in auto-dependent single-use suburban environments that are unlike downtown Binghamton. Other parking-related zoning elements are also inappropriate for a downtown context.

Binghamton's parking enforcement practices hamper the visitor experience. Like most communities, downtown Binghamton's existing parking management system relies heavily on enforcement to ensure desired compliance of regulations. Despite an accelerated fine structure, there is still a substantial number of unpaid parking tickets (totals over $1 million in the past 10 years). Although the City has initiated a series of firmer measures to collect fines, existing enforcement practice remains time-consuming and labor intensive. Because every regulation and parking strategy can be undercut by those who attempt to "game the system", this reduces the efficiency and effectiveness of existing enforcement policies. Moreover, enforcing time limited parking is even more cumbersome and labor-intensive than enforcing pricing. Still, today's enforcement system punishes visitors and others with punitive tickets for overtime stays.



STRATEGY 6
IMPROVE OVERALL PARKING MANAGEMENT AND GOVERNANCE

Parking management and governance in any city is complicated: it typically involves interdepartmental coordination to manage everything from pricing, enforcement, signage, snow removal, to zoning. Today, parking in Binghamton is managed by various departments and decision making bodies, plus third-party management and the private sector, making it difficult to coordinate amongst various groups. There is no central body or department that spearheads or oversees parking management in Binghamton, and no uniform set of policies are in place to guide and champion improved parking management.

6.1 Improve Third-Party Parking Operator Management

The City should work with its contractor/third party parking operator to improve parking management, maintenance, and operations. The City should work with a contractor to improve and create systems for:

- Daily Reporting—create systems and standards for regular parking data reporting. Summary parking utilization and transaction data should be available to the directly City through in an online portal. Access to this data stream is a key element to implementing demand-based pricing.
- Traceable—create systems for accounting for parking payments. Currently, reporting does not include details such as how many permits were sold by type. With a new system, payments for permits and transient parking should be tied to the facility wherein the person parked and the permit type purchased.
- Technology Implementation Plan—in coordination with the operator, the City should develop a technology implementation that lays out new management tools to be introduced within City owned ramps and lots. An implementation plan would include a timeline to implement tools such as new payment technology, as well as entrance and egress technology that would improve facility management. The technology should support Daily Reporting and Traceable systems.
- Flexibility in Management of Pricing—with systems in place for Daily Reporting, Traceable systems, and new technology, the City should create a protocol for implementing demand-based pricing in coordination with the operator. This would allow City to better manage parking demand to meet the Availability Goals.
- Require Staffing at Peak Times—though the implementation of new technologies will lower the need for staffed lots and ramps, there should be a plan for an attendant at peak times to assist customers.
- Short and Long Term Maintenance Plans—the City should work with the operator to develop and adhere to a maintenance plan for both the immediate, short, and long terms. The plan should clarify responsibilities, funding sources, and clauses for unforeseen elements.
- Parking Investment Plans—the City should work with the operator to develop upgrade and investment plans for public parking facilities, including access areas to facilities, such as alleys and sidewalks. Specific upgrades, and the time line to implement these upgrades, should be included in the plan.

6.2 Coordinate Parking Functions

Parking is becoming more critical to Downtown Binghamton's growth. This study and other ongoing efforts lay out strategic, and interactive approaches to manage parking. As an integrated system, parking functions within the downtown area should be coordinated with multiple stakeholders, including but not limited to the City, the third party contractor, and other major and minor parking facility owners/operators.

The City should continually manage and coordinate parking with all relevant stakeholders and entities to:

- Regularly review and adjust prices, regulations, and enforcement
- Review and apply judgment to the Zoning Code
- Implement Transportation Demand Management (TDM) measures
- Strategically plan new parking facility investment.

To better coordinate among different parties, one person or a standing committee should serve as a single point of contact to manage the parking system as well as integrate other transportation options in the City.

6.3 Update the Zoning Code

The City should update the zoning code to be more appropriate for the downtown context. Elements include:

- Reduce Parking Minimums— Parking minimums require a set amount of parking be provided according to the land use and size of a development. Based on parking utilization data and as outlined in Appendix C, overall, parking requirements in the Zoning Code are generally higher than national suburban standards, which means that the code has contributed to the prevalence of parking spaces that have no public access. The City should reduce or remove parking minimums based on parking demand and land use ratios.
- Allow Shared Parking Agreements to Fulfill Requirements— The code should encourage shared parking to maximize the efficiency of parking (and land) in the downtown. Multiple means can be considered:
  - 1) parking minimums should be reduced in mixed-use developments with complementary uses;
  - 2) the code should allow for off-site parking (up to two city blocks length from the parcel boundary) to satisfy requirements, based on justifiable parking analysis; and
  - 3) private parking facilities should be incentivized to include some public parking.

Figure 41 Best Practice: Shared Parking Lot, Columbus, OH

- Allow Parking In-Lieu Fees— The City should allow new developments to waive all or part of their minimum parking requirements by making an annual payment ("in-lieu" of providing parking) to the City. The fee can be used for transportation improvements, or is "banked" to fund current or potential future shared parking facilities.
- Encourage Electric Vehicle Usage by Requiring Charging Station and Parking— The City should continue to consider charging stations, especially given New York State's statewide initiative, Charge NY. The City should implement the already proposed code language that incentivizes electric vehicle charging stations.
- Include Additional Design Standards—Efforts by the City to improve the downtown area can furthered through the zoning code. Some elements to consider are:
  - *Minimize Driveway Widths and Curb-Cuts*—driveway curb cuts introduce conflicts and congestion. Driveway widths and presence should be limited or prohibited along key walking and bicycle routes.
  - *Continue Sidewalks across Driveways*—where curb cuts are present, code should require a level crossing at the sidewalk and clear sightlines for exiting motorists to see people on foot and bike.
  - *Parking Locations*—parking locations should not discourage other non-motorized users from moving about the downtown area. Parking should not be an impediment to walkers from moving freely through the downtown.
- Encourage Car Sharing—The City should adopt zoning that encourages car share spaces, similar to its proposed electric vehicle charging station code language.

6.4 Upgrade Enforcement Practices

Instead of relying heavily on citations, the City should first amend its parking regulations to rely less on time limits to manage behavior and more on pricing, as described in the Demand-Based Pricing (Strategy 1.2) section. This approach is expected to increase compliance, thereby reduce the number of issued citations for overtime stays/unpaid meters.

In addition, the City should consider its "first ticket free" (per calendar year) policy to be formalized and advertised to foster a more welcoming customer environment.

The City should also work with enforcement staff to expand their role to be downtown ambassadors for the City. These "boots on the ground" staff could complement their enforcement role through friendly assistance, such as providing directions, as opposed to diligent ticket writing. The enforcement personnel would need customer service training and should participate in regular meetings with the City to serve as a feedback loop for better management of parking resources. This would include things like identifying areas of confusion to customers, locations where availability is poor, areas where regulations should change, etc.

Strategies for improving enforcement include:

- Enforcement staff should be downtown ambassadors, representing the City. Staff should be trained and equipped with downtown destination information, including social activity centers, theaters, local restaurants and shops, and other information.
- Staff schedules should match the time span hours. Walking routes and schedules should be varied so regular visitors and employees cannot predict enforcement schedules.
- The City should provide parking information to violators on parking citations.

- Enforcement staff should work with City staff and downtown businesses to ensure adherence to and satisfaction with regulations, and make recommendations for modifications to the management program.
- As new technology is introduced, such as License Plate Readers, the staff should be involved to integrate enforcement technology with payment technology to maximize efficiency.

Figure 42 Best Practice: Downtown Parking Ambassadors

6.5 Establish a Parking Fund

Net revenue from the parking meter fees, permits, and parking citations should be dedicated to a Parking Fund that would be used to invest in parking-related improvements in the downtown. These funds can be used for street improvements, parking facility upgrades, new signage, and a host of other possibilities, many of which are included in this document. The City should advertise to parkers that net parking revenues are being used to invest in the downtown.

When parking revenues "disappear" into the General Fund, patrons (and downtown businesses) are typically less likely to support a paid parking system. If Binghamton's merchants, customers, and residents can clearly see that the monies collected are invested physical downtown improvements – alleyways, plantings, facade improvements, safety and security officers, bicycle racks, and more, many are willing to support parking policies that generate tangible benefits for downtown Binghamton. If experience from other communities is any guide, many will actually become active advocates for the concept.

To develop support for parking management changes, it is crucial to give local stakeholders input in developing parking policies, deciding how Binghamton's parking revenues should be spent, and overseeing Parking Fund investments to ensure that parking revenues are spent wisely.

A number of different organizational structures can be used to establish and oversee a Parking Fund. The Fund can be managed by the newly-established "Parking Authority" or "Parking Division", or a Parking and Transportation Advisory Committee, or the Traffic Board, or a local business association, with support from City staff. Additionally, the Fund could also be established as a financial entity (somewhat like an assessment district), which would require by ordinance that parking revenues generated in downtown be spent in downtown only. Under this arrangement, the Fund would be managed and housed within an existing City department.

6.6 Encourage Shared Parking

In order to better use existing underutilized parking facilities, the City should work with property owners to share parking. The City should develop an in-house capacity to advance shared parking agreements, provide educational and negotiating support to potential sharing partners on topics such as liability, leasehold structure, preservation of development rights, maintenance improvements, safety and lighting improvements, appropriate signing and markings, etc. A City staff member should be tasked with identifying shared parking opportunities and reaching out to the relevant development owners. This individual would facilitate shared parking agreements in the downtown area, and would serve as a resource for private-to-private sharing arrangements. Relying on the Parking Fund, the City may be able to monetize underutilized private parking by offering lease payments to private owners, increasing supply through simple adjacent lot consolidations, and then sub-leasing or selling permits on the combined facility.

STRATEGY 6 SUMMARY: Improve Overall Parking Management & Governance

All entities that are involved in managing parking in downtown Binghamton should regularly coordinate to support larger city goals. Today's parking system in Downtown Binghamton lacks central coordination and effective management of its third-party operator. Other City tools should be updated to better reflect today's environment: an updated parking-related zoning code to better align with downtown's character and smarter enforcement that puts customers first. To improve the overall parking management and governance, strategies include:

- Improve Third-Party Parking Operator Management to ensure the transparency and regularity of reporting, and to improve ramp maintenance, and operations
- Coordinate Parking Functions through a single point of contact to coordinate all parking-related stakeholders and integrate other transportation options
- Update the Parking-Related Zoning Code to reflect Downtown Binghamton's mixed-use context and support future growth
- Upgrade Enforcement Practices to increase compliance and create a customer-friendly downtown parking system
- Establish a Parking Fund to invest parking revenue back to the neighborhood
- Encourage Shared Parking to better use existing underutilized parking resources and open up the hidden, restricted supply

Downtown Binghamton Comprehensive Parking Study and Strategic Plan

APPENDICES

Appendix A Existing Conditions

Downtown Binghamton has numerous destinations that attract local, regional and event visitor traffic. Parking is often where many of these uses come together. Corporate offices, court business, County, City and State governments bring significant daily traffic and parking demand to downtown Binghamton. As Binghamton's downtown revitalization continues with recent investments in streetscape and gateway improvements, and new housing and Innovation District developments, a comprehensive parking management system is needed to accommodate the current and future needs of a vital commercial, cultural and residential mix of uses. Parking should be identified as an asset rather than a barrier to downtown development.

Working closely with the City of Binghamton, the Binghamton Metropolitan Transportation Study (BMTS), the Steering Committee, and several key stakeholders, the consultant team documented and evaluated the parking environment in Downtown Binghamton. This appendix provides data and analysis to aid City staff, BMTS, and other stakeholders understand the existing transportation and parking conditions in the downtown area of Binghamton.

The intent of this appendix is to establish a broad, yet detailed, benchmark of current parking supply, regulations, and utilization in the Downtown Binghamton study area. The team worked with the City and BMTS to define a study area for this effort that covers all critical parking assets and encompasses any perceived parking issues. This documentation of existing conditions informs the team's recommendations and provides a benchmark for community discussion and policy decisions on parking management and future downtown development.

The existing conditions data summarized in this appendix was collected primarily between April and September 2015 by Tri-State Traffic Data and Nelson\Nygaard. The data includes a comprehensive inventory of the current supply and utilization of on- and off-street parking in Downtown Binghamton. All parking data were geo-coded into a Geographic Information System (GIS) database and are available for City and BMTS use.

This appendix includes maps, tables, and summaries of the existing conditions pertinent to the team's key findings. A more detailed technical appendix has also been provided with electronic versions of all data available for future use and review. This section is organized to present parking information under the following headings:

- Parking Inventory – A review of all parking spaces by location, price, regulation and enforcement.
- Parking Utilization & Turnover – Observed use and turnover of existing parking spaces through the course of a typical weekday and weekend, including utilization profiles of "core" areas, general and restricted access facilities, and city-owned ramps, etc.

We note that this is the first of several technical appendices that are being compiled as part of the Downtown Binghamton Comprehensive Parking Management Plan.

PARKING INVENTORY

A complete documentation of parking supply and regulation is the necessary basis to understanding parking in Downtown Binghamton. The City of Binghamton had an outdated off-street parking inventory database covering only the Central Business District. Building on that, the study identified additional parking lots and structures within the study area and captured all on- and off-street parking spaces by location and regulation. The inventory was compiled and geo-coded into a GIS database to spatially display the existing parking supply on maps. This initial work created the base information used throughout the entire study.

STUDY AREA

The Downtown Binghamton study area covers a majority of parking spaces within approximately 332 acres. The study area is generally bounded by (Figure 1):

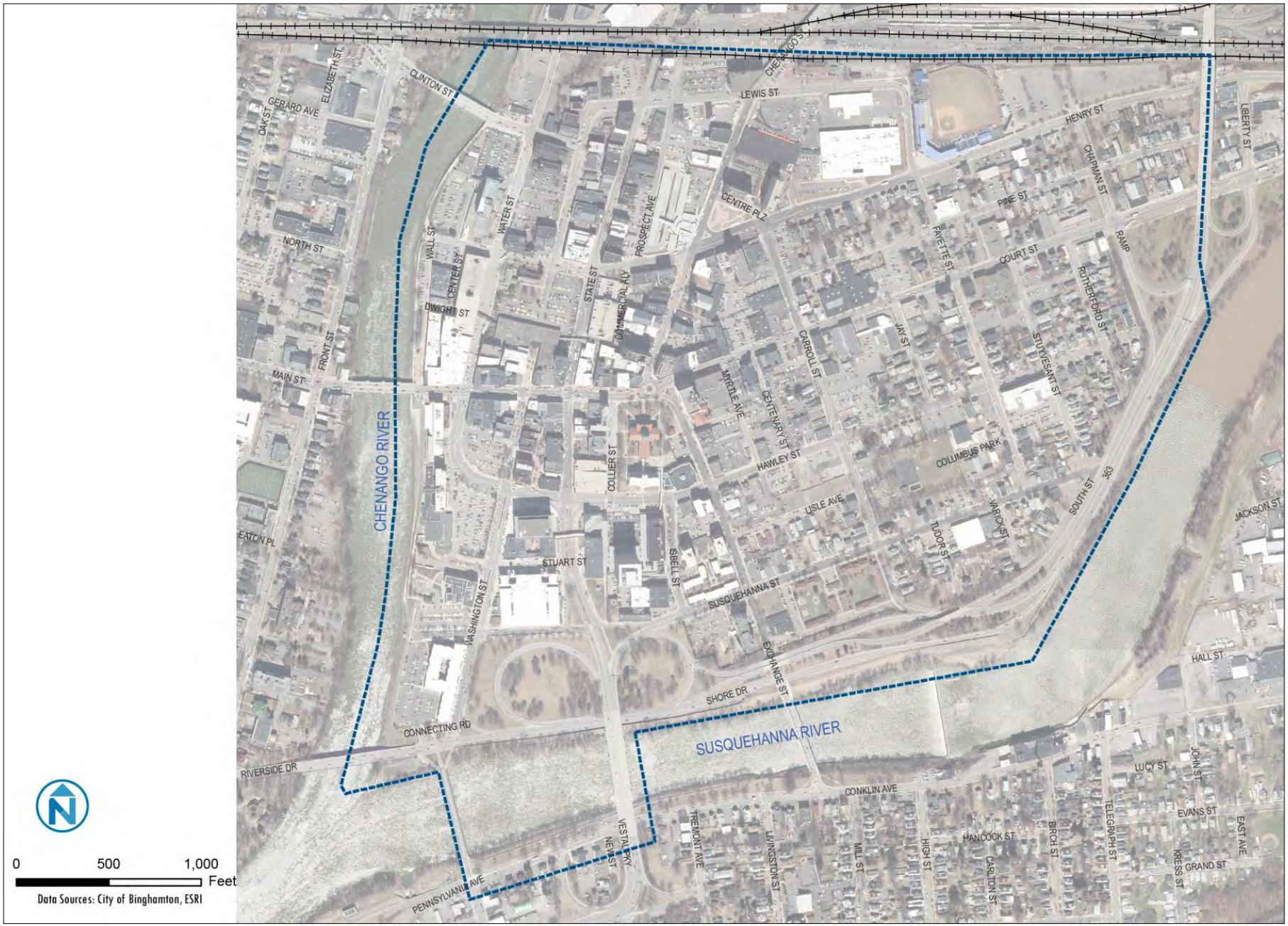
- Railroad to the north
- Chenango River to the west
- Route 363 to the east, and
- Susquehanna River to the south
  (Including the angled parking spaces along Conklin Avenue between Washington Street and the Route 434 ramps)

The Downtown Binghamton study area includes key areas of activity around the Central Business District (CBD), major event destinations such as the NYSEG stadium, Floyd L. Maines Veterans Memorial Arena and The Forum Performing Arts Theatre, as well as the future Innovative District east of CBD. Surrounding, often residential, streets are included in the study area to observe any spillover effect of commercial, commuting, and recreational activity. The study area boundaries were reviewed with City and BMTS staff, and approved per the scope of this effort. This boundaries were further vetted through stakeholder interviews, to confirm that the major centers of activity were included.

The study area has significant on and off-street parking assets. There are currently two municipal parking ramps in operation in the downtown: the State Street ramp, and the Water Street ramp, as well as two public surface parking lots: the lot next to CVS and the bus terminal lot. The Collier Street Ramp ceased operation in November 2015. There are also many privately-owned and somewhat-restricted off-street parking facilities for customers of local businesses, visitors, employees, and other specific groups of users.

Overall, the study area covers approximately 10,000 total parking spaces, including about 1,100 on-street parking and 8,800 off-street parking spaces.

Figure 1 Downtown Binghamton Parking Study Area



DOWNTOWN PARKING INVENTORY

INVENTORY: KEY FINDINGS

- There are approximately 10,000 existing parking spaces in the study area.
- Only 30% of the Downtown parking supply is available for general public use.
- There are over 1,100 on-street parking spaces within the downtown study area.
  - 68% of all on-street parking spaces in Downtown Binghamton are regulated by time restrictions, including disabled parking.
  - 57% of all on-street parking within Downtown Binghamton is priced.
    - Majority of metered spaces are priced at $0.50 per hour, and a small portion at $0.25/hour.
  - 59 on-street parking spaces are dedicated as disabled parking.
  - There are over 30 loading spaces on curb side within Downtown and regulations vary by location.
  - A residential parking permit zone is established by the Traffic Code.
- Nearly 90% of the total parking supply is off-street, with a total supply of 8,800 spaces.
  - 7,000 of the off-street parking spaces are restricted access parking and privately-owned.
  - There are three municipal parking ramps[1] and two public lots within Downtown Binghamton study area. These facilities have hourly and monthly priced parking and are available to the public. As of January 2016,
    - Hourly parking in municipal ramps is priced at $1.00/hour with a daily maximum of $10.00.
    - Monthly permits can be purchased at the cost $48.00 or $60.00/month.
    - At the Hawley Street Lot, there is a flat rate of $5.00.
    - A flat rate of $5.00 for event parking is available at all off-street public parking facilities and the Hawley Street Lot. A late night rate of $3.00 is charged Thursday after 9:30 p.m. Friday and Saturday after 8:00 p.m. in the State Street Ramp.
  - The Collier Street Ramp was closed in November 2015 due to its deteriorating condition.

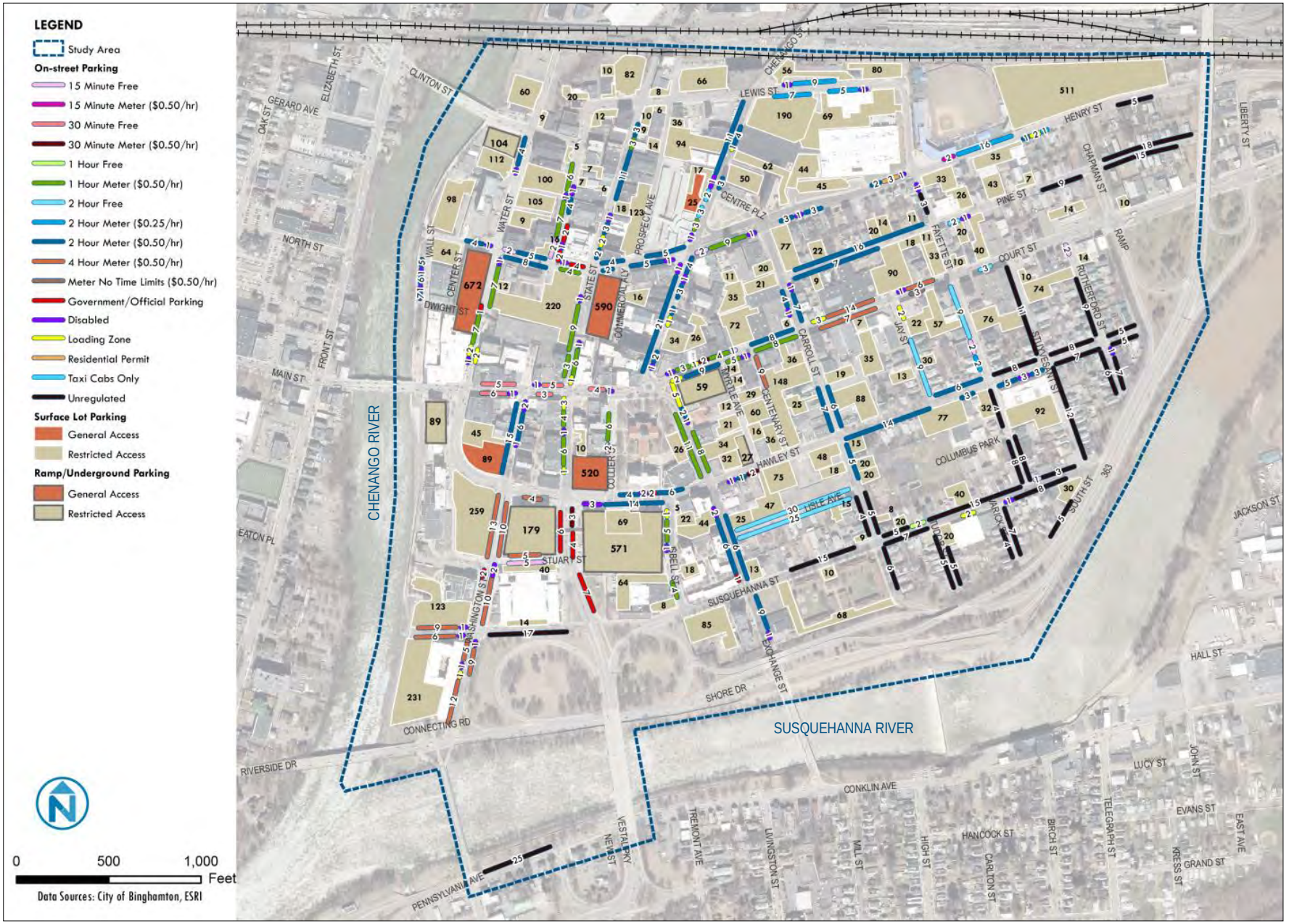
Figure 2 is a summary of parking spaces and accessibility in the study area. The study team catalogued the ownership, use category, and regulation for all spaces within the study area. A full parking inventory is depicted in the parking regulatory map in Figure 3.

Figure 2 Parking Inventory Summary: Downtown Binghamton

Parking Location	# of Spaces	% of Total	% General Access	% Restricted Access
On-Street	1,141	11%	94%	6%
Off-Street	8,862	89%	21%	79%
TOTAL	10,003	100%	30%	70%

[1] The Collier Street Ramp was open and available during the Parking Inventory phase of this project.

Figure 3 Parking Supply and Regulations: Downtown Binghamton



On-Street Parking

There are over 1,100 on-street parking spaces within the downtown study area. Only one quarter of the on-street spaces are not regulated, while the rest are either time-limited or restricted for a specific user group, such as for government official parking, loading, taxi cab standing, resident permit holder or disabled parking. A summary of on-street parking regulations and prices is shown in Figure 4.

Figure 4 On-street Parking Regulations and Price: Downtown Binghamton

Regulation	Free	$0.25/hr	$0.50/hr	Total #	% of Total
15 Minute	19		2	21	1.8%
30 Minute	23		7	30	2.6%
1 Hour	2		128	130	11.4%
2 Hour	78	40	305	423	37.1%
4 Hour			119	119	10.4%
No Time Limit Meter			3	3	0.3%
Disabled Parking	5		3	8	0.7%
Disabled Parking 30 Minute	3			3	0.3%
Disabled Parking 1 Hour			3	3	0.3%
Disabled Parking 2 Hour	1	5	33	39	3.4%
Disabled Parking 4 Hour			7	7	0.6%
Government	31			31	2.7%
Loading Zone	32			32	2.8%
Residential Permit	3			3	0.3%
Taxi Cabs Only	5			5	0.4%
Unregulated	284			284	24.9%
TOTAL	486	45	610	1,141	
% of Total	43%	4%	53%	100%	

TIME LIMIT: Two thirds of all on-street parking spaces in Downtown Binghamton are regulated by time restrictions, including disabled parking. There are five types of time limits: 15-minute, 30-minute, 1-hour, 2-hour, and 4-hour spaces (Figure 5). 2-hour limits are the most dominant time limit within the study area, but spaces with shorter time limits are primarily located in the heart of the Central Business District along State and Court Street. For all on-street spaces, including unregulated, vehicles shall not be parked for more than six consecutive hours between 7:00 a.m. and midnight (Zoning Ordinance § 400-79).

PRICE: Over half of all on-street parking within Downtown Binghamton is priced, with the majority priced at $0.50 per hour, and a small portion at $0.25/hour (Figure 6). Prices are indicated on each meter head (Figure 7) but cannot be seen from a distance. Meters can be paid with nickels, dimes or quarters. Most of disabled parking spaces are also priced at $0.50/hour.

Figure 5 On-Street Time Limits: Downtown Binghamton

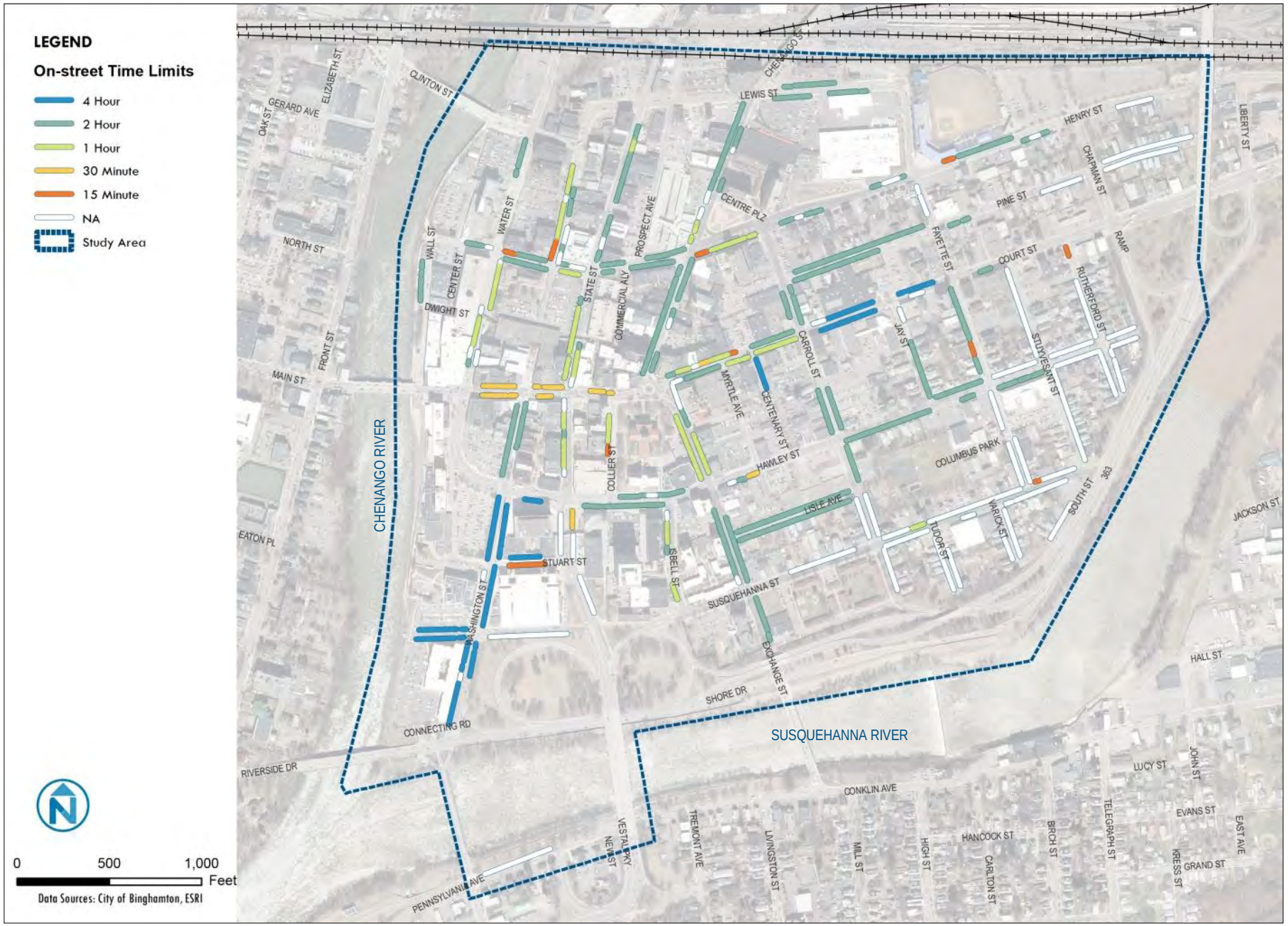
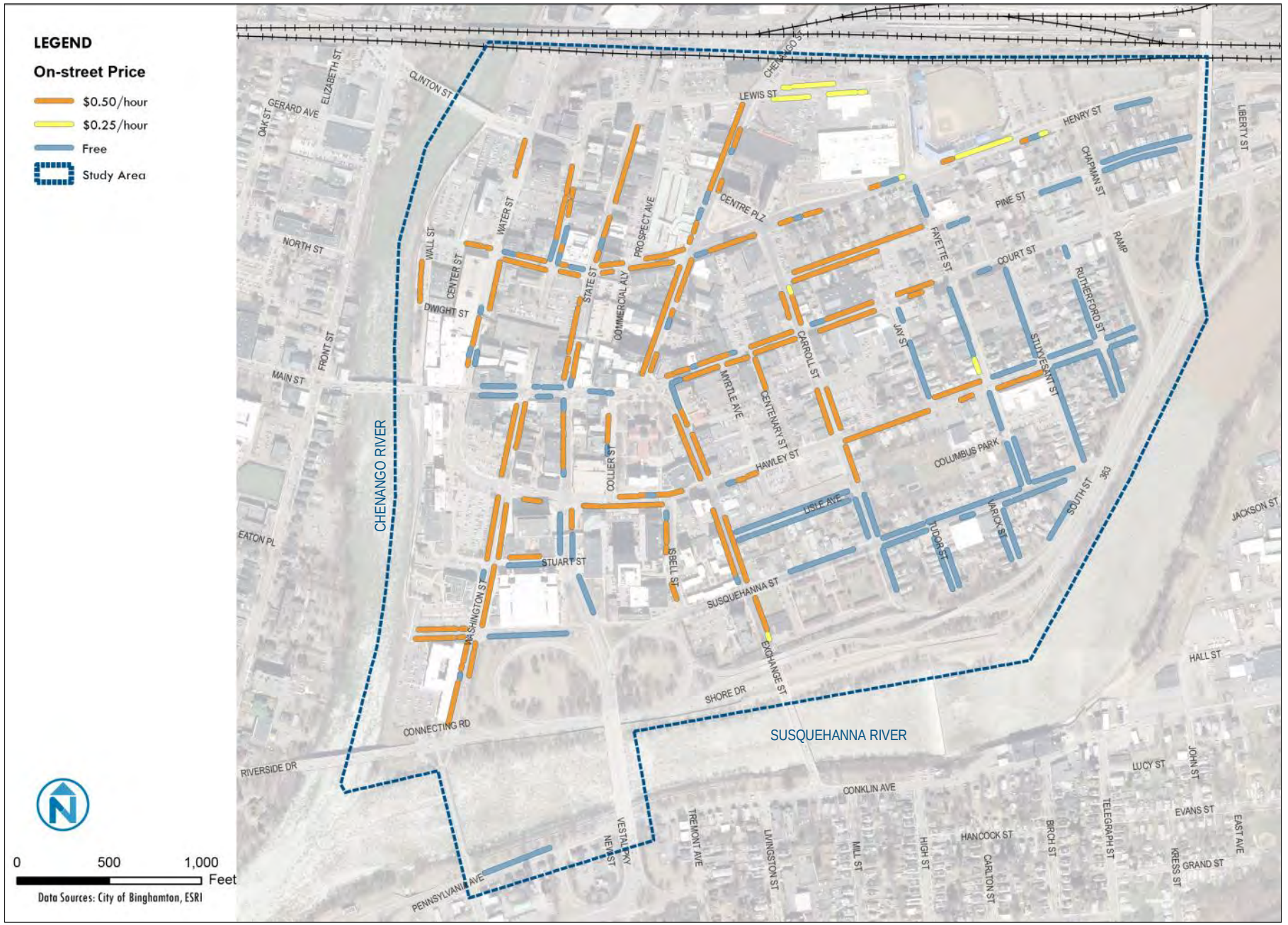


Figure 6 On-Street Parking Price: Downtown Binghamton



REGULATION SPAN: Except Sundays and Holidays, most of the on-street meters function from 8:00 a.m. to 6:00 p.m. and on Thursdays until 9:00 p.m. But some of the time limits apply between the hours of 8:00 a.m. and 4:00, 10:00 or 11:00 p.m. Time limitation for loading zones also varies, depending on location.

All of the various time limits, pricing, and regulation spans make on-street parking in Downtown Binghamton confusing. The multiple regulations combined with limited signage can be especially problematic for less frequent users.

Figure 7 Meter Head in Downtown

Special Use: Disabled Parking and Loading

Over 5% of all on-street parking spaces are regulated as disabled parking, both with and without a time limit. These spaces can only be used by disability parking permit holders or vehicles with disability license plates. But disability plates and parking permits do not exempt individuals from parking rules or fees, except individuals with severe disabilities who can apply for metered parking waivers. A majority of on-street disabled parking within the Downtown Binghamton study area has two-hour time limits and is priced at $0.50/hour.

According to New York State regulations[2], Binghamton residents with a permanent or temporary disability may apply for a free handicapped parking permit. Both temporary and permanent permit hangtags have an expiration date and must be renewed at the Broome County Department of Motor Vehicles (DMV) or City Clerk's Office. The applications consist of two parts: basic information and disability certification by a medical examiner.

Disability license plates are issued to individuals with a permanent disability only, and the vehicle must be registered to the disabled individual in order to qualify for handicapped plates. Applications can only be submitted to the Broome County DMV and must consist the same two parts as permit application. The initial fee for a disability license plate is $28.75.

Currently there are over 30 cub-side loading spaces in the Downtown Binghamton study area. Regulations for commercial loading zones vary by location. Some are regulated from 6:00 a.m. to 7:00 p.m. Monday to Friday and 8:00 a.m. to noon on Saturday, or between 8:00 a.m. and 5:00 or 7:00 p.m. Monday to Friday. A few loading zones have five-minute time limit for pick-up or drop-off purpose only. "The Traffic Board shall have the authority to designate streets or parts of streets as loading zones, and shall cause such areas to be marked by suitable signs or other devices"[3] according to the Binghamton Ordinance.

On-Street Residential Parking Permit

A residential parking permit zone has been established by the Traffic Code of the City of Binghamton consisting of the following roadways (the "Permitted Area"):

- Pine Street from Carroll Street to Liberty Street
- Henry Street from Carroll Street to Liberty Street

[2] http://www.binghamton-ny.gov/departments/city-clerk/nys-handicapped-parking-tag

[3] http://www.binghamton-ny.gov/ordinance/vehicles-and-traffic

- Fayette Street from Court Street to Henry Street
- Carroll Street from Court Street to Henry Street
- Liberty Street from Court Street to Henry Street

Fewer than 20% of all spaces within the permitted area are available to non-residents, and these have a short term time limit. The majority of on-street parking is restricted to residents. Residential on-street parking permits are issued by the City Clerk upon submission of proof of residency or property ownership proof. A single family house is eligible for up to two parking permits, while a multi-family unit is only eligible for up to one permit per unit. A one-time fee of $10 is collected for each registered license plate. However, the permit may be transferred to another vehicle owner by the permit holder without a fee.

Off-Street Parking

Overall, there are over 8,800 off-street parking spaces within the Downtown Binghamton study area. Off-street parking can been generally categorized in two ways to focus on who can access available spaces:

- *General access* parking is described available for public use, some priced hourly, daily or monthly and may be owned by a public or private entity
- *Restricted access* parking is described as dedicated to a specific use, including private parking lots that are dedicated to customers, tenants, or employees.

Figure 8 Off-street Parking Regulations: Downtown Binghamton

	Surface Lot	Ramp/ Underground Garage	Total	% of Total
General Access	118	1,782*	1,900	21%
Restricted Access	5,933	1,029	6,962	79%
Total	6,051	2,811	8,862	

Note*: Includes full-service capacity for Collier Street Ramp.

Almost 80% of all off-street parking in downtown Binghamton is restricted access parking (Figure 8) and privately-owned. By the time of the data collection in 2015, there were three municipal parking ramps and two public lots within Downtown Binghamton with the exception of the Bus Terminal parking lot, all the other municipal parking facilities are managed by LAZ Parking. A summary of the municipal parking facilities' regulations and prices is shown in Figure 10. The public ramps (Collier Street Ramp fully closed as of November 2015[4]) and the Hawley Street lot serve both hourly transients and monthly permit holders on a first-come, first-serve basis. Before its full closure, some Collier Street monthly permit holders were also temporarily moved to State Street and Water Street ramp by the time of the data collection.

TIME LIMIT: There are currently no time restrictions in the municipal off-street parking facilities. Downtown employees or patrons can pay to park as long as they would like. Some restricted-access private parking facilities have time limits, such as the 2-hour maximum parking at Metro Center Parking Lot.

[4] Note that by the time of the data collection for this study, Collier Street ramp was still open but partially under construction - thus about 300 spaces at the top level and roof are not available for use.

PRICE: All three municipal ramps have hourly and monthly parking available to public. As of January 2016, hourly parking is priced at $1.00/hour with a daily maximum of $10.00 and is paid by cash or check at the exit to a cashier attendant or a pay station. There is a Late Night rate of $3.00 (flat rate) for State Street Ramp parking after 9:30 p.m. on Thursdays, and after 8:00 p.m. on Fridays and Saturdays. At the Hawley Street Lot, there is a flat rate of $5.00. Patrons are asked to pay in advance by space number.

REGULATION SPAN: The Water Street ramp is gate controlled from 7:00 a.m. to 5:00 p.m. Monday to Friday. The State Street ramp is gated 24/7, even though only priced during the same period with the other ramp.

Event Parking

Other than regular on-street parking, priced event parking spaces are available at municipal ramps and Hawley Street lot, at a flat rate of $5.00, in order to accommodate year-round events at the NYSEG stadium, Floyd L. Maines Veterans Memorial Arena (Arena) and The Forum Performing Arts Theatre (Forum). Additional $3.00 event parking for the Arena is available in the underground parking garage beneath Government Plaza. Other special arrangements at private parking facilities have been made to accommodate event parking as well. For example, for Binghamton Senators games, season ticket holders can park at Government Plaza (full price); Metro Center parking lot charges $5.00 (flat rate) for Forum event parking; some private lots around the Stadium charge $5.00 during games. Currently, there is no unified event parking regulation or management system across downtown.

Permit Parking

Monthly permits for municipal ramps can only be purchased at State Street Ramp (at Collier Street Ramp before the closure) by cash or check. As of January 2016, monthly permits can be purchased by month or up to 3 months at a time at the cost of $48.00 or $60.00/month ($42.00 or $52.00 prior to 2016). Semester passes at $40.00/semester are available for students at Binghamton University Downtown Center to park at Water Street Ramp. City employee parking at a discount rate of $15.00/month is available at State Street and currently there are 15 such city employee permit holders. Monthly permits at $57.00/month are also available at the Hawley Street Lot. Special parking arrangements with Boscov's Department Store and Lost Dog restaurant have been made at the Water Street ramp. Figure 9 shows the number of monthly permit holders at three municipal ramps before and after Collier Street Ramp's closure. After Collier Street Ramp's permit holders transferred to the other two municipal facilities, permit sales at the State Street ramp represent over 100% of total spaces available, while Water Street ramp is below that threshold.

Figure 9 Permit Sales at Municipal Ramps

Before Collier Street Ramp**'s Closure –** April 2015			
Facility	# of Monthly Permit Holder	Total Supply*	Permit/Space Ratio
Collier Street Ramp**	370 (max 400)	520	0.71
State Street Ramp	535 (no max)	590	0.91
Water Street Ramp	349 (max 550)	672	0.52
After Collier Street Ramp**'s Closure –** November 2015			
Facility	# of Monthly Permit Holder	Total Supply*	Permit/Space Ratio
Collier Street Ramp	0	0	NA
State Street Ramp	767 (no max)	590	1.30
Water Street Ramp	517 (max 550)	672	0.77

Note: * There are no reserved spaces for monthly permit holders in ramps. All spaces are shared on a first-come, first-serve basis.

Municipal Parking Ramps - Facility Detail

The study team conducted visual observations on the three municipal ramps to evaluate the overall condition of the facilities.

Collier Street Ramp (520 spaces, closed in November 2015)

The Collier Street ramp is located on the north side of Hawley Street between State and Collier Street. The parking structure is an above-ground, free standing/single-use structure, with three and a half supported levels of parking. The stairwells are enclosed and the garage is open air.

As acknowledged by its closure, the Collier Street parking garage is in poor condition and is nearing the end of its functional service life due to significant deterioration. By the time of the data collection for this study (September 2015), two levels of this ramp were closed. Estimates indicated a cost of about $800,000 to keep a portion of the ramp open for a few more years. There are plans

State Street Ramp (590 spaces)

The State Street Ramp is located on the east side of State Street between Henry and Court Street. The parking structure is single-use/free standing, with seven covered floors above ground, 4 levels underground and a roof top level of parking. The ramp operates as automated gate-controlled facility with no attendant on-site.

In general, the State Street Ramp is in fair condition, but requires maintenance to address the current structural and waterproofing deterioration. There is no elevator inside and pedestrian access to the garage is in poor condition. Sidewalks along State Street are interrupted by the garage driveway. The pedestrian bridge connecting to Metro Center is currently not in use. According to a garage condition appraisal study done by Timothy Haahs & Associates (April 2014, see Appendix F), the cost associated with the immediate maintenance type repairs at State Street ramp is estimated at $51,000.

Water Street Ramp (672 spaces)

The Water Street Ramp is located on the west side of Water Street between Henry and Court Street. The parking structure is primarily single-use/free standing, with a ground-floor stairway connection (non-ADA compliant) to the Boscov's Department Store next door. It has ten covered floors and a roof top level of parking. The ramp is also an automated gate-controlled facility with an attendant on-site.

In general, the Water Street Ramp is in fair condition, but requires maintenance to address structural and waterproofing deterioration, rusted sanitary piping and some relatively minor electrical issues. There is one elevator and the covered pedestrian bridge connected to Metro Center is closed. According to the garage condition appraisal study done by Timothy Haahs & Associates (April, 2014), the cost associated with the immediate maintenance type repairs at State Street ramp is estimated at $168,000. An updated order of magnitude was conducted by TimHaahs in May 2016 (Appendix F), with a total estimate of $2,700,000 for Water Street Ramp. Immediate repairs and upgrades include structural repairs, elevator, lighting and signage upgrades, parking equipment and technology upgrades, as well as interior and exterior aesthetic improvements.

Figure 10 Municipal Off-street Parking Regulations: Downtown Binghamton

	Location	# of Spaces	Price	Payment Technology	Restriction	Days of Week	Span per Day
Ramps	Water Street	672	$1.00/hour, daily MAX $10.00	Cash or Check		Mon-Fri	7:00 a.m.-5:00 p.m.
			Event rate: $5.00	Cash or Check			
			Restricted Monthly rate: $48.00	Hangtag access	3rd floor & above, MAX 550 permits		
			Regular Monthly: $60.00	Hangtag access			
			Semester rate: $40.00	Hangtag access	BUDC students		
	State Street	590	$1.00/hour, daily max $10.00	Cash only pay station		Mon-Fri	7:00 a.m.-5:00 p.m.
			Late Night rate: $3.00	Cash only pay station		Thu	after 9:30 p.m.
				Cash only pay station		Fri & Sat	after 8:00 p.m.
			Event rate: $5.00	Cash or Check			
			Restricted Monthly rate: $48.00	Keycard access	Sub-basement level		
			Unrestricted Monthly rate: $60.00	Keycard access			
			City Employee rate: $15.00	Keycard access			
	Collier Street	520 *(closed in Nov. 2015)*	$1.00/hour, daily max $10.00	Cash only		Mon-Fri	7:00 a.m.-5:00 p.m.
			Late Night rate: $3.00	Cash only		Thu	after 9:30 p.m.
				Cash only		Fri & Sat	after 8:00 p.m.
			Event rate: $5.00	Cash or Check			
			Roof rate: $48.00 (NA)	Keycard access	No access to the roof now, MAX 400 permits		
			Monthly rate: $60.00	Keycard access			
Surface Lots	Washington & Hawley	93	Flat rate: $5.00	Cash, pay-by-space		Mon-Sun	24 hours
			Event rate: $5.00	Cash, attendant			
			Monthly rate: $57.00	Cash or Check			
	Bus Terminal	21	$1.00/hour	Pay Station (currently not working)			
		4	NA	NA	Package pickup loading		
		17	NA – Private	NA	BC Transit/Coach employee only		

Source: LAZ Parking

ENFORCEMENT

ENFORCEMENT: KEY FINDINGS

- The City of Binghamton adopted an accelerating fine schedule for parking violation tickets.
- There are a substantial number of unpaid parking tickets that totals over $1 million in the past 10 years.

Like most communities, downtown Binghamton's existing parking management system relies heavily on enforcement to ensure desired compliance of regulations. Parking in Binghamton is regulated by the Traffic Code of the City of Binghamton. The City currently has one full-time and one part-time parking enforcement officer who enforce the City's Parking Ordinance and issue tickets per Article VII through Article XI.

The Code has detailed definition of prohibited parking zone, time limitation, metered parking, and handicapped parking areas, as well as regulations for on- and off-street parking. Enforcement of parking includes monitoring all curbs, as well as proper use of handicapped spots and improperly parked cars. To monitor parking activity, the Enforcement Officers use the Casio Model IT9000E handheld Ticket writing devices, but have had trouble with them syncing with the parking enforcement system. Currently, the full-time shift is from 8:00 a.m. to 4:00 p.m. Monday through Friday and the part-time shift from 7:00 a.m. to 12:00 p.m. Monday through Friday. There are no fixed routes for enforcement.

Specifically for time limit regulation, according to the Code:

> *"When parking time limits are established for a part of a public street, highway or public parking area, and such places are appropriately signposted or marked to indicate the parking time limit, it shall be unlawful for any person to park or leave standing any vehicle upon such public street, highway or public parking area in violation of such parking time limit."*

However, the Code does not specify where one may move their car upon exceeding the time limit at a metered space. Technically, when the meter time limit expires, one can move their car to an empty adjacent space and park there for an additional full time limit. So the time limits are only enforcing one parking spot rather than the whole street block, which actually have no impact on encouraging turnovers.

Parking tickets can be paid at the City's Treasure's Office. The City of Binghamton adopted an accelerating fine schedule for parking violation tickets. Almost twice the amount of the initial fine will be charged if tickets are unpaid after two business days, and a higher fee after 30 days. Figure 11 provides a breakdown of parking violations and fines.

Figure 11 Parking Violation Fine Schedule

Violation	Initial Fine	After 2 Days	After 30 Days
Article 4 Violation: ▪ 30 Minute Meter ▪ 1 Hour Meter ▪ 2 Hour Meter ▪ 4 Hour Meter	$20	$40	$55

Violation		Initial Fine	After 2 Days	After 30 Days
▪ Beyond Time				
Article 3A Violation: ▪ __Min Zone ▪ 1 Hour Zone ▪ 2 Hour Zone ▪ 6 Hour Zone ▪ 3 Hour Commercial ▪ Alternate Side		$30	$55	$75
Article 3 Violation: ▪ Sidewalk ▪ Driveway ▪ 15 Ft of Hydrant ▪ On a crosswalk ▪ No Inspection ▪ No Parking Zone ▪ Left Side to Curb	▪ Reverse Diagonal ▪ Loading Zone ▪ Unregistered Vehicle ▪ Government Plaza ▪ Fire Lane ▪ No Parking _____	$45	$70	$75
▪ Handicapped Parking		$125	$185	$205
▪ Residential Parking		$50	$50	$50

Despite an accelerated fine structure, the number of unpaid parking tickets is substantial. Recently the City initiated a series of firmer measures to collect fines from almost 20,000 unpaid parking tickets that totals over $1 million in the past 10 years, twice as much as total on-street parking citation revenue in 2014[5].

