Public Safety & Transportation Committee Agenda

City of Newton
In City Council

SPECIAL MEETING

Thursday, January 14, 2016

7:45 PM
Chamber
PLEASE NOTE SPECIAL DATE AND LOCATION

Item Scheduled for Discussion:

#319-15 **Discussion and presentation of the draft Newton Centre Parking strategy**
ACTING DIRECTOR OF PLANNING & DEVELOPMENT, requesting a discussion and presentation of the draft Newton Centre Parking strategy. [11/9/15 @ 4:16 PM]

All other items will be held without discussion.

Respectfully submitted,

Richard Blazar, Acting Chair

The location of this meeting is handicap accessible and reasonable accommodations will be provided to persons requiring assistance. If you need a special accommodation, *please contact Jini Fairley, at least two days in advance of the meeting: jfairley@newtonma.gov,* or