Figure 12 Unpaid Parking Tickets by August 2015

Age of Tickets	# of Tickets	Value of Fines	Value of Penalties	Partial PD/DISM	Total Value
0-30 Days	254	$14,785	$360	$ -	$15,145
31-60 Days	180	$10,095	$1,930	$ -	$12,025
61-90 Days	138	$ 7,430	$1,550	$ -	$8,980
91-180 Days	610	$35,025	$8,715	$ -	$43,740
181-365 Days	1,439	$80,730	$22,270	$55	$103,000
Over 1 Year	2,661	$153,435	$39,795	$180	$193,230
Over 2 Years	1,790	$103,715	$26,735	$280	$130,450
Over 3 Years	1,747	$73,680	$23,505	$70	$97,185
Over 4 Years	1,761	$63,175	$23,870	$ -	$87,045
Over 5 Years	8,842	$250,215	$83,635	$ -	$333,850
TOTAL	19,422	$792,285	$232,365	$585	$1,024,650

Source: City of Binghamton

[5] City of Binghamton's on-street parking ticket revenue was $511,172 in year 2014 and $437,740 in year 2013.

PARKING UTILIZATION & TURNOVER

In downtown Binghamton, similar to many downtown areas, there is a perception that there is not enough parking. In reality, parking is generally considered functionally full when there is at least one empty space per block face, ensuring easy customer access to businesses, but also allowing for a bustling downtown environment. This typically equates to a target of 15% vacancy per block face and 10% within parking lots.

Parking utilization counts provide a time series of parking use for a typical day in an area. To gather this data, the team counted parked cars in each on-street segment and off-street facility at pre-determined time intervals. Land usage, regulation, pricing, and signage can drastically impact how even adjoining parking assets are utilized. By compiling parking utilization spatially, one can begin to clearly identify patterns of high or low usage, the impact of regulations, and assess how much of the parking supply is actually utilized throughout a typical day.

The Parking Study team conducted parking utilization counts on a typical weekday and a weekend day in September 2015[6]. Data collectors captured weekday parking demand for 14 hours, beginning at 8:00 a.m. and ending at 10:00 p.m., with counts every two hours in the core area and every four hours in the outer residential neighborhoods. Weekend parking utilization was counted from 10:00 a.m. to 10:00 p.m. During the period of the data collection, a large portion of the Collier Street Ramp and a small portion of the Water Street Ramp were closed due to construction; the supply of these ramps shown in this analysis was adjusted to reflect the number of spaces available on the days of the counts.

In addition, parking turnover data was conducted at three key locations on the same weekday and weekend. Turnover counts track license plates to monitor how long individual cars are parked in a particular parking space. "Snapshot" turnover counts were conducted during two-hour periods at 1) Hawley Street from State Street to Isbell Street at Government Plaza; 2) Court Street from Water to State Street and Washington Street from Court to Hawley Street; and 3) Washington Street from Hawley Street south to the riverfront. By using the license plate tracking, the turnover data can indicate the length of stay and frequency of violation of the time limits.

UTILIZATION: KEY FINDINGS

- On weekdays, Downtown Binghamton has a peak overall parking utilization of 51% which occurs from 12:00 p.m. to 2:00 p.m.
- After 4:00 p.m., overall parking demand drops significantly.
- On weekends, overall parking demand is fairly consistent below 26% throughout the day.
- 8:00 p.m. to 10:00 p.m. is the peak period for weekend parking and demand is concentrated on-street near the core.
- Overall, weekend demand is about ½ of weekday demand during the day, but 80-90% in the evening.

[6] Tri-State Traffic Data, Inc. collected parking utilization data on Thursday September 24 and Saturday September 26.

- Weekend demand for on-street parking in the core area is about 80% of weekday demand in the middle of the day and even higher than weekdays in the evening.

METHODOLOGY

Parking utilization data was counted with a practiced approach to collect as accurate data as possible. Field surveyors collected data at each on-street segment and off-street facility at regular intervals throughout the day. For example, if the State Street Ramp was counted at approximately 8:05 a.m. in the first loop, then it was counted at approximately 10:05 a.m. in the second loop, etc. This consistency ensured data accuracy to help draw conclusions about trends within two-hour windows. The team coordinated in advance with City staff to ensure that there were no special events, road closures, etc. that influenced parking utilization.

The series of charts on the following pages show parking utilization profiles in downtown Binghamton. The data is shown in a variety of ways: the entire study area, focus area, metered and time limited parking spaces, etc. The red lines indicate "functional capacity" of parking, i.e. a reserve of 15-percent of on-street parking and 10-percent for off-street facilities, a recognized national standard of when a parking area is effectively full.

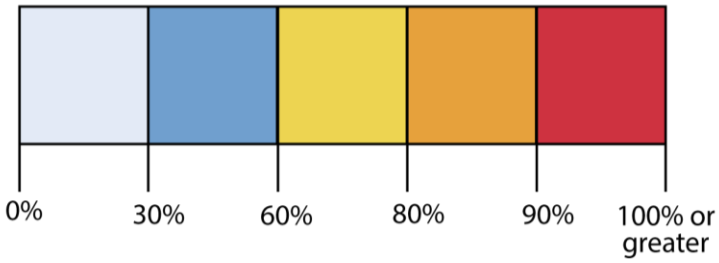
SPATIAL PATTERNS

Understanding how parking is utilized in an activity center requires being able to describe how parking facilities and on-street parking spaces interact with each other throughout the course of a day. A chart of utilization rates for one specific location is valuable, but visual representation of how that location behaves among others located nearby can reveal patterns and trends not evident in localized numbers alone. For example, a heavily used lot may be proximate to another lot which is simultaneously under-utilized.

The Parking Study team developed a series of utilization maps that build on the parking inventory map. The color shades represent the percentage of spaces utilized at each location. The breaks are chosen to help evaluate the occupancy of a parking facility:

- Light Blue, Blue, and Yellow represent 0-80% utilization, a point at which street faces and off-street facilities are viewed as underutilized. Any resource that consistently performs at this level, especially during peak-demand periods can be viewed as having excess capacity.
- Orange signifies blocks and facilities with 81% to 90% utilization, and represents actively used resources. Particularly for off-street facilities, the nearer utilization levels approach the high end of this range, the more efficiently they are being utilized.
- Red denotes utilization above 90% and is considered to be functionally full. These blocks and facilities appear full to motorists, and consequently give the impression of overall lack of parking.

Figure 13 Utilization Color Shades



DOWNTOWN PARKING WEEKDAY UTILIZATION

WEEKDAY DEMAND: KEY FINDINGS

- Overall, Downtown Binghamton has a peak parking utilization of 51% which occurs from 12:00 p.m. to 2:00 p.m.
  - Maximum observed demand is 4,700 vehicles in the study area.
  - After 6 p.m., demand drops significantly below 3,000.
- Parking utilization varies across the day and by geography, specifically:
  - On-street parking in the core is over 80% full during lunch time, and has another peak demand (73%) at 6:00 p.m.
  - Collier Street Ramp (under construction) is 100% full in the morning;
  - State and Water Street ramps have more than 40% available capacity at all times of the day;
  - Government Plaza underground parking is over 85% full from early morning till 2:00 p.m. during weekday and remains 50% full till late night.
- After 4:00 p.m., overall parking demand in Downtown Binghamton drops significantly.
  - Over 65% of off-street parking supply is empty.
  - On-street metered parking reaches its peak at 52% at 6:00 p.m.

All Parking Spaces – Weekday

As shown in Figure 14, of the 9,300 spaces counted within the study area, the maximum overall utilization observed was 51% (about 4,700 spaces) between 12:00 p.m. to 2:00 p.m. This count included almost all inventoried spaces except for those non-accessible due to construction: spaces in the 120 Hawley Street lot, 300 spaces in the Collier Street Ramp, and 250 spaces in the Water Street Ramp. Compared to the 90-percent optimal occupancy (shown by the red dotted line), these results indicate that overall, the study area has sufficient parking supply to satisfy its demand. Figure 15 to Figure 21 show the spatial patterns of parking utilization in two-hour increments, from 8:00 a.m. - 10:00 a.m. to 8:00 p.m. - 10:00 p.m.

Figure 14 Parking Utilization - Study Area (Weekday)

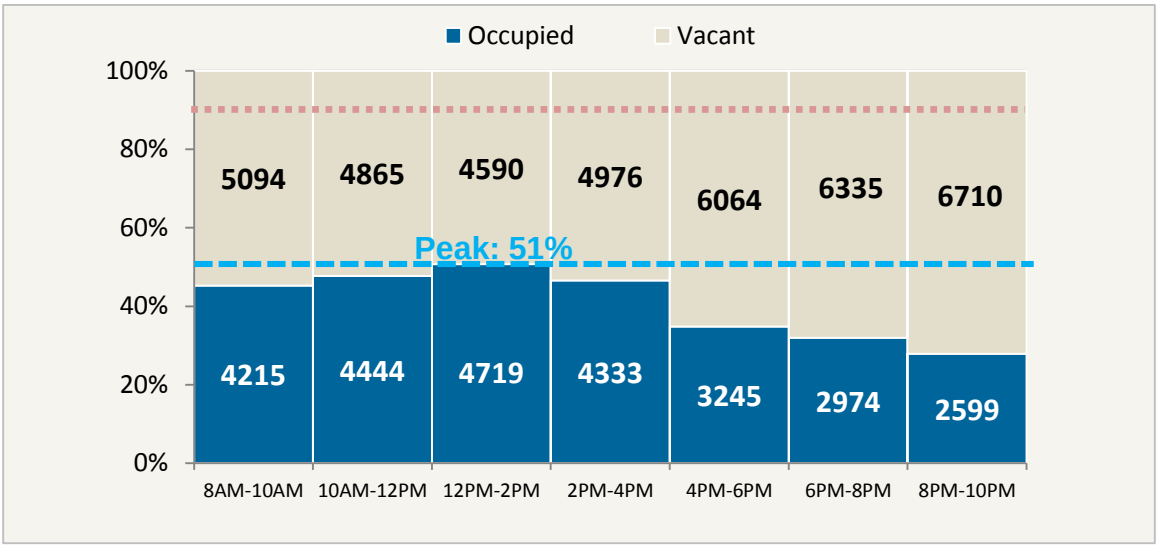


Figure 15 Downtown Binghamton Parking Utilization – Thursday September 24, 8:00 a.m. to 10:00 a.m.

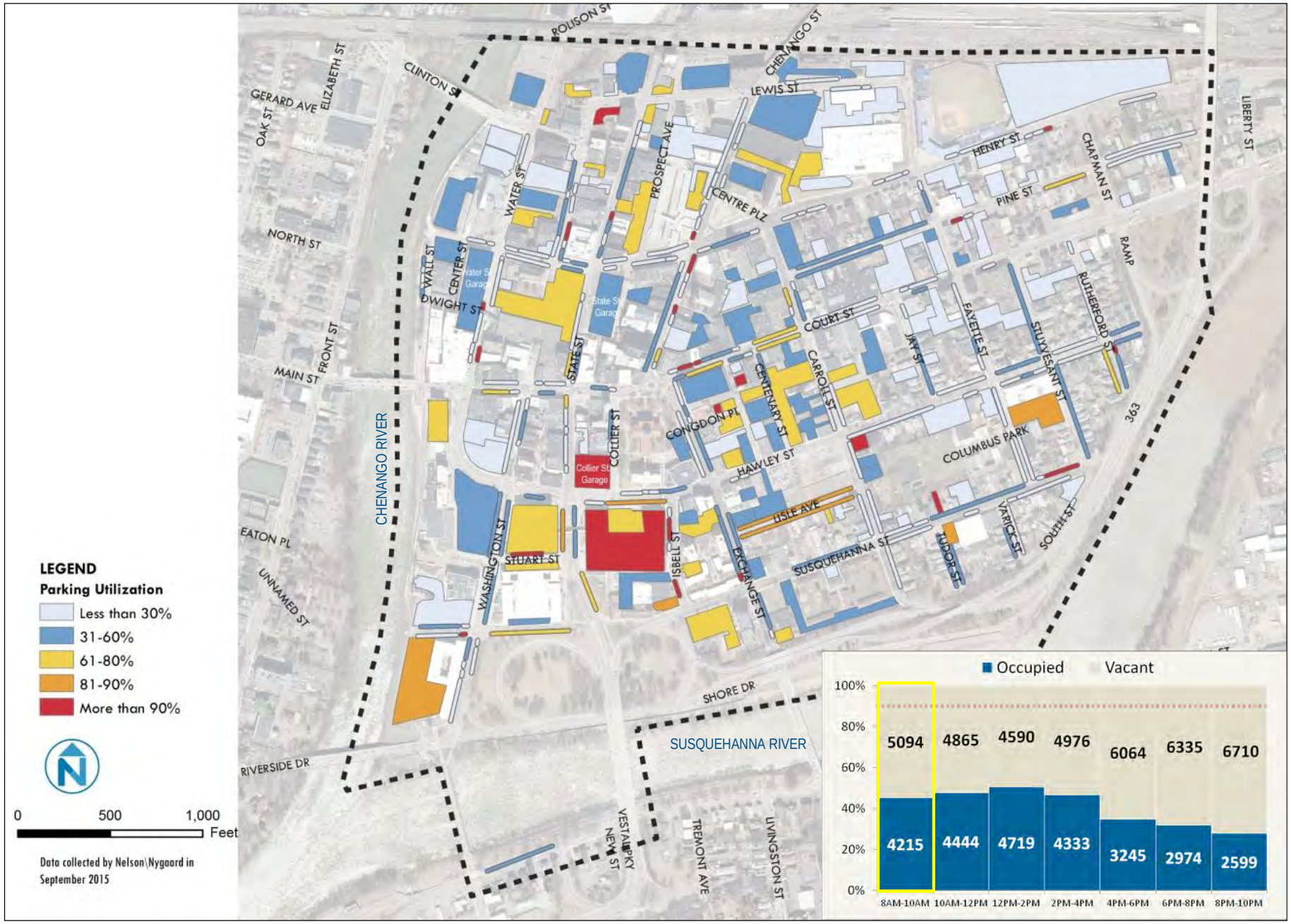


Figure 16 Downtown Binghamton Parking Utilization – Thursday September 24, 10:00 a.m. to 12:00 p.m.

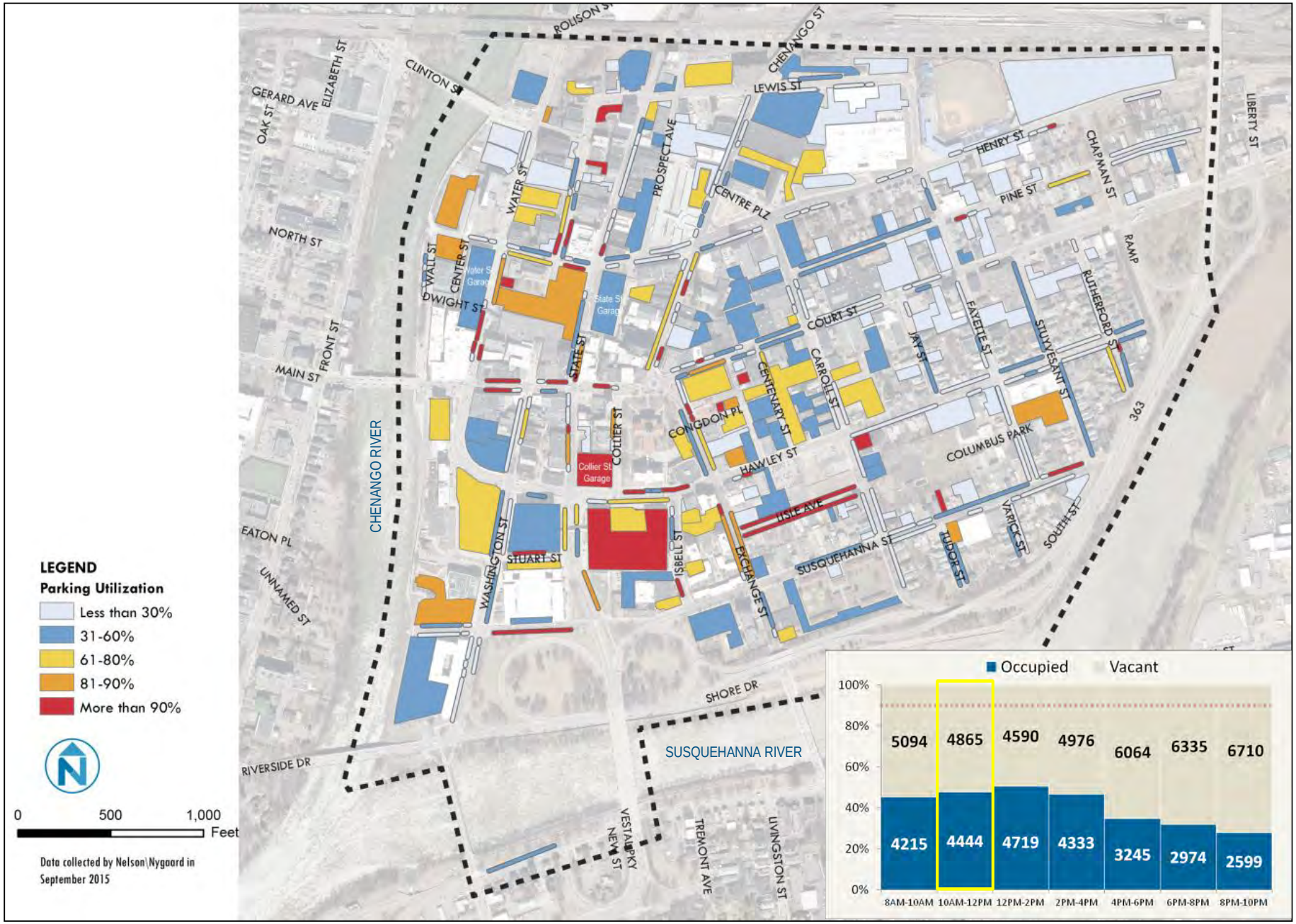


Figure 17 Downtown Binghamton Parking Utilization – Thursday September 24, 12:00 p.m. to 2:00 p.m.

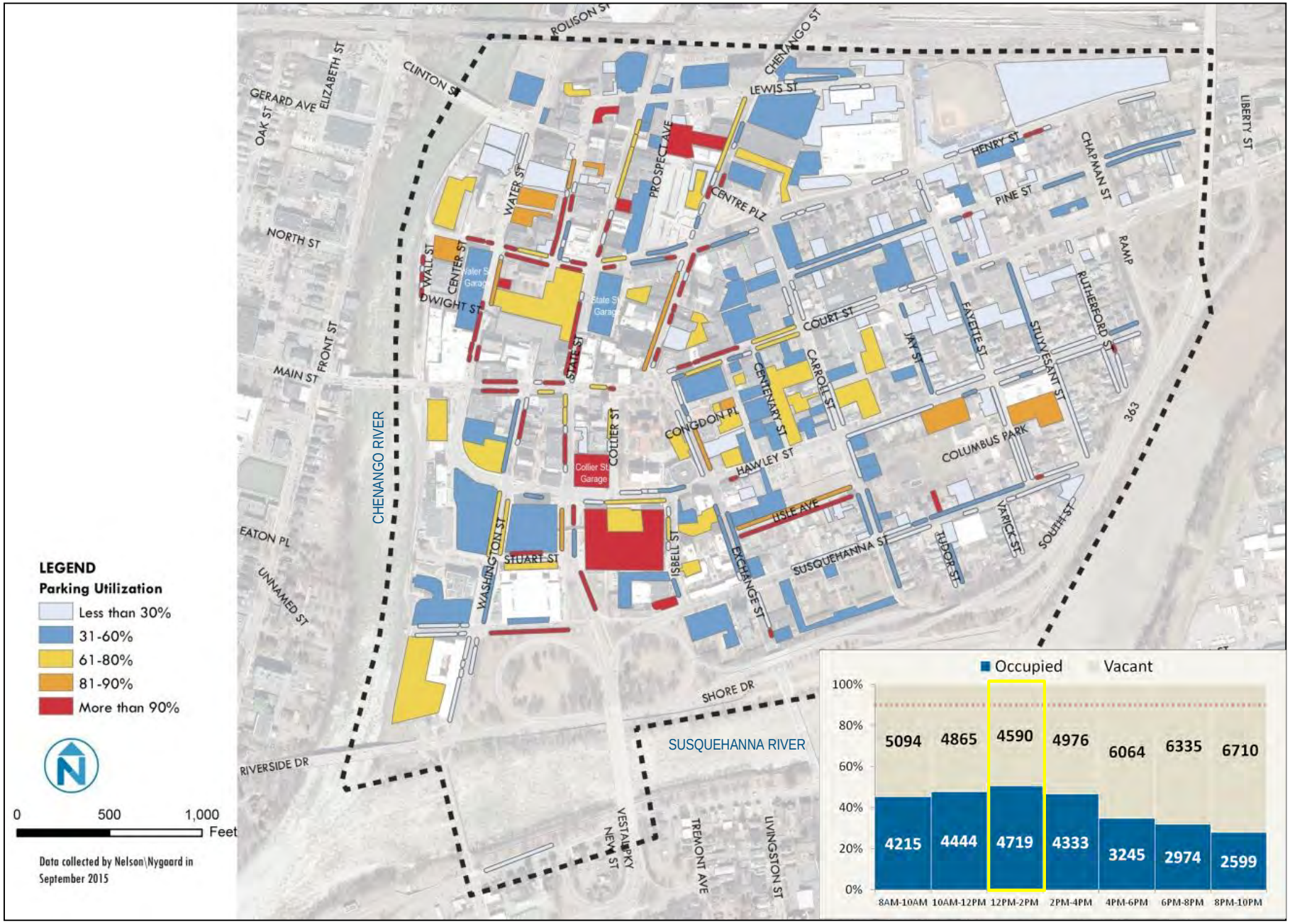


Figure 18 Downtown Binghamton Parking Utilization – Thursday September 24, 2:00 p.m. to 4:00 p.m.

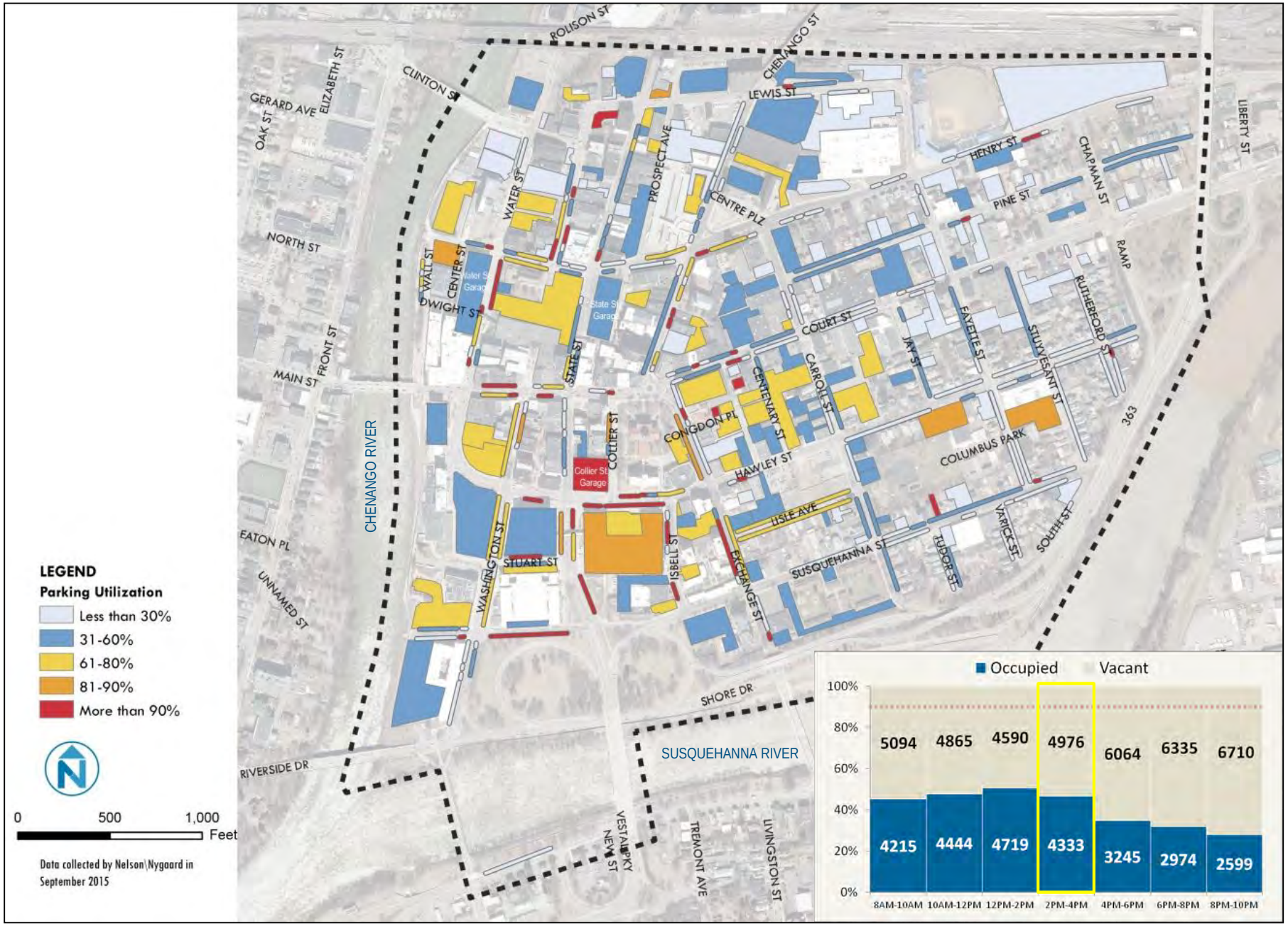


Figure 19 Downtown Binghamton Parking Utilization – Thursday September 24, 4:00 p.m. to 6:00 p.m.

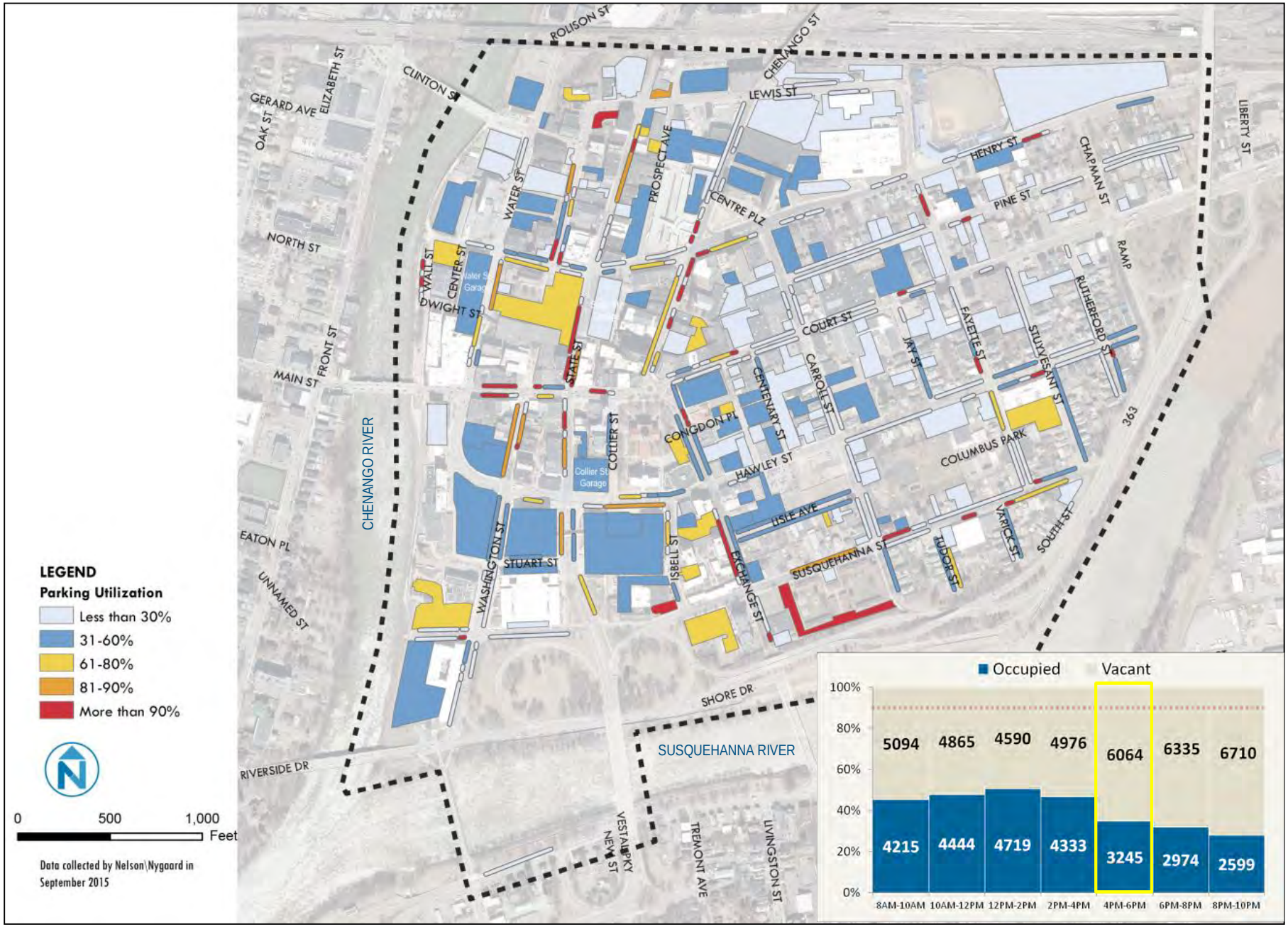


Figure 20 Downtown Binghamton Parking Utilization – Thursday September 24, 6:00 p.m. to 8:00 p.m.

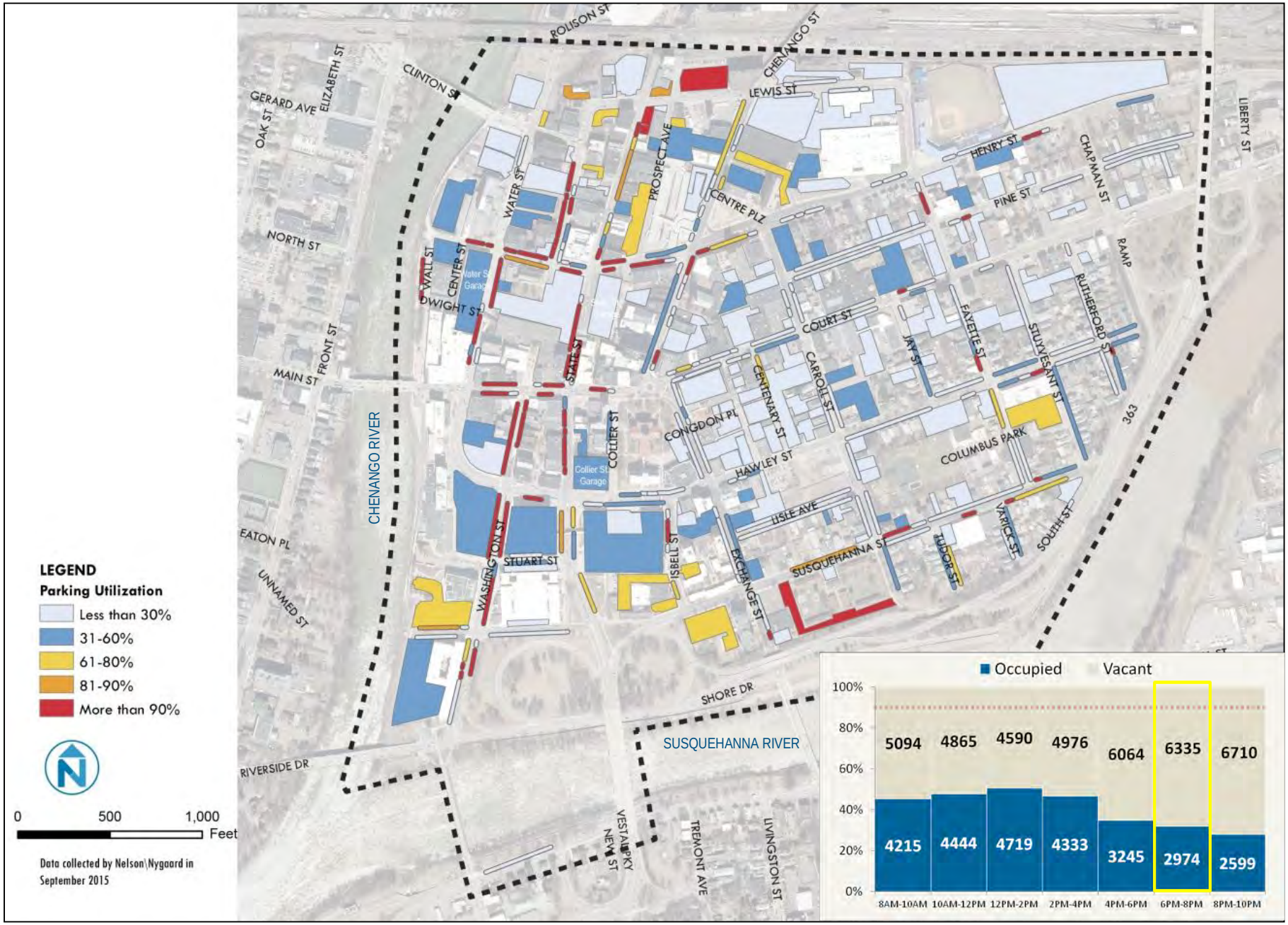
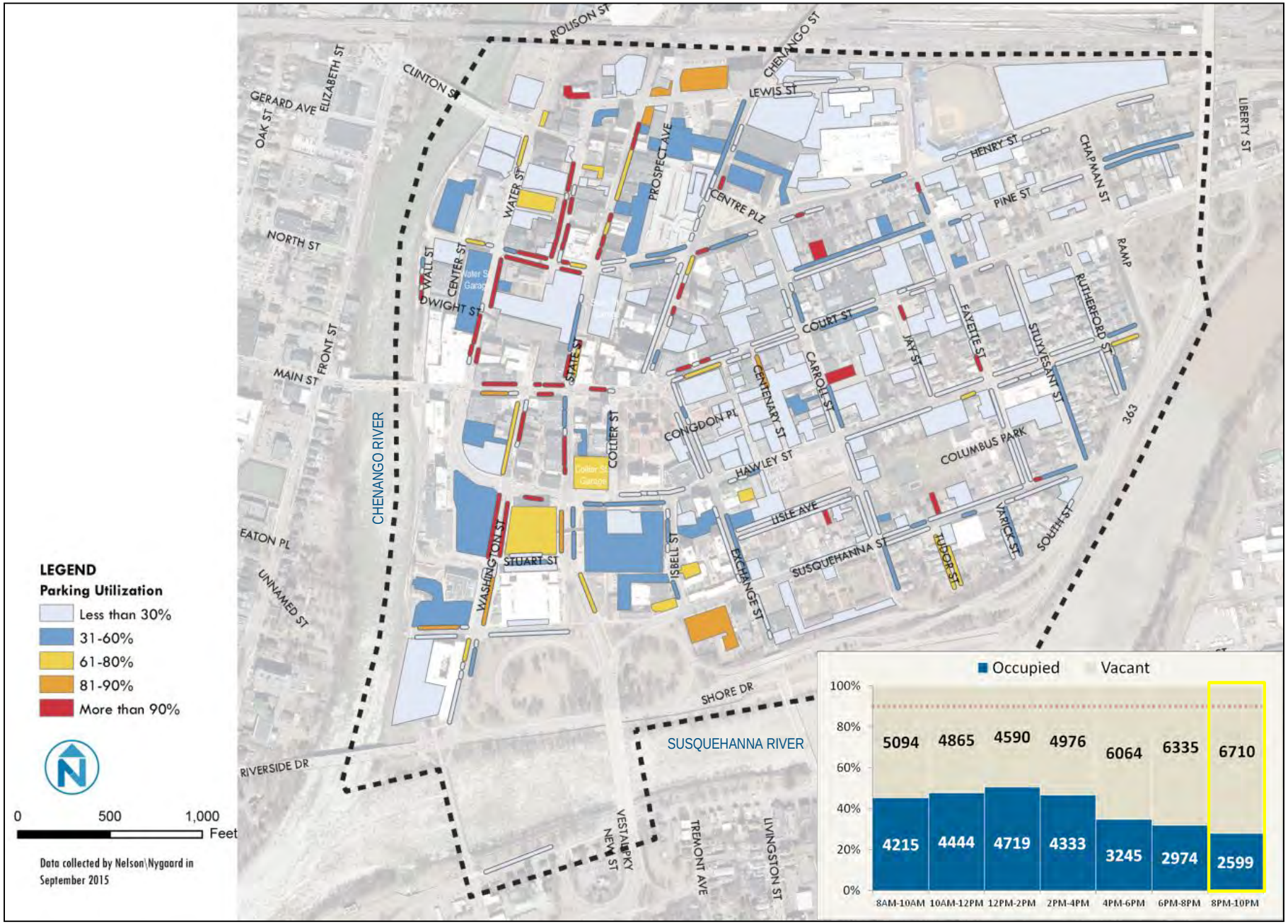


Figure 21 Downtown Binghamton Parking Utilization – Thursday September 24, 8:00 p.m. to 10:00 p.m.

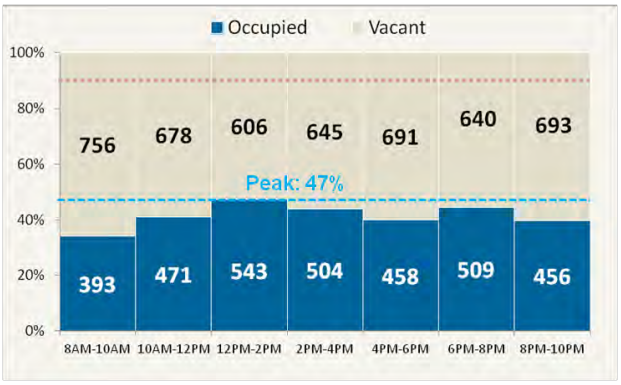


Parking Utilization by Type of Parking – Weekday

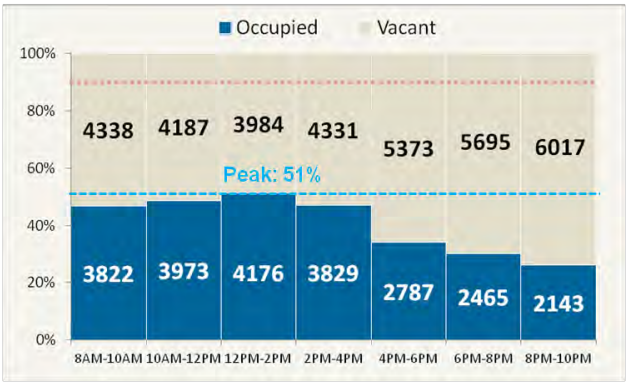
As shown in Figure 22, there is parking available both on-street and in off-street parking facilities during the weekday. Utilization of off-street spaces was slightly higher (51%) during the peak period than on-street during the same period (47%). Off-street parking, however, is consistently busy until about 4:00 p.m.; in the evenings, almost all off-street parking has ample capacity.

Figure 22 Parking Utilization – On-Street vs. Off-Street (Weekday)

On-Street



Off-Street

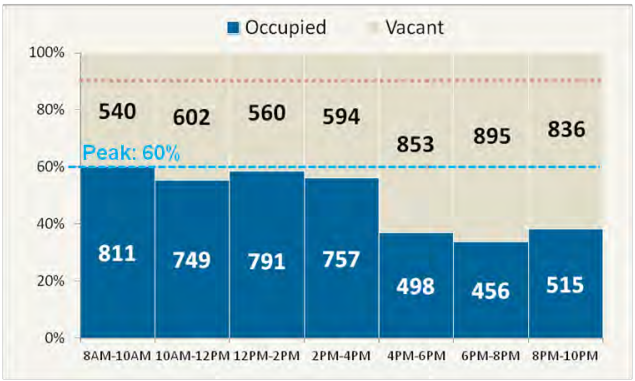


Off-Street Parking Utilization by Public vs. Private– Weekday

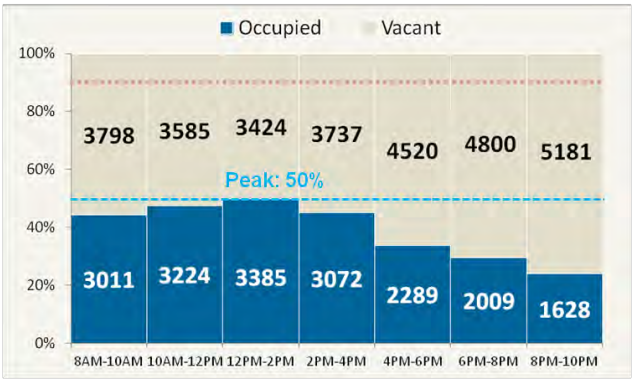
Figure 23 shows utilization of off-street publicly-accessible parking and restricted-use/private parking[7]. Utilization of publicly-accessible parking reached 60% utilization in early morning, while restricted-use / private parking reached 50% during lunchtime peak hour. Both restricted-use / private parking and publicly accessible parking decreased significantly after 4:00 p.m., as employees began to leave work; however, publicly-accessible parking demand climbs up again after 8:00 p.m.

Figure 23 Off-Street Parking Utilization – Publicly-Accessible vs. Restricted Access (Weekday)

Publicly Accessible



Restricted Access



[7] General access parking is described available for public use, some priced hourly, daily or monthly and may be owned by a public or private entity

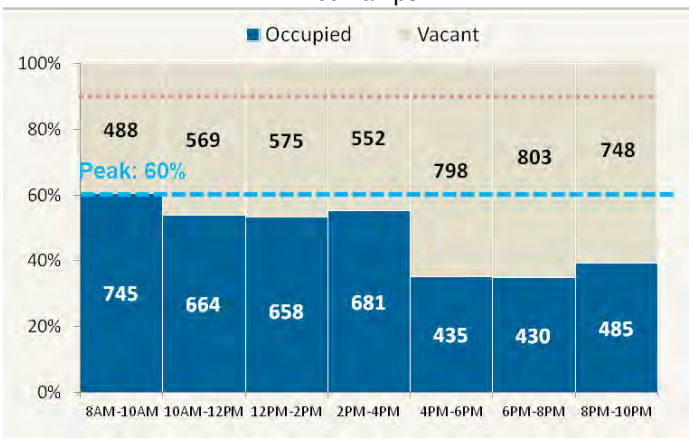
Restricted access parking is described as dedicated to a specific use, including private parking lots that are dedicated to customers, tenants, or employees.

Municipal Ramp Parking Utilization – Weekday

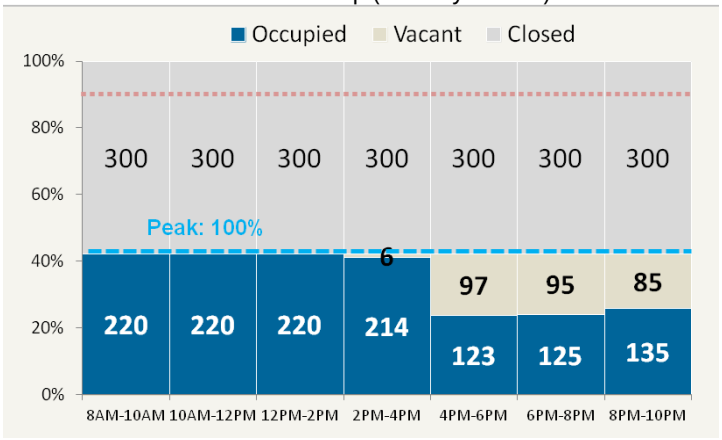
Figure 24 shows that public ramps parking reached their peak utilization (60%) from 8:00 a.m. to 10:00 a.m. Note at the time of data collection, the Collier Street Ramp was still partially open (220 spaces open out of 520) and the Water Street Ramp was partially open (423 spaces open out of 672); the charts below do not include the closed parking spaces in the supply to calculate utilization percentage. In general, the State and Water Street ramps were well below capacity, and the Collier Street Ramp was fully occupied until the end of the traditional workday.

Figure 24 Municipal Ramps Parking Utilization (Weekday)

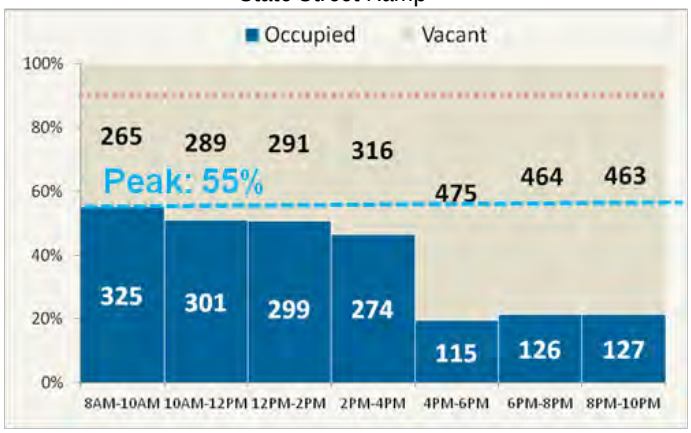
All Three Ramps



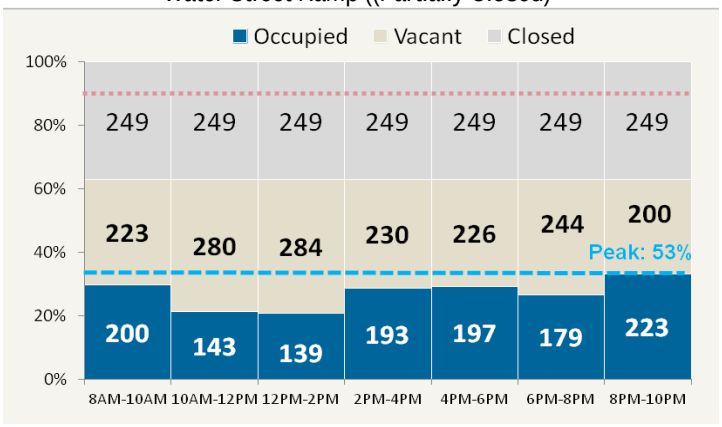
Collier Street Ramp (Partially Closed)



State Street Ramp



Water Street Ramp ((Partially Closed)

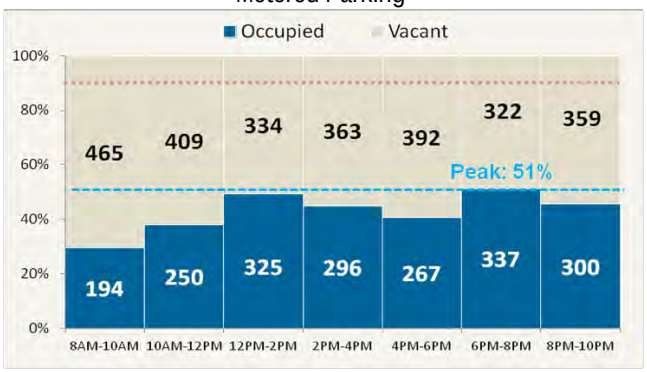


On-Street Parking Utilization by Regulation – Weekday

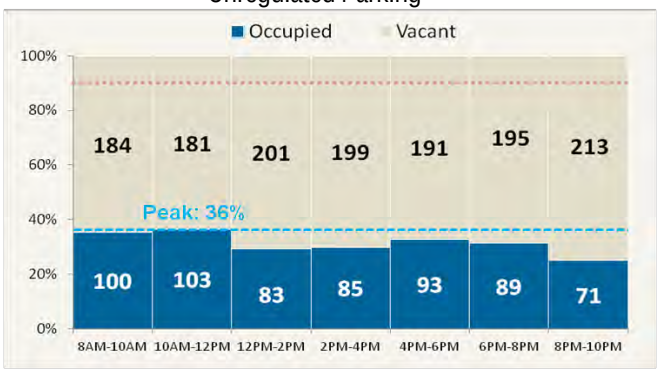
On-street parking utilization also varied by regulation. As Figure 25 shows, metered parking had its peak utilization at 51% around mealtimes. Unregulated parking was relatively underutilized with a peak of 36% full in the morning. Disabled parking and loading zones were both less than 50% utilized throughout the day. Loading zones are busiest after 8:00 p.m., but still at a relatively low utilization rate (44%).This may be because loading zones are only enforced till 7:00 p.m. and become available to all public.

Figure 25 On-Street Parking Utilization by Regulation (Weekday)

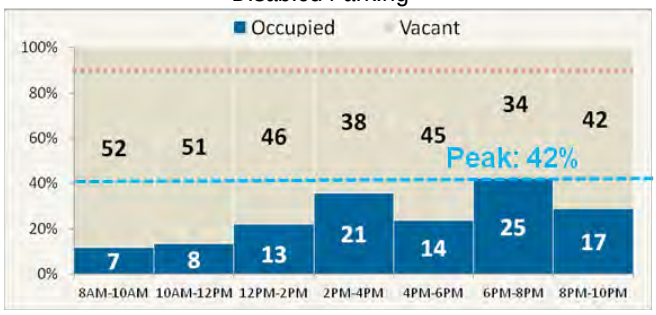
Metered Parking



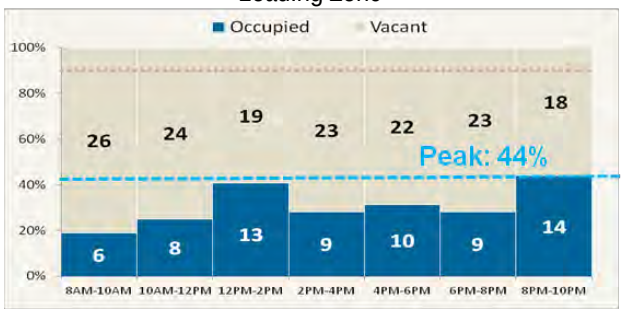
Unregulated Parking



Disabled Parking



Loading Zone

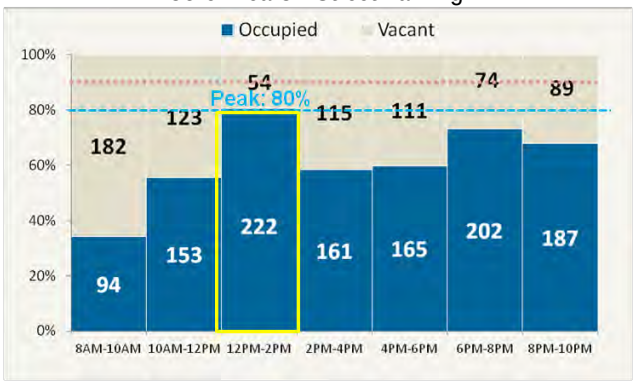


Core Area On-Street Parking Utilization – Weekday

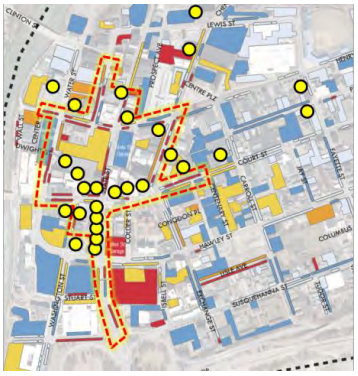
As the previous charts show, study area overall parking utilization may be 50% at peak, but parking demand is not uniform throughout Downtown Binghamton. There is a center core area of highest demand where parking utilization is substantially higher than 60%, and correspondingly, outer areas where parking demand is very low. Figure 26 below shows the parking utilization in the busiest on-street areas, which coincides with where most downtown restaurants are concentrated. There are two clear peak period in the core: one at lunch time (80% full) from 12:00 p.m. to 2:00 p.m. and the other in the evening (73% full) from 6:00 p.m. to 8:00 p.m. If we exclude government official, handicapped and loading spaces, the midday peak utilization for publicly-accessible spaces is even higher (88%).

Figure 26 Core Area On-Street Parking Utilization (Weekday)

Core Area On-Street Parking



Core Area Boundary



- restaurants

DOWNTOWN PARKING WEEKEND UTILIZATION

WEEKEND DEMAND: KEY FINDINGS

- Overall, all parking is never more than 26% occupied on weekend.
- Parking demand is fairly consistent throughout the day.
- Overall, weekend demand is about ½ of weekday demand during the day and 80-90% in the evening.
- However, weekend demand for on-street parking in the core area is about 80% of weekday demand and even higher than weekdays in the evening.
- 8:00 p.m. to 10:00 p.m. is the peak period for weekend parking and demand is concentrated near the core.

All Parking Spaces – Weekend

Parking utilization on Saturday is consistent throughout the day, with only a slight uptick to around 26% utilized in the evening (Figure 27). The spatial analysis from Figure 28 to 33 shows the evening parking activity concentrates on the streets near the core, likely from employees and patrons of restaurants and entertainment venues.

Figure 27 Parking Utilization - Study Area (Weekend)

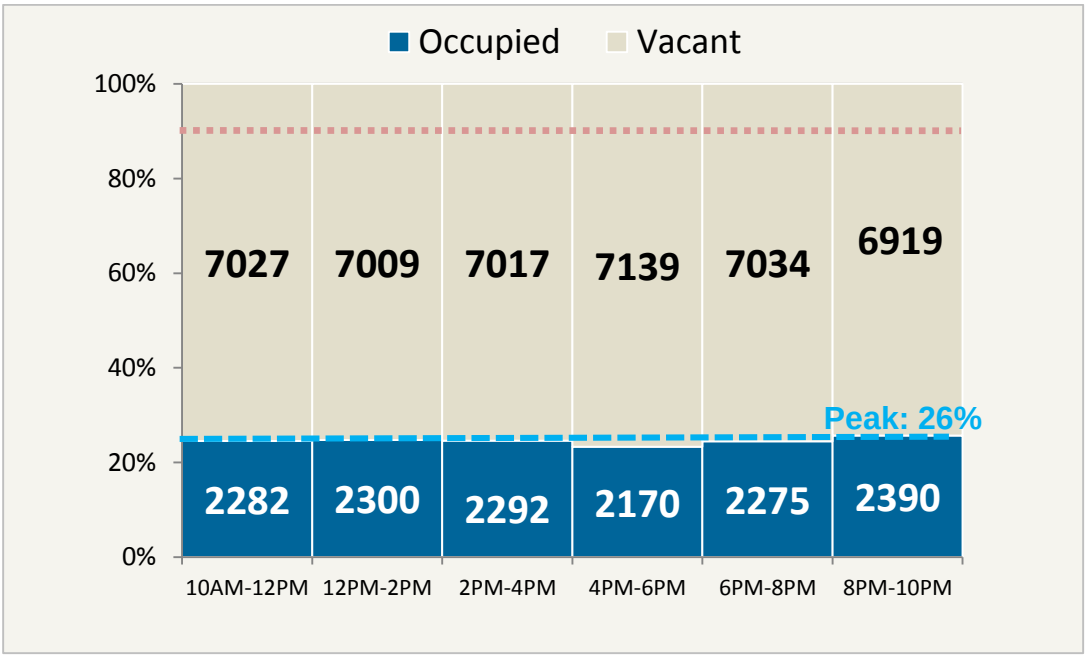


Figure 28 to Figure 33 displays the time series utilization spatially in two-hour increments, from 10:00 a.m. to 10:00 p.m.

Figure 28 Downtown Binghamton Parking Utilization – Saturday September 26, 10:00 a.m. to 12:00 p.m.

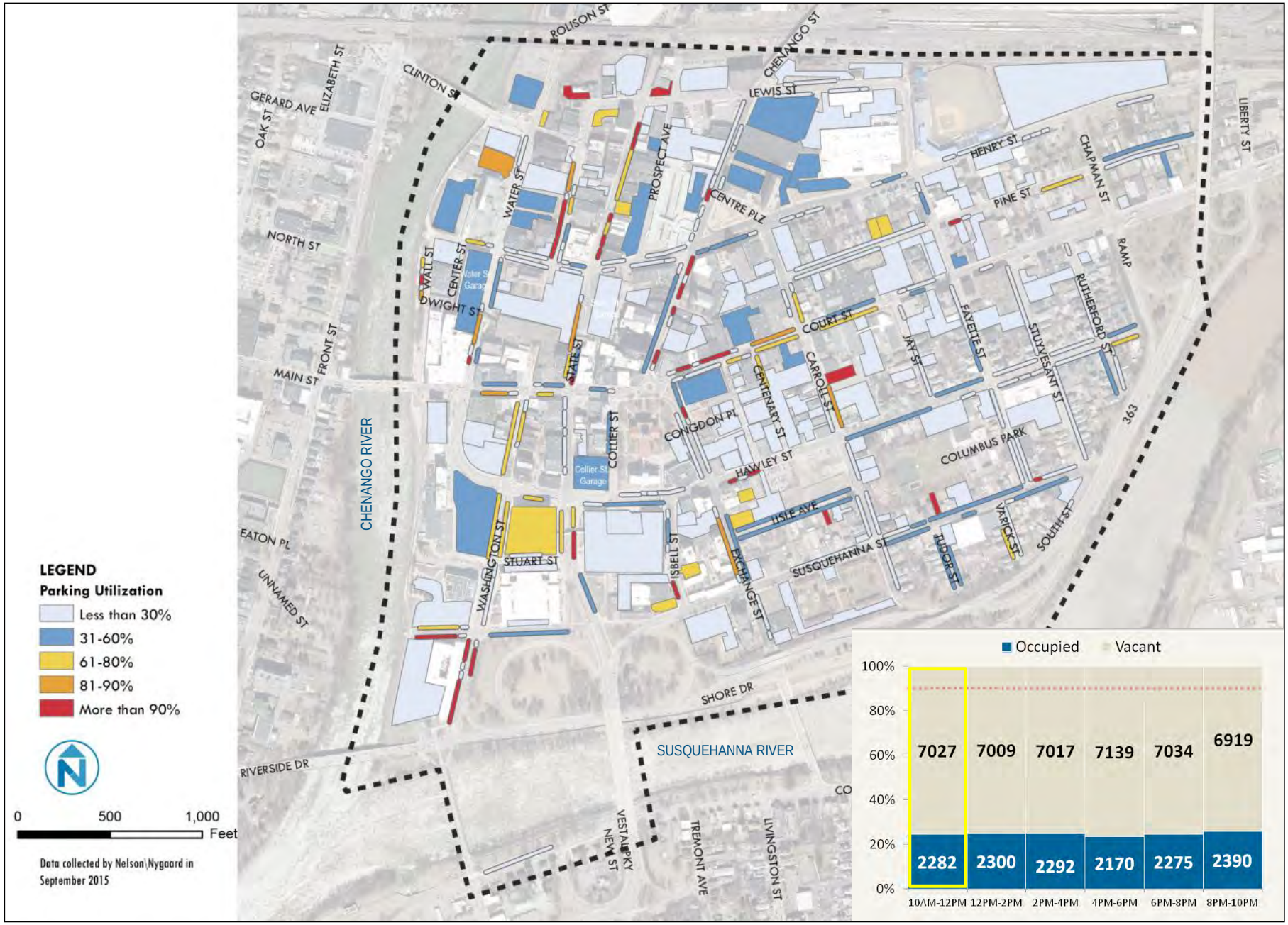


Figure 29 Downtown Binghamton Parking Utilization – Saturday September 26, 12:00 p.m. to 2:00 p.m.

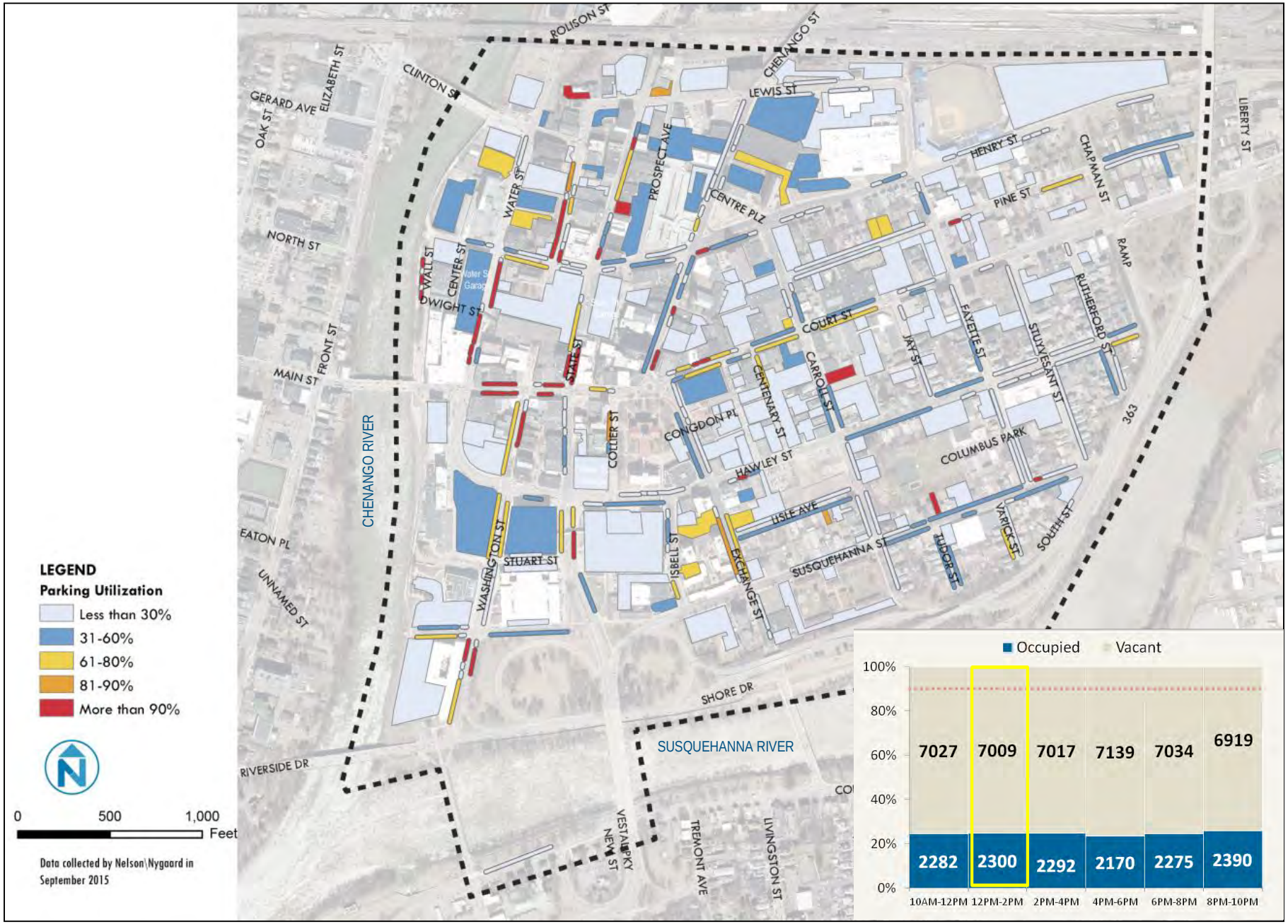


Figure 30 Downtown Binghamton Parking Utilization – Saturday September 26, 2:00 p.m. to 4:00 p.m.

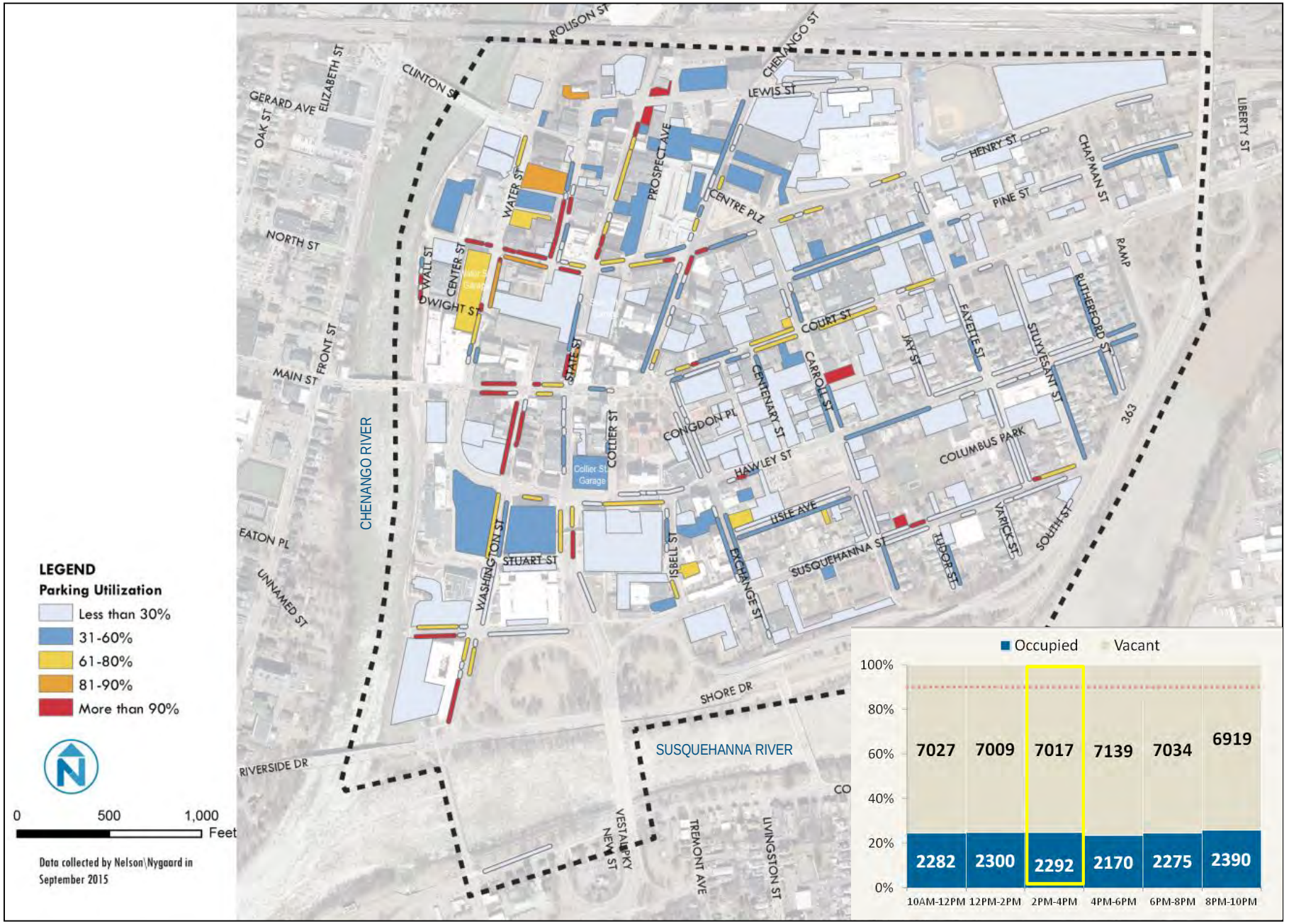


Figure 31 Downtown Binghamton Parking Utilization – Saturday September 26, 4:00 p.m. to 6:00 p.m.

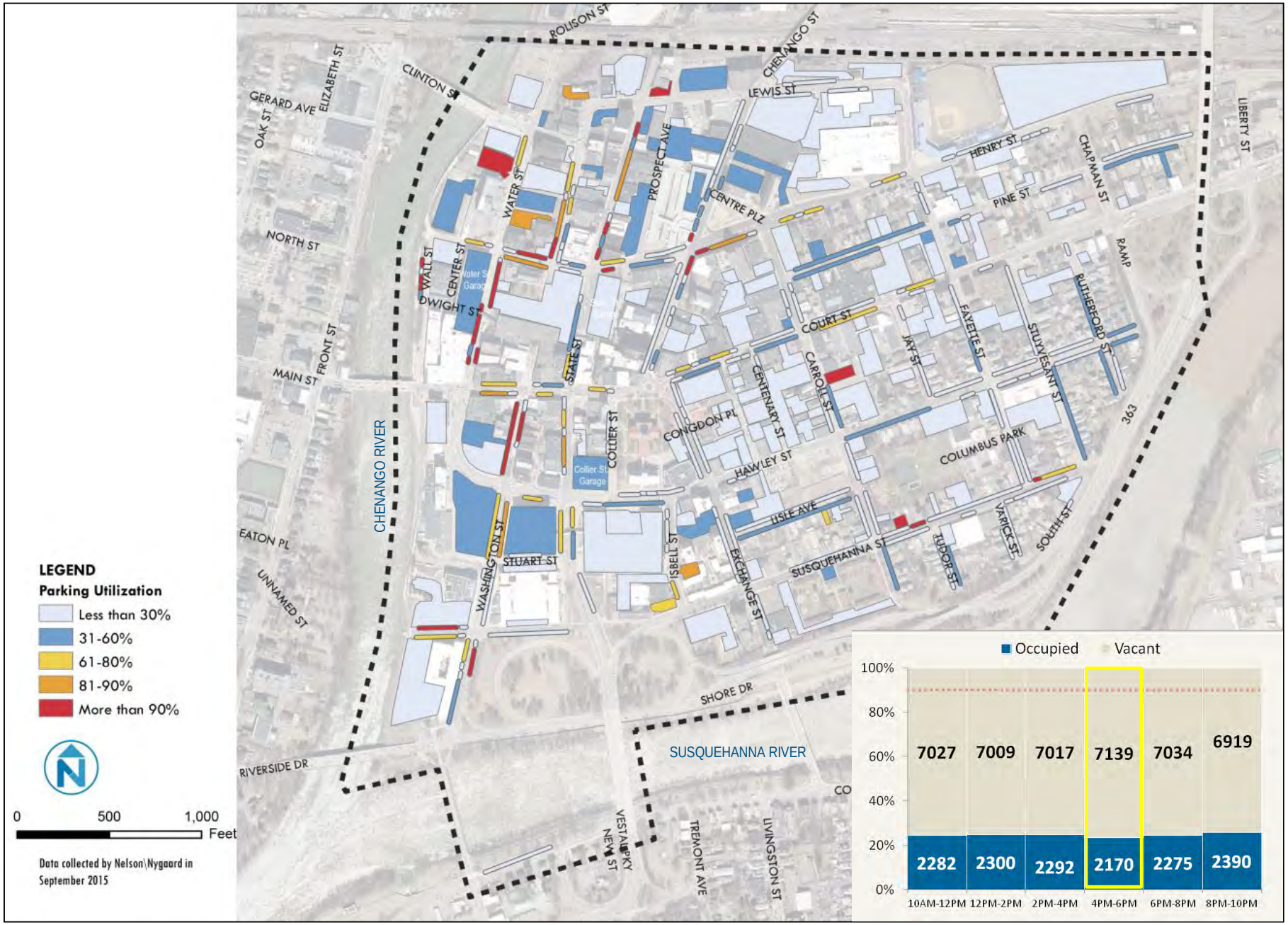


Figure 32 Downtown Binghamton Parking Utilization – Saturday September 26, 6:00 p.m. to 8:00 p.m.

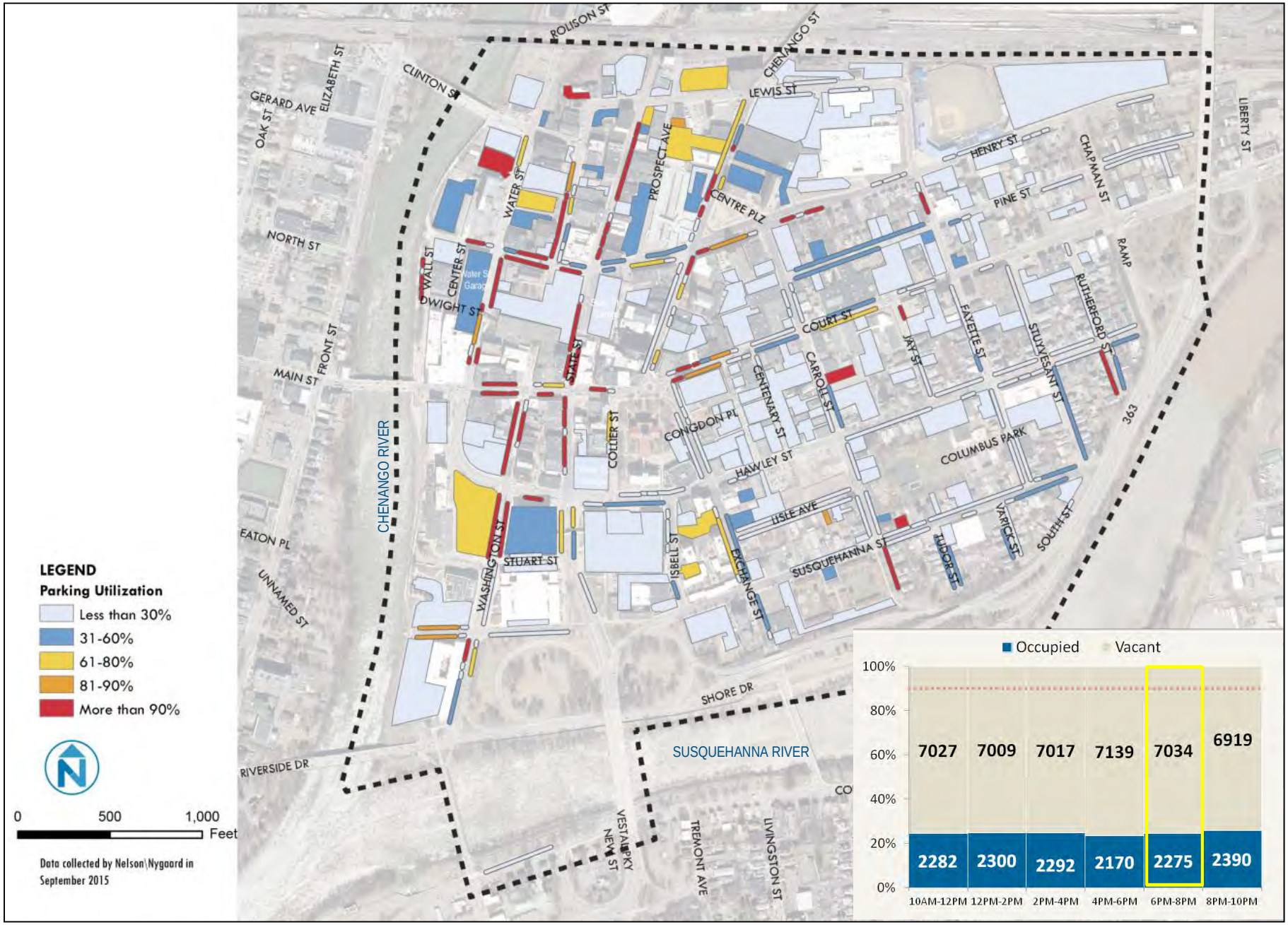
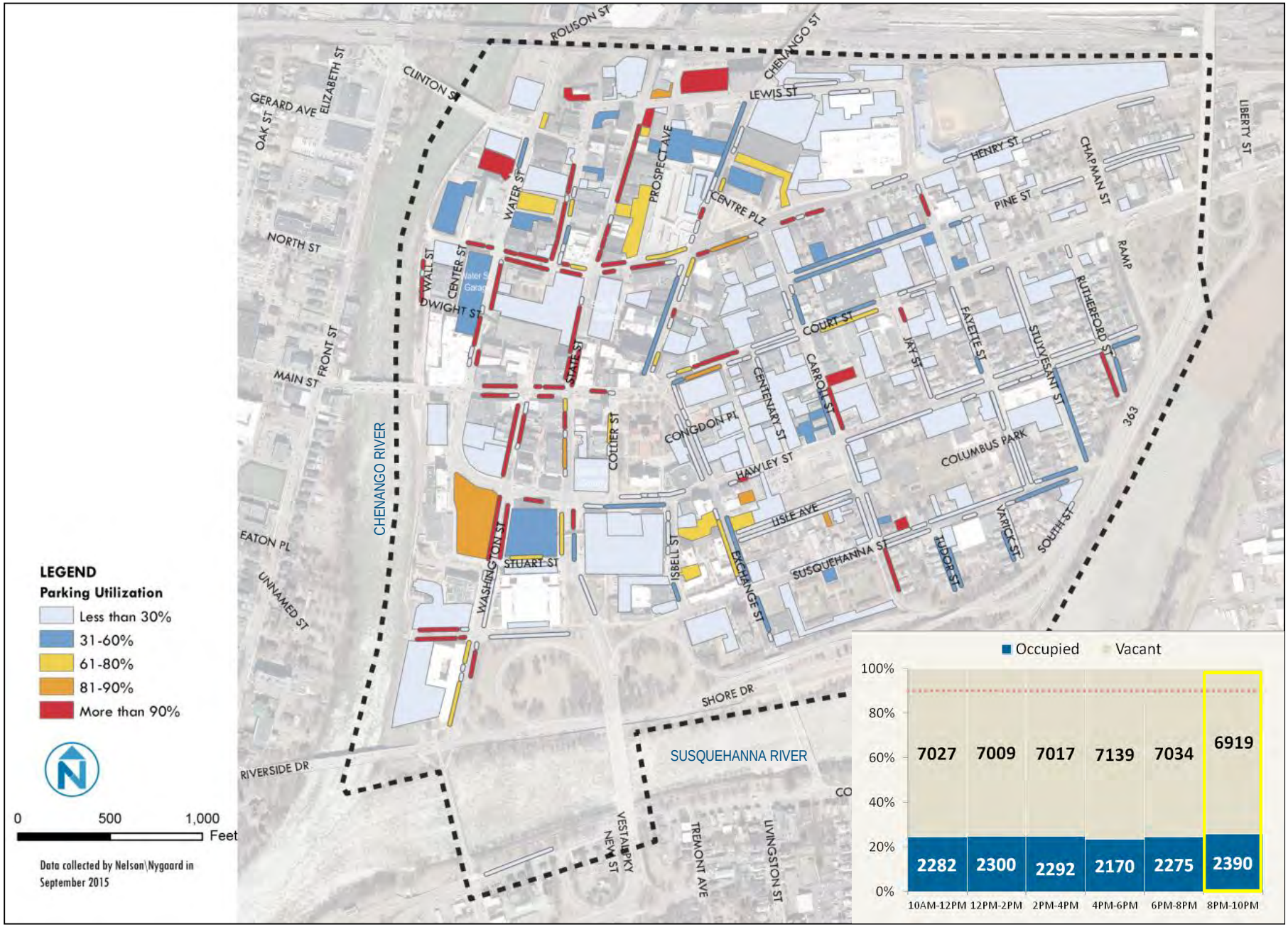


Figure 33 Downtown Binghamton Parking Utilization – Saturday September 26, 8:00 p.m. to 10:00 p.m.

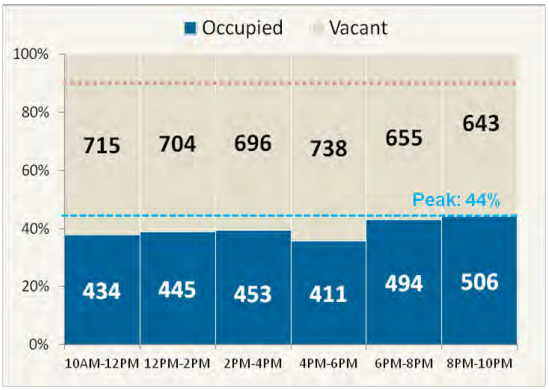


Public Parking Utilization - Weekend

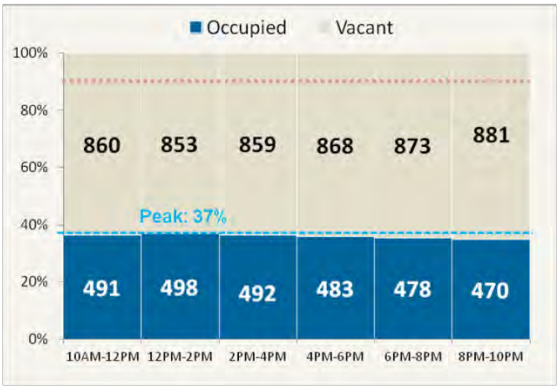
As Figure 34 shows that on the weekends, public parking, both on-street and off-street, has sufficient overall supply to meet demand. On-street parking was busiest in the evenings at 44% full, while off-street publicly-accessible spaces are consistently approximately 40% full. Private parking facilities with restricted access show significant availability throughout the entire study area with an average utilization of only 20%.

Figure 34 Public Parking Utilization (Weekend)

On-Street



Off-Street Publicly-Accessible

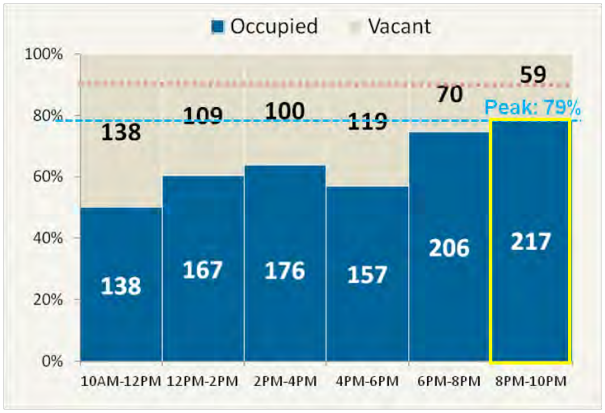


Core Area On-Street Parking Utilization – Weekend

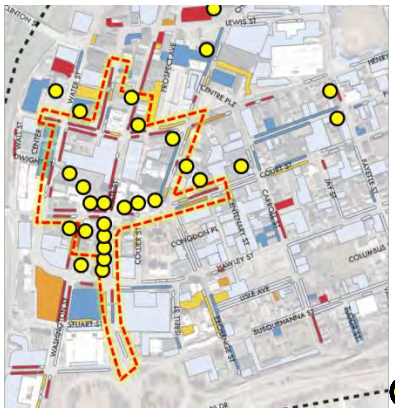
Overall, Saturday parking demand is low, but parking demand remains high on-street in the core area where most restaurants and entertainment venues are located. As Figure 35 shows, on-street parking in the core reached a peak occupancy of 79% at around 8:00 p.m. Similar to weekdays, if government official, handicapped and loading spaces are excluded, peak demand is at a much higher utilization rate (91%).

Figure 35 Core Area On-Street Parking Utilization (Weekend)

Core Area On-Street Parking



Core Area Boundary



PARKING TURNOVER

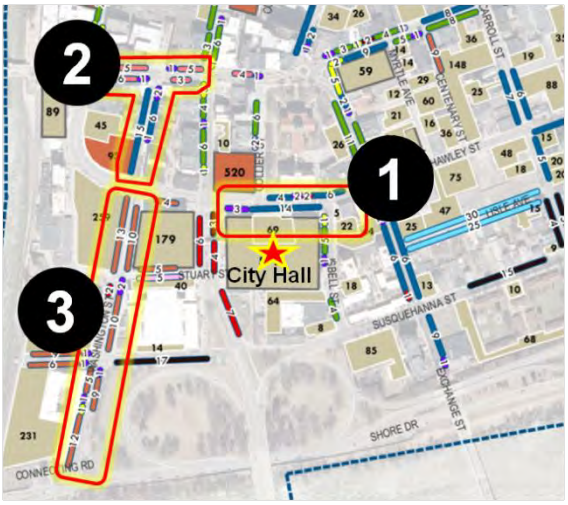
The team completed a limited parking turnover analysis at three key locations during the two days of data collection (Thursday and Saturday):

1) Hawley Street from State Street to Isbell Street
2) Court Street from Water to State Street and Washington Street from Court to Hawley Street
3) Washington Street from Hawley Street south to the riverfront

Data collectors recorded license plates to track the length of stay of cars in each parking space. Data was collected in 30-minute increments for a two-hour period.

Figure 36 Parking Turnover Data Collection

Data Collection Locations



Data Collection Schedule

Thursday, September 24

1. Hawley Street, 10:00 a.m.-12:00 p.m.
2. Court & Washington Street, 2:00 p.m.-4:00 p.m.
3. Washington Street, 6:00 pm-8:00 p.m.

Saturday, September 26

1. Hawley Street, 12:00 p.m.-2:00 p.m.
2. Court & Washington Street, 4:00 p.m.-6:00 p.m.
3. Washington Street, 8:00 pm-10:00 p.m.

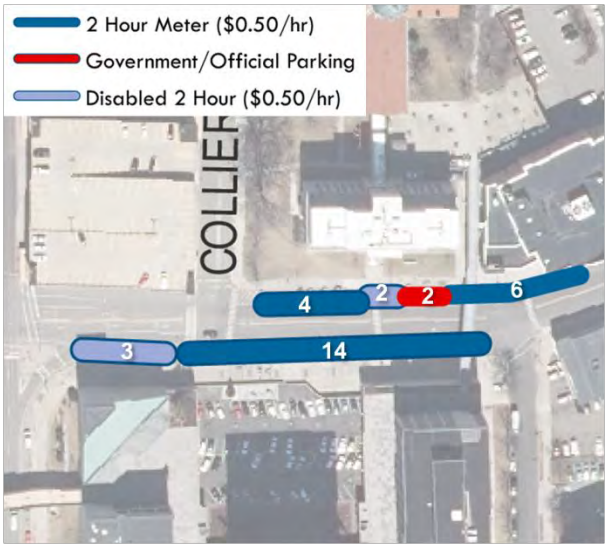
TURNOVER COUNTS: KEY FINDINGS

- On Thursday, 67 different cars were parked in the 31 spaces on Hawley Street in front of the Government Plaza between 10:00 a.m. and 12:00 p.m., where metered parking has a 2-hour time limit.
  - Out of the 67 parked cars, 43 stayed for 30 minutes, indicating a quick turnover at this location.
  - 4 cars stayed longer than 2 hours, violating the 2-hour time limit.
  - On Saturday, spaces on Hawley Street are mostly empty. Out of the eight cars parked, four of them parked longer than 2 hours.
- Short (30-minute) time limits on Court Street were often abused on weekdays and weekends.
  - On Thursday, out of the 39 parked cars, 15 parked longer than 30 minutes
  - On Saturday, out of the 32 parked cars, 16 stayed longer than the 30-minute time limit
  - On Washington Street where it intersects with Court Street, 20% to 30% of the parked cars stayed longer than the 2-hour time limit

- 50% to 60% of the cars parked less than 2 hours on Washington Street (4-hour parking) south of Hawley Street, indicating a potential to improve the time limits.
- In general, there is a lack of time-limit enforcement on Saturday.

Location 1 – Hawley Street (10-12 Thursday, 12-2 Saturday)

Data Collection Locations

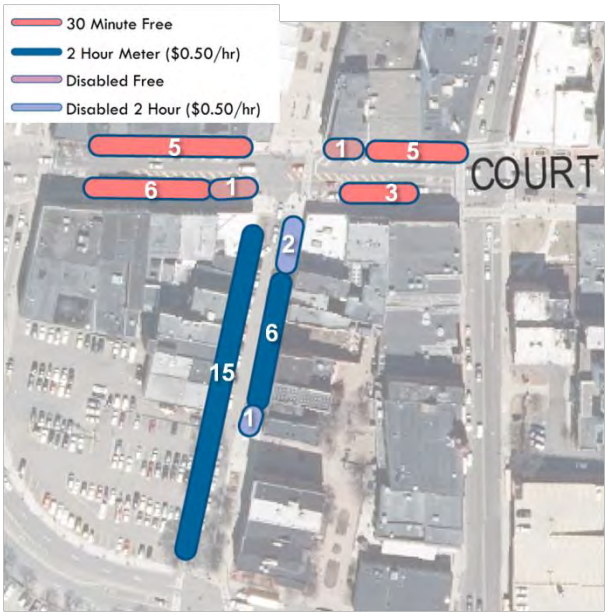


Key Findings

- There are 31 spaces at this location, with a 2-hour time limit.
- On Thursday, 67 different cars parked at this location from 10:00 a.m.to 12:00 p.m. and on Saturday, only 8 cars during the 2-hour period from 12:00 p.m. to 2:00 p.m.
- On Thursday, out of the 67 parked cars:
  - 43 cars stayed for 30 minutes
  - 16 cars stayed for 60 minutes
  - 4 cars stayed for 90 minutes
  - 4 cars stayed over 2 hours
- On Saturday, spaces on Hawley Street are mostly empty. Out of the eight cars parked:
  - 2 cars stayed for 30 minutes
  - 2 cars stayed for 60 minutes
  - 0 cars stayed for 90 minutes
  - 4 cars stayed over 2 hours

Location 2 – Court Street & Washington Street (2-4 Thursday, 4-6 Saturday)

Data Collection Locations



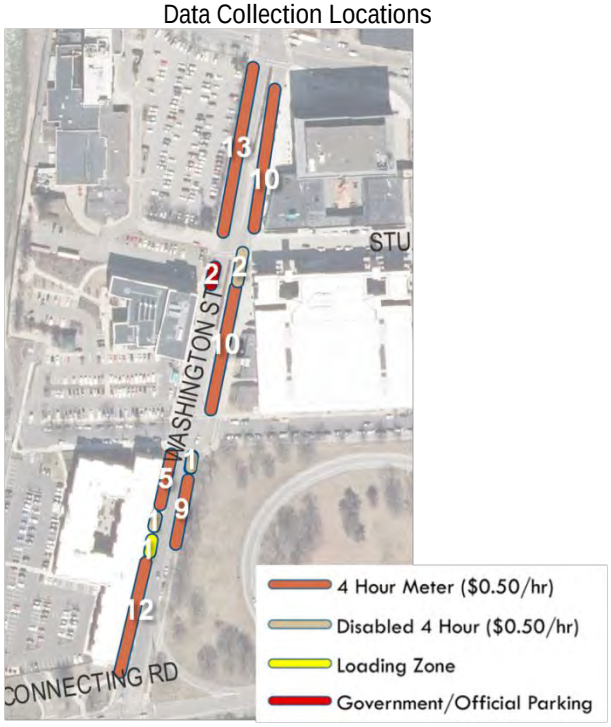
Key Findings

- There are 21 spaces on Court Street with a 30-minute time restriction and 24 2-hour metered spaces on Washington Street at this location.
- On Thursday, 39 different cars parked on Court Street and 32 on Washington Street during the 2-hour period between 2:00 p.m. and 4:00 p.m., while on Saturday, 32 cars parked on Court Street and 31 on Washington Street between 4:00 p.m. and 6:00 p.m.
- On Thursday, out of the 39 parked cars on Court Street:
  - 24 cars stayed for 30 minutes
  - 9 cars stayed for 60 minutes
  - 2 cars stayed for 90 minutes
  - 4 cars stayed over minutes
  - 38% of cars stayed for longer than 30 minutes, violating the short-term time restrictions

- Also on Thursday, out of the 32 parked cars on Washington Street:
  - 20 cars stayed for 30 minutes
  - 6 cars stayed for 60 minutes
  - 0 cars stayed for 90 minutes
  - 6 cars stayed over 2 hours
  - 20% violated the 2-hour time limit.
- On Saturday, 50% of the 32 cars parked on Court Street stayed for longer than 30 minutes:
  - 16 cars stayed for 30 minutes
  - 5 cars stayed for 60 minutes
  - 5 cars stayed for 90 minutes
  - 6 cars stayed over 2 hours
- 30% of the 31 cars parked on Washington Street parked longer than 2 hours on Saturday:
  - 14 cars stayed for 30 minutes
  - 4 cars stayed for 60 minutes
  - 4 cars stayed for 90 minutes
  - 9 cars stayed over 2 hours

Location 3 – Washington Street (6-8 Thursday, 8-10 Saturday)

Data Collection Locations



Key Findings

- There are a total of 56 spaces at this location, where all metered spaces have 4-hour time limit.

  But on Saturday, 11 spaces close to the Arena were unavailable to use.
- On Thursday, 77 different cars parked at this location from 6:00 pm to 8:00 p.m., and 63 cars parked on Saturday from 8:00 pm-10:00 p.m.
- On Thursday, out of the 77 parked cars:
  - 22 cars stayed for 30 minutes
  - 14 cars stayed for 60 minutes
  - 11 cars stayed for 90 minutes
  - 30 cars stayed over 2 hours
  - 61% of the cars parked less than 2 hours
- On Saturday, out of the 63 parked cars:
  - 15 cars stayed for 30 minutes
  - 11 cars stayed for 60 minutes
  - 6 cars stayed for 90 minutes
  - 31 cars stayed over 2 hours.

Appendix B Public Input

The study team conducted a series of outreach efforts in order to understand and represent the community perspective of parking in downtown Binghamton. The public outreach process is an integral piece of the parking analysis, as the perception around parking must help inform the reality as reflected in the data. The public process can also help unlock a different level of understanding of how parking is used or not used and the reasons why. A variety of input techniques were employed to get a broad cross-sectional understanding of the parking system. This was furthered by targeted meetings with key stakeholders. Study input efforts included:

- Interviews with stakeholders such as local employers, business owners, and City staff;
- A widely circulated online and print survey that attracted nearly 1,000 responses;
- Specific comments submitted to BMTS and City staff;
- Lunchtime curbside popup workshop; and
- Three public meetings, the first held in June 2015, the second in November 2015 (Figure 1), and the third in February 2016.

Figure 1 June and November Public Workshop Flyers

This appendix summarizes the findings to date of these outreach efforts. Common concerns and themes heard from the community include:

- There is a general perception of a lack of parking availability amongst customers, employees and residents.
- Coordination among stakeholders is needed, such as coordination between the City and Binghamton University.
- There is a lack of clear information and signage related to parking.

- An emphasis should be placed on event parking management.
- Ramp conditions and management need to be improved.
- There is a desire of new payment technology on-street and in the public ramps.
- There is an opportunity to share underutilized parking facilities, particularly at off-peak hours.
- There is significant interest in improving downtown streetscape and encouraging alternative transportation choices, such as biking, walking, and transit.

ONLINE SURVEY

This section summarizes the online survey, which incorporated input from parkers regarding their activities, experiences, perceptions, and preferences. Respondents were asked to report about their most recent day in Downtown Binghamton along with more generalized perceptions. The online survey began in June, 2015 and was widely distributed and publicized in local media. By the end of September when the survey was closed, it had attracted nearly 1,000 responses.

KEY FINDINGS

- 47% of the total 965 survey respondents are downtown customers; 37% are downtown employees; 6% are downtown residents, 2% are students and 8% identified as other user groups.
- 87% of total respondents drive to downtown, and only 6% walk to downtown.
- Parking was the top reason identified for not going to downtown.
- Survey respondents are generally not satisfied with lighting, safety and technology in the public parking ramps
- On-street parking is preferred by customers, while the majority of employees park off-street.
- A majority of all users park within one block of their primary destination.

Survey Responses – All

Respondents by User Group

As shown in Figure 2, nearly half of survey respondents (47%) come to Downtown Binghamton as customers with purposes of dining, running errands or shopping, while another 37% of respondents identified themselves as downtown employees coming for work.

The vast majority of respondents, 87%, report that they drove alone to Downtown Binghamton, while 1% drove with others, for a total of 88% arriving in Downtown Binghamton by car (Figure 3), with just 12% using other travel modes.

Figure 2: Respondents by User Group

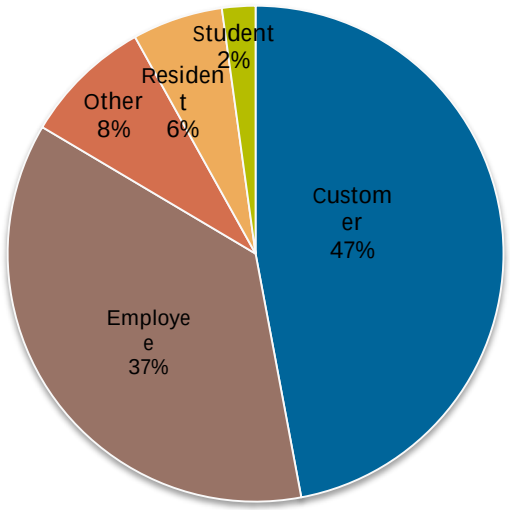
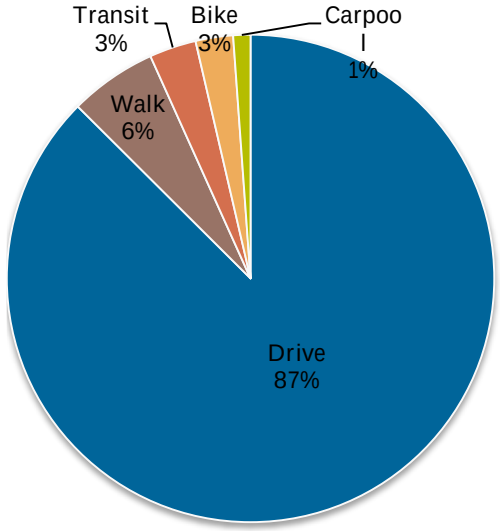


Figure 3: How do you typically get to Downtown Binghamton?



Downtown Character and Parking Satisfaction

The survey asked respondents about the character of Downtown Binghamton. Respondents could select multiple reasons why they do and do not go to Downtown Binghamton.

Over half of the respondents indicated that shopping and dining (61%) were reasons to come to Downtown Binghamton (Figure 4). Others report that they come downtown to work (39%) or they live downtown (38%), or because they are able to walk to many different services (35%).

The primary reason for why people do not go downtown is that parking is inconvenient, a sentiment shared by 65% of respondents (Figure 5). This is a major issue and barrier when trying to achieve economic development and growth objectives downtown.

Figure 4 Reasons you come to Downtown Binghamton (check all that apply)

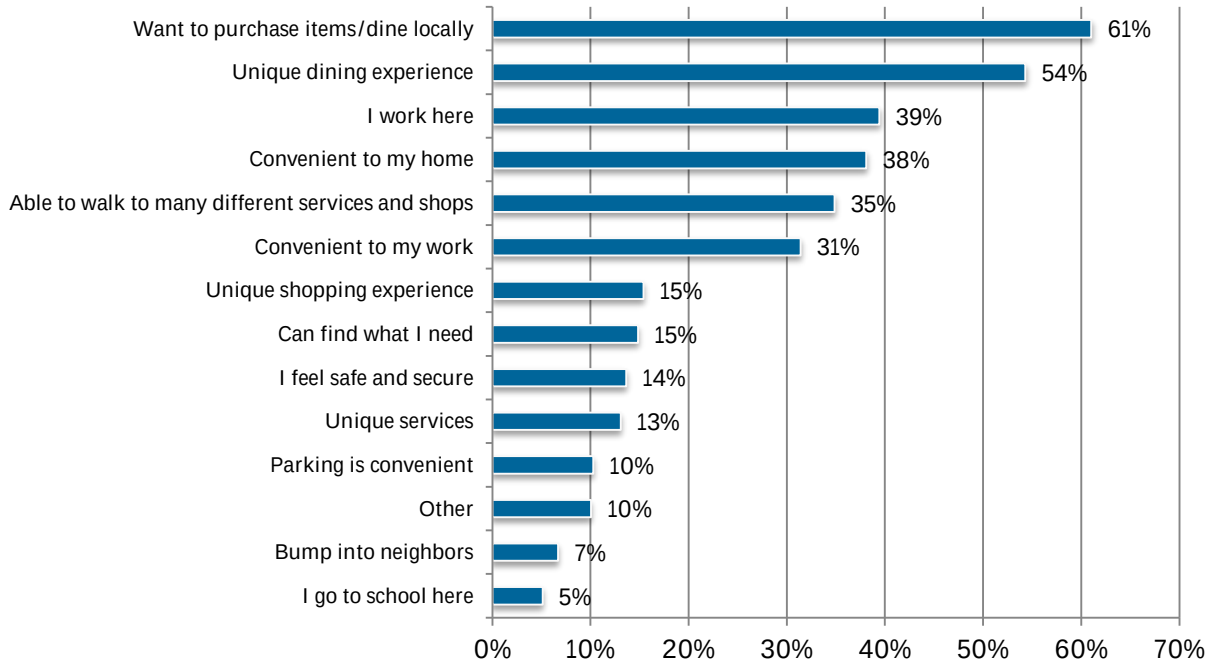
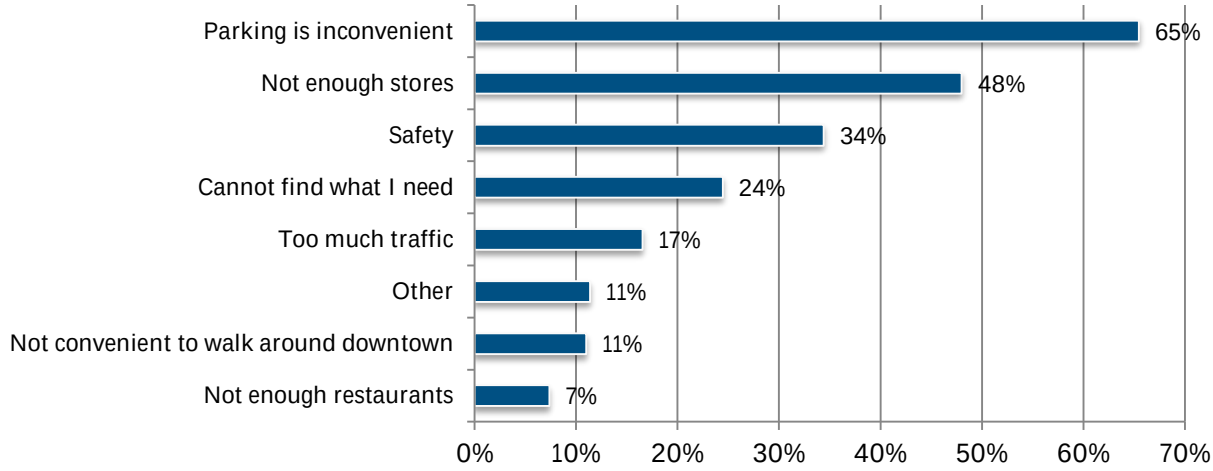
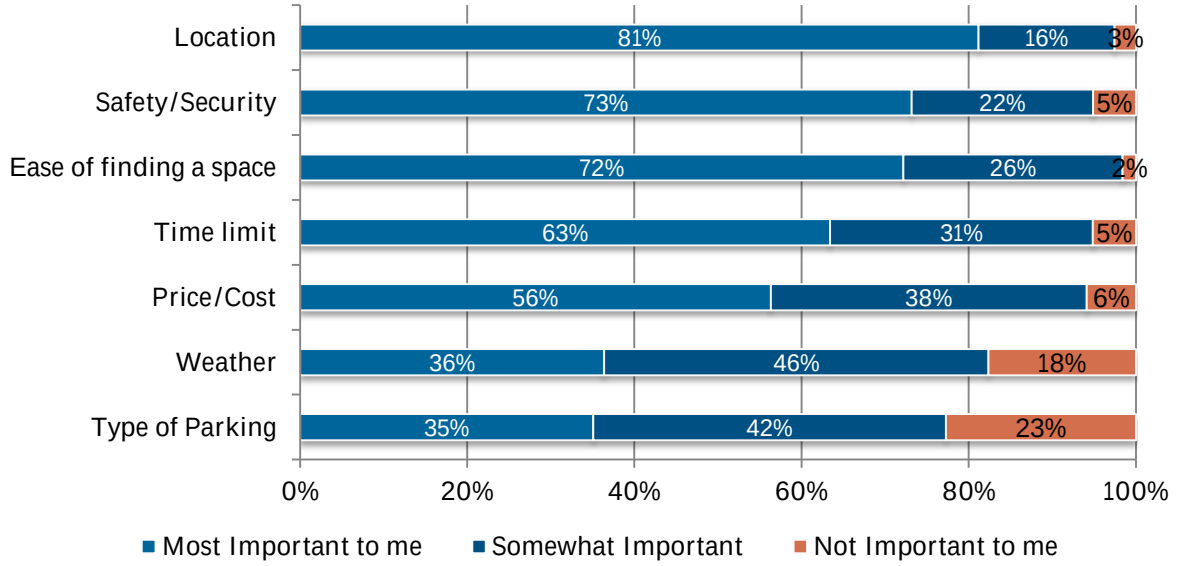


Figure 5 Reasons I do NOT go to Downtown Binghamton (check all that apply)



When choosing where to park in Downtown Binghamton, respondents made their priorities clear with respect to their considerations (Figure 6). Location (81%), safety/security (73%) and the ease of finding a space (72%) were the top choices considered "most important to me," while weather (36%) and type of parking (35%) were not as important. This shows that parkers have a strong desire to park in convenient and safe location. Several respondents listed other priorities apart from these categories, such as the availability of handicapped spaces, parking spaces able to accommodate larger vehicles, or parking facilities that accept credit card payment.

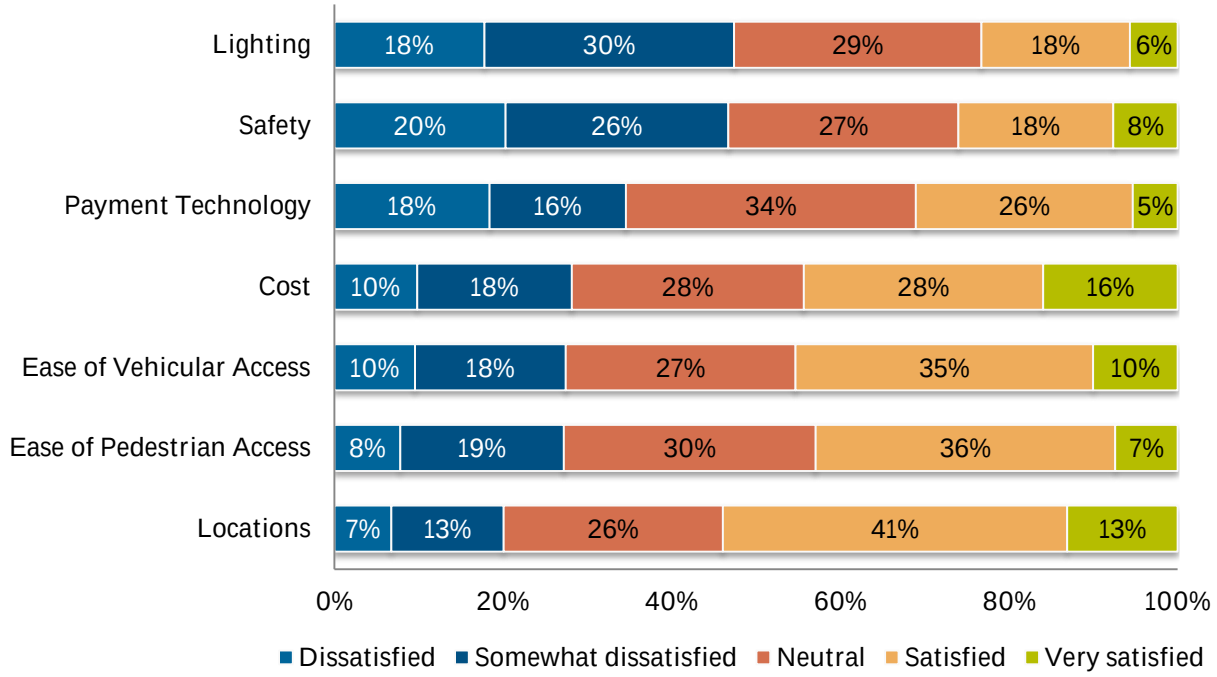
Figure 6 What are the most important considerations for you in choosing where to park in Downtown Binghamton?



The survey also asked respondents specifically to rank their level of satisfaction with regard to several experiential factors in the municipal ramps. Figure 7 shows the results of this question, with the blue color representing those who expressed that they were "dissatisfied" or "somewhat dissatisfied" with a given factor.

In general, respondents expressed that the most dissatisfaction with the lighting and safety of the parking ramps. These factors had combined dissatisfied/somewhat dissatisfied ratings of 48% and 46%, respectively. In contrast, respondents showed the greatest satisfaction with parking location and ease of access with a combined proportional "very satisfied" or "satisfied" responses of 54% and 45%, respectively.

Figure 7 How satisfied are you with Downtown Binghamton's parking ramps?



Customers

Downtown customers are those running errands, going to appointments, shopping and/or dining. As Figure 2 shows, about 47% of the respondents were downtown customers. (65% of the 81 respondents choosing "other" specified their answer as similar commercial activities, such as going to theater, church, restaurants, gym or bank, etc.) Figure 8 through 11 show responses from customers only.

Location

Figure 8 shows that nearly two-thirds (64%) of customers park within one block of their destinations. This means that although there is a perception that parking in Downtown Binghamton is difficult, in reality, most customers park very close to their destination.

Figure 9 shows that the majority of customers, 57%, park on-street. This is contrast to just 31% of downtown employees who park on-street (Figure 16). Figures 10 and 11 show the distribution of where customers identified as being parked in Downtown Binghamton. Most park on-street on Court, State or Water Streets, which are prime destination locations; while most park off-street in the Water Street or State Street Ramps (Note that a portion of the Collier Street Ramp was closed during this survey).

Figure 8 How close to your final destination did you park? (Customers)

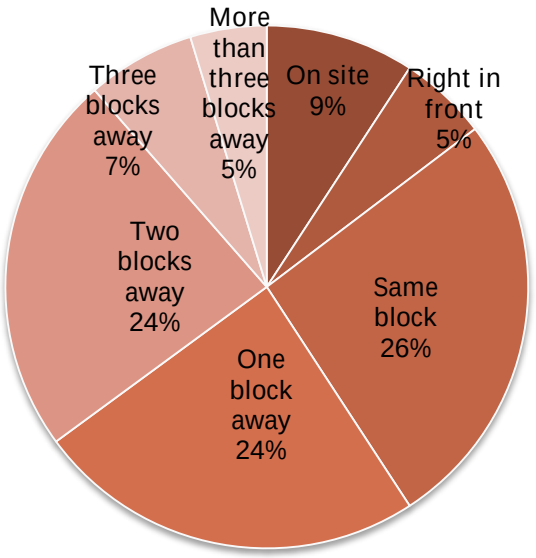


Figure 9 Today, or the most recent day you drove to Downtown Binghamton, where did you park? (Customers)

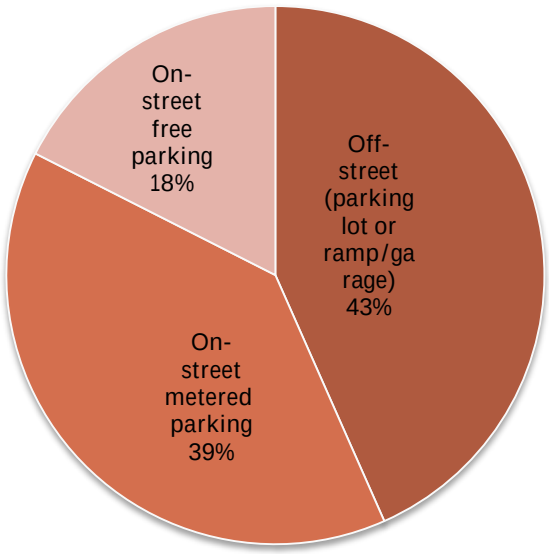


Figure 10 On what street did you park? (Customers)

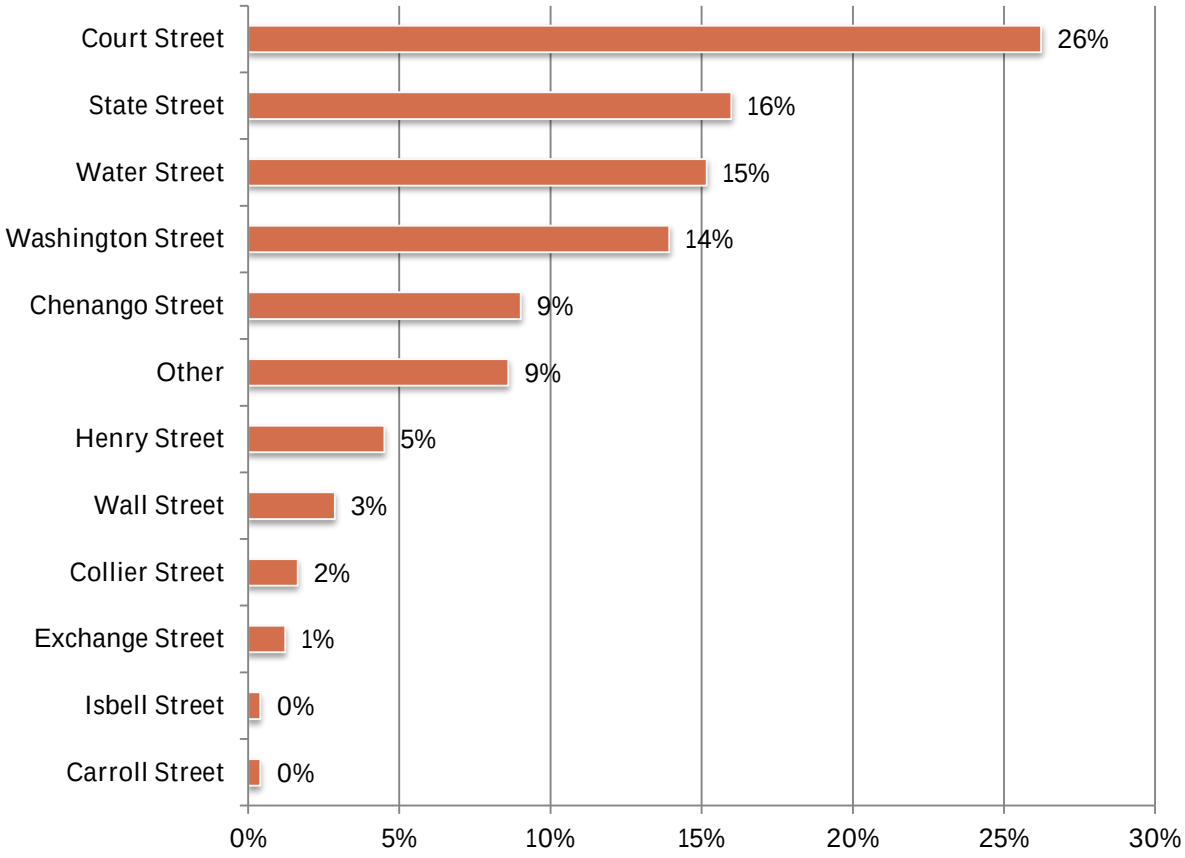
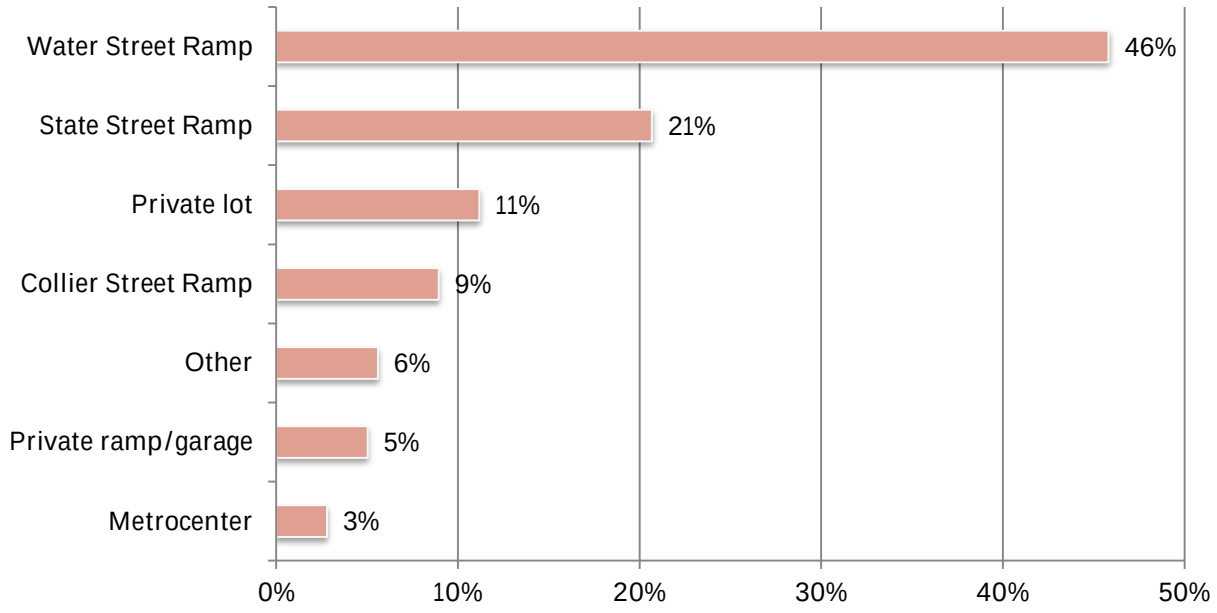


Figure 11 In which off-street facility did you park? (Customers)

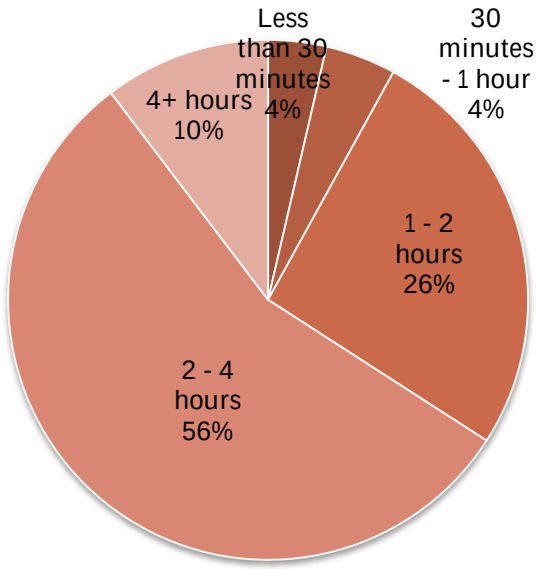


Note: By the time of the survey, Collier Street Ramp was still partially open to public.

Length of Stay

Customers reported that they stay in downtown for an average of about 135 minutes (Figure 12). This is over the predominant on-street 2 hour (120 minute) time limit in downtown. Two-thirds (66%) of customers had stays of greater than two hours, indicating typical customer desire to extend the time limit in the downtown area.

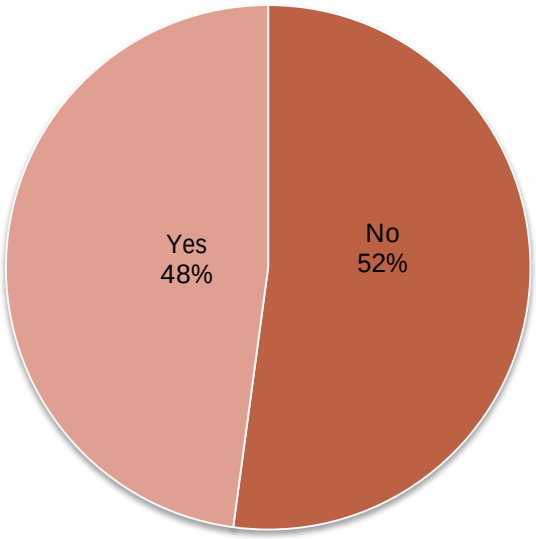
Figure 12 Approximately how long did you/will you stay on your last/next visit to Downtown Binghamton? (Customers)



Perception of Parking

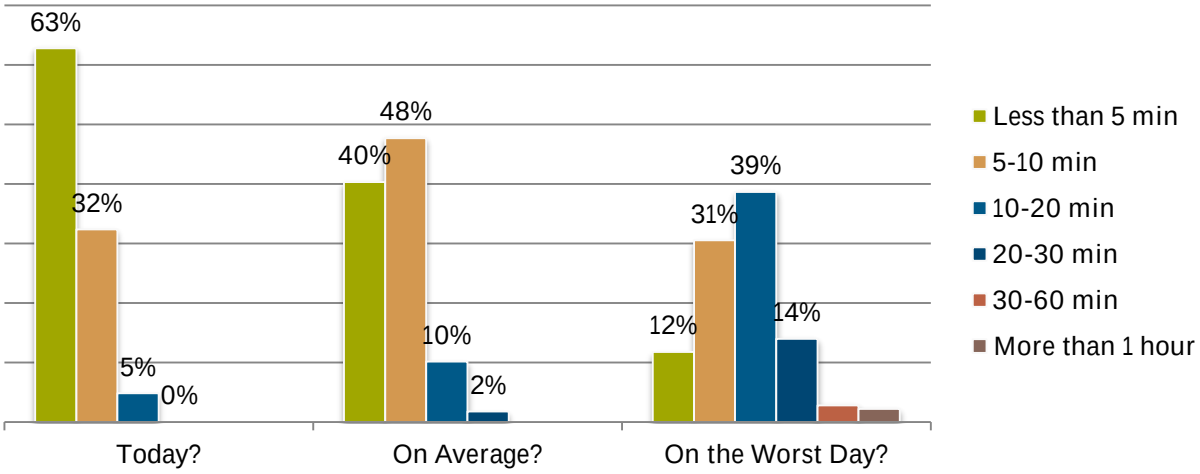
As Figure 13 illustrates, nearly one-half of customers said that they failed to find parking in downtown Binghamton and left. This could have happened just once on a busy day, or more frequently.

Figure 13 Have you ever failed to find parking and just left? (Customers)



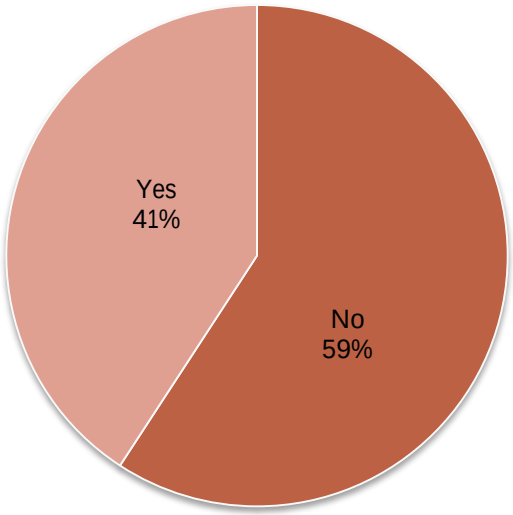
However, Figure 14 paints a slightly different picture of the parking situation. As the green and orange bars show, 95% of the respondents were able to find a parking space within 10 minutes of searching on the day they filled out the survey. Most respondents (88%) reported that finding a spot takes less than 10 minutes on the average day, and nearly half (43%) reported that this was true even on the worst day.

Figure 14 How long did/does it take you to find a spot... (Customers)



The majority of customers, 59%, reported they would be unwilling to pay to park closer to their destinations (Figure 15). This perception is unsurprising given that nearly two-thirds (64%) of customers already park within one block of their destinations and may have little to gain from paying a higher fee to park even closer.

Figure 15 Would you be willing to pay to park closer to your destination? (Customers)



Employees

In contrast to customers, most employee respondents park off-street in private or public lots and garages (69%). But as Figure 16 illustrates, 31% of employees still park on-street. Of those using on-street metered parking in Downtown Binghamton, the majority (60%) are customers, while just 23% are employees (Figure 17). Figures 18 and 19 show the most common parking locations for employees. For those employees who park on the street, State, Court, Washington, Water and Exchange Street are the preferential locations, where many employment locations are concentrated.

Figure 16 Today, or the most recent day you drove to Downtown Binghamton, where did you park? (Employees)

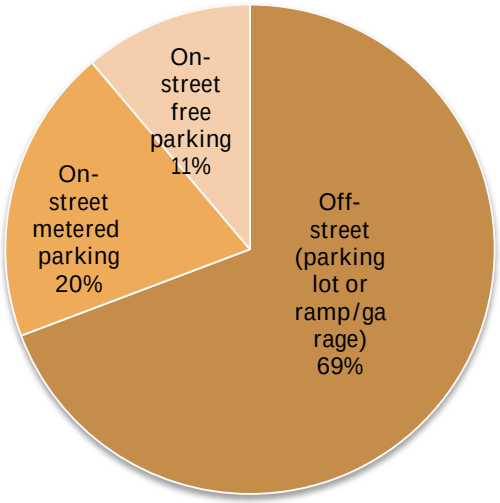


Figure 17 On-street metered parking by user group (All respondents)

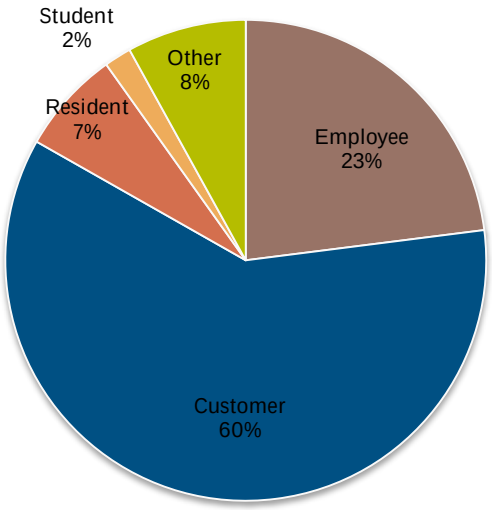
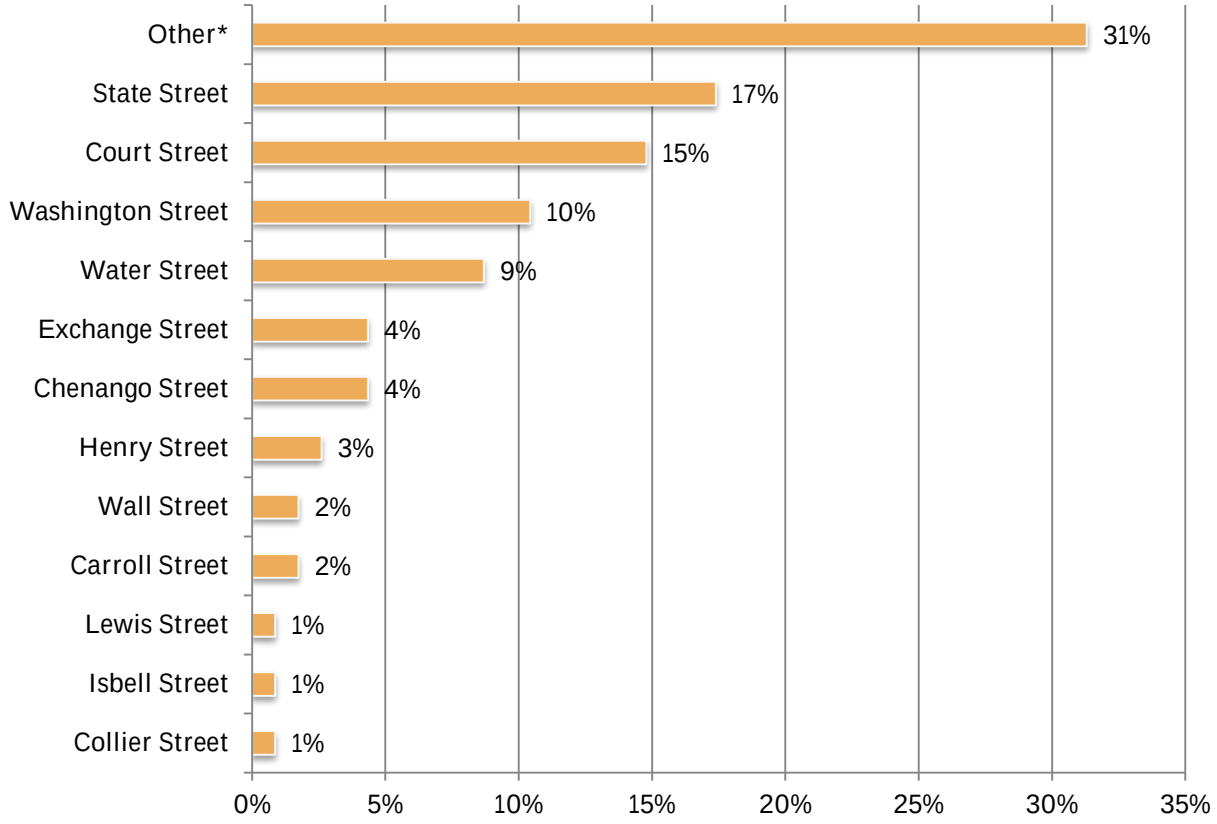
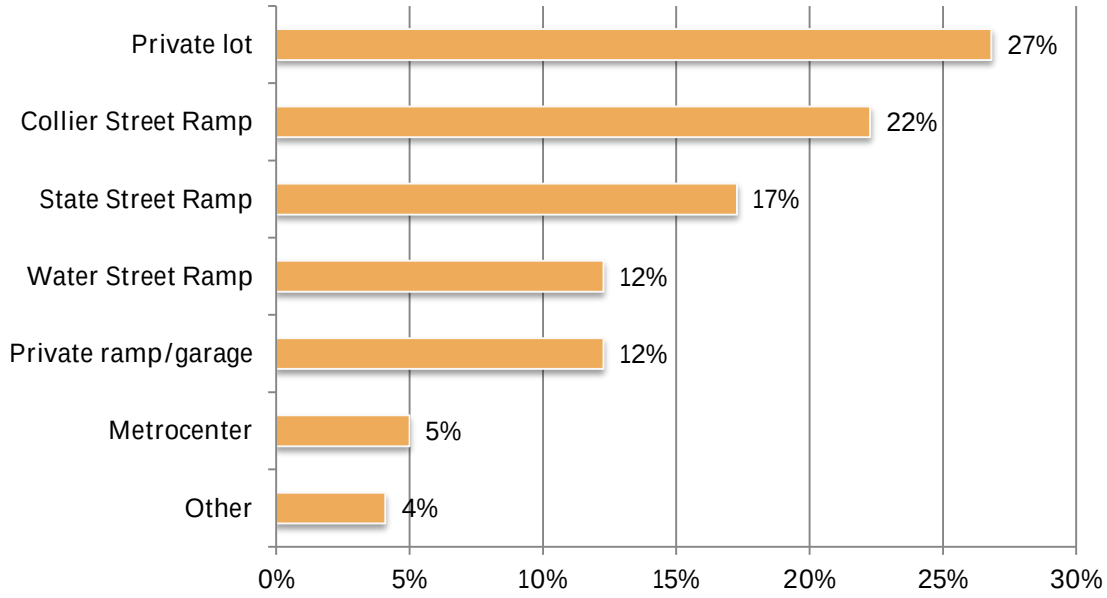


Figure 18 On what street did you park? (Employees)



*Note: Hawley Street, Susquehanna Street, Main Street and Lisle Avenue were common responses for Employees who reported they parked in "Other" locations.

Figure 19 In which off-street facility did you park? (Employees)



Note: By the time of the survey, Collier Street Ramp was still partially open to public.

Figure 20 illustrates that most employee respondents park very close to their place of work, with 71% parking within one block of their destination. This means that in general, employees park closer to their places of work than customers park to their destinations. Like the customer, employees are generally unwilling (59%) to pay to park closer to their destinations (Figure 21).

Figure 20 How close to your final destination did you park? (Employees)

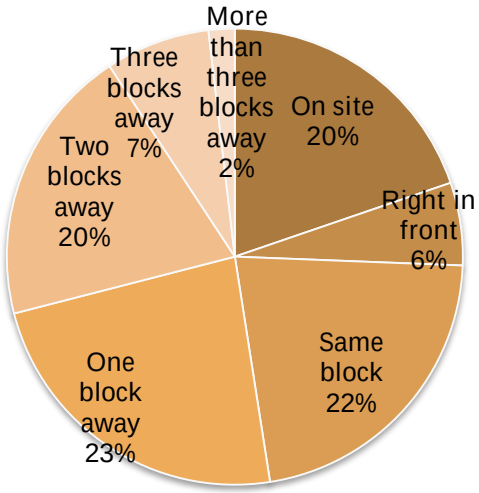
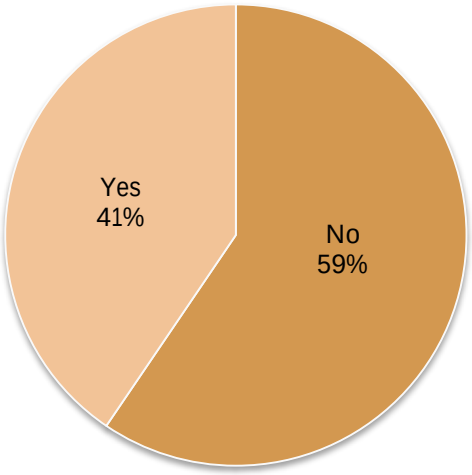


Figure 21 Would you be willing to pay to park closer to your destination? (Employees)



In addition, most employees are parking in the same space every time they come downtown. 62% of employee respondents report parking in the same place, as compared to about 33% of customer respondents.

Residents

In general, residential participation in the survey was low as compared to other groups, with just 50 total respondents. However, some trends did emerge from the survey data. Figure 22 shows that downtown residents find parking close to their destination, which is often their home. Although parking locations vary, Figure 23 shows that 50% of residents park off-street, while the remainder park on-street.

Figure 22 How close to your final destination did you park? (Residents)

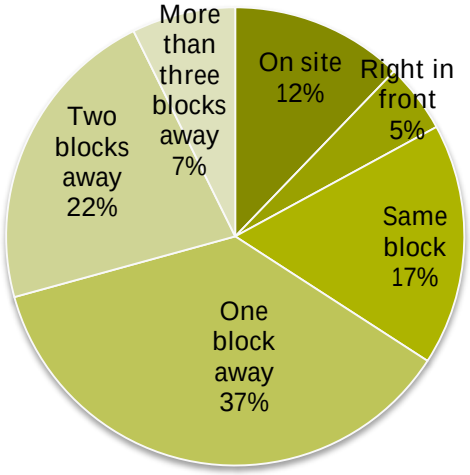
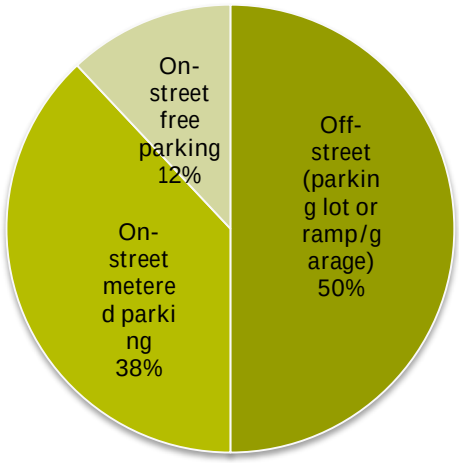


Figure 23 Today, or the most recent day you drove to Downtown Binghamton, where did you park? (Residents)



STAKEHOLDER INTERVIEWS

The review of background information, online survey, and meetings were complemented by a series of targeted stakeholder interviews to gather input on conditions from those most familiar with parking in downtown Binghamton. Stakeholders were identified by the City and BMTS and included business owners, developers, institutions, major venue managers and city staff. The primary goal of these small group meetings was a free flowing exchange about parking and an understanding of specific experiences and perspectives in downtown Binghamton. Several common themes emerged, which are summarized below.

Perception of lack of parking availability

Stakeholders report that it is sometimes very difficult to find parking in and around the core Business District. Patrons express a desire to have more convenient parking in front of their destination and are not used to parking one or two blocks away. Residents, students and housing developers complain of a lack of residential parking in downtown. When jurors are in town, especially on Monday mornings, parking around the Court House is very difficult to find and jurors' parking tickets are mostly disputed. Disabled parking can also be difficult to find.

Lack of clear information and signage related to parking

Parking regulations are confusing for downtown patrons, especially for visitors coming from outside of the City. No clear parking signage is available in downtown indicating either the time limits or the price of meters. Directional or wayfinding signage is difficult to see and makes it confusing for parkers to navigate around Binghamton. Many stakeholders were not aware of the pricing structures in the public ramps and lots. Stakeholders recommended improving signage to direct people to off-street parking and then for pedestrians walking around downtown.

Need for event parking management

Event parking around the Floyd L. Maines Veterans Memorial Arena, NYSEG Stadium and The Forum Performing Arts Theatre is difficult at peak times. On- and off-street parking around the Arena building is only used for arena employees or players. Most Arena event attendees park in public ramps and lots or use the underground parking at Government Plaza. On game nights around the NYSEG Stadium, parking is very difficult to find, as there are few large lots nearby. Problems reported include spillover into the surrounding residential neighborhood and unregulated pricing from private lot owners. Stakeholders recommend comprehensive event parking management including clear signage and information.

Need to improve ramp conditions and management

The three public ramps in downtown Binghamton are relatively heavily used by downtown employees, residents, students, and customers. However, many stakeholders have expressed concerns about the structural conditions, and safety issues. Potential investment is needed to repair and maintain the facilities. Moreover, many commented that the payment system is confusing to use and inconsistent from ramp to ramp. Ramps that have cash-only payment are especially inconvenient for most downtown parkers.

Payment structure and technology

Stakeholders suggest a clear payment structure for all downtown parking. The current on-street meter pricing structure is very confusing and does not reflect actual demand. Some stakeholders suggested using smart meter technology that allows for debit and credit cards, or even more advanced pay-by-cellphone

and in-car meters system. Payment technology in the public ramps needs improvement to make garage parking more attractive. Event parking pricing should be unified and regulated throughout downtown.

Coordination among stakeholders is needed

Some stakeholders expressed concern on the overall parking management and financial sustainability of the system. Notions on overall lack of coordination, stakeholders noted the importance of City agencies, private parking managers, and others that "touch" parking in downtown Binghamton communicate and coordinate with each other regarding both day-to-day management and long term parking strategies. These include but not limit to using parking supply more efficiently (particularly during events), regulations with regards to new development, pricing mechanisms and coordination between on- and off-street, and enforcement practices to achieve broader City goals of using parking resources smartly and efficiently. Responsibilities between different departments and agencies should be clarified.

Shared parking opportunities

Some stakeholders identified individual lots that are underutilized or empty during different periods of the day or week. Stakeholders suggested sharing parking spaces in adjacent private lots when they have complementary schedules. Parking zoning ordinance could be updated with clear regulations that identify engaging in sharing parking among different facilities for different uses.

Walking and bicycling in Binghamton

The Court Street streetscape improvement project has been successful in making downtown more attractive. The City is continuing to invest in making downtown more walkable. Despite that many stakeholders report that overall, downtown has a "walking problem not a parking problem", this means that many drivers want to park directly or very close to their destination and do not want to walk. Walking a block or two to their destinations does not feel safe, especially on the side streets off Court Street at night. As for bicycling, traffic conditions and street layouts along State and Water Street have been labelled as too fast or unsafe for bicyclists.

Interviewed Stakeholders

- Rich Perkins, *City of Binghamton*
- Juliet Berling, *City of Binghamton*
- Tito Martinez, *City of Binghamton*
- Robert Murphy, *City of Binghamton*
- Jared Kraham, *Deputy Mayor*
- Pam Eshbaugh, *NYSDOT*
- Jenn Yonkoski, *BMTS*
- Cyndi Paddick, *BMTS*
- Teri Rennie, *City Council*
- Bill Berg, *City Council*
- William Lescault, *BPD*
- Frank Evangelisti, *BC Planning*
- David Petryszyn, *Traffic Division*
- Marc Newman, *Newman Development*
- Syed Ali, *FDG*
- Mark Yonaty, *GBD, LLC*
- Anthony Capozzi, *Broome County Arena*
- Chris Esworthy, *Broome County Jury*
- Sue Crane, Dave Husch, *Binghamton University*
- Pat O'Day, *LAZ Parking*

PUBLIC WORKSHOP #1

On June 16th, 2015, local residents, business owners, employees, and others were invited to Metro Center to participate in a hands-on "Parking Open House" designed to gather input on parking in downtown Binghamton, as well as introduce the parking study to the general public.

A majority of the meeting time was used to gather feedback from the public, including identification of issues, opportunities, and concerns. The Open House included several interactive exercises: parking priorities voting, a parking "confessional", parking needs and opportunities map mark-up, and an open comment "sticky wall".

More than two dozen members of the public participated in response to newspaper articles and email invites distributed by the City.

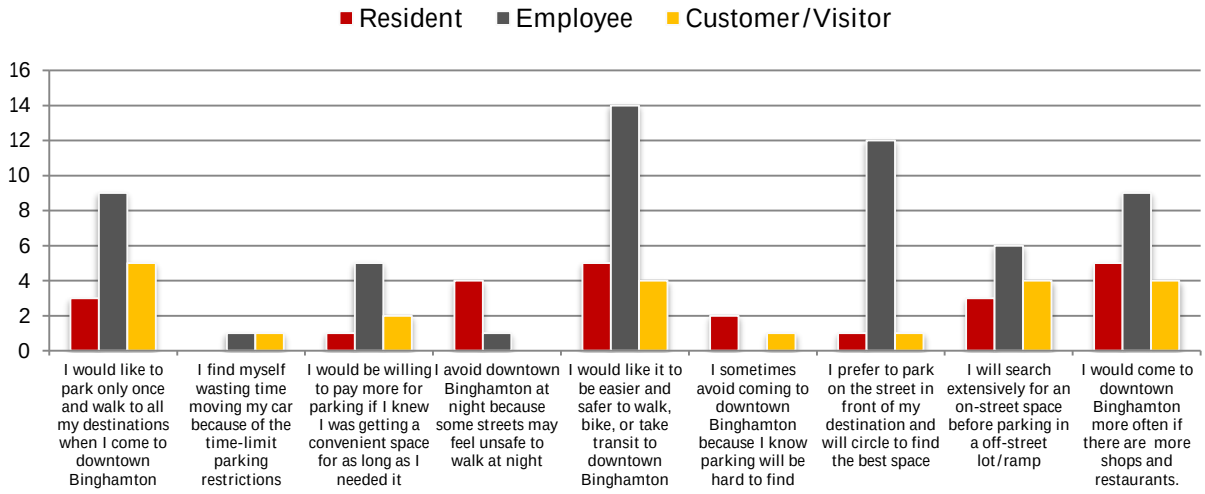
Parking Priorities Voting

Open House participants were invited to "vote" for the parking-related priorities that were of greatest concern to them. Faced with nine typical parking issues, participants were allotted three "votes" that could be used to prioritize one or more issues using different colored chips based on their identity as downtown resident, employee or customer and visitor. Figure 24 shows the results of that voting exercise.

The voting exercise revealed public priorities related to parking in downtown Binghamton

The exercise revealed a local desire for a multimodal downtown with more attractions in a "park-once" zone. This response indicates that these are types of infrastructure that could be improved in downtown. The most votes (22%) were received for a statement that people "would like it to be easier and safer to walk, bike, or take transit to downtown Binghamton". Along the same lines, several respondents (17%) indicated that they "would come to downtown Binghamton more often if there are more shops and restaurants". On-street parking in front of their destinations also seems to be important to many of the participants.

Figure 24 Voting Exercise Results



Parking Confessional

Participants were also invited to do a more light hearted parking confession exercise. They were asked to pin point where their "favorite place to park", where their "secret place to park", and the private parking facilities that they wish they could park at. Results were shown in Figure 25. This exercise helped reveal a sample selection of desired parking locations in the core area, such as Washington Street.

Parking Needs and Opportunities Mapping

Participants were offered large printed maps of the downtown Binghamton study area to note areas that need attention or have opportunities for improvement. Figure 26 consolidates the comments from the parking needs and opportunities maps, categorized by topic area.

Open Comment "Sticky Wall"

Participants were offered the opportunity to express and write down their general comments about parking in downtown Binghamton. A summary of the key topics and suggestions is below:

- Transit is doing a good job modernizing services.
- The City should work with Binghamton University to bring car share program to downtown housing projects.
- Back-in parking takes up valuable sidewalk space.
- A credit card payment option on parking meters would make parking more accessible.
- Willing to pay more for closer spots and better facilities.
- Private parking facilities, such as the Metro Center Lot, should share its underutilized spaces after hours.

Public meeting participants discussed parking and related transportation and land use issues.

Figure 25 Parking Confessional Results

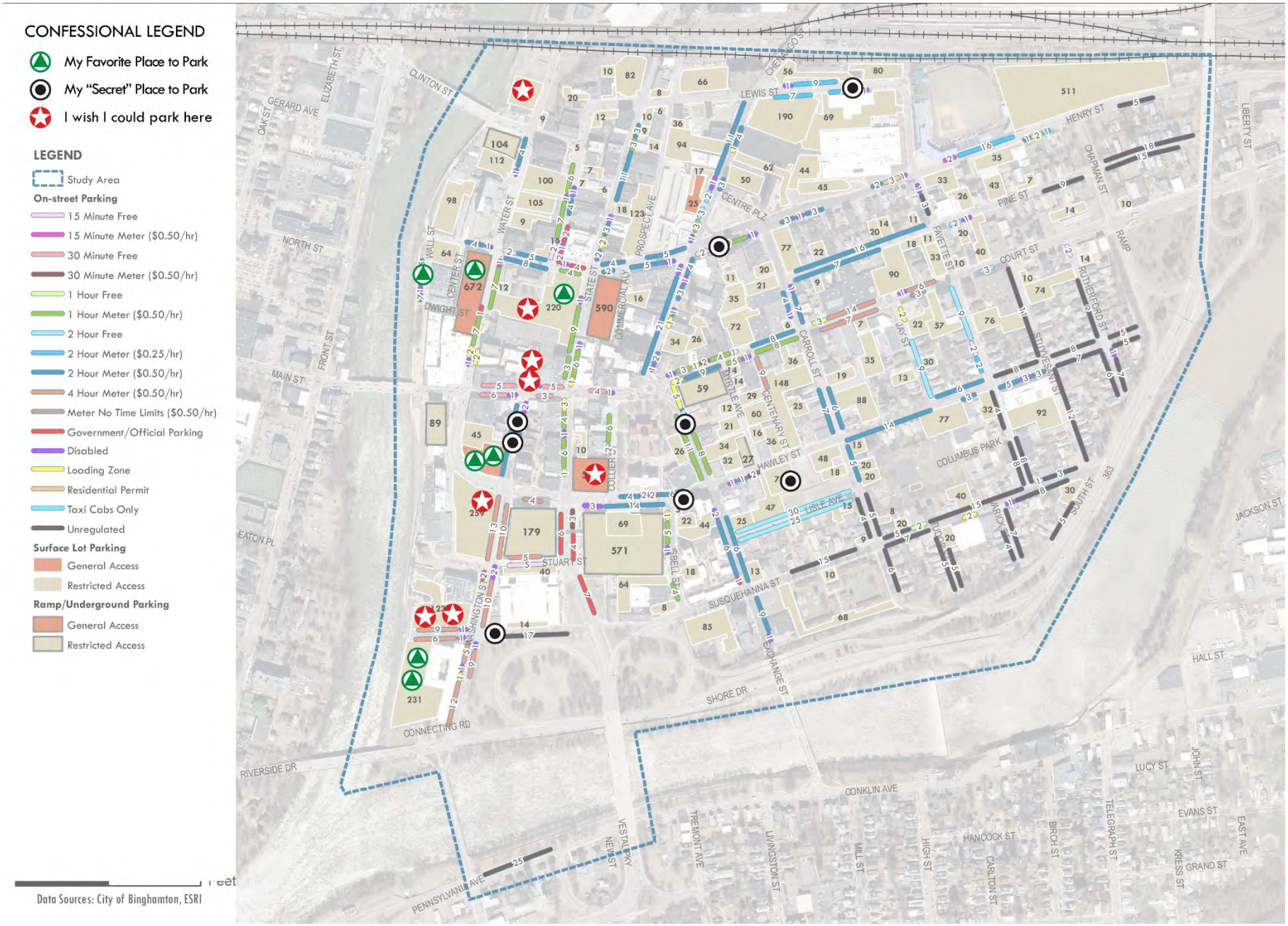
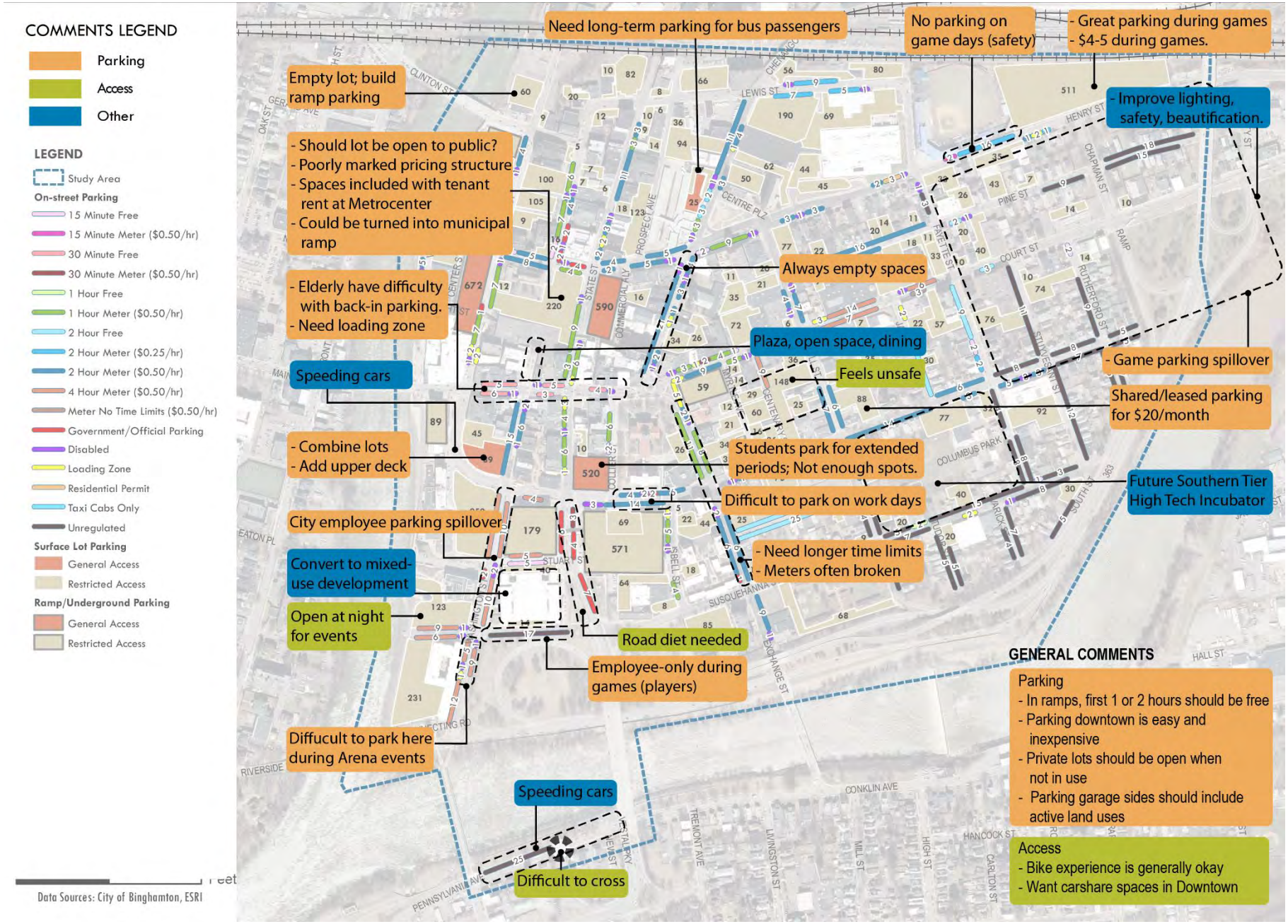


Figure 26 Summary of Public Comments



PUBLIC WORKSHOP #2

The second public workshop was held in November 2015 at the Metro Center Lobby. The study team presented key findings and initial strategies to the several dozen members of the public, including elected officials, residents, employees, property owners, developers, students, and regular customers. After an introduction from the Mayor and presentation from the consultant team, participants engaged in a conversation about the ideas presented. The full presentation is included in the Technical Appendices. Comments and concerns voiced at the meeting will be integrated into the development of the initial strategies. Generally, comments were in tandem with many of the team's key findings and initial strategies. Public comments include:

- The City should make sure any new parking facilities are publicly available, especially those built upon public funding.
- The City should cost-effectively add parking supply to the core area.
- Opportunity exists to reclaim space given there is less traffic downtown than there used to be: e.g. Washington Street extension should be public space.
- There are opportunities to create access to private parking facilities.
- The parking study should have an emphasis on event parking experience during games.
- Concerns of access to roof-top parking of the ramps in snow days.
- There are accessibility issues in ramps for disabled drivers, including broken elevators.
- Concerns over the shortage of parking supply for new development or redevelopment in old buildings where no parking is provided currently.
- Appreciation of place-making efforts downtown.

Public meeting participants reviewed parking utilization data.

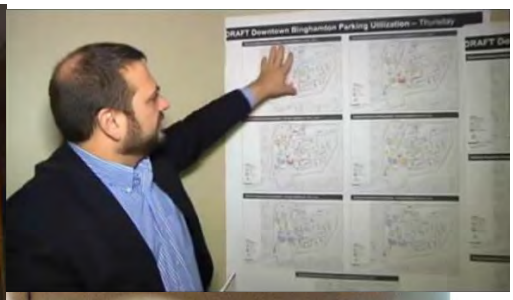
PUBLIC WORKSHOP #3

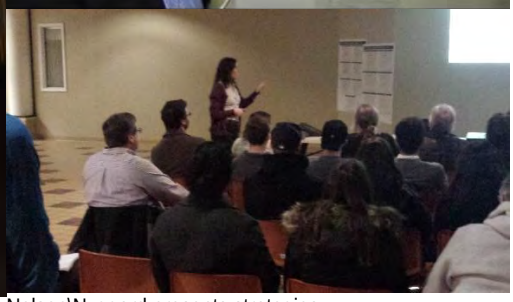
The third and final public workshop was held in February 2016 at the Metro Center Lobby. The purpose of the workshop was to present and receive feedback on parking strategies. Participants ranged from elected officials to downtown business owners to residents to students. The study team summarized the results of on-the-ground parking data collection, field observations, input from the previous workshop, the online survey, and more, and presented a holistic list of recommendations to hear public feedback.

Public comments were recorded and incorporated into the final set of strategies. Highlights from participants include:

- Concerns about abuse of time limits, particularly on Court Street
- Discussion about implementation and timeframe, including potential short-term projects
- Discussion about the trade-offs to create more available parking on-street, including pricing, more enforcement, and time limits
- Mixed-reviews about adding parking on Hawley Street south of Court Street
- Questions and conversation about future development projects and their impacts, including the future of the Collier Street Ramp
- Safety concerns in the State and Water Street ramps
- Desire for reliable enforcement

Participants discuss the cross section of Court Street.
Photo: Megan Brockett, Pressconnects.com





Nelson\Nyggard presents strategies.
Photo: WBNG News, Nelson\Nygaard

Appendix C Zoning Review

Binghamton has taken progressive measures to capitalize on its mix of uses and walkable environment with active small-scale retail. Careful consideration of how the land is used (built environment, roadways, open space, or parking) has a significant impact on the vitality of downtown Binghamton. Current national and local trends are moving towards more residential and infill development, helping Binghamton achieve broader economic development goals. Zoning has shaped land use and parking, and must continue to evolve in tandem with the changing needs and desired environment in Binghamton. Zoning review and updates must be strategically employed to support the City's increasingly dynamic downtown. This Technical Appendix includes a review of the City's parking requirements in the City's Zoning Ordinance to benchmark them against national standards and best practices.

The Zoning Ordinance of the City of Binghamton, New York (adopted August 2006) outlines the zoning code for the City under the auspice of several objectives, including promoting the "public health, safety, and general welfare" of Binghamton citizens and minimizing "conflict among uses of land and buildings".[1] The Zoning Ordinance covers many topics in great detail, but this section focuses solely on the provisions related to parking and transportation demand. The parking-related ordinance (Article X) code covers the entire City of Binghamton, including the Downtown Business (C-2) District.

Zoning often requires the provision of parking, which has impacts on the viability, cost, and form of any proposed development or adaptive re-use in a community. In a comprehensive parking review, reviewing zoning requirement and policy in service of large downtown goals becomes necessary. As downtown evolve, the level and mix of uses change, and parking demand, as seen in the previous section, does not necessarily match proscribed requirement. In this section, current Binghamton zoning is reviewed and summarized and ultimately compared to national best practices.

KEY FINDINGS

- Many of Binghamton's required parking minimums are higher than national standards from the Institute of Transportation Engineers (ITE) typically indicate.
- The Downtown Business (C-2) District covers half of the downtown study area and allows exemptions of parking requirements for existing buildings in the district where no parking presently exists and there is no opportunity to provide it.
- Binghamton has minimum and maximum parking restrictions, but these exist within a narrow range.
- Provisions for shared parking are limited; but do not allow reductions on required parking and limit the types of uses that can share parking.

[1] Zoning Ordinance of the City of Binghamton, New York (August 2006): Chapter 410, Zoning. Web link: http://www.binghamton-ny.gov/sites/default/files/410%2C%20Zoning.pdf

- There are no parking exemptions for changes of uses, except existing buildings with no parking provided prior to the adoption of the Zoning Ordinance.
- To minimize interference with street traffic, the Zoning Ordinance encourages minimizing the number of curb cuts.
- Zoning includes bicycle parking requirements, but does not include other multimodal measures such as electric vehicle parking or transportation demand management programs.
- The Zoning Ordinance does not incorporate more cutting-edge tools such as parking in-lieu fee, car sharing, and unbundling of parking cost.

PARKING PROVISION

General Parking Requirements

In most cases, **Binghamton's general parking requirements are higher than the peak** parking demand rates found in *Parking Generation 4th Edition* (Institute of Transportation Engineers, 2010), as illustrated in Figure 1. ITE produces this periodic report, which is the prevailing national standard in determining parking demand for a development. ITE standards are based on parking demand studies submitted to ITE by a variety of parties, including public agencies, developers and consulting firms. These rates are a comparative starting point to determine baseline assumptions.

Although widely considered an industry standard, the peak parking demand rates found in the ITE guide are primarily derived from studies conducted in auto-dependent single-use suburban sprawl settings. When applied as minimum requirements in a denser mixed-use environment – such as Downtown Binghamton- these tend to require parking at a rate that could reproduce a similar auto-dependent suburban sprawl pattern.

Despite this orientation, many of Binghamton's parking requirements exceed even these suburban ITE rates for the described land use. Figure 1 compares Binghamton's zoning requirements to ITE projected parking demand for cross-section of uses; we note that for some uses, Binghamton's requirement are below ITE rates. These parking requirements in the code are important as they guide the required parking - and therefore land - needed to develop an existing or new property in the City. Most of the requirements shown in Figure 1 are general City requirements; the Downtown Business (C-2) District has special requirement as indicated in the following section.

Figure 1 Sample of General Parking Requirements under Binghamton's Zoning Ordinance[2]

Principal Use		Required Minimum Spaces	ITE Peak Parking Demand Rates	Binghamton vs. ITE
Residential	Single Unit Dwelling	2.00 per Dwelling Unit	1.83 per Dwelling Unit	Above
	Multi-unit Dwelling	1.50 per Dwelling Unit	1.23 per Dwelling Unit	Above
	Elderly Housing	0.33 per Dwelling Unit	0.41 per Dwelling Unit	Below
Medical	Hospital	2.50 per Bed	4.49 per Bed	Below
	Nursing Home	0.5 per Bed	0.35 per Bed	Above
	Medical/dental office	2.00 per treatment room	4.94 per 1,000 sq ft	-
Institution	College/University	0.20 per Student	0.33 per Student	Below
Industrial	Manufacturing	1.25 per 1,000 sq ft	1.02 per 1,000 sq ft	Above
	Warehouse	0.83 per 1,000 sq ft	0.5 per 1,000 sq ft	Above
Auto	Auto Parts	3.30 per 1,000 sq ft	2.14 per 1,000 sq ft	Above
	Gas	2.00 per 1,000 sq ft of retail space, or 1 stacking space plus 1.00 per pump island, plus 1.00 per 4 EV stations	.75 per fueling position	-
Entertainment	Bowling	4.00 per Lane	3.13 per Lane	Above
	Theater	0.20 per Seat	0.26 per Seat	Below
Commercial	Bank	4.00 per 1,000 sq ft	4.00 per 1,000 sq ft	Equal
	Convenience Store	5.00 per 1,000 sq ft	3.11 per 1,000 sq ft	Above
	Supermarket	5.00 per 1,000 sq ft	9.98 per 1,000 sq ft	Below
	Furniture Store	1.50 per 1,000 sq ft	1.22 per 1,000 sq ft	Above
	Office	4.00 per 1,000 sq ft	2.84 per 1,000 sq ft	Above
	Restaurant, full service	0.33 per seat plus 0.5 per employee	0.47 per seat	-

The Code provides some exemptions from providing parking minimums in circumstances of small businesses that occupy existing structures, except in C-2:

- Except in the Downtown Business District (C-2), any non-residential land use occupying equal to or less than 2,500 square feet in gross floor area and located within an existing structure is exempt from the general off-street parking requirements (§ 410-53.B).
- Except in the C-2 District, any non-residential land use occupying greater than 2,500 square feet in gross floor area and located within an existing structure shall only be required to provide off-street parking for the portion of the floor area that exceeds 2,500 square feet (§ 410-53.C).

[2] Zoning Ordinance of the City of Binghamton, New York (August 2006): Schedule III (§ 410-53)

Special Districts Designations

Within the Downtown Binghamton Study Area, there are three special zoning districts designated. Figure 2 maps the Downtown Business District (C-2) and Landmark properties within the study area, but not the Urban Village Overlay District which is outside of the study area, located west of Chenango River. Provisions related to parking and transportation related to each district are summarized below.

1. Downtown Business District (C-2)

The Downtown Business (C-2) District, which covers much of the core area within the study boundary (Figure 2). It is defined as the area bounded by Lewis Street to the North, the Chenango River to the West, North Shore Drive to the South, and Carroll and Exchange Street to the East. The C-2 District is zoned to allow for high-density development of "large retail stores, specialty shops and services, business services, financial institutions, offices, theaters, hotels, government buildings, and sports and entertainment facilities, which have citywide and regional significance" (§ 410-10). To encourage a mix of uses and an active ground-floor environment, it precludes residential uses from locating on the ground level of any building.

Special parking regulations are adopted by the Zoning Ordinance (August 2006) for Downtown Business (C-2) District:

- Any existing buildings located in the C-2 District where no parking presently exists and there is no opportunity to provide it are exempt from the citywide off-street parking requirements (§ 410-53.A).

Practically, this regulation means that the Zoning Ordinance:

- Encourages use of existing buildings;
- Does not require parking for adaptive reuse projects that did not previously have parking;
- Does not have guidelines for developments under this category to contribute to the parking supply or transportation infrastructure.

2. Landmark Properties

Binghamton is blessed with several properties that have been designated as Local Landmark structures3 and/or listed in the National Register of Historic Places show in Figure 3. These properties have slightly different parking requirements, outlined separately in the Zoning Ordinance (§ 410-53.E). The Planning Commission may reduce or waive the minimum off-street parking requirement for a permitted use for a designated Local Landmark structure based on a comprehensive assessment of the potential parking impact. The assessment efforts may include a survey of on and off-street parking supply, an evaluation of the level of transit service in the immediate area, the importance of walk-in traffic, and the provisions of carpooling and other Transportation Demand Management (TDM) factors. A public hearing is required prior to the Planning Commission's approval of such reduction or waiver.

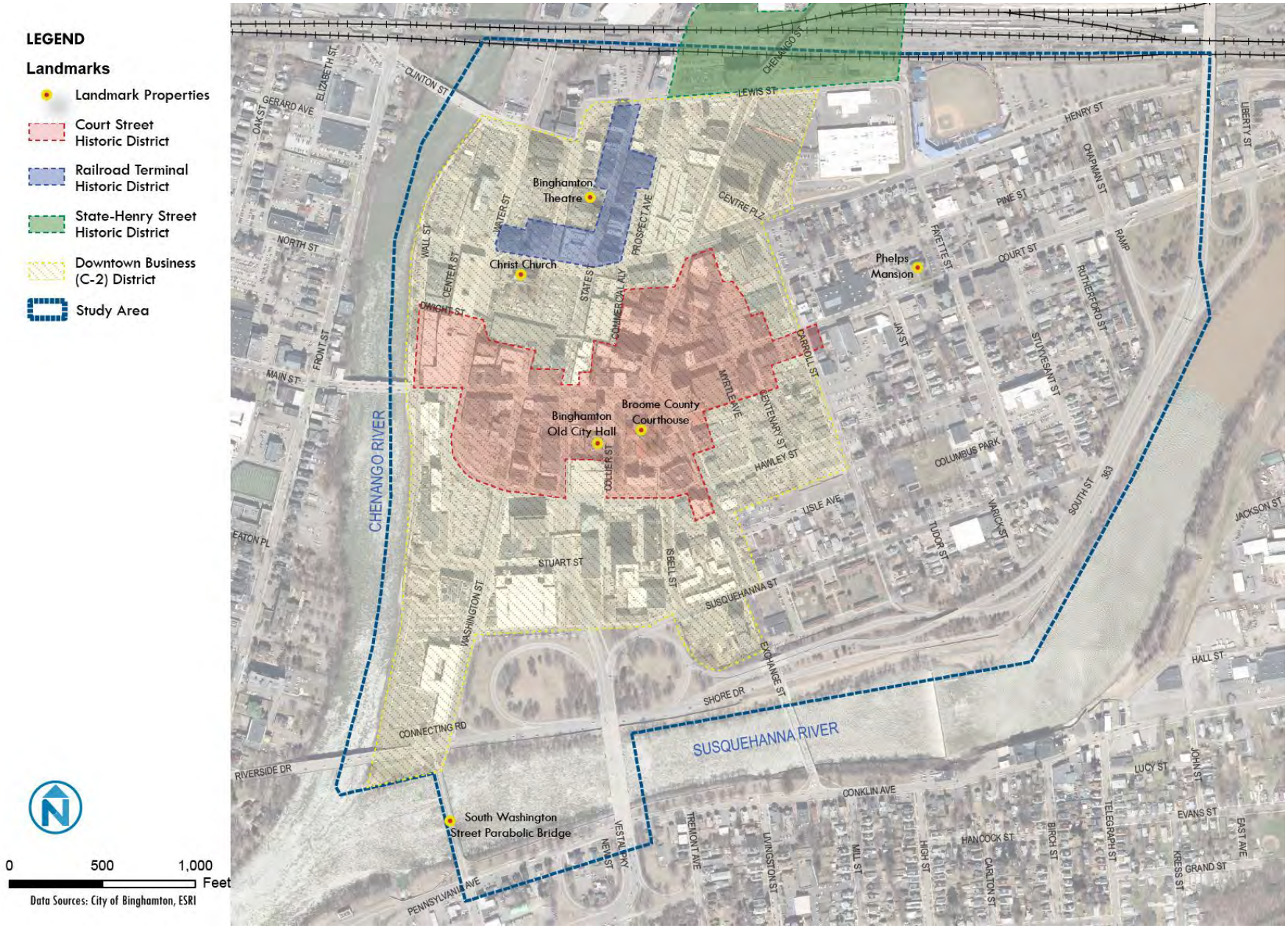
[3] Local Landmark Properties. http://www.binghamton-ny.gov/sites/default/files/files/Local%20Landmark%20Property%20List_2.pdf

3. Urban Village Overlay District

The Urban Village Overlay District, located outside of the study area west of Chenango River, is an overlay with design guidelines intended to protect housing stock and encourage mixed uses to create a vibrant and cohesive neighborhood. In the overlay, additional regulations (§ 410-24.M) apply on top of base zoning, including:

- A clear street use hierarchy: "people first, commercial activity second, parking third, and through-traffic fourth".
- Street infrastructure recommendations, such as widest possible sidewalks, calming traffic, shared use of car lanes with bike traffic, adequate pedestrian-scale lighting, consistent street trees, and well-equipped transit stops with proper amenities and signage.
- Encouraging shared parking "where uses have different peak parking demands" by facilitating shared parking agreements. Enclosed parking is also encouraged.

Figure 2 Special Zoning District and Landmark Properties in Downtown Binghamton



Source: City of Binghamton Official Zoning Map (Updated March 2008), National Register of Historic Places

Figure 3 National Registered Landmark Properties in Binghamton, NY

Name on the Register	Date Listed	Location	Location in Study Area
Abel Bennett Tract Historic District	19-Feb-08	Bounded by Riverside Dr., Seminary & St. John Aves., & Beethoven St.	Outside
Ansco Company Charles Street Factory Buildings	22-Aug-12	15 & 17 Charles, & 219 Clinton St.	Outside
Binghamton Old City Hall	18-Mar-71	Collier St. between Court and Academy St.	Inside
Binghamton Railway Company Complex	29-Nov-06	375 State St.	Outside
Binghamton Theatre	23-Jan-08	236 Washington St.	Inside
Broome County Courthouse	22-May-73	Court St.	Inside
Building at 171-177 Clinton Street	31-Dec-02	171-177 Clinton St.	Outside
Harlow E. Bundy House	11-May-11	129 Main St.	Outside
Christ Church	2-Dec-74	Corner of Washington and Henry St.	Inside
Court Street Historic District	7-Sep-84	Roughly bounded by the Chenango River, Carroll, Henry, and Hawley St.	Inside
Alfred Dunk House	21-Mar-85	4 Pine St.	Outside
Endicott-Johnson Medical Clinic	29-Sep-15	305 Clinton St.	Outside
Emmanuel Church of the Evangelical Association of Binghamton	20-Nov-09	80 Front St.	Outside
General Cigar Company–Ansco Camera Factory Building	22-Aug-12	16 Emma St.	Outside
George F. Johnson Recreation Park Carousel	25-Jan-92	George F. Johnson Recreation Park	Outside
Gen. Edward F. Jones House	9-Feb-05	9 Asbury Court	Outside
Jonas M. Kilmer House	29-Sep-06	9 Riverside Dr.	Outside
Lithuanian National Association Hall	29-Sep-15	315 Clinton St.	Outside
Marlborough Building	19-Feb-08	81 Clinton St.	Outside
New York State Inebriate Asylum	24-Jul-96	425 Robinson St.	Outside
Phelps Mansion	4-Jun-73	191 Court St.	Inside
Railroad Terminal Historic District	20-Mar-86	Intersection of Chenango St. and Erie-Lackawanna RR tracks	Inside/Outside
Roberson Mansion	25-Mar-80	30 Front St.	Outside
Robert H. Rose House	26-Aug-80	3 Riverside Dr.	Outside
Ross Park Carousel	25-Jan-92	Ross Park	Outside
Saints Cyril and Methodius Slovak Roman Catholic School	1-Mar-07	144-146 Clinton St.	Outside
South Washington Street Parabolic Bridge	30-Jan-78	S. Washington St.	Inside/Outside
State Street-Henry Street Historic District	25-Jun-86	Roughly bounded by Lewis St., Prospect Ave., Henry St., and Water and Washington St.	Inside
Trinity Memorial Church	19-Nov-98	44 Main St.	Outside
J. Stuart Wells House	21-Aug-09	71 Main St.	Outside
John T. Whitmore House	14-Aug-86	111 Murray St.	Outside

Source: City of Binghamton Official Zoning Map (Updated March 2008), National Register of Historic Places

COMPARISON WITH BEST PRACTICES

Other than the special regulations listed above, there is not much flexibility on parking requirements within the Downtown Binghamton study area. However, as Downtown Binghamton develops over time, changes of use and rehabilitation of existing buildings will become more critical. Therefore, flexibility in parking requirements as needed to allow the mix of uses and activity sought in Downtown should be explored. In this section, the memo highlights a series of accepted national practices employed in downtown environments, and compares them to current Binghamton zoning. The subsequent recommendations will further address which of these may be appropriate for advancement in Binghamton.

Parking Minimums and Maximums

Most minimum parking requirements take into account only two variables, land use and the size of development. As with the requirements shown in Figure 1, these are typically expressed in terms of number of spaces required per a certain square footage (or other units, e.g. residential units) of a particular land use; or per residential unit. In reality, and as shown in this memo, parking demand in a downtown should be more broadly defined and is affected by many other variables, such as land use mix, alternative transportation available, demographics, parking pricing and policy.

In contrast to minimum parking requirements, parking maximums restrict the total number of spaces that can be constructed. Reasons for setting maximum requirements may include a desire to restrict traffic from new development, promote alternatives to the private automobile, or limit the amount of valuable downtown land that is devoted to parking. While the policy is most likely to be appropriate in transit corridors, downtown, and areas with high levels of traffic congestion, it can be useful in any district that wants to limit traffic or the amount of land devoted to parking.

As currently configured, the Zoning Ordinance for the City establishes both minimum and maximum parking requirements. The maximum is 110% of the minimum, meaning that the range of parking a developer must require is narrow. Reduced minimums are available for historic Landmark Properties, subject to Planning Commission approval.

Figure 4 Parking Minimum a**nd Maximum Requirements under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
Parking Minimums: Some reduced parking minimums available for landmark properties based on a Planning Commission Review (§ 410-53.E) Parking Maximum: 110% of the parking minimums (except one- or two-family homes). (§ 410-51.I)	Reduced Parking Minimums: In a number of municipalities, parking minimum requirements can be reduced when certain conditions are met, such as central business districts, or with a specific percentage of affordable housing. Removed Parking Minimums: Some cities have eliminated minimum parking requirements for the entire municipality while others have targeted specific zoning districts. Parking Maximums: In a growing number of municipalities, parking minimums have been replaced with parking maximums. In some cases, the amount required as a minimum is directly converted to a maximum. In others, the current standards are rejected altogether and a new analysis is carried out based on local auto ownership rates, commuting patterns, and parking demand data.

Shared Parking

Mixed-use developments offer the opportunity to share parking spaces between multiple uses, thereby reducing the total number of spaces required compared to the same uses in stand-alone developments. This benefit allows for higher overall density in mixed-use contexts. Shared parking management offers many localized benefits to the surrounding community, including a more efficient use of land resources and reduced traffic congestion from minimizing the number of parkers hunting for the space that applies to their specific needs.

The Zoning Ordinance of the City of Binghamton only allows for shared parking access. It is encouraged that commercial and industrial developments share access to parking and loading with adjacent nonresidential properties for convenience and efficient circulation. However, the total number of parking spaces required cannot be reduced even though facilities are being shared: "No parking spaces or portion thereof shall serve as required spaces for more than one use." (§410-51.D.1)

Note that in the Zoning Ordinance for the Urban Village District, it has been adopted officially that shared parking agreements be facilitated "where uses have different peak parking demands" (§ 410-24.M). But, there is no formal policy as to how much, where, or what type (public/private) of parking can be used for shared parking. Thus, there is a potential opportunity to build upon this policy and apply it across the Downtown Binghamton study area.

Figure 5 **Shared Parking under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
Religious institutions and "places of public assembly" may use neighboring public and private parking within 500 feet for up to 50% of required parking. (§ 410-53.G). Commercial and industrial developments encouraged to provide cross-access to adjacent nonresidential properties with a mutual access agreement. (§ 410-51.D.1) Off-street parking facilities for independent uses, which uses may or may not be on the same lot, may be combined. Total number of spaces cannot be less than the sum of the separate requirements for each such use. (§ 410-51.2) In Urban Village Overlay District, shared parking "is encouraged." (§ 410-24.M.2.a.1)	Encouraging shared parking wherever possible. Potential to include parking provided by new developments as part of the public parking supply.

Change of Use Exemptions

Binghamton has a historic, mostly built-out downtown, with many grand and unique buildings occupying their entire parcel footprint. In areas like this, situations arise where the minimum parking requirements interfere with the ability of the owner/occupant to change the use of their property in line with evolving market demands. As discussed above, often the minimum parking requirements set out in the zoning code require more off street parking than is feasible within the constraints of the property. In mid- to high-density downtowns where developable lots are small and available space is limited, this can become a serious obstruction to sensible redevelopment.

In the Downtown Business district (C-2), a reuse of a building with no parking does not require any additional parking construction. However, if a building has any parking, however minimal, a change of use would likely necessitate parking provision.

Figure 6 **Change of Use Exemptions under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
In the Downtown Business district (C-2), no off-street parking minimums apply to existing buildings with no parking (§410-53.A). Allow for exemptions for existing non-residential uses occupying equal to or less than 2,500 sq ft (except in C-2). For existing non-residential uses larger than 2,500 sq ft, parking requirements only apply to the portion that exceeds 2,500 sq ft (except in C-2). A Board of Appeals oversees any variances granted.	When buildings and parcels are converted to new uses, exemptions from parking requirements may be granted when providing the required amount of parking on-site is infeasible. Allow for exemptions in cases where overall building and parcel in use is below a certain size (e.g. 5,000 sq ft). Allow for exemptions in cases where building and parcel in use is to a lower parking intensity.

Parking In-Lieu Fees

In some communities, new developments can waive all or part of their minimum parking requirements by making an annual payment ("in-lieu" of providing parking) to the municipality.[4] The fee can be used for transportation improvements, or is "banked" to fund current or potential future shared parking facilities. This provision helps the redevelopment of constrained sites while providing a revenue stream to support the construction/maintenance of shared public parking facilities such as a central lot or garage.

Figure 7 Parking In-**Lieu Fee Regulation under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
None	Where zoning requirements for minimum numbers of parking spaces exist, a parking in-lieu fee or payment has found great success at reducing parking supply for dense mixed-use areas that have lower parking demand or high potential for sharing. Fees vary widely.

Driveway Curb Cuts

Driveway curb cuts introduce vehicle-pedestrian-bicycle conflicts and induce congestion on busy thoroughfares due to left turning vehicles. When alternatives are available and feasible, limiting or prohibiting driveway curb cuts along key vehicle, pedestrian, and bicycle routes reduces or eliminates these conflicts, providing safer, more efficient, and less congested public rights-of-way.

The Zoning Ordinance provides guidance on the width of curb cuts to allow for safe passage of cars by each other and into parking lots (§410-54.A). To minimize interference with street traffic, the Zoning Ordinance also encourages minimizing the number of curb cuts in general (§410-40).

[4] See Needham, MA In-Lieu Parking Fee for Projects http://www.needhamma.gov/DocumentCenter/Home/View/3274

Figure 8 **Curb Cut Guidance under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
Driveways must have a minimum width of 12' for one-way traffic or 21' for two-way traffic. The maximum width may not exceed 18' for one-way traffic or 30' for two-way traffic. Industrial driveways require larger widths (§410-54.A).	In downtown or village center zoning districts, reviews emphasize a prohibition of curb cuts and driveway openings along key transit, bicycle, and/or pedestrian routes whenever possible. Where curb cuts are present, standards expect a level crossing for pedestrians (raised driveway) and clear sightlines for exiting motorists to see pedestrians. Encourage joint access to multiple lots through shared driveway/curb-cut access.

Car Sharing

Car sharing provides individuals with access to a fleet of shared vehicles, allowing them to avoid owning a car, or a second or third car. Car sharing can also be a tool for businesses and government organizations, which can use it to replace their fleet vehicles. At the same time, car sharing at the workplace allows employees to take transit, walk or cycle to work, since a car will be available for business meetings or errands during the day. Each of these can reduce overall need for provision of parking space in downtown.

The Zoning Ordinance does not address car sharing.

Figure 9 Car Sh**aring Regulations under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
None.	A minimum number of car share spaces are required to be provided free of charge to car share services (such as Zipcar), in relation to the amount of parking provided and proximity to transit.

Unbundling Parking Costs

Charging separately for parking is the single most effective strategy to encourage households to own fewer cars, and rely more on walking, cycling and transit. Unbundling residential parking can significantly reduce household vehicle ownership and parking demand[5] by changing parking from a required purchase to an optional amenity. Households and employers can freely choose how many spaces they wish to lease. Especially among households with below average vehicle ownership rates (e.g., low income people, downtown residents who can walk to work with access to transit, singles and single parents, seniors on fixed incomes, and college students), allowing this choice can provide a substantial financial benefit. Unbundling parking costs means that these households no longer have to pay for parking spaces that they may not be able to use or afford. Existing buildings that have no parking won't be affected by this regulation.

The Zoning Ordinance currently does not explicitly address the bundling of parking cost.

[5] Todd Litman, *Parking Management Best Practices* (Planners Press, 2006)

Figure 10 **Unbundling of Parking Cost Regulations under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
None	Any parking spaces offered to tenants of a new development must be offered as a fee-based option distinct from charges established for renting, leasing, or purchasing primary-use space within the development. These fees shall reflect market realities (i.e., the actual value of parking). The purpose of this code language is to make the cost of providing parking clear to residential and commercial tenants and buyers, and to help them make more informed decisions about their transportation needs. Unbundled parking also makes housing more affordable for tenants or buyers who do not have a vehicle, without affecting price for others. Typically, unbundled parking leads to reduced parking demand, which in turn lets developers build less parking and more of the functional building space (whether that is living units, commercial space or office space). Typically unbundled parking reduces parking demand by 10-30%[6] depending on circumstances. A conservative approach may be to ease minimum requirements by 20%.

Best Practices:

Unbundled Parking from Housing Costs
San Francisco, CA

In two recent major amendments to the Planning Code, the City has required that the cost of parking be unbundled from the cost of housing for both renters and homebuyers in most areas of the city. The City also has very low maximum parking restrictions in its Downtown. To exceed them, parking costs must be unbundled.

Many San Francisco condominium buildings, particularly recent conversions of historic office buildings to residential space, have less than one parking space per apartment (or no on-site parking at all). In these cases, the typical arrangement is that only some of the apartments come with the right to lease an on-site parking space established in the title deed. If any purchasers decline to lease the space that they are entitled to, the condominium association then leases the excess space on a month-to-month basis to residents of other units, or to an outside party.

Unbundled Parking from Commercial Leases
Bellevue, WA

Bellevue, a city of nearly 120,000 located 10-miles from downtown Seattle, requires downtown office buildings of more than 50,000 square feet to identify the cost of parking as a separate line item in all leases. This also requires that the minimum monthly rate per space is not less than twice the price of a bus pass. "Unbundling" parking costs separates the rent for office and parking. It does not increase the total rent that is collected since the cost of occupying the office floor space is decreased when the cost for parking is separated. This innovative policy makes it easy for employers to "cash-out" parking for employees (that is, to offer employees the value of their parking space as a cash subsidy if they do not drive to work), since employers can save money by leasing fewer spaces when fewer employees drive. It also makes it easier for shared parking arrangements to occur, since building owners can more easily lease surplus parking spaces to other users. Combined with its Commute Trip Reduction (CTR) program of incentives, unbundling of parking has influenced a drop in the drive alone commute rate from 81% in 1990 to 57% in 2000.

[6] Todd Litman, Victoria Transport Policy Institute.

Bicycle Parking

Bicycle parking is an essential part of encouraging bicycling and typically serves two important markets. Long-term parking is needed for bicycle storage for residents and employees. This parking should be located in secure, weather-protected, restricted access facilities. Short-term parking serves shoppers, recreational users and other. As well as security, convenient locations are a priority – otherwise, bicyclists will tend to lock their bicycles to poles or fences close to their final destination. Bicycle improvements increase mobility, reduce auto dependency, congestion and air pollution and can be a very important mode of transportation for lower-income families.

The Binghamton Zoning Ordinance has a general citywide bicycle parking requirement. Regardless of the land use type and scale of development, one bicycle rack that has a minimum parking capacity of four is required for every 20 parking spaces in off-street facilities. Best practice indicates that bicycle parking requirement should not be associated with vehicle parking supply; rather, it should be provided in relation to its associated land uses and scale of development.

Figure 11 **Bicycle Parking Regulation under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
Off-street parking areas containing 20 or more spaces shall provide one bicycle rack for each 20 vehicular parking spaces. Racks must provide a minimum of four bicycle spaces. To protect pedestrians' walking space, the location of the bicycle rack shall not encroach into the sidewalk such that it would reduce the unencumbered width of the sidewalk to less than 5 feet. Bicycle racks shall be placed in a location where they shall have adequate lighting and can be surveyed by the occupants. (§410-54.A).	Minimum bike parking facilities are provided in relation to the scale of development, and minimum design standards for such parking facilities are specified. Developers must provide an on-site, publicly accessible bike share station. If a station is already available within two blocks (about 700 feet), developers instead provide a contribution to expand bike share elsewhere in downtown.

Electric Vehicle Parking/Charging

As of January 2016, the Zoning Ordinance does not include any regulation on electric vehicle (EV) parking and/or charging station installation. The City Council prepared a Zoning Ordinance Amendment to include EV parking/charging regulation and is planning to adopt in 2016. The Blueprint Binghamton Comprehensive Plan urged the City of Binghamton to respond to the growing demand of electric vehicles and support their power needs by building a network of EV Charger Stations. New York State currently has a statewide Initiative, Charge NY, to create a statewide network of charging stations.

Figure 12 Elec**tric Vehicle Regulation under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
Binghamton adopted a Zoning Ordinance Amendment in 2016 to encourage Electric Vehicle usage. The Amendment changes include: • adding definition for EV charging station • updating definition for Automobile Fuel Station to include commercial establishments that sell electricity for EV's	Some cities have adopted an official zoning ordinance for electric vehicle charging stations (EVCS): o The EVCSs shall be located in a manner that will be easily seen by the public for informational and security purposes and shall be illuminated during evening business hours o Be located in desirable and convenient parking locations

• allowing EV charging stations in residential garages and carports and in commercial, ancillary, and public parking lots and parking garages • adding language that will allow developers to count each parking space with a charging station as 1.5 parking spaces • updating parking requirement for Automobile Fuel Station	that will serve as an incentive for the use of electric vehicles o Complete instructions and appropriate warnings concerning the use of the EVCS shall be posted on a sign in a prominent location on each station for use by the operator o The EVCS may be on a timer that limits the use of the station to the normal business hours of the use(s) that it serves to preclude unauthorized use after business hours

Transportation Demand Management Measures

Transportation Demand Management (TDM) refers to a package of strategies to encourage residents and employees to drive less in favor of transit, carpooling, walking, bicycling, and teleworking. It encompasses financial incentives such as parking charges, parking cash-out, or subsidized transit passes; Guaranteed Ride Home programs to give employees the security to carpool or ride transit; compressed work schedules; and information and marketing efforts. TDM programs have been shown to reduce commuting by single-occupant vehicle by up to 40%, particularly when financial incentives are provided.

The Zoning Ordinance of the City of Binghamton does not address Transportation Demand Management.

Figure 13 **Transportation Demand Management under Binghamton's Zoning Ordinance**

Existing Regulation	Best Practices
None.	Pre-Tax transit benefits – Employees are provided with access to "transit checks," vouchers, or debit card systems that allow the use of pre-tax income for purchase of transit fares. Preferential parking for carpooling, for instance 10% of all parking spaces are set aside for carpool vehicles prior to 9:00 AM on weekdays, or provide carpool parking in prime locations. Provide ride-sharing services, such as a carpool and vanpool incentives, customized ride-matching services, a transportation information package for new employees and residents, a Guaranteed Ride Home program (offering a limited number of emergency taxi rides home per employee), and an active marketing program to advertise the services to employees and residents.

Appendix D Land Use and Parking Analysis

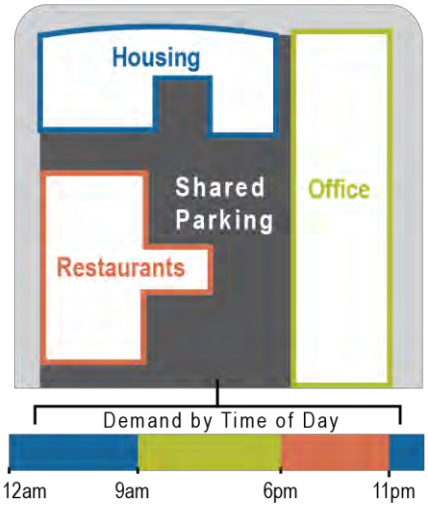
Parking does not exist independently; it is intricately intertwined with the overall mix of land uses and activities it serves. As downtown Binghamton evolves and attracts new uses, relationship between parking demand and land use is critical. This appendix examines the relationship among land use, parking supply, and parking demand (estimated and observed), for today and the future. The methodology uses the parking inventory and utilization data (presented in Technical Appendix A) and relates it to surrounding land uses. This review will help determine the adequacy of parking supply and provide a lens through which additional development may be viewed. The analysis, as described below, compares traditional national parking ratios with adapted ratios more appropriate for a mixed-use, downtown context. After modeling existing land use and parking, the analysis shows projections of expected future land use and future parking supply to model expected demand. The purpose of these modeling exercises is to evaluate the relationship of the built environment and parking to determine the parking impact of future development within the existing downtown context.

LAND USE AND PARKING ANALYSIS METHODOLOGY

Understanding the relationship between land use and parking demand is critical in downtown like Binghamton, given the limited land resources in the Central Business District, the high cost of providing parking, and the challenge of managing existing supplies. Often, parking has been provided separately with little or no consideration of shared access among different uses, because minimum parking requirements by land use type are obligatory per the zoning code. This method may be applicable to suburban sites with free parking and isolated single land uses, but is not always appreciated or efficient in a mixed-use environment like Downtown Binghamton.

The actual demand for parking varies by use throughout the day: office space generates parking demand during traditional business hours; parking for residential housing is often highest overnight as many residents use their cars during the day; and the parking demand generated by restaurants is highest during meal times (Figure 1). If parking is used for multiple uses, the aggregated parking demand by time of day is lower than the total of what would be programmed separately for each use.

Figure 1 Parking Demand Varies by Use throughout the Day



The methodology for the analysis presented in this section is different than a traditional parking generation exercise. Most often, parking generation analyses rely on the Institute of Transportation Engineers' (ITE) periodic report titled *Parking Generation*, which is the prevailing national standard in determining expected parking demand for a development or land use. ITE standards are based on parking demand studies submitted by a variety of parties, including public agencies, developers and consulting firms. The most recent parking generation manual available is the 4th edition (2010) and *is used as a comparative starting point to determine baseline assumptions*. However, as described above, to represent a mixed-use downtown environment, Nelson\Nygaard additionally uses an adapted parking model with inputs from the Urban Land Institute's (ULI) Shared Parking Manual (2nd Edition, 2005) and the local context.

To model and compare the expected parking demand based on land use, the study employed the following steps:

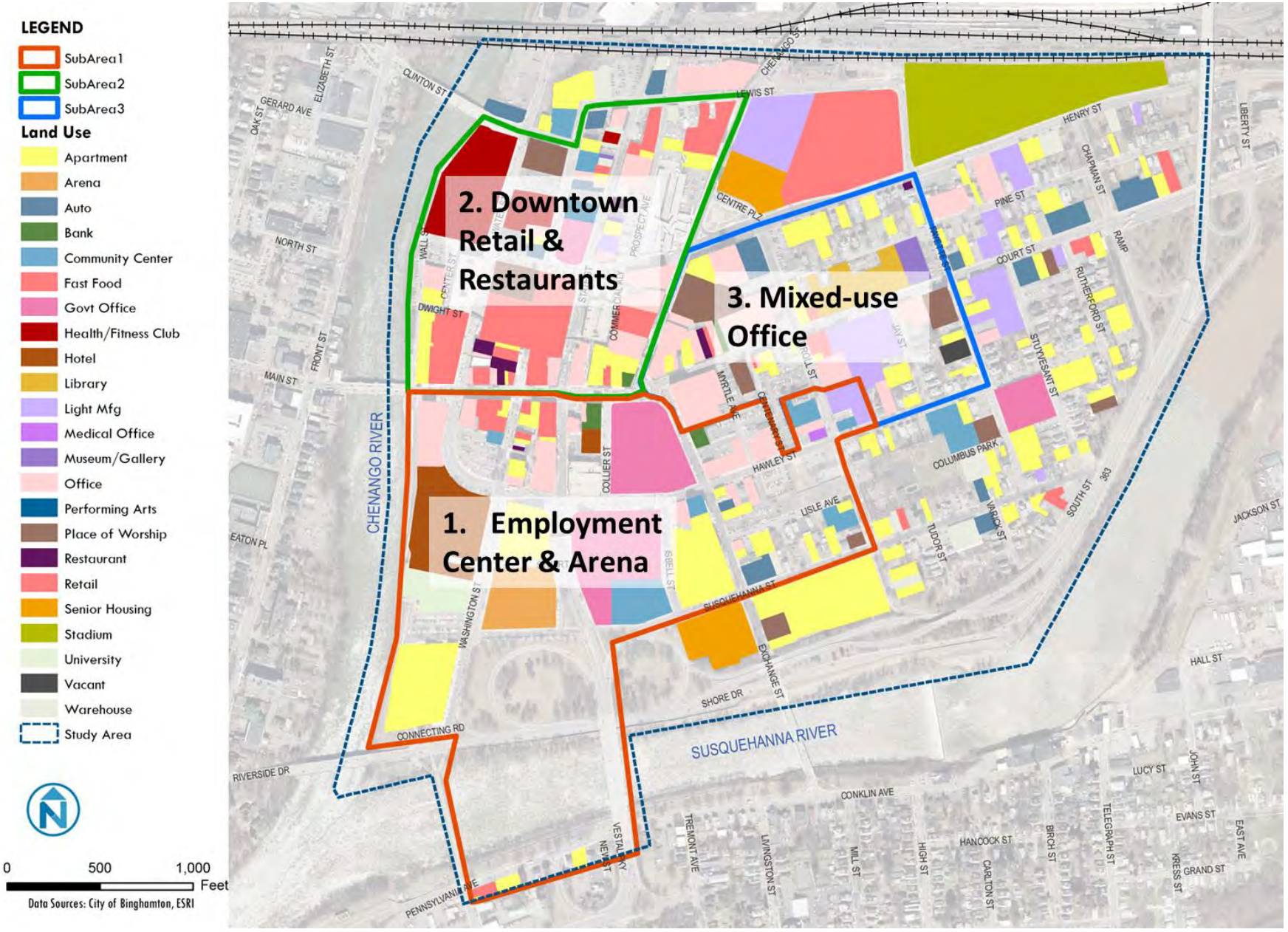
1. **Existing Land Use:** Categorize and aggregate existing land uses (by sub-area) to determine the built square footage, from which expected parking demand could be calculated.
2. **ITE Parking Demand Model:** Calculate and compare how much parking would be expected if each land use had its own, dedicated supply of parking based on the Institute of Transportation Engineers' (ITE) *Parking Generation* guidebook using existing land uses.
3. **Adapted Parking Model:** Apply an adapted parking model derived from the Urban Land Institute's (ULI) *Shared Parking Manual* to show the expected parking demand throughout the course of an average weekday.
4. **Observed Parking Demand:** Compare the model-generated parking demand to observed parking utilization counts collected in fall 2015.
5. **Future Land Use:** Add expected development projects to the existing land uses and model the expected parking impact. Future development is more likely to behave like current observed demand, so the future model relies on the outputs from the Adapted Model with existing land uses.

In addition, the project team identified and established three primary activity areas in downtown to more locally model the relationship between parking and the built environment. Sub areas for analysis were developed in consultation with City and BMTS staff, with the understanding that there are multiple ways to define them within the downtown environment. Additional factors used to identify these areas included reasonable walking distances and geographic boundaries, such as major arterials. These areas are shown in Figure 2. However, we note that the analysis cannot fully account for cross-activity between areas, such as if a driver parks in one activity area and visits another.

The land use analysis is presented in three sub-areas (Figure 2):

- Sub-area 1: centers around primary downtown employment centers and Arena; boundary is south of Court Street and includes areas where downtown employees typically park
- Sub-area 2: mix of downtown retail and restaurants north of Court Street
- Sub-area 3: mix of downtown uses, including office, retail, residential, and civic west of Chenango Street

Figure 2 Downtown Binghamton Land Use and Activity Sub-Areas



Existing Land Use

The activity sub-area land use analysis uses Binghamton's 2015 Assessors Database, which includes land use type, gross floor area by building, and other relevant data. Land use data were provided by the Binghamton Planning Housing and Community Development and BMTS with addresses of each building for geocoding purposes. The database was imported in a GIS shapefile. Parks, parking lots, vacant parcels and buildings were excluded based on the records from the City's Planning Department. Single family, two- and three-family housing were also excluded, considering they typically have their own driveway parking and wouldn't necessarily rely on other parking resources. Existing land uses of each sub-area is shown in Figure 3.

To adjust the existing land use database to reflect today's conditions, the team applied a 3% vacancy rate for retail and 28% vacancy rate for office space, as identified in an HR&A Advisors' report (2013)[1]. The team also applied an average 10% residential vacancy rate, derived from two sources[2]. The vacancy rates were applied in all three sub-areas.

Figure 3 Existing Land Use in Three Sub-Areas

Land Use	Sub-Area 1 GFA/Units	Sub-Area 2 GFA/Units	Sub-Area 3 GFA/Units	TOTAL GFA/Units
Apartment	703 Units	498 Units	308 Units	**1,509 Units**
Arena	4,679 Seats			**4,679 Seats**
Auto	6,307 SF	5,994 SF	20,236 SF	**32,537 SF**
Bank	39,586 SF	4,080 SF	3,451 SF	**47,117 SF**
Community Center	152,591 SF	4,072 SF		**156,663 SF**
Fast Food		8,526 SF		**8,526 SF**
Library			88,625 SF	**88,625 SF**
Light Industrial		7,200 SF	33,532 SF	**40,732 SF**
Government Office	573,515 SF	63,930 SF		**637,445 SF**
Hotel	250 Rooms	207 Rooms		**457 Rooms**
Health/Fitness Club		10,594 SF		**10,594 SF**
Museum/Gallery		5,637 SF	10,672 SF	**16,309 SF**
Medical Office	8,160 SF			**8,160 SF**
Office	281,351 SF	286,834 SF	424,716 SF	**992,901 SF**
Performing Arts			8,680 SF	**8,680 SF**
Place of Worship	6,616 SF	56,078 SF	53,563 SF	**116,257 SF**

[1] HR&A Advisors (2013) North Chenango River Corridor Brownfield Opportunity Area Market and Development Feasibility Assessment.

[2] 2013 Fiscal Profile of City of Binghamton by Office of the New York State Comptroller. https://www.osc.state.ny.us/localgov/pubs/fiscalprofiles/binghamton.pdf
And *Department of Numbers* Website: http://www.deptofnumbers.com/

Land Use	Sub-Area 1 GFA/Units	Sub-Area 2 GFA/Units	Sub-Area 3 GFA/Units	TOTAL GFA/Units
Restaurant	31,456 SF	102,261 SF	23,238 SF	**156,955 SF**
Retail	97,846 SF	407,844 SF	24,063 SF	**529,753 SF**
Performing Arts		22,061 SF		**22,061 SF**
University	545 pp			**545 pp**
Warehouse	5,066 SF	70,843 SF		**75,909 SF**
Total	**1,202,494 SF 703 Units 4,679 Arena Seats 250 Hotel Rooms 545 Campus Population**	**1,055,954 SF 498 Units 207 Hotel Rooms**	**690,776 SF 308 Units**	**2,949,224 SF 1,509 Units 4679 Arena Seats 457 Hotel Rooms 545 Campus Population**

Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

ITE Parking Demand Model

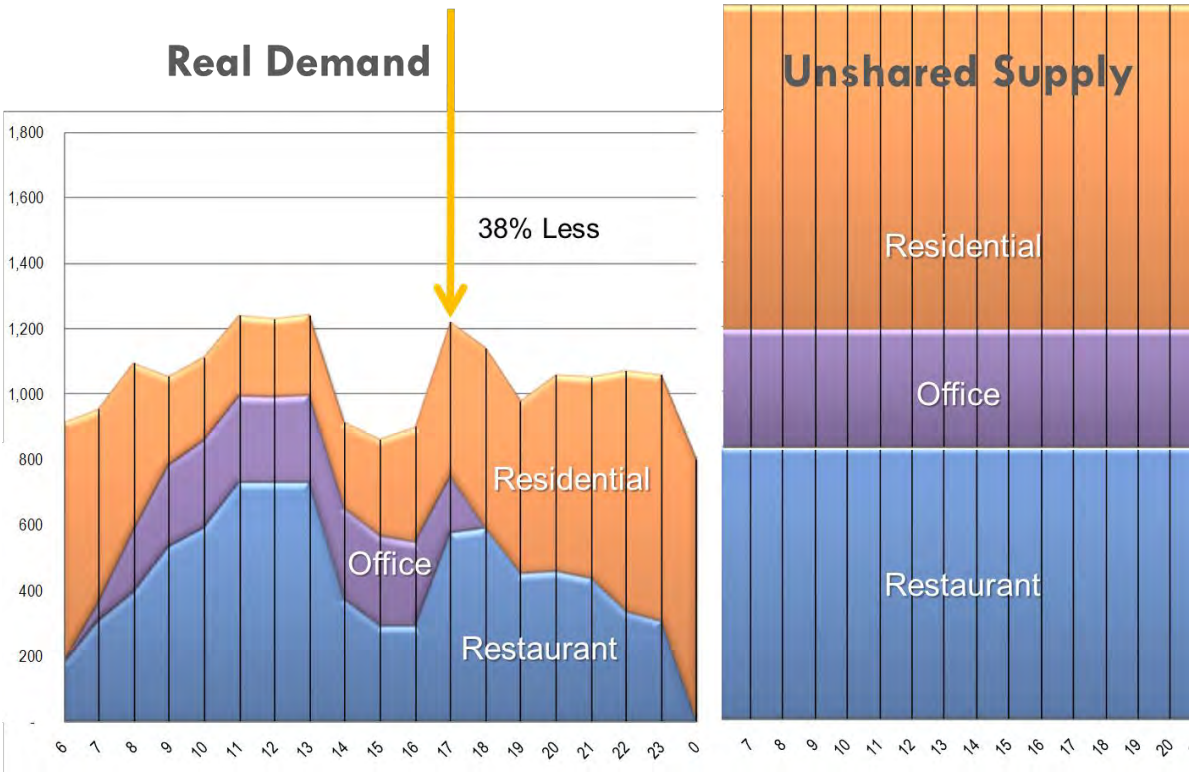
The Institute of Transportation Engineers (ITE) produces a periodic report titled *Parking Generation*, which is the prevailing national standard in determining expected parking demand for a development or set of land uses. ITE standards are based on parking use studies submitted to ITE by a variety of parties, including public agencies, developers and consulting firms. These studies are often based on peak hour demands of suburban sites with isolated, single land uses which have free parking[3]. The most recent parking generation manual available is the 4th edition (2010) and is a comparative starting point. This study includes ITE peak period parking demand rates as guidelines to benchmark how the existing parking supply in Downtown Binghamton compares to its land uses. Again, as stated above, this traditional method may be applicable to suburban sites with free parking and isolated single land uses, but is not always reflective of use in a mixed-use environment like Downtown Binghamton.

Adapted Parking Model

Nelson\Nygaard's experience indicates that projections using standard ITE parking rates tend to overestimate demand for downtown areas like Downtown Binghamton. Mixed-use areas offer the opportunity to share parking supply between various uses. Typically, in mixed-use developments, customers and visitors can visit multiple destinations, though only park once. Moreover, throughout the day, different uses have different peak demands: for example, an office may have a high demand until 5pm, and a restaurant open for dinner may have a high demand only after 5pm. This reduces the total number of spaces required by the same land-uses in stand-alone developments (Figure 4).

[3] Institute of Transportation Engineers, Parking Generation 4th Edition, 2010, page 2

Figure 4 Example: Real Parking Demand vs. Traditional Expected Parking Demand



To model a park-once environment like Downtown Binghamton, Nelson\Nygaard used an adapted parking model using inputs from the Urban Land Institute's (ULI) Shared Parking Manual (2nd Edition, 2005) plus applied Downtown Binghamton context-specific factors, such as residential, commercial and industrial vacancy rate. Besides demand by time of day as outlined in the ULI manual, the ITE parking model is using additional factors tailored further to best reflect the Downtown Binghamton environment:

Time of Day: Time of day adjustment factors provide a more accurate depiction of different land uses' parking demand profile throughout the course of a day. For example, residential land uses generate greater demand during the early morning and evening peaks when residents are at home, and traditional office buildings generate greater parking demand during the morning and into the late afternoon periods when people are at work. These adjustments were tailored for each type of land use using of ULI's Shared Parking time of day percentages. These factors help to produce staggered peaks for different land uses and create a more accurate depiction of how parking supply is actually used throughout the course of a day.

Internal Capture: Unlike traditional stand-alone shopping centers, Downtown Binghamton's mixed-use and walkable environment encourages and provides opportunities for customer, visitors, and employees to visit multiple destinations using one parking space, rather than having to drive and park multiple times during a visit. For example, a downtown sandwich shop generally does not generate any additional car trips, or need many (if any) dedicated parking spaces, most customer trips are generated on foot by nearby employees. This type of behavior is classified as "internal capture".

Internal capture reductions were applied to activity areas based on results of the land use mix, as well as observations of the existing pedestrian, bicycle, and transit environment. The model includes a conservative percent reduction to account for the mix of development patterns for various activity areas throughout Downtown.

Transportation Demand Management: Another parking demand reduction factor included in the analysis is an adjustment for transportation demand management (TDM). These types of programs work collectively to change how, when, where, and why people travel and provide people the options to reduce reliance on the single-occupant vehicle. TDM measures include a range of cycling, walking, transit, and carpooling incentives that can range from simple infrastructure such as bicycle parking, bus shelters, and sidewalks. For Downtown Binghamton, this factor is kept as low as 5 to 10% given the presence of TDM programs downtown.

Observed Parking Demand

In the fall of 2015, a parking utilization survey of all parking assets for the entire Downtown Binghamton study area was conducted to accurately capture the downtown's parking demand throughout the course of a weekday and weekend day. The team collected as thorough of a data set as possible. The data is used in this analysis to compare the expected parking demand based on the adapted model to the observed parking utilization.

However, given the large scale and scope of the parking survey, construction impacts, and other factors, there were some barriers to collecting a 100% sample of data. The observed demand included in this section is scaled to represent a 100% sample. A full analysis of the parking demand data is included in Technical Appendix A.

Similarly, as outlined in Technical Appendix A, the models in this analysis assume that no more than 90% of the parking supply should be full. This creates a "10% reserve", which can be used for overflow during events, overlap during peak times, and additional operational reserve. Thus, the charts in this section include an "existing parking supply" but also include "parking reserve supply", which is 90% of the existing parking supply.

Future Land Use

Expected future development projects were added to the existing land use models to understand the impact of new development within each sub-area. Although the details of most expected development projects are not finalized, the team used estimates from the City's Planning Department to estimate the expected building programs, including new parking supply. The modeling efforts for the future developments account for loss of existing parking and replacement of buildings where necessary, and then adds the new square footage and parking supply. Assumptions and land uses for expected future development include are documented in Figure 5. The future development locations are shown in Figure 6.

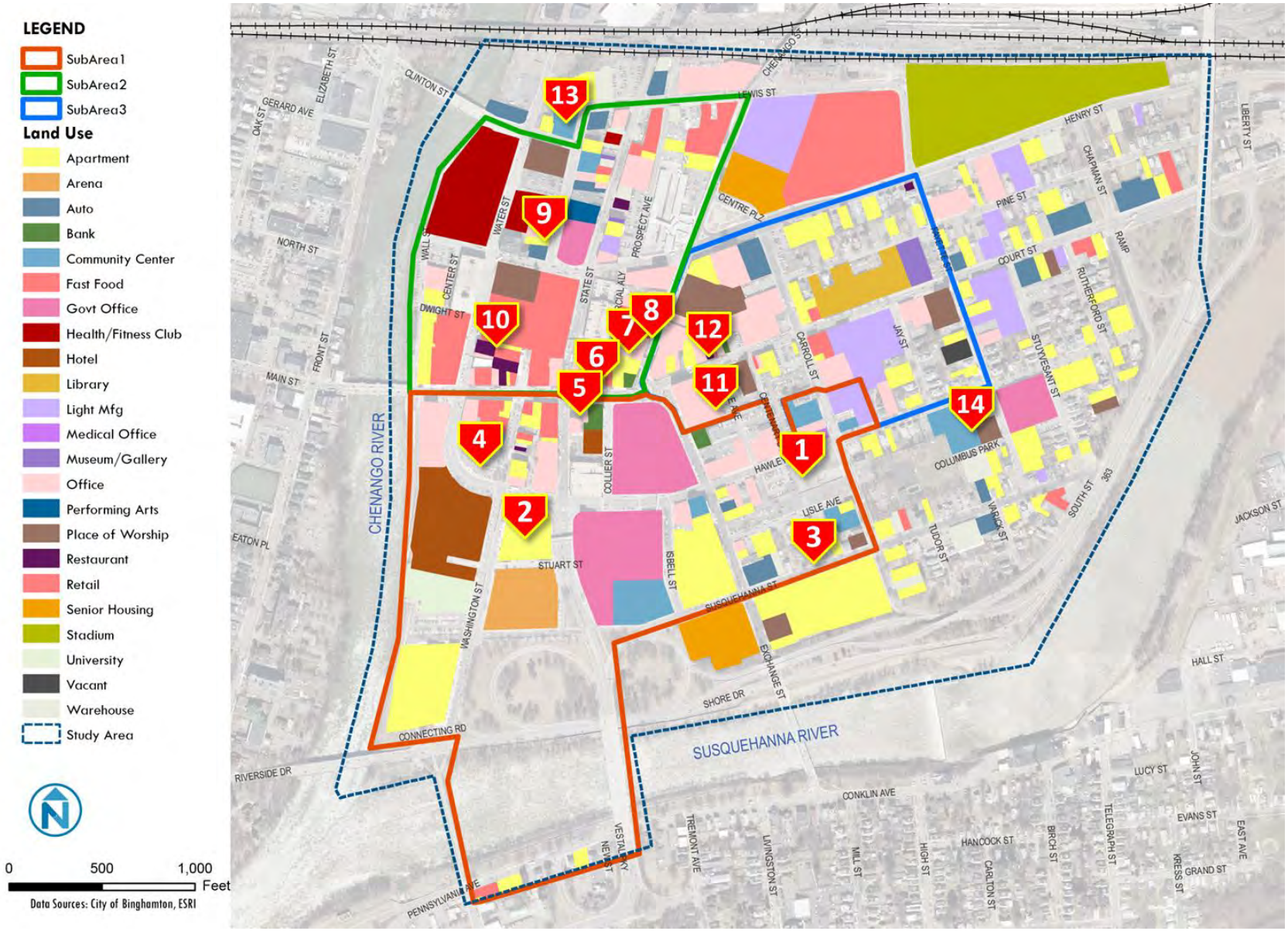
Figure 5 Expected Future Development in Downtown Binghamton

Sub-Area	ID	Address	Land Use	Units	GFA (SF)	Proposed Parking Spaces	Existing Parking Spaces	Net Parking Gain
1	1	120 Hawley Street	Mixed-Use: Light-industrial; Commercial (Offices)	N/A	37,000	131	141	-10
1	2	20 Hawley Street	Mixed-use: Multi-Unit Residential, Commercial	40	2,561 (Commercial)	**	179	
1	3	103 Susquehanna Street	Multi-unit residential	5	5,673	20	30	-10
1	4	7 Hawley Street	Mixed-Use: Retail, residential	30	8,000~13,000 (Retail)	~350	93	~257
1	5	70-72 Court Street	Mixed-Use Residential	20				
2	6	73 Court Street	Mixed-Use: Multi-unit residential, Commercial (Tavern)	12	3,720 (Commercial)	0*	0	
2	7	19 Chenango Street	Multi-Unit residential	93	145,910	0*	0	
2	8	21 Chenango Street	Mixed-use: Multi-unit residential, Commercial	16	7,028 (Commercial)	0*	0	
2	9	211 Washington Street	Commercial (Full-service restaurant)	N/A	1,904	2	0	
2	10	1 Hawley Street	Ellis Bros. (furniture retailer) expansion	N/A	32,352	0	6	
3	11	78 Exchange Street	Broome Culinary School	NA	15,500 (convert to 6 campus population)	0	0	
3	12	123 Court St	Mixed-Use: Multi-unit residential; Commercial (Office)	9	7,200 (Office)	0*	0	
NA	13	257 Washington Street	Multi-Unit Residential	20	21,877	25	6	19
NA	14	160 Hawley Street	Multi-Unit residential (Rooming House)	1	3,219	28	0	28

*Within 800' of a municipal parking garage

**Applicant has proposed the provision of 93 parking spaces at off-site private facility. Will require the granting of an Area Variance.

Figure 6 Expected Future Development Location



EXISTING AND FUTURE LAND USE & PARKING ANALYSIS

This section uses a model to understand the ratio of land use and parking supply and demand in the three activity sub-areas. The model determines the aggregate level of parking needed assuming that spaces are shared between land uses and people (customers, employees, visitors) visiting multiple destinations. The combined results of these analyses are then compared to the actual observed parking demand. The assumptions used in the existing land use analysis will also be applied to project future land use development and parking demand.

SUB-AREA 1

KEY FINDINGS: SUB-AREA 1

- About 3oo parking spaces remain unused throughout a typical weekday when there are no events in the Arena, with much more availability in the evening.
- Event parking significantly impacts Sub-area 1's demand, especially during daytime events.
- With expected future development, model indicates that there is enough overall parking in sub area one to satisfy the projected parking demand when there are no major events. We note that this includes all spaces, not just public ones.

Existing Land Use

Sub-area one has a variety of land uses, with approximately 1 million square feet of commercial retail and office space, approximately 300 residential units, a 4,700-seat Arena, a hotel of 250 rooms and a university campus. Land uses are grouped as accurately as possible into categories created by the Institute of Transportation Engineers Parking Generation 4th Edition (2010). Figure 7 shows the breakdown of land use by category in sub-area one; the square feet and units are adjusted for existing vacancies.

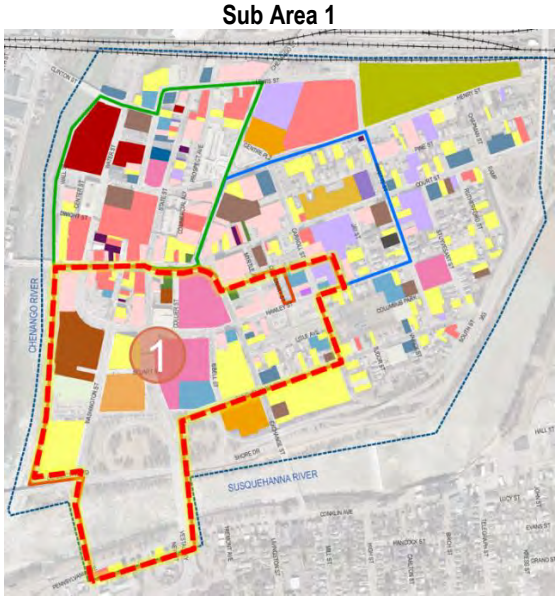
Figure 7 Sub Area 1 Existing Land Use and Parking Supply

Land Use	GFA/Units*
Apartment	703 Units
Arena	4,679 Seats
Auto	6,307 SF
Bank	39,586 SF
Community Center	152,591 SF
Government Office	573,515 SF
Hotel	250 Rooms
Medical Office	8,160 SF
Office	281,351 SF
Place of Worship	6,616 SF
Restaurant	31,456 SF

Parking Supply	# of Spaces**
Off-street Total	2,414
Off-street Public Parking	93
Off-street Private Parking	2,321
On-street Total	382
Total	**2,796**

Land Use	GFA/Units*
Retail	97,846 SF
University	545 pp
Warehouse	5,066 SF
Total	**1,202,494 SF 703 Units 4,679 Arena Seats 250 Hotel Rooms 545 Campus Population**

Sub Area 1



Note:

* Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

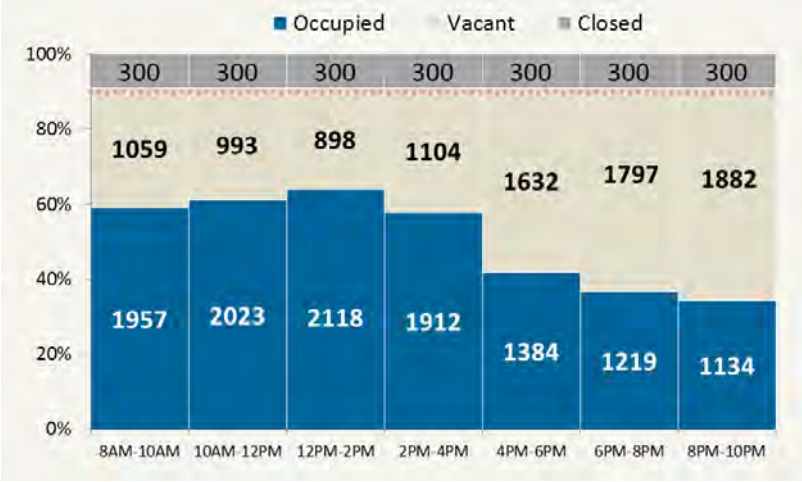
** Collier Street Ramp is not included in the existing and future parking supply for this analysis.

Existing Parking Supply and Demand

In sub-area one, there are 3,016total parking spaces at the time data was collected, as Collier Street Ramp was partially open with 220 spaces. Figure 8 shows the remaining 300 spaces in the Collier Street Ramp as "closed". As Figure 8 shows, at peak of a weekday, 70% of the parking supply is full with 2,118 parked cars. This count was taken on a day with no major events, but on a typical weekday.

However, in the following parking analysis, Collier Street Ramp was eliminated from the total supply due to its closure in November 2015 to better reflect the existing parking demand.

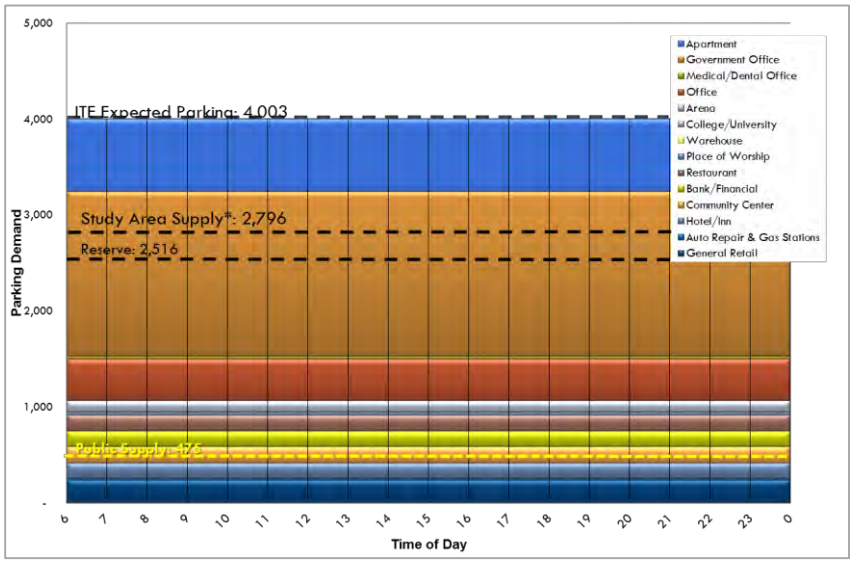
Figure 8 Sub-Area 1 Observed Utilization (Weekday)



Note: Collier Street Ramp only had 220 parking spaces open at the time of the data collection.
The red dotted line shows the 90-percent optimal occupancy of 2,749 parking spaces.

Existing Use Analysis

Figure 9 Sub-Area 1 Existing Expected Demand

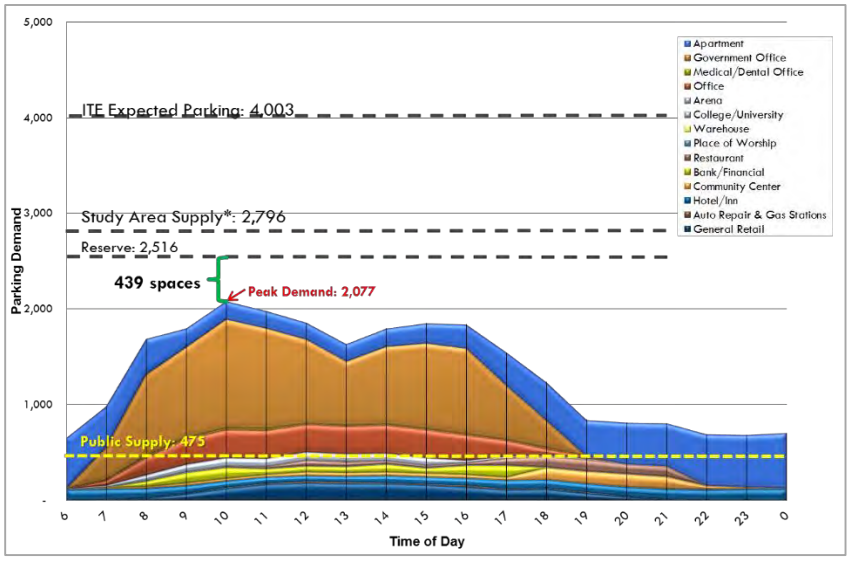


Note: * Collier Street Ramp is not included in the supply

According to national parking generation rates from ITE (Figure 9), the expected level of parking demand, assuming that each land use has its own dedicated supply of parking, is 4,003 spaces. Sub-area one has a total supply of 2,796 spaces (excluding the Collier Street Ramp). The parking supply is approximately 1, 200 spaces below what ITE rates would suggest is needed, assuming each land use had its own separate parking supply.

The land use model for sub-area one estimates a peak demand at 10:00 a.m., with approximately 2,000 spaces (Figure 10). During this timeframe there is a surplus of approximately 440 spaces available with 10% reserved supply, although these spaces may not be accessible to public

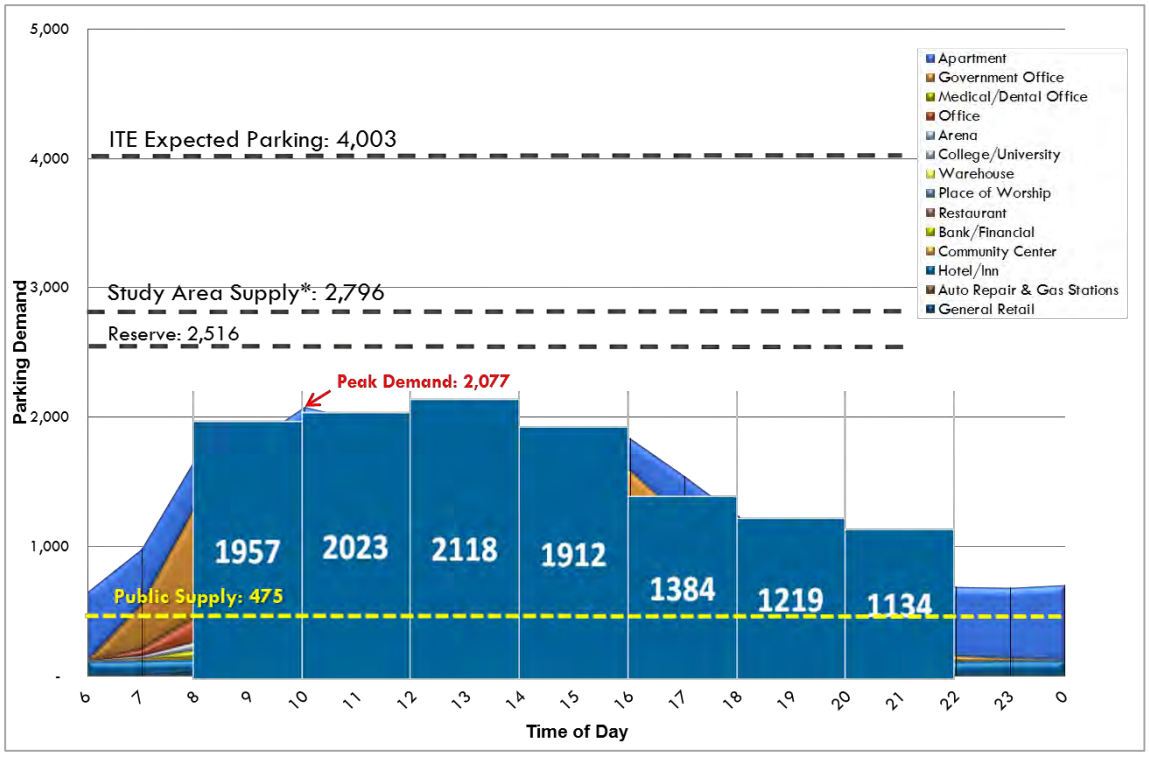
Figure 10 Sub-Area 1 Existing Modeled Demand (Weekday No Events)



Note: * Collier Street Ramp is not included in the supply

When overlaying the observed demand (Figure 11), the peak demand period occurs between 12:00 p.m. and 2:00 p.m. during which time there is a surplus of approximately 400 spaces. The observed and modeled demand show similar trends throughout the course of a day, which indicates that the parking demand estimated by land use is comparable to the area's observed parking demand. However, modeled evening demand is lower than observed, indicating that Binghamton may have more active retail/restaurant businesses than the model estimates; yet there is still ample parking supply in the evenings. There is an opportunity to expand uses with evening demand throughout this activity area.

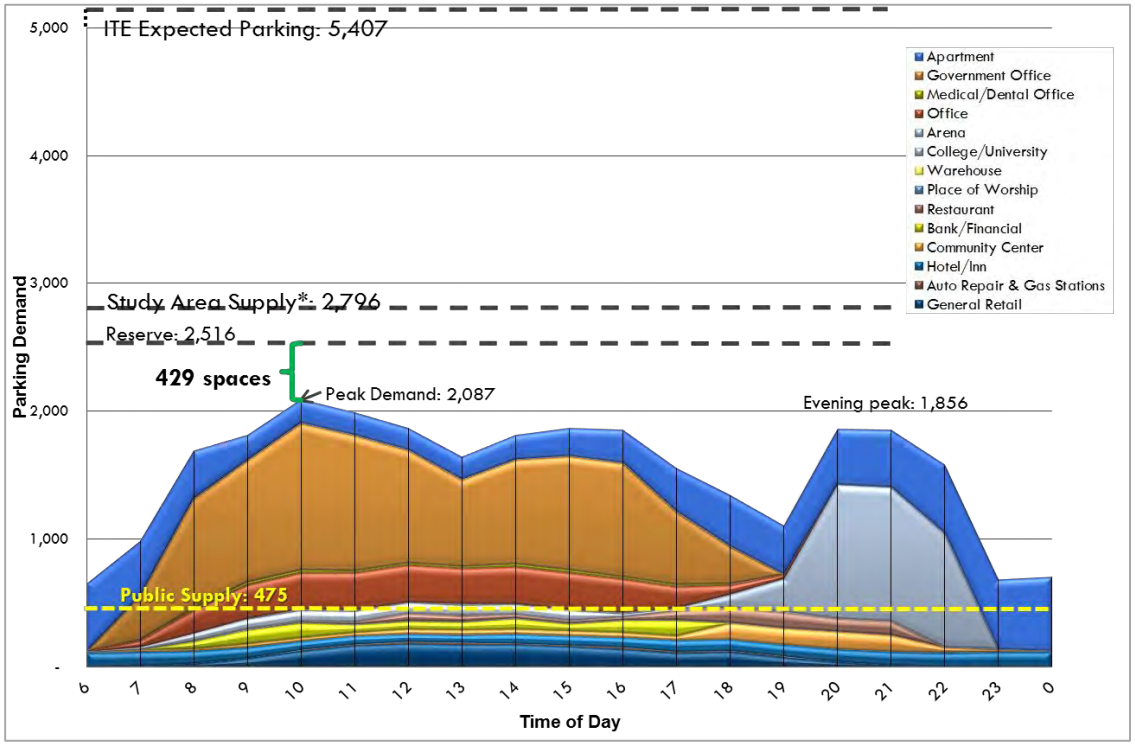
Figure 11 Sub-Area 1 Existing Modeled Demand with Observed Demand (Weekday No Events)



Note: * Collier Street Ramp is not included in the supply

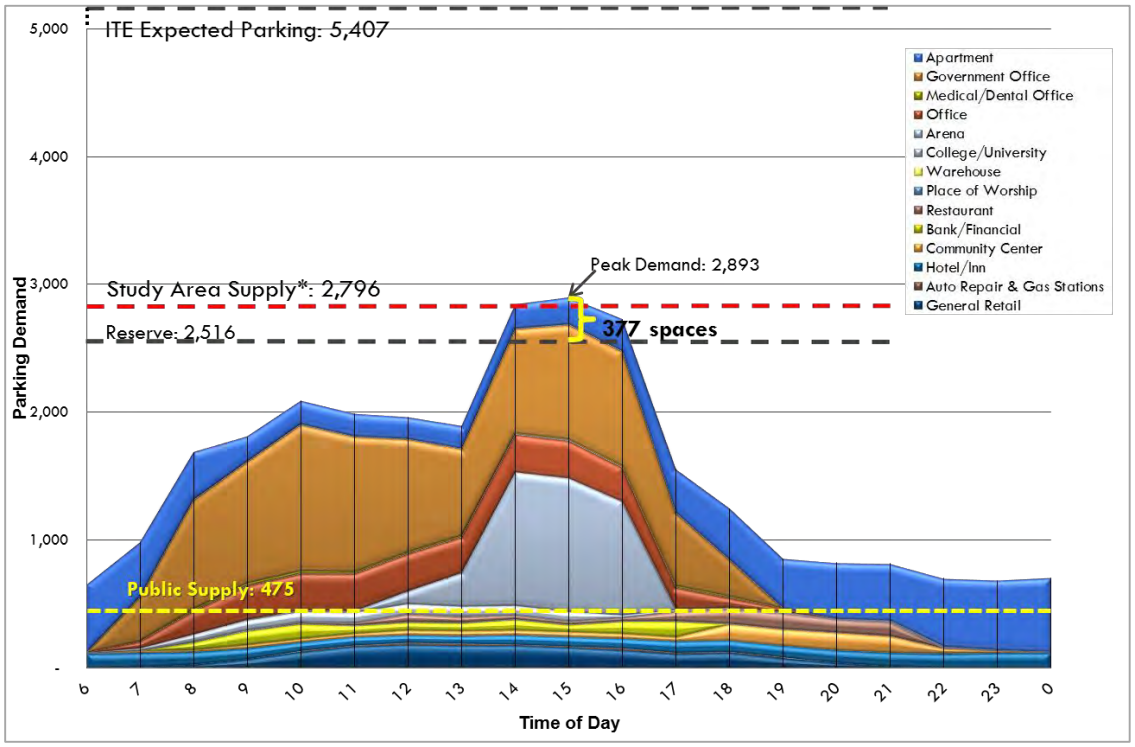
When the Floyd L. Maines Veterans Memorial Arena hosts large events, this substantially adds parking demand in sub-area one. Figure 12 and Figure 13 show the model for sub-area one when evening or daytime events occur. This assumes that 100% of Arena seats are filled. Both models show a substantial increase in the expected demand. Although the evening arena event model shows an increase in evening demand, there is still ample parking supply that exists during the evening peak hour. However, the daytime demand generated by the Arena increases the parking demand beyond the existing sub area's parking supply, indicating a shortage of parking in sub area one during the 2-4pm period. This means that parking demand generated by the Arena would need to use parking in surrounding areas (e.g. Water Street and/or State Street Ramps in sub area two) or in the Collier Street Ramp if it is rebuilt or replaced.

Figure 12 Sub-Area 1 Existing Modeled Demand (Evening Arena Event)



Note: * Collier Street Ramp is not included in the supply.

Figure 13 Sub-Area 1 Existing Modeled Demand (Daytime Arena Event)



Note: * Collier Street Ramp is not included in the supply

Expected Future Development

Sub-area one is expecting five new developments to be constructed in the coming years: 120 Hawley Street mixed-use development (currently under construction), 20 Hawley Street mixed-use development, and 103 Susquehanna Street, 7 Hawley Street, and 70-72 Court Street mixed-use residential development (Figure 5). Figure 14 shows the land use categories and square footage used in the future estimate model. For future parking supply, there will be a net increase of 220 parking spaces.

Figure 14 Sub Area 1 Existing and Future Development Land Uses and Parking Supply

Land Use	Added GFA/Units	Total GFA/Units
Apartment	95 Units	427Units
Arena		4,679 Seats
Auto		6,307 SF
Bank		39,586 SF
Community Center		152,591 SF
Government Office		573,515 SF
Hotel		250 Rooms
Industrial	18,500 SF	18,500 SF
Medical Office		8,160 SF
Office	18,500SF	299,851 SF
Place of Worship		6,616 SF
Restaurant		31,456 SF
Retail	12,561 SF	110,407 SF
University		545 pp
Warehouse		5,066 SF
Total	**49,561SF 95 Units**	**1,252,055 SF 427 Units 4,679 Arena Seats 250 Hotel Rooms 545 Campus Population**

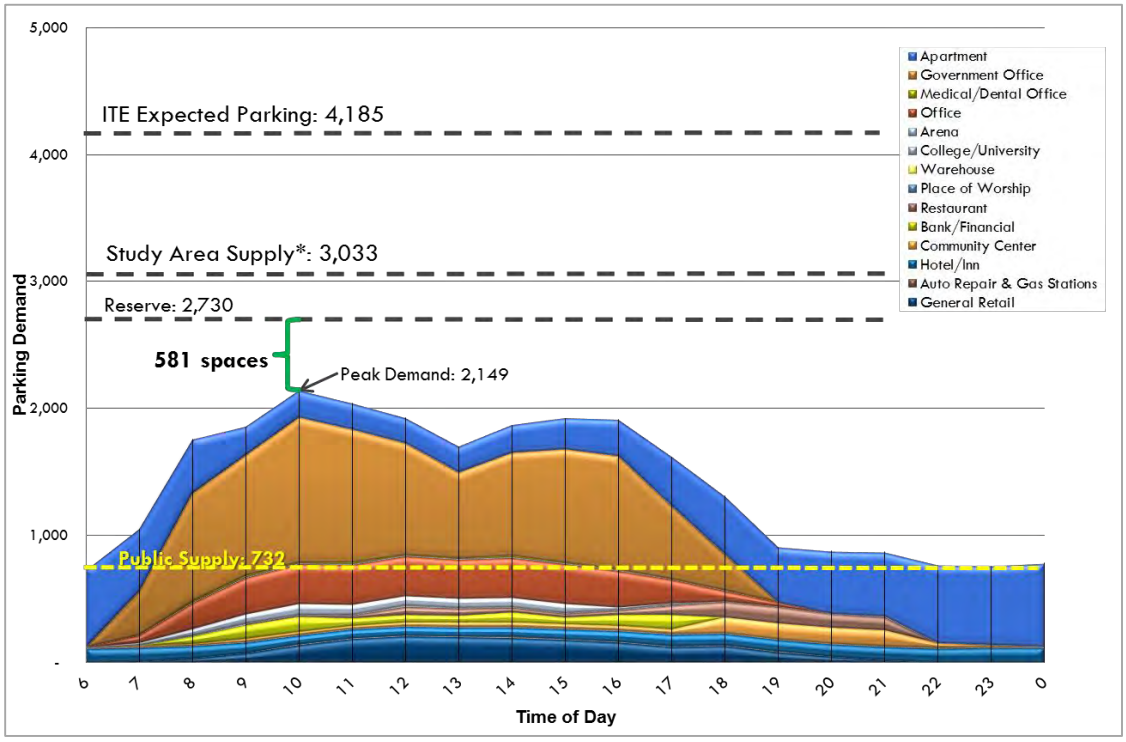
Parking Supply	# of Spaces
Net Off-street Public Parking Gain/Loss*	+257
Net Off-street Private Parking Gain/Loss	-20
Total Gain/Loss	**+237**
Future Off-street Public Parking Total	~350
Future Off-street Private Parking Total	2,301
Future Off-street Total	2,651
On-street Total	382
Total	**3,033**

Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

* The future total and public parking supply include the proposed 7 Hawley garage with ~350 spaces

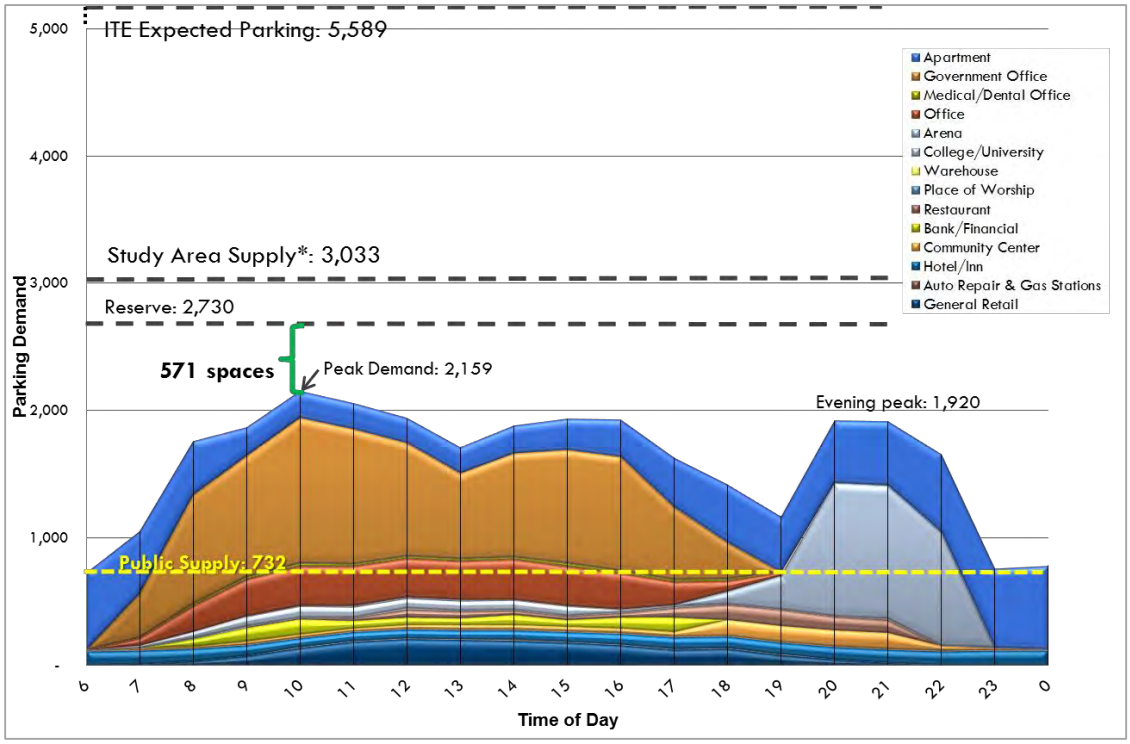
In the future "no-event" analysis, the expected development program shows that the demand would be less than the future parking supply by approximately 5810 spaces during the morning, at 10:00 a.m., although most of the available parking maybe restricted to public access.

Figure 15 Sub-Area 1 Future Modeled Demand (No Events)



* The future total and public parking supply include the proposed 7 Hawley garage with ~350 spaces

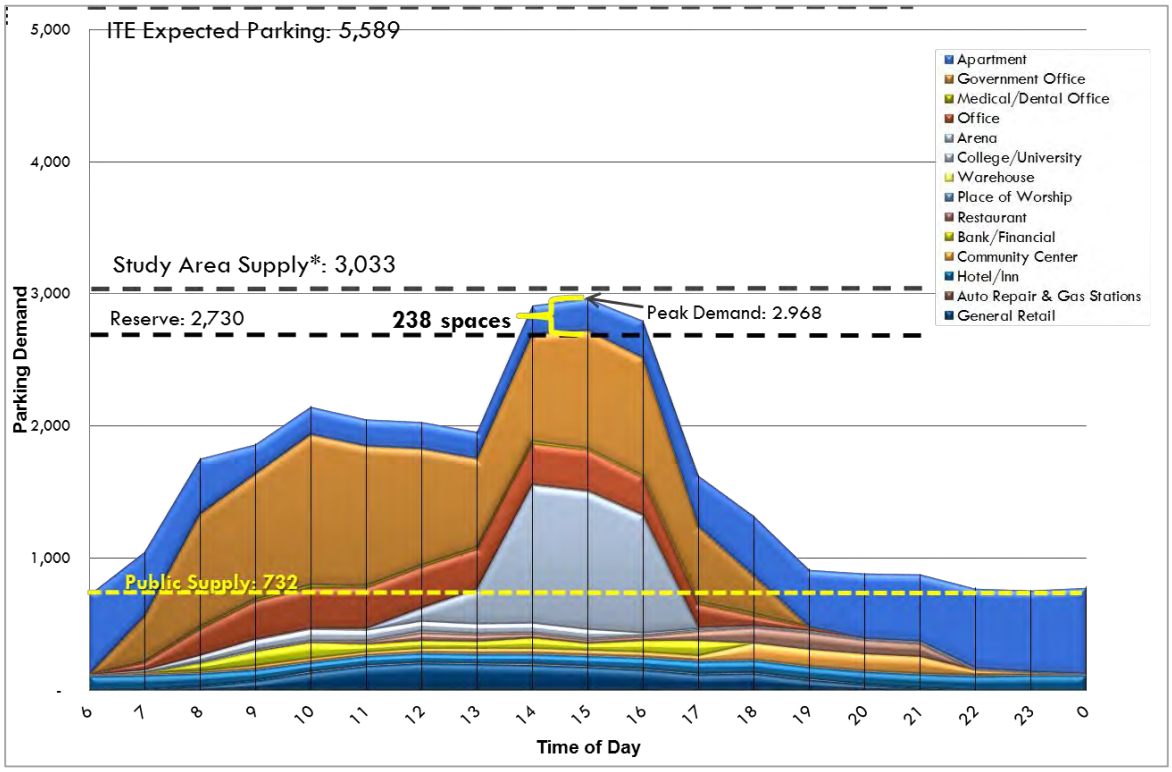
Figure 16 Sub-Area 1 Future Modeled Demand (Evening Arena Event)



* The future total and public parking supply include the proposed 7 Hawley garage with ~350 spaces

Similar to existing modeled demand, when the Floyd L. Maines Veterans Memorial Arena hosts large events, parking demand increases substantially. Figure 16 and Figure 17 show the future modeled demand for sub-area one when evening or daytime events occur. Evening arena event model shows a slight increase during morning peak hour and a substantial increase in evening demand, but there is still ample parking supply that exists throughout the day. Again, similar to existing model, the daytime demand generated by the Arena increases the parking demand beyond the existing sub area's reserve parking supply (but slightly below the total supply), indicating a shortage of parking in sub area one during the 2-4pm period. This means that parking demand generated by the Arena would need to use parking in surrounding areas.

Figure 17 Sub-Area 1 Future Modeled Demand (Daytime Arena Event)



* The future total and public parking supply include the proposed 7 Hawley garage with ~350 spaces

SUB-AREA 2

KEY FINDINGS: SUB-AREA 2

- About 1,200 parking spaces observed unused throughout a typical weekday, more availability in the evening.
- With expected future development, the adapted parking model estimates indicate that there is enough supply to satisfy the projected parking demand.

Existing Land Use

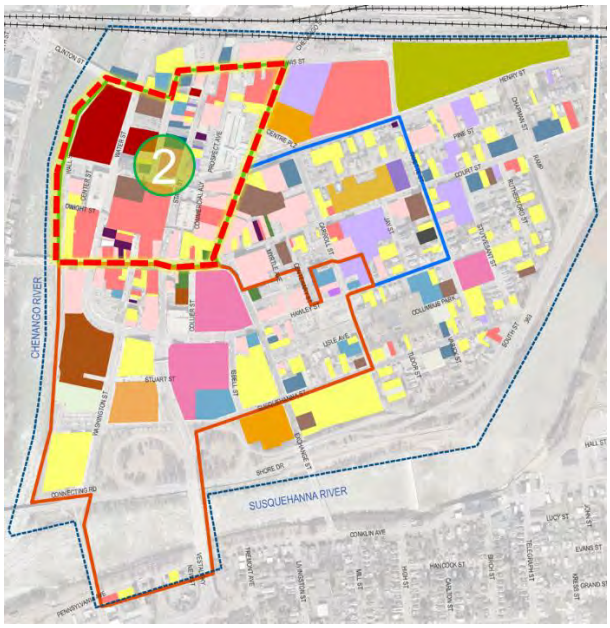
Sub-area two is composed of commercial retail, office, light industrial, church, many restaurants and the Broome County Forum, which composes approximately 1 million square feet in total. The remaining uses within sub-area two are dedicated to residential apartments and a 207-room hotel. Land uses are grouped as accurately as possible into categories created by the *Institute of Transportation Engineers Parking Generation 4th Edition* (2010). Figure 18 shows the breakdown of land use by category in sub-area two; the square feet and units are adjusted for existing vacancies.

Figure 18 Sub Area 2 Existing Land Use and Parking Supply

Land Use	GFA/Units
Apartment	498 Units
Auto	5,994 SF
Bank	4,080 SF
Community Center	4,072 SF
Fast Food	8,526 SF
Government Office	63,930 SF
Health/Fitness Club	10,594 SF
Hotel	207 Rooms
Light Industrial	7,200 SF
Museum/Gallery	5,637 SF
Office	286,834 SF
Performing Arts	22,061 SF
Place of Worship	56,078 SF
Restaurant	102,261 SF
Retail	407,844 SF
Warehouse	70,843 SF
Total	**1,055,954 SF** **498 Units** **207 Hotel Rooms**

Parking Supply	# of Spaces**
Off-street Total	2,497
Off-street Public Parking	1,287
Off-street Private Parking	1,210
On-street Total	223
Total	**2,720**

Sub Area 2



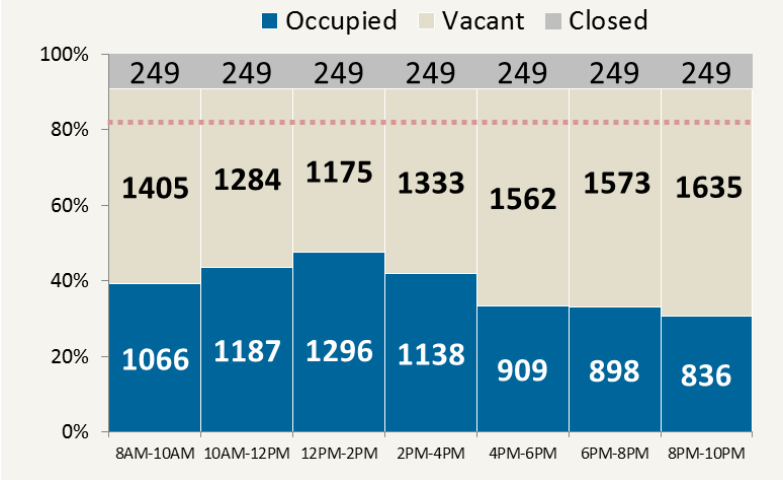
Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

Existing Parking Supply and Demand

In sub-area two, there are 2,471 total parking spaces available by the time of the data collection, when 250 spaces in the Water Street Ramp were closed due to construction and were not included in the utilization chart below. As Figure 19 shows, at peak of a weekday, 52% of the parking supply is full with 1,296 parked cars. This count was taken on a day with no major events, but on a typical weekday.

However, in the following parking analysis, all 672 spaces in the Water Street Ramp were included in the total supply to reflect the actual number of available spaces.

Figure 19 Sub-Area 2 Observed Utilization (Weekday)

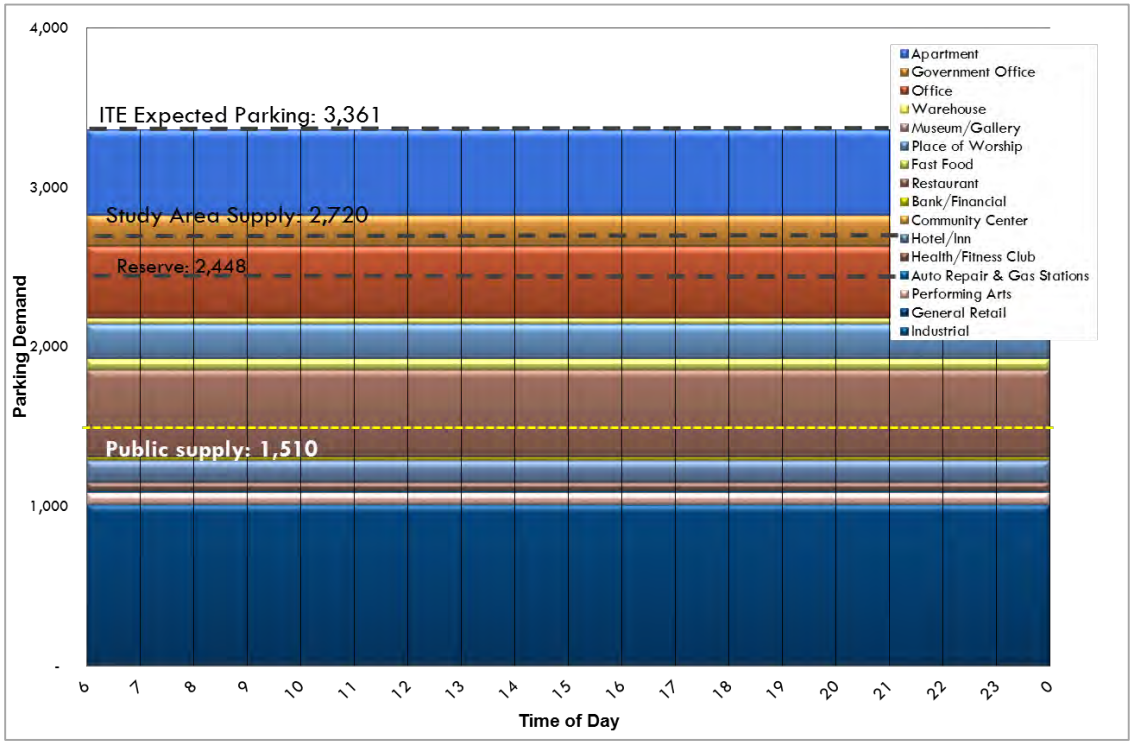


Note: Water Street Ramp only has 423 spaces (out of 672 total spaces) available by the time of the data collection.
The red dotted line shows the 90-percent optimal occupancy of 2,471 parking spaces.

Existing Use Analysis

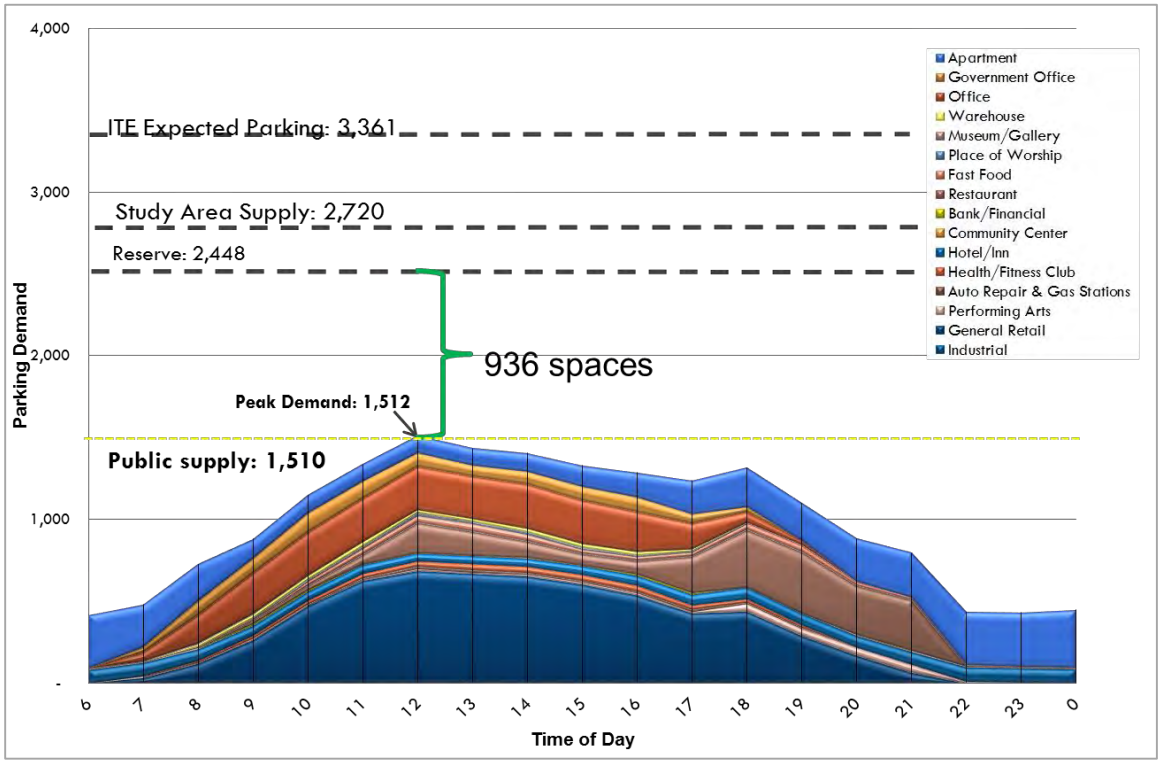
According to national parking generation rates from ITE (Figure 20), the needed number of parking spaces, assuming that each land use has its own dedicated supply of parking, is 3,361 spaces. The sub-area two has a total supply of 2,720 spaces, which is about 640 spaces below what national standards would suggest.

Figure 20 Sub-Area 2 Existing Expected Demand



Note: All of the 672 spaces in the Water Street Ramp is included in the total supply

Figure 21 Sub-Area 2 Existing Modeled Demand (Evening Events at the Forum)

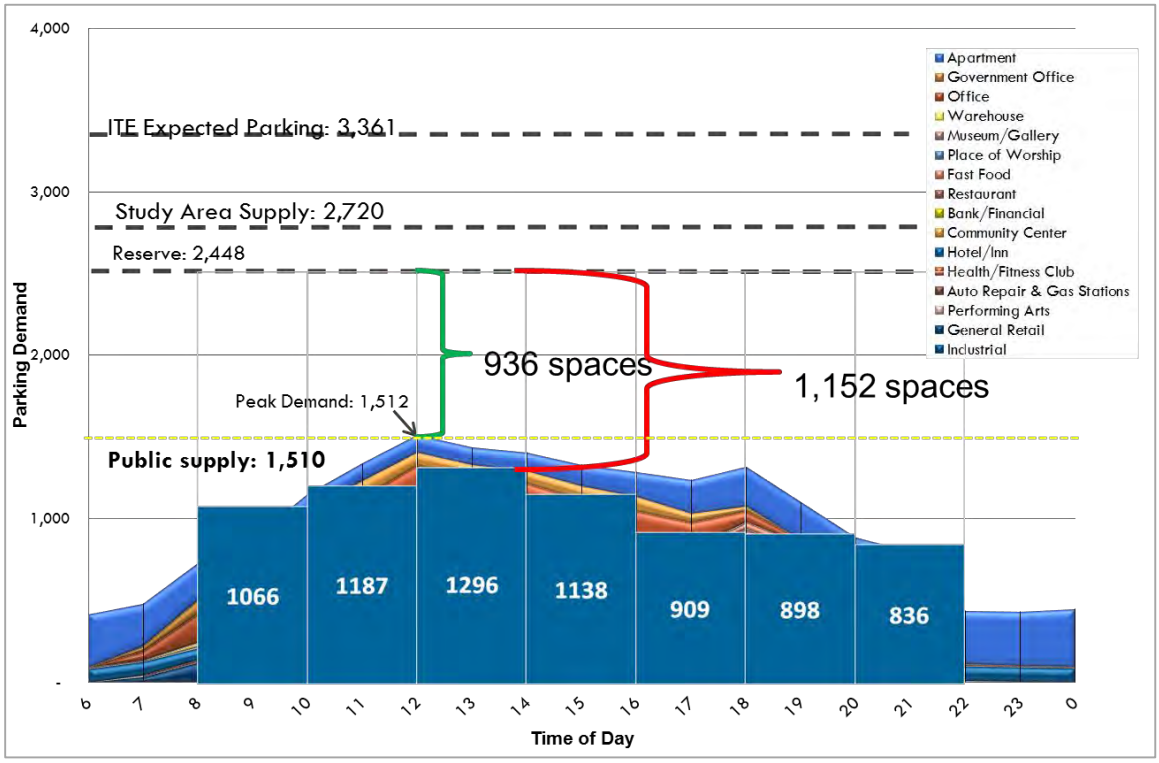


Note: All of the 672 spaces in the Water Street Ramp is included in the total supply

The land use model for the sub-area two estimates a peak demand at 12:00 p.m., with approximately 1,500 spaces (Figure 21). During this timeframe there is a surplus of over 900 spaces available with 10% reserved supply. Although this model counted in the evening event at the Forum, there's still plenty supply available at night.

When overlaying the observed demand (Figure 22), the peak demand period occurs between 12:00 p.m. and 2:00 p.m. during which time there is a surplus of approximately 1,100 spaces. The observed and modeled demand show similar trends throughout the course of a week, which indicates that the parking demand estimated by land use is comparable to the area's observed parking demand. There is an opportunity to expand uses with evening demand throughout this activity area.

Figure 22 Sub-Area 2 Existing Modeled Demand with Observed Demand



Note: All of the 672 spaces in the Water Street Ramp is included in the total supply

Expected Future Development

The sub-area two is expecting four new, substantial developments to be constructed in the coming years: 19 Chenango Street mixed-use residential development, 21 Chenango Street and 73 Court Street mixed-use development and 211 Washington Street restaurant (Figure 5). Figure 23 shows the land use categories and square footage used in the future estimate model. For future parking supply, there is no expected change in the parking supply.

Figure 23 Sub Area 2 Existing and Future Development Land Uses and Parking Supply

Land Use	Added GFA/Units	Total GFA/Units
Apartment	121 Units	619 Units
Auto		5,994 SF
Bank		4,080 SF
Community Center		4,072 SF
Fast Food		8,526 SF
Government Office		63,930SF
Health/Fitness Club		10,594 SF
Hotel		207 Rooms
Light Industrial		7,200 SF

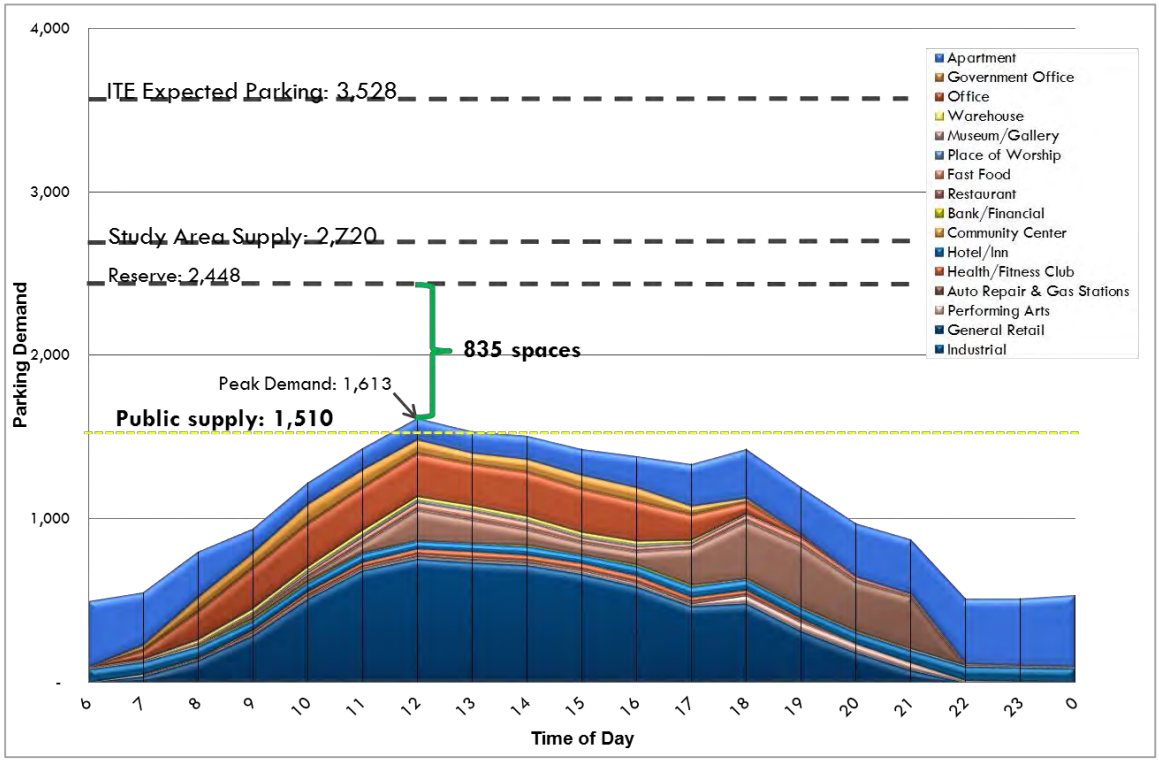
Parking Supply	# of Spaces
Net Gain/Loss	**0**
Off-street Total	2,497
Off-street Public Parking	1,287
Off-street Private Parking	1,210
On-street Total	223
Total	**2,720**

Land Use	Added GFA/Units	Total GFA/Units
Museum/Gallery		5,637 SF
Office		286.834 SF
Performing Arts		22,061 SF
Place of Worship		56,078 SF
Restaurant	1,904 SF	104,165 SF
Retail	43,100SF	450,944 SF
Warehouse		70,843 SF
Total	**45,004 SF 121 Units**	**1,100,958 SF 619 Units 207 Hotel Rooms**

Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

The estimated parking demand for future development scenario happens at 12:00 p.m., with an estimated demand of 1,613 spaces (Figure 24). This shows a surplus of over 800 spaces compared to the 10% reserve supply during this peak period. And almost all parking demand can be absorbed by the public parking supply within the area (1,510 spaces). There is a huge opportunity to promote and accommodate overflow parking demand from other sub-areas, such as the Arena event parking demand.

Figure 24 Sub-Area 2 Future Modeled Demand



SUB-AREA 3

KEY FINDINGS: SUB-AREA 3

- About 700 parking spaces observed unused throughout a typical weekday, more availability in the evening.
- With expected future development, the adapted parking model estimates indicate that there is enough supply to satisfy the projected parking demand.

Existing Land Use

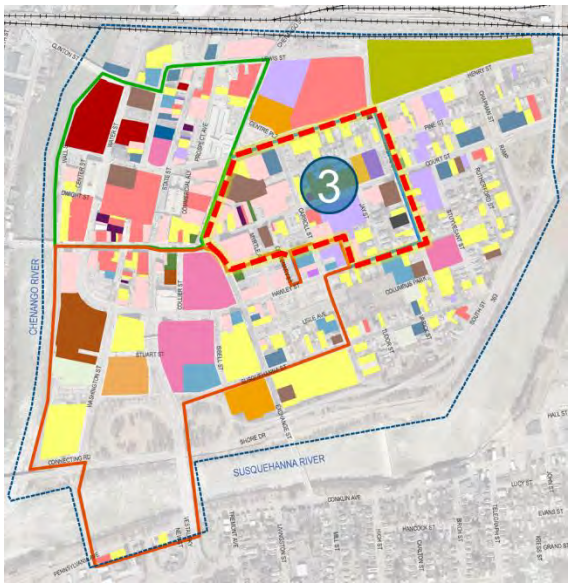
Sub-area three is composed of a variety of land uses with approximately 570,000 square feet commercial, retail, and office spaces as well as a performing art theatre, and over 270 residential apartments. Land uses are grouped as accurately as possible into categories created by the *Institute of Transportation Engineers Parking Generation 4th Edition* (2010). Figure 25 shows the breakdown of land use by category in sub-area one; the square feet and units are adjusted for existing vacancies.

Figure 25 Sub Area 3 Existing Land Use and Parking Supply

Land Use	GFA/Units
Apartment	308 Units
Auto	20,236 SF
Bank	3,451 SF
Library	88,625 SF
Light Industrial	33,532 SF
Museum/Gallery	10,672 SF
Office	424,716 SF
Performing Arts	8,680 SF
Place of Worship	53,563 SF
Restaurant	23,238 SF
Retail	24,063 SF
Total	**690,776 SF** **308 Units**

Parking Supply	# of Spaces**
Off-street Total	1,032
Off-street Public Parking	0
Off-street Private Parking	1,032
On-street Total	203
Total	**1,235**

Sub Area 3

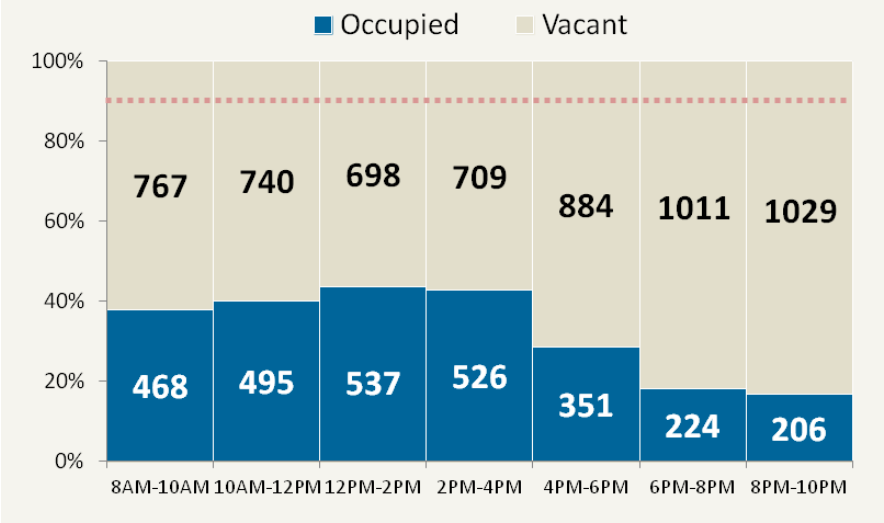


Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

Existing Parking Supply and Demand

In sub-area three, there are 1,235 total parking spaces available by the time of the data collection. As Figure 26 shows, at peak of a weekday, 44% of the parking supply is full with 537 parked cars. This count was taken on a day with no major events, but on a typical weekday.

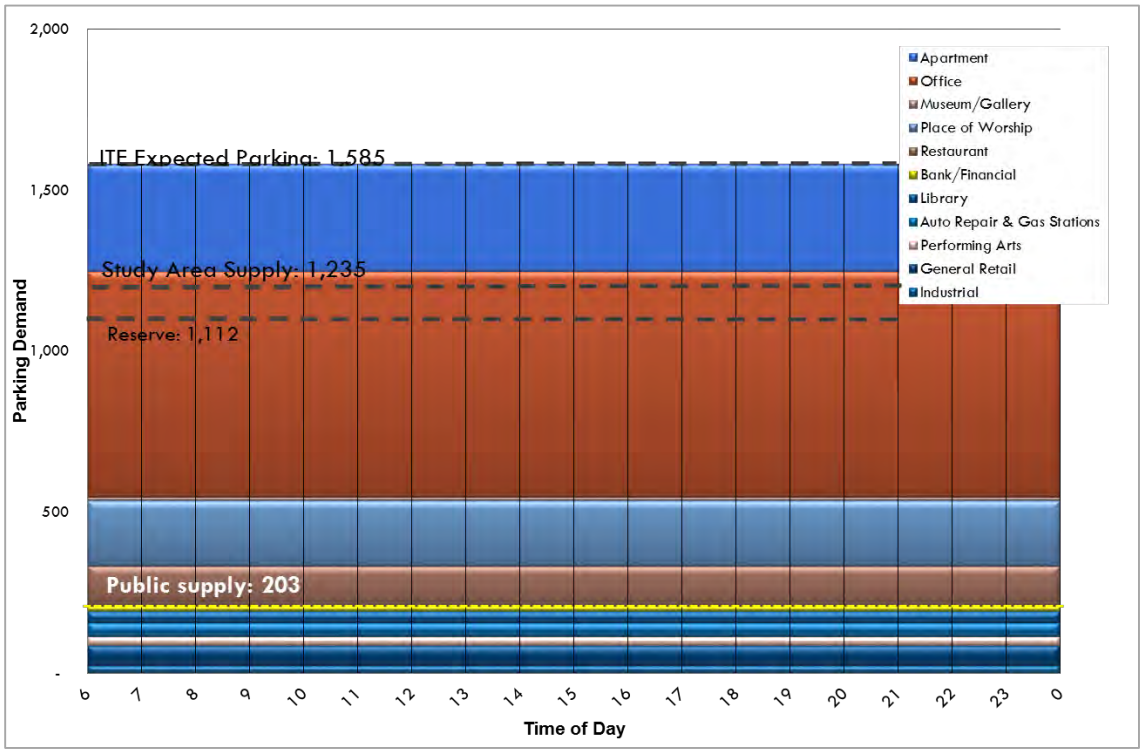
Figure 26 Sub-Area 3 Observed Utilization (Weekday)



Note: The red dotted line shows the 90-percent optimal occupancy of 1,235 parking spaces.

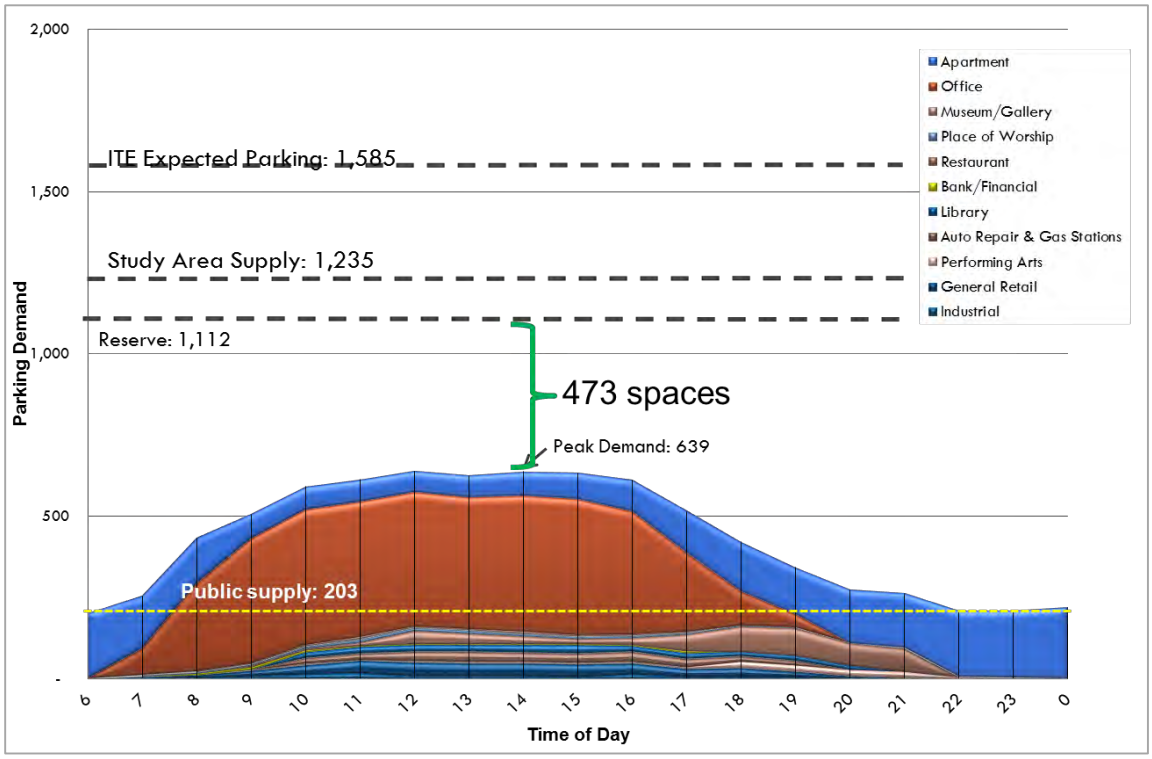
Existing Use Analysis

Figure 27 Sub-Area 3 Existing Expected Demand



According to national parking generation rates from ITE (Figure 27), the needed number of parking spaces, assuming that each land use has its own dedicated supply of parking, is 1,585 spaces. The sub-area three has a total supply of 1,235 spaces, which is about 350 spaces below what national standards would suggest.

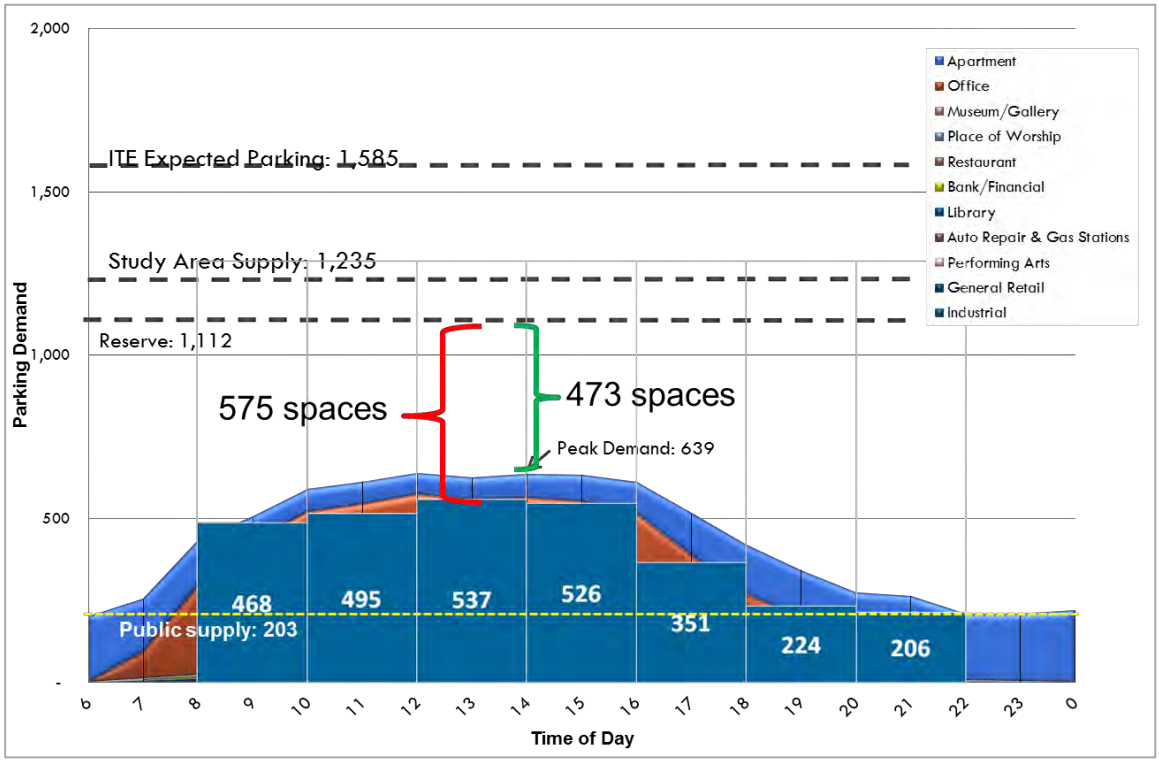
Figure 28 Sub-Area 3 Existing Modeled Demand



The land use model for the sub-area two estimates a peak demand at 2:00 p.m., with approximately 640 spaces (Figure 28). During this timeframe there is a surplus of over 470 spaces available with 10% reserved supply.

When overlaying the observed demand (Figure 29), the peak demand period occurs between 12:00 p.m. and 2:00 p.m. during which time there is a surplus of approximately 570 spaces. The observed and modeled demand show similar trends throughout the course of a week, which indicates that the model accurately predicts the area's parking demand. Within the activity area, peak demand occurs during the mid-day period, however there is ample availability during the evening.

Figure 29 Sub-Area 3 Existing Modeled Demand with Observed Demand



Expected Future Development

The sub-area three is expecting only one project on 123 Court Street, a mixed-use development with no parking supply change (Figure 5). Figure 30 shows the land use categories and square footage used in the future estimate model. There is no expected parking supply change.

Figure 30 Sub Area 3 Existing and Future Development Land Uses and Parking Supply

Land Use	Added GFA/Units	Total GFA/Units
Apartment	9 Units	317 Units
Auto		20,236 SF
Bank		3,451 SF
Library		88,625 SF
Light Industrial		33,532 SF
Museum/Gallery		10,672 SF
Office	7,200 SF	431,916 SF
Performing Arts		8,680 SF
Place of Worship		53,563 SF
Restaurant		22,541 SF
Retail		23,341 SF

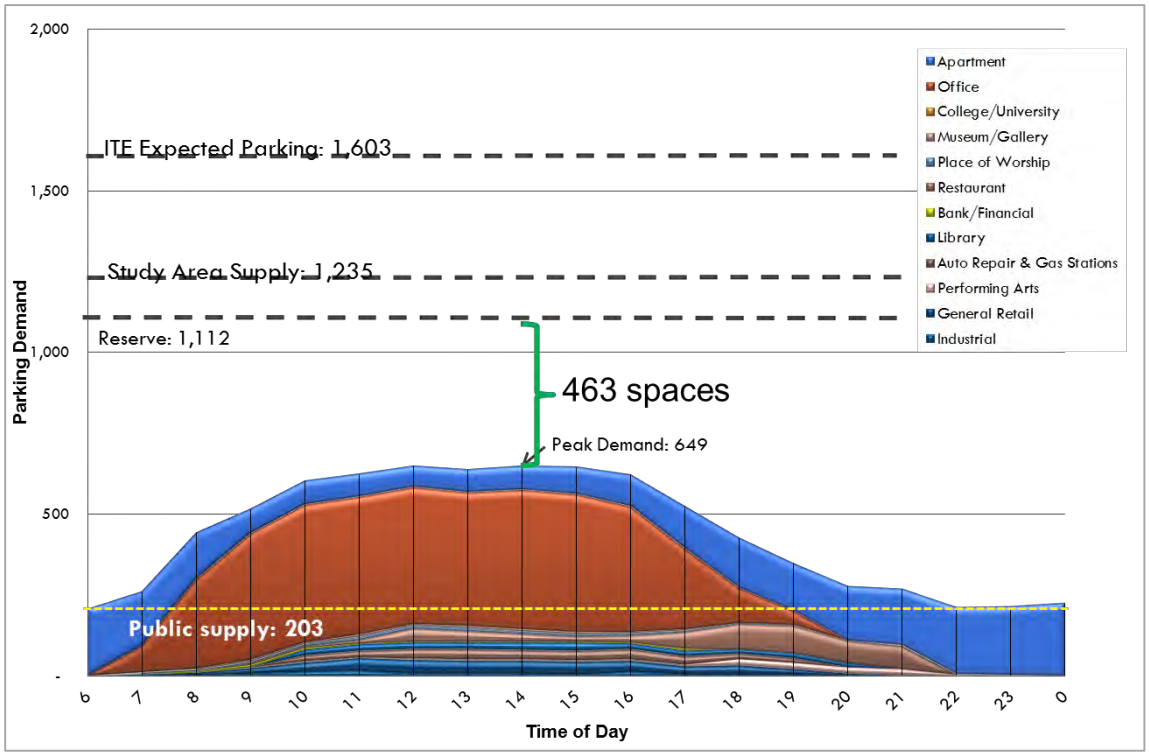
Parking Supply	# of Spaces
Net Gain/Loss	0
Off-street Total	1,032
Off-street Public Parking	0
Off-street Private Parking	1,032
On-street Total	203
Total	**1,235**

Land Use	Added GFA/Units	Total GFA/Units
College/School	6 pp	6 pp
Total	**7,200 SF 9 Units 6 Campus Population**	**697,976 SF 317 Units 6 Campus Population**

Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

The estimated parking demand for future development scenario happens at 2:00 p.m., with an estimated demand of 650 spaces (Figure 31). This shows a surplus of over 460 spaces compared to the 10% reserve supply during this peak period. Within this area, there is a huge opportunity to add more mixed-use development, and accommodate more evening activities, such as game event parking at the Stadium given the area's proximity to the Stadium ballpark.

Figure 31 Sub-Area 3 Future Modeled Demand



Appendix E Parking Analysis – 7 Hawley Street Area

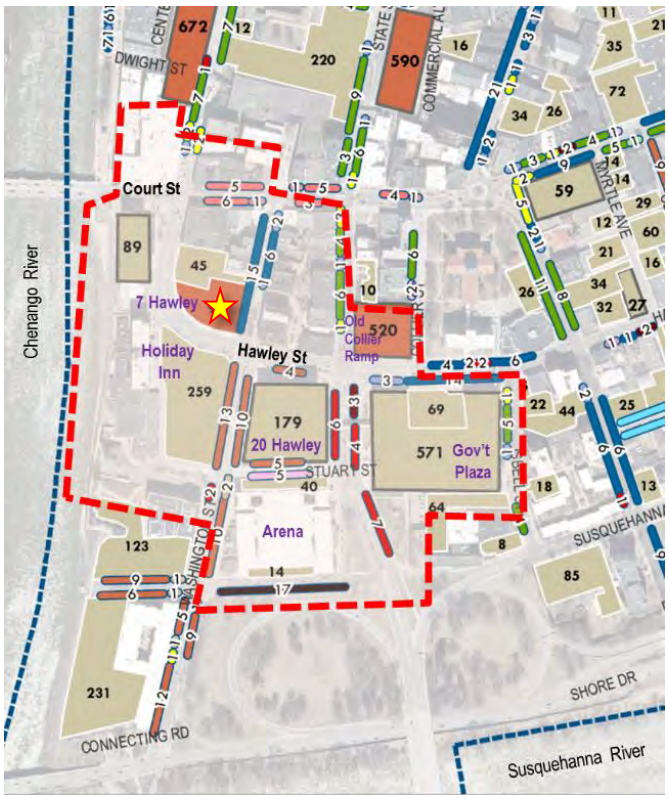
Nelson\Nygaard (NN) is currently conducting a comprehensive downtown parking study for the City of Binghamton. This effort included a detailed parking inventory as well as parking utilization counts of public and private parking in the downtown study area. As an additional effort, the City of Binghamton has requested an assessment of current and potential parking in the area around the proposed 7 Hawley Development.

Recognizing that several changes took place in the Downtown Parking Area after NN conducted the on-street parking review, including the emergency closure of the Collier Street Ramp and several new large scale housing projects, this assessment reviews current parking supply and utilization, describes the changing nature of the area, compares expected parking demand based on adjacent land use, and looks at additional factors driving parking demand.

Study Area

For purposes of this analysis, an immediate study area within a 500 foot catchment area from the 7 Hawley property boundary was established. Shown in Figure 1, this immediately adjacent area includes major downtown parking generators, such as the Boscov's Department Store, the Floyd L. Maines Veterans Memorial Arena, and Government Plaza. The land uses within this boundary represent a narrow adjacent "catchment area", reflecting immediate attraction points from which users are most likely to park at 7 Hawley Street. However, we expect that 7 Hawley may attract parkers from other additional destinations and vice versa.

Figure 1 Seven Hawley Study Area & Parking Supply



Site

The 7 Hawley Street site is a publicly owned (by the Binghamton Urban Renewal Agency) surface parking lot with 93 parking spaces. Today, the lot is managed by LAZ Parking. Transient parkers or monthly permit holders can park all day seven days a week at a flat daily rate of $5.00 or a monthly fee of $57.00. Event parking is also available at the price of $5.00. The lot is not gate controlled and uses a pay-by-space mechanism on a first-come, first serve basis.

Existing Conditions Summary

- In the defined study area, there are 1,319 total parking spaces, including public and private parking, and on and off-street parking.
  - The vast majority of parking spaces (80% or 1,054 spaces) are privately-owned, located in off-street facilities, and use-restricted – meaning they are not available to the general public.
  - Only 93 spaces (7%) are publicly-owned and off-street (7 Hawley Street Lot).
  - The remaining 172 parking spaces (13%) are located on-street as shown in Figure 1, and we note the following:
    - Hawley Street from Court to Washington Street has no public, curbside parking allowed.
    - Almost a quarter (22.6%) of the curbside spaces are use-restricted (loading, handicap or special use designated).
    - The remaining 133 spaces include the following regulations: 30-min, 1-hour, 2-hour and 4-hour metered parking; 30-min free parking; and unregulated spaces.
- Public parking is limited and in high demand.
  - Within the defined study area, there are only 265 spaces available for general public use (93 off-street public parking and 172 on-street parking), most at a cost, and with additional time restrictions.
  - The 7 Hawley Street Lot is the only public parking lot in this area.
  - By the time of the data collection (September 2015), of all public spaces in the study area (on-street and off-street, including 220 spaces open at Collier Street Ramp at the time), 96% were occupied at peak between 12:00 p.m. and 2:00 p.m. (Figure 4).
  - Significant demand for parking in this area exists throughout the day, in the evenings, and overnight on both weekdays and weekends.
  - We further note the following:
    - Parking utilization counts were taken on Thursday September 24, 2015 from 8:00 a.m. to 10:00 p.m. and on Saturday September 26, 2015 from 10:00 a.m. to 10:00 p.m.
    - The Collier Street Ramp, a nearby public parking ramp, was partially open with 220 spaces during parking counts. It has since closed due to structural issues and has not been replaced.
    - Data collection dates were on days when there were no major Arena or downtown events.
    - During event dates, parking demand increases significantly.
- The 7 Hawley Street Lot is a highly visible, centrally located site.
  - Through the public process for the parking study, the 7 Hawley Street Lot and its immediate vicinity were frequently identified as among the most desirable parking spaces in Downtown Binghamton.
  - The 7 Hawley Street Lot is highly visible, popular and (anecdotally) attracts parkers with destinations well beyond the 500 feet radius.
  - While a complete breakdown of parking in around 7 Hawley by user group is unavailable, parkers are varied and include downtown employees, retail and restaurant customers, students, visitors to the Floyd L. Maines Veterans Memorial Arena, guests of a nearby hotel, and more.
  - The 7 Hawley Site is on one of the main entries into downtown Binghamton, with easy vehicular access in all directions, and is less than a quarter mile to Riverside Drive and the

Court Street Bridge. It can be the first parking facility that drivers pass when entering Binghamton.

- The site is within a short walk of many of local businesses and prominent destinations. The Technical Appendix documents land use in the immediately adjacent study area, which includes the following:
  - Almost 500,000 sq.ft of office space
  - Over 200,000 sq.ft. of restaurant/retail space
  - The 4,679 seat Floyd L. Maines Arena
  - 113 Apartments
  - A 250 room hotel

Additional Growth & Change

- **The City's** Collier Street Ramp closed in November 2015.
  - Prior to November 2015, the public Collier Street Ramp (520 total parking spaces) was the most popular, profitable, and heavily used parking ramp in the downtown, given its central location and proximity to major downtown destinations.
  - The Collier Street Ramp is one block east of the 7 Hawley Street site, and drew from many of the same land uses identified in the Study Area.
  - During parking utilization counts in September 2015, 220 spaces were open in the Collier Street Ramp, with the remaining ones closed for safety reasons.
  - The Collier Street Ramp was 100% full from 8:00 a.m. to 2:00 p.m. and was 56 to 97% occupied the rest of the afternoon and evening.
  - Even when open, Collier Street was oversubscribed, with many seeking but unable to obtain monthly permits, owing to the proximity to many of the largest parking generators in downtown.
- Downtown is growing and attracting new businesses and development projects.
  - Overall, downtown has experienced growth over the past several years and this trend is expected to continue with the High Technology Incubator and nearly 13 other downtown projects proposed or underway.
  - Within 500 feet of 7 Hawley Street, new development is proposed across the street at 20 Hawley Street (project is a proposed expansion of a residential and commercial site), and there is significant interest to develop the site of the Collier Street Ramp.
  - Downtown development projects are expected to increase activity and parking demand in the area, putting additional pressure on existing parking facilities.
- The 7 Hawley Street proposed project is anticipated to provide about 350 parking spaces on site in a parking structure, resulting in a "net gain" of 257 parking spaces.
  - The proposed development includes 8,000-13,000 square feet of commercial space and 30 residential units.
  - The 7 Hawley Street proposed development is expected to positively impact the area due to its prominent location and mix of land uses.
  - The proposed public parking supply at 7 Hawley Street is critical to support the existing and expected future development within 500 feet of the site.

- The proposed 7 Hawley parking facility will be perceived as a replacement of the larger Collier Street Ramp and is expected to be a popular parking facility in downtown.

Additional Factors

- City staff have consistently reported that the demand for dedicated parking, especially with Collier Street closed, is the most significant barrier for businesses to locate or expand in downtown.
- Collier Street ramp is irreparable, and the other public downtown facilities, State Street and Water Street are older and may not be as viable in the longer term. In fact, part of Water Street was closed for repairs during the course of the study.
- Even though Water Street and State Street have absorbed some of the demand from Collier Street's closure, customers report that these facilities are unattractive and less desirable due to their condition as well as their location.
- The 7 Hawley Site is located in an area of growing student housing and activity. Anecdotal evidence (and the observed higher evening demand compared to model results) indicates that parking demand from students is different than typical downtown parking patterns, meaning that vehicles stay parked for longer times, especially nights.

Model Results Summary

Existing Land Use and Parking Model

- Based on the study area's existing land use and parking model and following the closure of the Collier Street Ramp, there is an overall parking shortage of nearly 150 spaces compared to the study area's reserve supply (90% of total supply) on a typical day (no events) (see Figure 7). Note that this includes public (265 spaces) and private parking.
- When the Arena holds events during the day or in the evening, the expected parking demand is 400 to 1,200 spaces greater than the number of spaces that exist in this area (see Figure 9 and Figure 10).
- Currently, there are only 265 public parking spaces in the study area, including 172 on-street and 93 off-street at the 7 Hawley Site.
- The shared parking model underrepresents actual parking demand during the evening compared to observed parking use.

Expected Future Land Use and Parking Model

- On a typical day (no Arena events), the model estimates that the future overall parking supply will be effectively 97% full, including the expected future development, including the 7 Hawley Street parking facility.
- Similar to the existing scenario, when there is an event at the Arena during the day or evening, the modeled parking demand exceeds the total supply. The excess demand would need to be absorbed in surrounding areas.
- There will be 522 public parking spaces in the study area, including 172 on-street and 350 in the proposed 7 Hawley structure.

Conclusions

- Based on today's land uses and parking supply, within 500 feet of 7 Hawley Street site, the shared parking model shows demand for parking exceeds the supply.

- There is little public parking supply in this high demand area, and the existing 265 public spaces are heavily used.
- If built, the parking structure at 7 Hawley Street would be the only off-street public parking supply in the immediate area.
- Parking supply at 7 Hawley Street would easily be the most attractive parking for existing uses, such as downtown offices, retail stores and restaurants, student apartments, the Floyd L. Maines Veterans Memorial Arena, nearby hotels and for additional area growth.
- It is extremely likely that most parkers that were attracted to the now closed Collier Street Ramp (520 total spaces) would be attracted to the proposed 7 Hawley facility (350 spaces).
- This parking structure would help support a downtown "park once and walk" environment.
- The 7 Hawley Street project, along with other nearby proposed developments, will likely attract new users to the area, as it is in a central and highly visible location and close to many downtown destinations. This new development will positively support the ongoing growth in downtown.

Technical Appendix

The purpose of this analysis is to model the expected parking demand of the study area land uses with and without an Arena event. An adapted, calibrated shared parking model (NelsonNyggard shared parking model with inputs from the Urban Land Institute's Shared Parking Manual), which more accurately demonstrates cumulative expected parking demand by time of day, was used to complete this analysis. The existing model is calibrated based on the utilization data collected in September 2015. The calibrated model is then applied to future land use development to assess the impact of the 7 and 20 Hawley Street projects.

Existing Land Use and Parking Supply

The study area land use analysis uses Binghamton's 2015 Assessor Database, provided by the Binghamton Planning Housing and Community Development and BMTS. Parks, parking lots, vacant parcels and buildings were excluded based on the records from the City's Planning Department. Single family, two- and three-family housing were also excluded, considering they typically have their own driveway parking and wouldn't necessarily rely on other parking resources. Vacancy rates of retail, office, and residential were applied to reflect today's conditions. Figure 2 below shows the total land use within the study area (shown in Figure 1).

Figure 2 Seven Hawley Study Area Existing Land Use and Parking Supply

Land Use	GFA/Units*
Arena	4,679 Seats
Apartment	113 Units
Community Center	10,812 SF
Fast Food	4,806 SF
Hotel	250 Rooms
Government Office	300,725 SF
Office	173,575 SF
Restaurant	27,050 SF
Retail	189,783 SF
Warehouse	2,223 SF
Total	708,974 SF 113 Units 250 Hotel Rooms 4,679 Arena Seats

Parking Supply	# of Spaces**
Off-street Total	1,147
Off-street Public Parking**	93
Off-street Private Parking	1,054
On-street Total	172
4 Hour Meter	42
2 Hour Meter	35
30 Minute Free	19
Government	19
1 Hour Meter	17
Unregulated	17
Loading Zone	9
Handicapped Parking 2 Hour	7
30 Minute Meter	3
Handicapped Parking 30 Min Free	2
Handicapped Parking 4 Hour	2
Total	1,319
Total Public Supply	265

Note:

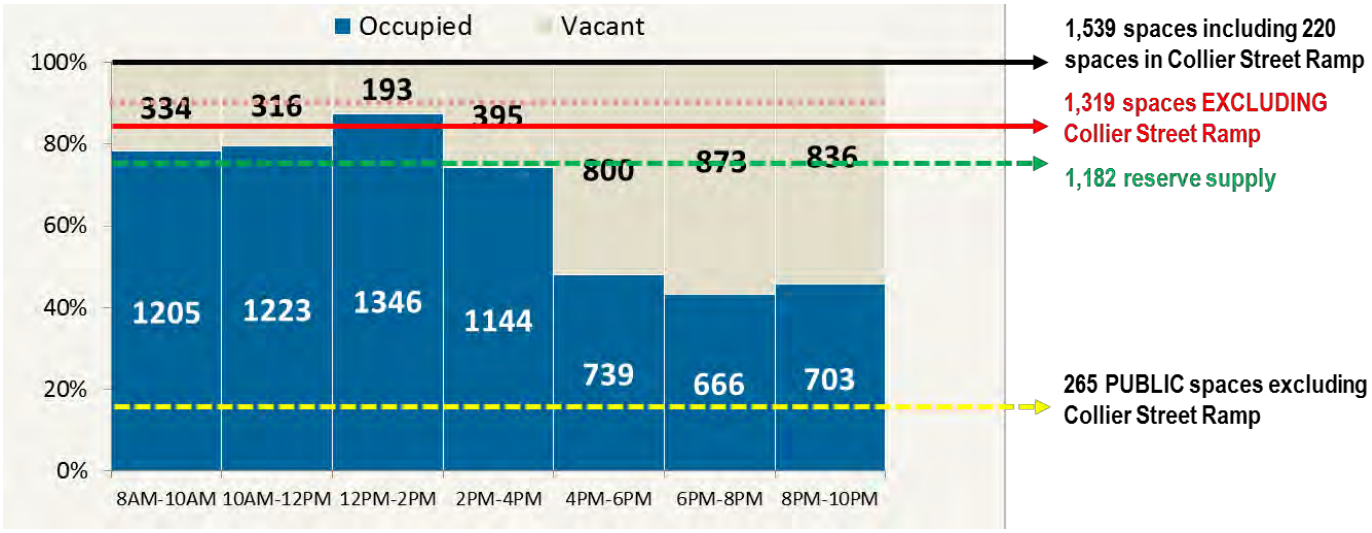
* Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

** Collier Street Ramp supply is not included.

Existing Parking Demand

In this area, there are 1,539 total parking spaces, including 220 spaces at the Collier Street Ramp, which was observed at the time of the data collection in September 2015. As the figure below shows, at peak of a weekday, 87% of the total parking supply is occupied with nearly 1,350 parked cars at the busiest time of day. The observed demand exceeds the current parking supply with Collier Street Ramp's closure.

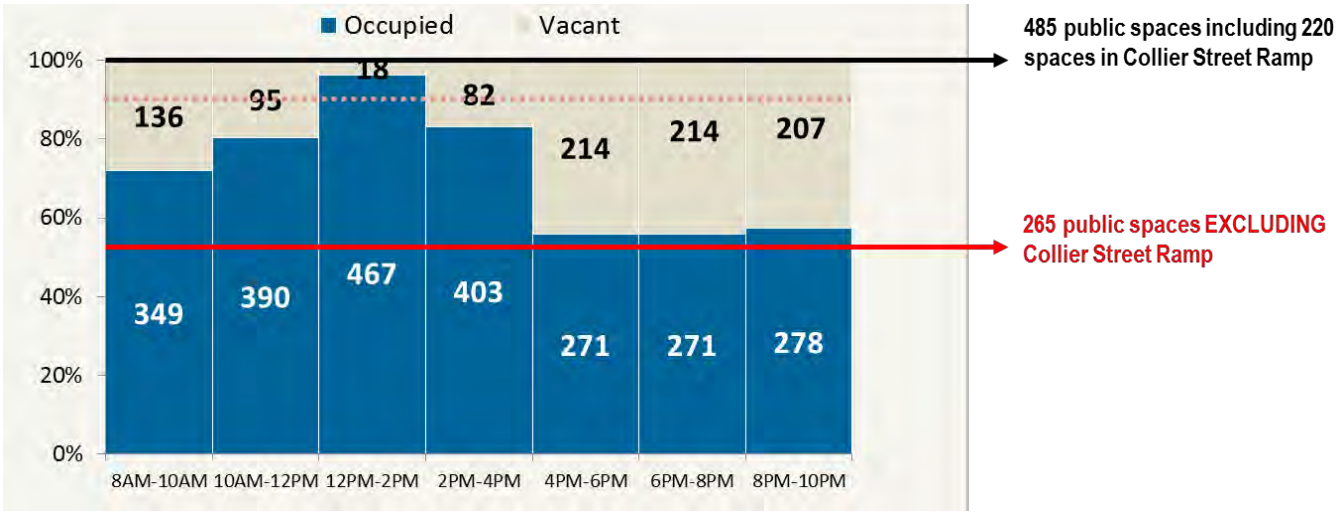
Figure 3 Seven Hawley Study Area Observed TOTAL Utilization (Weekday)



Note: Collier Street Ramp's demand is included to more accurately reflect the real demand in the study area.
This count was taken on a day with no major events, but a typical weekday.

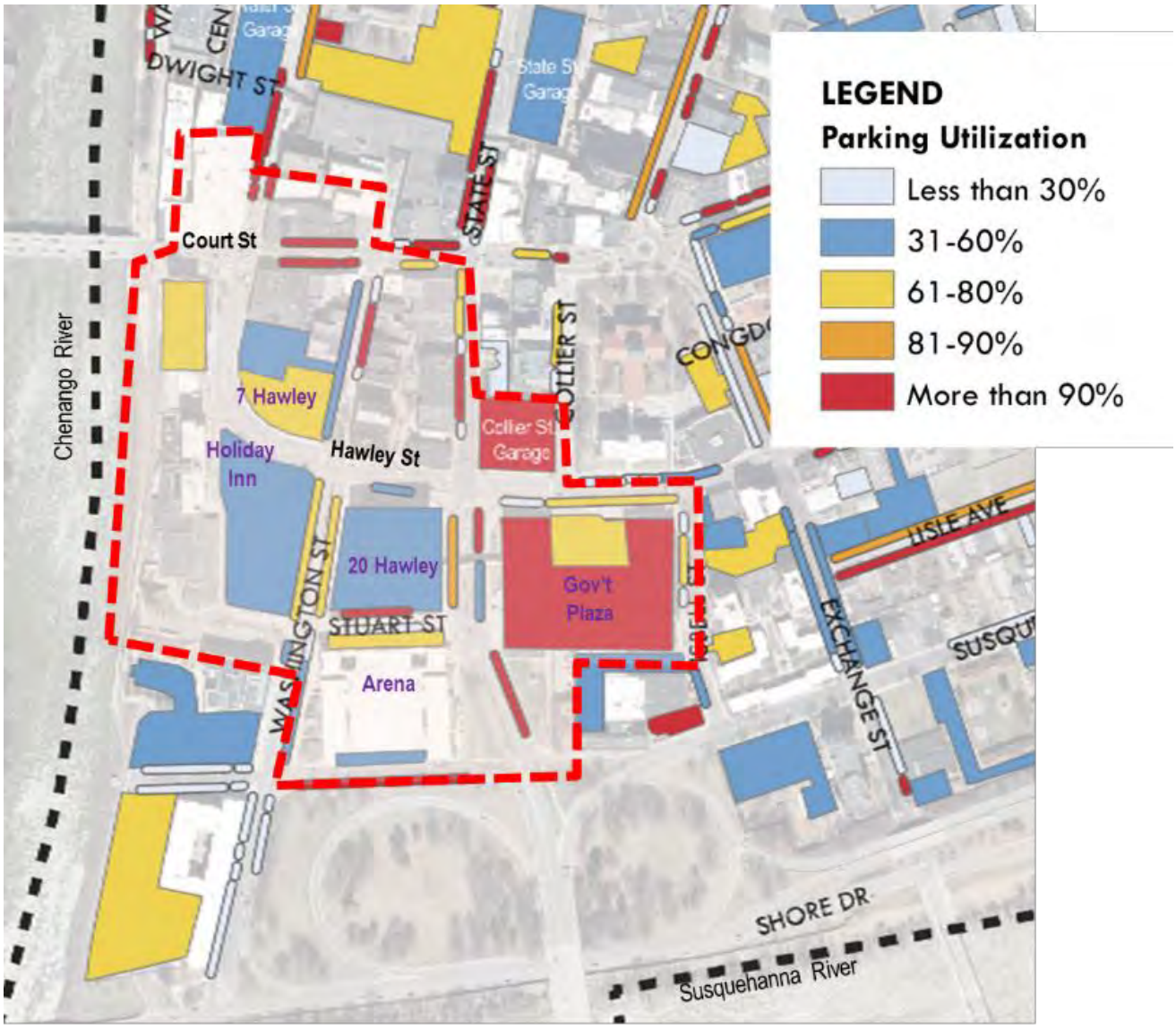
Public parking within the study area is heavily utilized with a peak demand of 96% between 12:00 p.m. and 2:00 p.m. With Collier Street Ramp's closure, the exceeded demand for public parking is dispersed in downtown.

Figure 4 Seven Hawley Study Area Observed PUBLIC Utilization (Weekday)



Note: Collier Street Ramp's demand is included to more accurately reflect the real demand in the study area.
This count was taken on a day with no major events, but a typical weekday.

Figure 5 Seven Hawley Study Area Utilization Spatial Display (Weekday 12:00 p.m. - 2:00 p.m.)

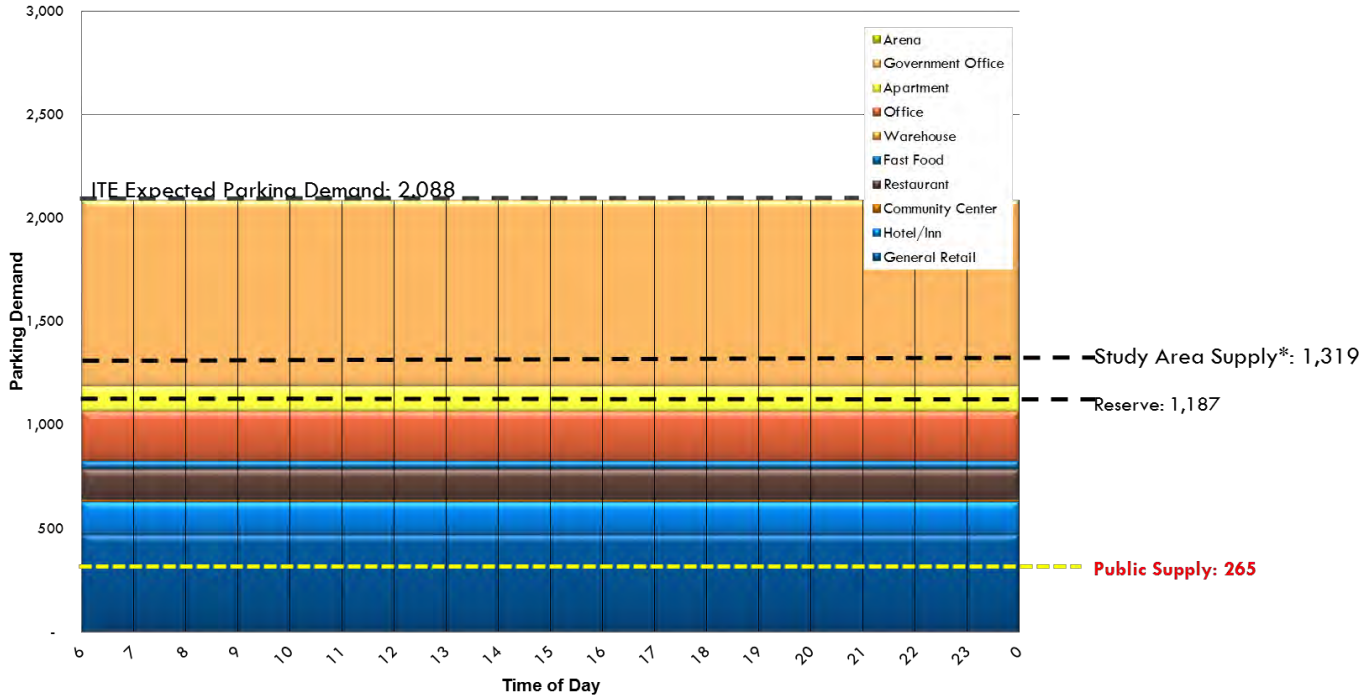


Existing Land Use Analysis

Traditional ITE Model -Existing

Using parking generation rates from ITE, which assumes that each land use has its own dedicated supply of parking, expected parking demand is 2,088 spaces. The study area has a total supply of 1,319 spaces (not including Collier Street Ramp). The parking demand estimates from ITE are high and not typically reflective of a mixed-use downtown environment like Binghamton, but are shown here for means of comparison.

Figure 6 Seven Hawley Study Area Existing Expected Demand (Weekday No Events)

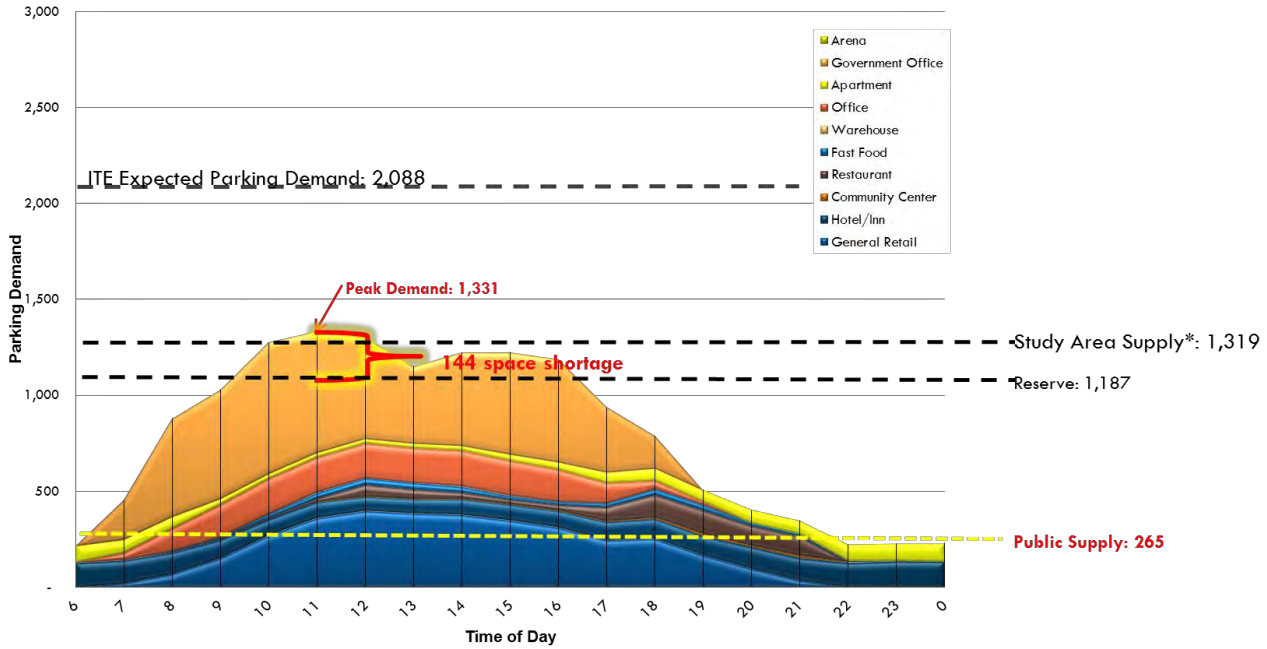


Note: Collier Street Ramp is NOT included in the study area or public supply

Shared Parking Model –Existing (No Events)

The adaptive model estimates the cumulative overall parking demand by time of day. Figure 7 shows an expected peak demand at 11:00 a.m., with approximately 1,330 spaces. During this timeframe, there is a parking supply deficit of approximately 140 spaces above the 10% reserved supply. The majority of the parking supply in the area now is private owned with restricted access to the public, worsening the perceived parking shortage.

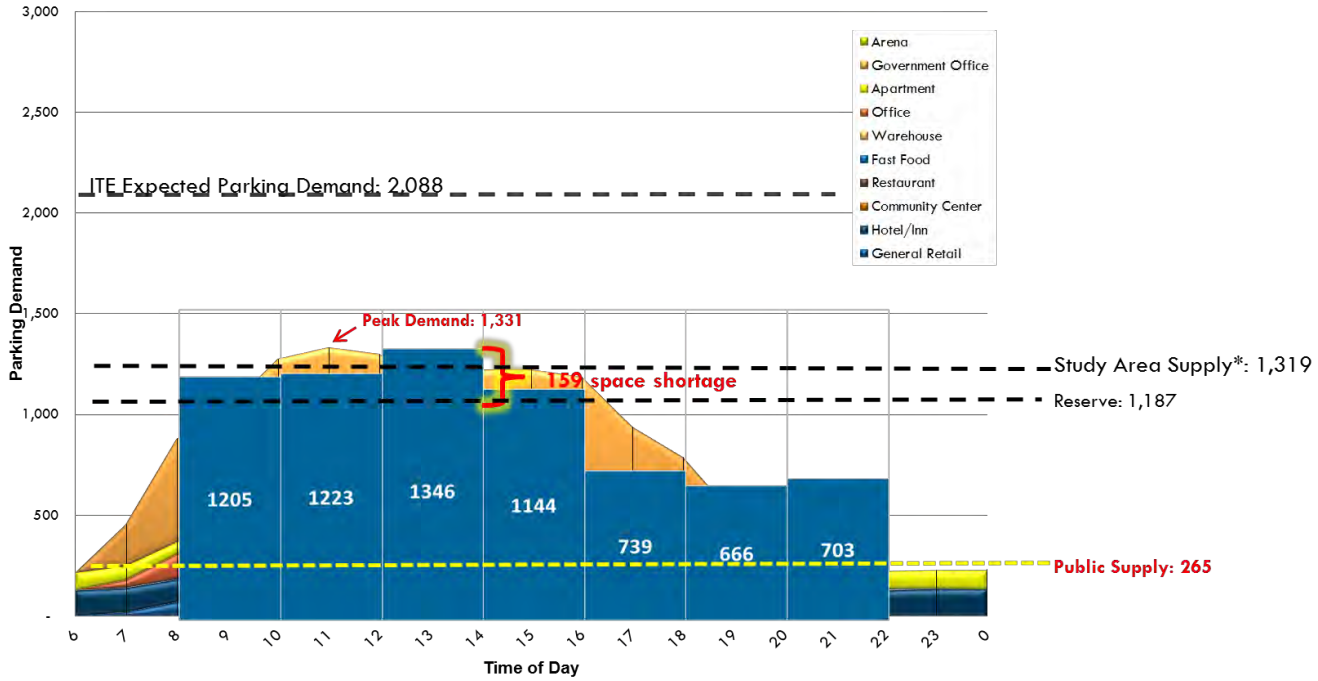
Figure 7 Seven Hawley Study Area Existing Modeled Demand (Weekday No Events)



Note: Collier Street Ramp is NOT included in the total supply

When overlaying the observed demand, the peak demand period occurs between 12:00 p.m. and 2:00 p.m. during which time there is a parking shortage of approximately 160 spaces above the reserve supply line.

Figure 8 Seven Hawley Study Area Existing Modeled Demand with Observed Demand (Weekday No Events)



Note: *220 spaces of Collier Street Ramp were NOT included in the total sub area supply. But the observed parking demand included demand at the Collier Street Ramp to reflect the existing parking demand in the area.*

Shared Parking Model –Existing (Events)

When the Arena hosts large events, it substantially adds parking demand in the study area. Figure 9 and Figure 10 show the modeled demand when evening or daytime events occur. This assumes full Arena use. Both models show a substantial increase in the expected demand, about 400-1,200 more than existing reserve parking supply. This means that the patrons of the Arena are likely using parking in the surrounding areas (e.g. Water and State Street Ramps), or in the proposed new 7 Hawley parking supply.

Figure 9 Seven Hawley Study Area Existing Modeled Demand (Evening Arena Event)

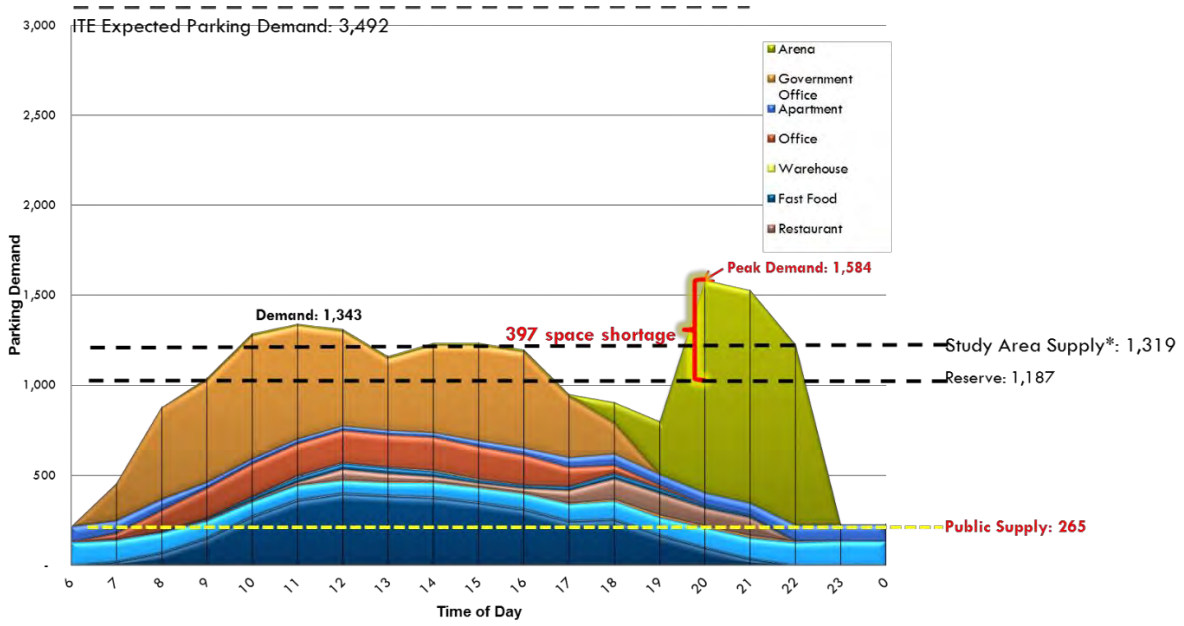
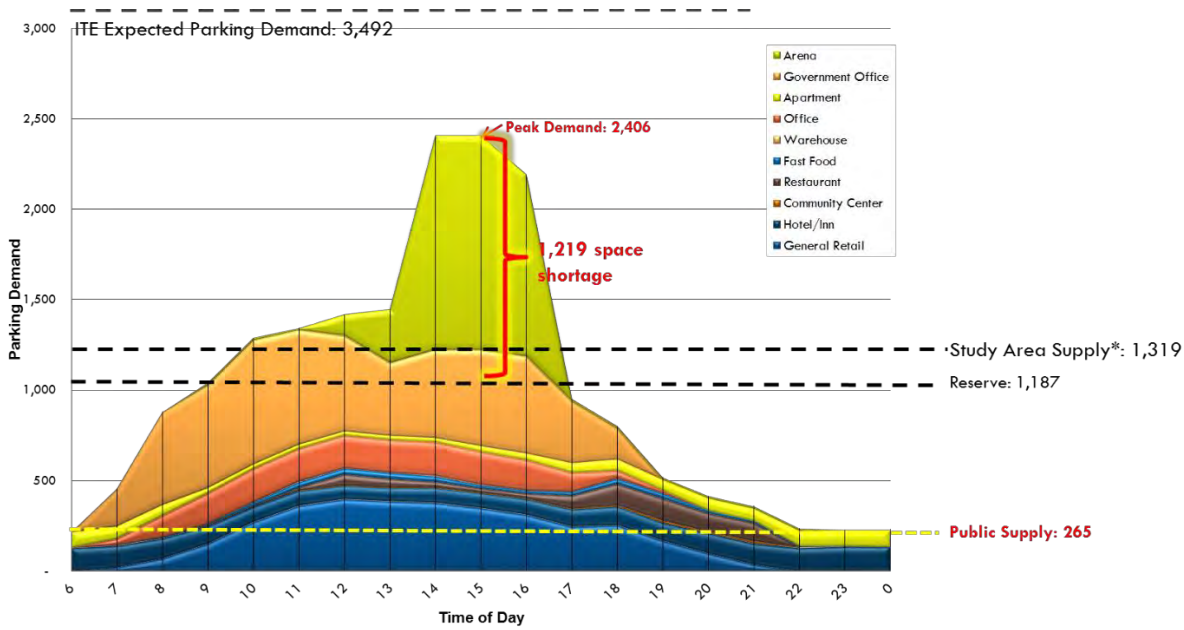


Figure 10 Seven Hawley Study Area Existing Modeled Demand (Daytime Arena Event)



Note: Collier Street Ramp is NOT included in the total supply

Expected Future Development and Parking Demand

Using the calibrated existing parking model, the study then estimates the expected future parking demand based on known proposed developments. There are two proposed projects in this study area: 7 Hawley Street and 20 Hawley Street. While it is assumed that the Collier Street Ramp site will also be developed, adding parking pressure to the area, plans are unknown at this time, and no growth was assumed for this analysis.

Figure 11 Expected Future Development in Seven Hawley Study Area

Address	Land Use	Units	GFA (SF)	Proposed Parking Spaces	Existing Parking Spaces	Net Parking Gain
20 Hawley Street	Mixed-use: Multi-Unit Residential, Commercial	40	2,561 (Commercial)	*	179	
7 Hawley Street	Mixed-Use: Retail, residential	30	8,000~13,000 (Retail)	~350	93	~257

*Applicant has proposed the provision of 93 parking spaces at off-site private facility. Will require the granting of an Area Variance.

Figure 12 Seven Hawley Study Area Existing and Future Development Land Uses and Parking Supply

Land Use	Added GFA/Units	Total GFA/Units
Arena		4,679 Seats
Apartment	70 Units	183 Units
Community Center		10,812 SF
Fast Food		4,806 SF
Hotel		250 Rooms
Government Office		300,725 SF
Office		173,575 SF
Restaurant		27,050 SF
Retail	12,561 SF	202,344 SF
Warehouse		2,223 SF
Total		721,535 SF 183 Units 250 Hotel Rooms 4,679 Arena Seats

Parking Supply	# of Spaces
Net Off-street Public Parking Gain/Loss*	+257
Total Gain/Loss	+257
Future Off-street Public Parking Total	~350
Future Off-street Private Parking Total	1,054
Future Off-street Total	1,404
On-street Total	172
Total	1,576
Total Public Supply	522

Note: Retail, office and residential vacancy rates are not accounted for in the total Gross Floor Area.

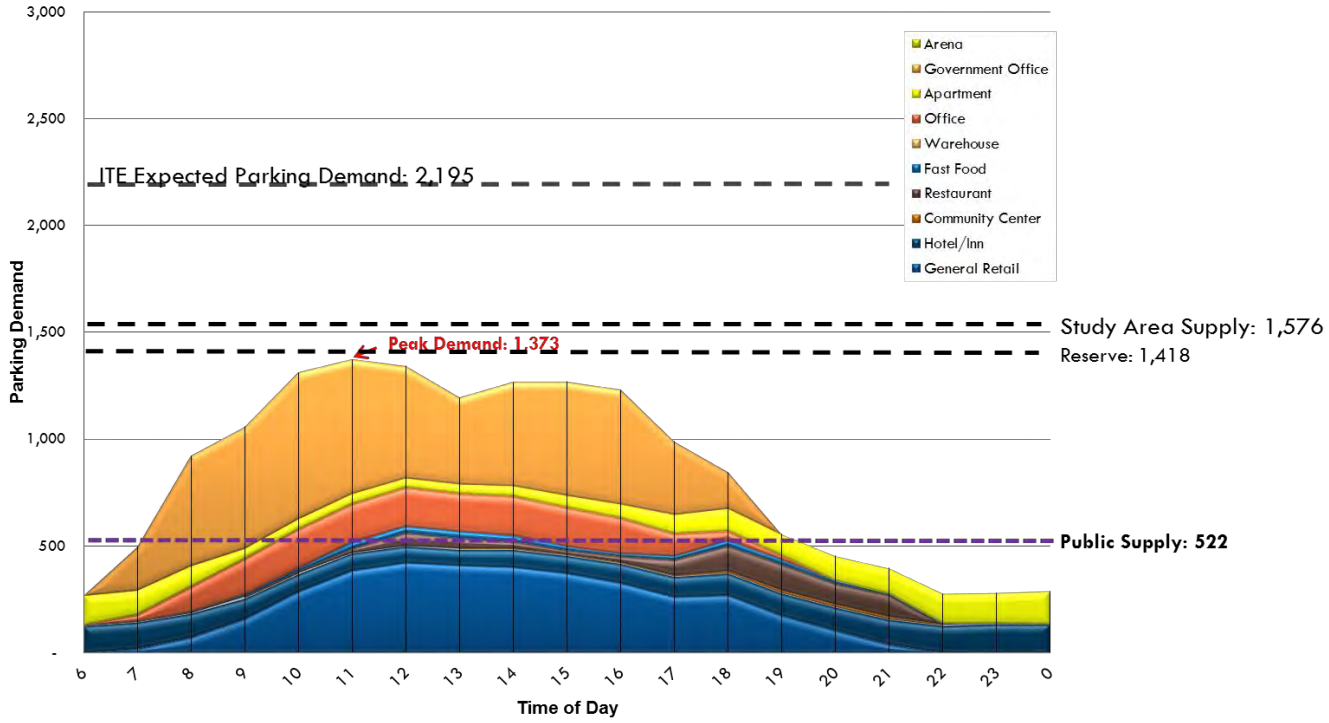
* The future total and public parking supply include the proposed 7 Hawley garage with ~350 spaces

Shared Parking Model –Future Estimates (No Events)

The estimated parking demand for future development scenario occurs at 11:00 a.m., with an estimated demand of nearly 1,400 spaces. The model indicates that with the parking provided at 7 Hawley Street, the parking supply in this area can accommodate expected parking

demand. The model estimates that at the busiest time of day, parking supply would be 90% full (Figure 13).

Figure 13 Seven Hawley Study Area Future Modeled Demand (Weekday No Events)



Shared Parking Model –Future Estimates (Events)

Similar to the existing scenario, when there is an event at the Arena during the day or evening, the modeled parking demand exceeds the total supply. The excess demand would need to be absorbed in surrounding areas.

Figure 14 Seven Hawley Study Area Future Modeled Demand (Evening Arena Event)

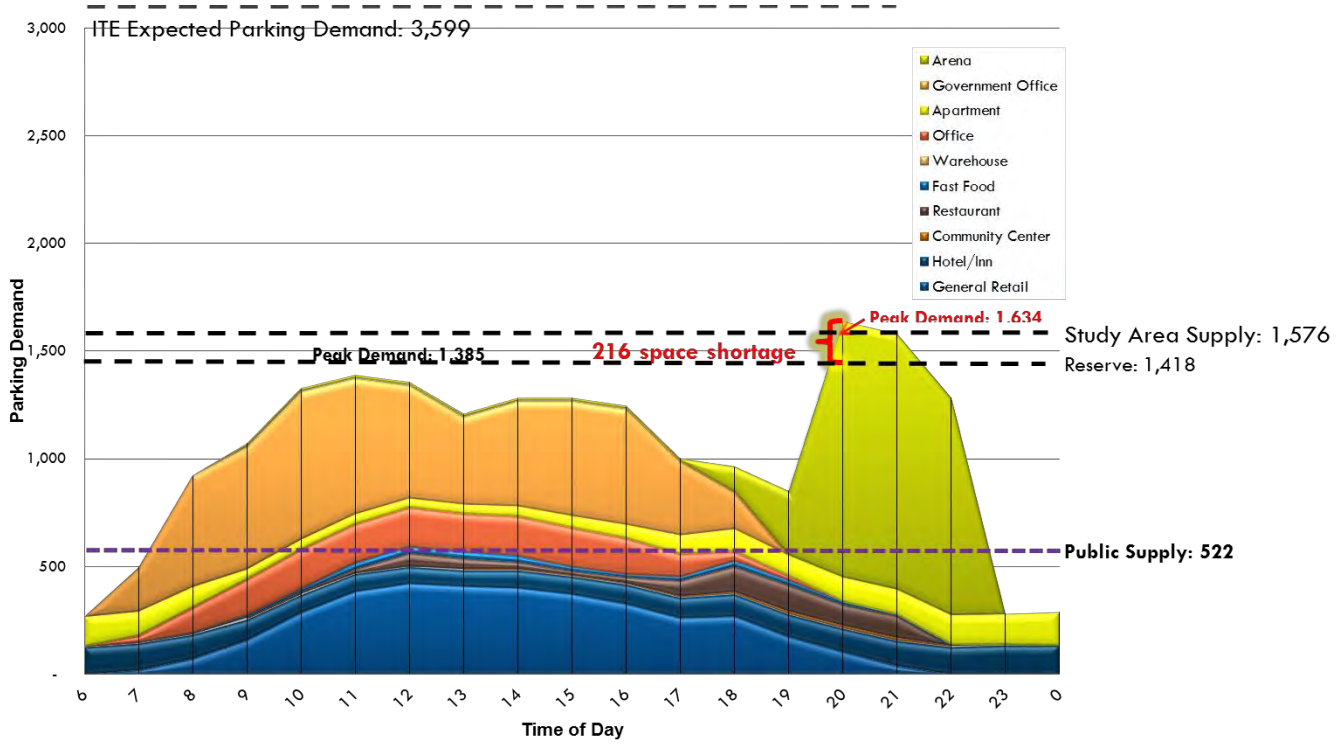
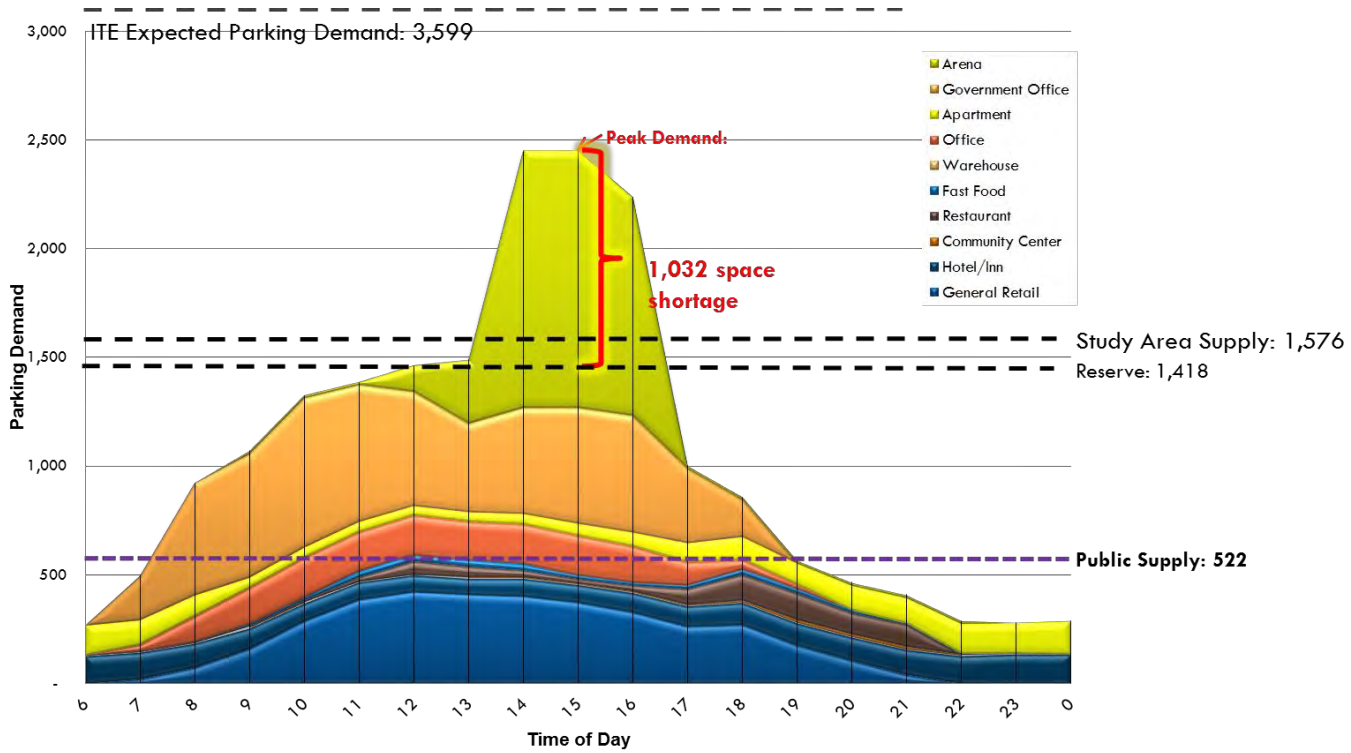


Figure 15 Seven Hawley Study Area Future Modeled Demand (Daytime Arena Event)



Appendix F TIM HAAHS REPORT: Binghamton Parking Garages Condition Appraisal

Binghamton, NY

City of Binghamton Parking Garages

Condition Appraisal

May 7, 2014

Collier Street

Water Street

State Street

TimHaahs

May 7, 2014

Mr. Phil Krey, PE
City Engineer
City of Binghamton
38 Hawley Street
Binghamton, NY

RE: Condition Appraisal Summary
City of Binghamton Parking Garages
Binghamton, NY

Dear Mr. Krey,

Upon your request, Timothy Haahs and Associates, Inc. (TimHaahs) has performed a condition appraisal of the Collier, Water, & State Street Parking Garages located in Binghamton, NY to determine the extent of required repairs and order of magnitude repair costs.

TimHaahs conducted a walk-through of the parking garages on April 22 and 23, 2014. Visual observations and non-destructive delamination survey of the garages were conducted to identify the extent and order of magnitude costs of the required restoration program. Enclosed is a summary of our observations, findings, and recommendations for your review.

Phil, we trust that this report provides sufficient documentation of the parking garages' current conditions for planning and implementing the restoration program. We look forward to discussing with you at your convenience the next steps for the restoration program. Please do not hesitate to contact us with any questions.

Sincerely,

Chris Gray, P.E.
Director of Operations

SunHee Hwang, P.E., PhD.
Senior Engineer

Executive Summary

This report discusses the condition of the Collier, Water, & State Street parking garages owned by the City of Binghamton in Binghamton, NY. On April 22 & 23, 2014, Timothy Haahs & Associates (TimHaahs) performed visual observations and partial non-destructive delamination survey on the parking garages to evaluate the overall condition of the facilities.

In general, the Collier Street parking garage is in poor condition; poor is defined as sufficient for allowing continued use but nearing the end of its useful service life due to significant preventive maintenance/repairs required beyond routine maintenance required to extend the life cycle of the structure. Of immediate concern is the masonry wall at the stair tower locations with loosened blocks at the exterior. Further, many slab sections have significant overhead spalling with exposed / broken tendons and heavily corroded reinforcement. Immediate repairs are needed to extend the life of the structure up to 5 years after which time the structure should be potentially considered for demolition. Extending the life of the structure up to 10 years or beyond may be feasible; however, it will require significant maintenance and repairs costs that will ultimately cost the City more money in the long run and therefore, is not recommended.

In general, the Water and State Street parking garages are in fair condition; fair is defined as structurally sound with preventive maintenance/repairs required beyond routine maintenance to extend the life cycle of the structure. Of immediate concern, there is a post-tensioned beam at the Water Street parking garage which has exhibited excessive spalling at the mid-span with exposed and broken tendons. Immediately following our walk-through, TimHaahs provided the City with a shoring plan identifying the required additional support at this deteriorated beam location as a temporary means of protection until the beam can be repaired.

We have included order of magnitude cost estimates to extend the life of the garages for up to 5 years in order to address the immediate repair needs and some pro-active repairs. If additional funding is available, there are additional improvements that should be considered, such as silane sealer or traffic deck coating application, to further extend the life of the repairs.

The costs associated with the immediate repairs at the Collier, Water, & State Street Parking Garages is estimated at $1.14M, $168K, & $51K respectively. These estimates assume that the majority of the repairs will be focused at the Collier Street facility. The total immediate repair cost for all three parking garages is estimated at $1.36M. Additionally, if budget allows, it is recommended that other concrete and waterproofing repairs be considered at the Collier Street Parking Garage. The estimated cost for these additional repairs is $563K for the Collier Street Parking Garage.

TimHaahs recommends that the immediate repairs contained herein be addressed within the next year to prevent further deterioration that will further increase repair costs and present an operational burden to the parking facility. After repairs have been completed, it is recommended that a preventive maintenance program be implemented to reduce long-term maintenance costs and increase the service life of the structure. The preventive maintenance program will provide the guidelines and tools to ensure proper and timely maintenance, as well as accurately budget for the associated costs. Completion of the recommended repairs and implementation of a preventive maintenance program will reduce long-term maintenance costs and increase the service life of the parking structure. If the City will demolish the Collier Street Parking Garage after 5 years, then the City should consult with an engineer to phase the parking garage to demolition and the preventive maintenance plan be implemented for the Water & State Street Parking Garages only.

Order of Magnitude Cost of Repairs

The types and quantities of required repairs are outlined in the following order of magnitude cost of repairs table. The cost estimates are based on restoration prices in today's marketplace and the associated durations for the proposed project schedule. Should material prices or quantities change, or duration of construction be extended, cost escalations may impact the following figures. If funding is available, it is recommended to combine phases and complete all repairs as one project. The following is the expected order of magnitude cost of required repairs:

	Order of Magnitude Cost for Repairs at the Collier Street Garage											
	Unit	Unit Price	Stairtowers	Basement	Level 1	Level 2	Level 3	Level 4	Top Level	Total Quantity	Phase 1	Phase 2
Structural												
Floor Cracks	LF	$5.50	-	-	600	600	900	1200	500	3800	$20,900	-
Partial Floor Repairs	SF	$50.00	-	-	518	519	861	2846	1148	5892	$220,950	$73,650
Overhead Concrete Spall Repairs	SF	$80.00	-	-	2300	1255	1878	1206	739	7378	$442,680	$147,560
Precast Tee Stem Spall Repair [1]	LF	$150.00	-	-	200	91	36			327	$49,050	-
Post-Tension Splicing Repairs	Ea.	$1,800.00	-	-	-	-	4	11	2	17	$30,600	-
Steel Beam Repair [2]	LF	$250.00	-	-	10	-	30	149	54	243	$60,750	-
Vertical Surface Medium Cracks	LF	$6.00	-	-	200	50	15	259	184	708	$4,248	-
Vertical Surface Spall Repair	SF	$80.00	42	-	1	3	-	-	-	46	$3,680	-
Curb Spall	SF	$35.00	-	-	11	7	3	20	-	41	$1,435	-
										Subtotal	**$834,293**	**$221,210**
Masonry												
Exterior Masonry Block Repointing	LF	$50.00	143	-	20	-	-	-	-	163	$8,150	-
Interior Masonry Block Repointing	LF	$20.00	160	-	-	-	-	-	-	160	$3,200	-
Exterior CMU Repair	SF	$300.00	47	-	11	-	-	-	-	58	$17,400	-
Interior CMU Repair	SF	$100.00	16	-	20	-	-	-	-	36	$3,600	-
										Subtotal	**$32,350**	**$0**
Waterproofing				-								
Cove Sealant Repairs	LF	$5.00	-	-	-	229	44	88	44	405	$2,025	-
Silane Sealer Application	SF	$1.00	-	-	31,680	31,680	31,680	31,680	10,560	137,280		$137,280
Expansion Joint Repairs	LF	$180.00	-	-	56	120	120	120	-	416		$74,880
										Subtotal	**$2,025**	**$212,160**
Drainage												
Floor Drain Grate Replacement (8"x10")	Ea.	$1,000	-	-	2	1	-	2	-	5	$5,000	-
Life Safety												
Interior Guard Rail Replacement [3]	Ea.	$100	-	-	-	24	-	-	-	24	$2,400	-
Sub-Total											$876,068	$433,370
General Conditions (10%)											$87,607	$43,337
Contingency (20%)											$175,214	$86,674
Total Hard Cost											**$1,138,888**	**$563,381**

Notes:
1) Carbon fiber wrap tee stems for spall repairs
2) Includes steel channels at stair towers and steel W21x57 shapes at top tier
3) At 2nd tier along bottom of grid E

	Order of Magnitude Cost for Repairs at the Water Street Garage								
	Unit	Unit Price	Level 1C & 2A	Level 2B & 2C	Level 3A & 3B	Level 3C & 4A	Level 4B	Total Quantity	Total Cost, $
Structural									
Partial Depth Repair	SF	$60.00	-	26	71	-	25	122	$7,320
Overhead Beam Repair	SF	$100.00	152	132	30	54	4	372	$37,200
Overhead Spall	SF	$90.00	42	79	15	60	5	201	$18,090
Steel Beam Repair [1]	LF	$250.00	-	3	23	-	-	26	$6,500
Post-Tension Splicing Repairs	Ea.	$1,800.00	3	-	-	-	-	3	$5,400
Column Spall	SF	$80.00	68	37	4	-	10	119	$9,520
Epoxy Injection	LF	$35.00	-	-	-	-	8	8	$280
Vertical Surface Spall Repair	SF	$80.00	-	-	-	5	-	5	$400
CMU Repair	SF	$100.00	-	-	-	-	27	27	$2,700
P/T Beam Repair (External P/T)	Ea.	$10,000	-	1	-	-	-	1	$10,000
								Subtotal	**$97,410**
Drainage									
Floor Drain Grate Replacement	Ea.	$1,000	-	1	1	-	2	4	$4,000
7' x 1' Trench Grate			-	1	1	-	-	-	
14"Ø Drain Cover			-	-	-	-	2	-	
Supplemental Floor Drain	Ea.	$2,500	-	-	-	-	2	2	$5,000
Drain Cleaning	Ea.	$1,000	1	-	-	-	-	1	$1,000
								Subtotal	**$10,000**
Miscellaneous									
Replace Junction Box Cover	Ea.	$100	-	-	1	-	-	1	$100
Repaint Steel	LF	$8.00	-	-	-	200	-	200	$1,600
								Subtotal	**$21,700**
Sub-Total									$129,110
General Conditions (10%)									$12,911
Contingency (20%)									$25,822
Total Hard Cost									**$167,843**

Notes:
1.) Steel W20 shape

	Order of Magnitude Cost for Repairs at the State Street Garage									
	Unit	Unit Price	Level D & C	Level B & A	Level 1 & 2	Level 3 & 4	Level 5 & 6	Level 7 & 8	Total Quantity	Total Cost, $
Structural										
Partial Depth Repair	SF	$60.00	-	-	50	108	-	8	166	$9,960
Overhead Beam Repair	SF	$100.00	-	10	18	-	20	-	48	$4,800
Overhead Spall	SF	$90.00	-	64	46	-	-	-	110	$9,900
Column Spall	SF	$80.00	-	4	-	6	-	-	10	$800
Epoxy Injection	LF	$35.00	-	-	-	-	-	12	12	$420
Vertical Surface Spall Repair	SF	$80.00	2	2	64	16	11	12	107	$8,560
Curb Spall	SF	$35.00	14	-	34	20	-	-	68	$2,380
Drainage										
Floor Drain Grate Replacement	Ea.	$1,000	-	-	2	-	-	-	2	$2,000
6' x 1' Trench Grate Cover			-	-	1	-	-	-	-	
6"Ø Floor Drain Cover			-	-	1	-	-	-	-	
Sub-Total										$38,820
General Conditions (10%)										$3,882
Contingency (20%)										$7,764
Total Hard Cost										**$50,466**

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TIMOTHY HAAHS & ASSOCIATES, INC.
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T. 484.342.0200 F. 484.342.0222

May 27, 2015

Mr. Richard Perkins, P.E.
Engineering
City of Binghamton
38 Hawley Street
Binghamton, NY 13901

RE: **City of Binghamton Garage Restoration**
Increase in the Cost to Complete Repairs

Dear Mr. Perkins:

This letter serves to inform the City of Binghamton that the anticipated cost of the repairs for the Collier Street Garage have increased past the budgeted contingency set aside for the three garage restoration project. Based on the information gathered during the field visit and meeting with the City on May 18, 2015, TimHaahs has determined the change in cost from the originally bid price to the amount required to perform the remaining repairs at Collier Street.
Due to unforeseen conditions at the Collier Street Garage, the cost required to complete the repairs has increased in the following categories:

- Insufficient concrete cover of reinforcing steel, especially at overhead surfaces
- Corroded post-tensioning strands
- Brittle concrete (concrete that has little cohesion and breaks apart easily when chipped)

As stated in the condition appraisal from May 2014 (see attached), the garage has been in poor condition for some time, nearing the end of its service life. During the condition appraisal, TimHaahs performed visual observations and a non-destructive delamination survey of the garages. No chloride ion tests were performed because the appraisal was conducted for the limited life cycle based on the City's future plan, which was to close the structure within five (5) years at that time. For these reasons, the above listed items could not be determined. Additionally, the winters or freeze-thaw cycles since the last survey have contributed to an accelerated deterioration rate of the garage.
The Collier Street Garage repairs will require additional work items to complete the repairs, including:

- Three (3) post-tension tendon splice repairs along the gridline of each bay, totaling approximately thirty (33) total splice repairs
- Other defective post-tension tendons to be repaired by placing additional mild steel reinforcement and installing carbon fiber strips at overhead surfaces locations.
- Anticipated increased repair areas on the remainder of the Collier Street Garage, both overhead (in the precast section) and full depth (in the post-tensioned section)

On the post-tensioned decks, the cost has increased by $506,000. On the precast decks, the cost has increased by $137,500. Repairing the concrete wall at the southwest stair tower is also an additional item, and an order of magnitude cost estimate for that repair is $75,000. The total increase to the project is approximately $718,500. These costs are to be added to the original bid cost of $1,362,000 for a total project cost of approximately $2,080,500.

The completed repairs will enable the City to operate the garage until 2018, at which time TimHaahs recommends that the garage be demolished.

Sincerely,

Paul Yantosh, P.E.
Project Engineer

Encl: City of Binghamton Parking Garages Condition Appraisal (May 7, 2014)

CC: Chris Gray, P.E. (TimHaahs)
SunHee Hwang, P.E. (TimHaahs)
Todd Helmer, P.E. (TimHaahs)

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May 25, 2016

Mr. Richard C. David
Mayor
City of Binghamton
38 Hawley Street, 4th Floor
Binghamton, NY 13901

RE: **City of Binghamton Garage Restoration**
Status of the Water Street Garage

Dear Mayor:

Per the City's request, TimHaahs is providing the following letter with regard to the Water Street Parking Garage located in Binghamton, NY serving parking needs for Boscov's and general public parking.

With the recent closing and planned demolition of the Collier Street parking facility, the need to invest in the repairs of the Water Street parking facility has become especially critical due to the reduction in parking supply. Investing in the repair and upgrade of this facility is necessary to assure the continued, safe use of the Water Street parking structure and maximizing its useful life. Likewise, modernizing the facility will help to significantly reduce operational expenses (such as installation of new energy-efficient LED fixtures) while enhancing the overall user experience. Outlined below is a preliminary order of magnitude hard cost for recommended repairs and upgrades of the Water Street parking facility:

- **Water Street Parking Facility**:
  - **Structural Repairs: $900,000**
  - **Elevator Upgrades: $500,000**
  - **Lighting Upgrades: $250,000** (ROI from energy savings alone anticipated within 3 years)
  - Signage Upgrades: $100,000
  - Parking Equipment Upgrades: $200,000
  - Interior Aesthetic Upgrades (e.g. painting lobbies): $250,000
  - Exterior Aesthetic Upgrades (e.g. advertising banners, screening): $500,000

Structural repairs include remediation of damaged structural concrete elements, such as the cast-in-place post-tensioned floors and beams, as well as vertical wall and column repairs where structural steel is exposed and showing signs of significant corrosion. Additionally, several areas of steel beams and columns are heavily corroded and require supplemental steel to address the damaged conditions. In addition to structural repairs, it is recommended that waterproofing and durability elements be addressed, particularly in high-trafficked areas. This includes the application of a silane sealer and/or traffic deck coating membrane at areas most susceptible to damage (e.g. primary vehicular entry/exits, as well as top tier). Incorporation of these upgrades along with a continued and well-funded maintenance plan could extend the life of the parking structure beyond 20 years.

Elevator upgrades include the retrofit of two (2) traction elevators within the existing elevator shafts. This includes the necessary electrical upgrades to ensure there is adequate power to support the various components.

Lighting upgrades include the retrofit of new energy-efficient LED light fixtures. It is anticipated that the existing conduit could be re-used. The initial cost for replacement fixtures could be off-set by energy savings alone, which could see a return on investment within 3 years.

Signage upgrades include new directional signage to better direct traffic within the parking structure. While the directional flow within the parking structure is adequate for this type of structure, the existing

directional signage is inadequate to properly direct traffic and can be significantly improved to enhance the user experience by more clearly guiding patrons through the facility.

Parking equipment upgrades include new lane equipment that could offer options such as credit card in/out to improve operations for the parking operator as well as enhance the user experience.

Interior aesthetic upgrades include painting lobbies/vestibules to make them more inviting for pedestrians as well as the incorporation of additional finishes which are in line with new, modern designs (such as a drop ceiling panel). These upgrades will create a more inviting atmosphere for patrons which will improve customer satisfaction and safety.

Exterior aesthetic upgrades include potential advertising banners, which consist of a mesh material (approximately 20' x 30' each) mounted at regular spacing on the exterior façade. Examples of potential advertising could be local venues (such as Boscov's, SUNY, and/or Binghamton Senators). Other potential exterior aesthetic upgrades could include the introduction of a metal screening material. Metal screening could cost on the order of $80~$100/SF installed. There are number of possible design alternatives that could be explored with metal screening to provide a more modern look to the parking facility.

It is recommended that the structural, elevator, and lighting upgrades referenced above be implemented within the next 2 years to maximize the City's investment. Likewise, other upgrades such as signage, parking equipment, and [interior and exterior] aesthetic upgrades should be implemented as the City's budget allows to improve the overall user experience. Note, exterior aesthetic improvements could serve as a potential monetizing opportunity (e.g. advertising banners), which could off-set the costs for other upgrades.

Note, TimHaahs is currently under contract with the City to implement the Structural Repairs outlined above. Should the City opt to implement the additional upgrades noted above, we recommend budgeting an additional 10% of the hard construction cost to accommodate the related soft costs for the design and administration associated with implementing the necessary repairs for these upgrades.

Should the City have any specific questions related to the above, please do not hesitate to contact us.

Sincerely,

Chris Gray, P.E.
Director of Operations

Encl: Images of potential signage and aesthetic upgrades by TimHaahs

CC: Todd Helmer, P.E. (TimHaahs)
Gary Holmes (City of Binghamton)
Ray Standish (City of Binghamton)
Terry Kellogg (City of Binghamton)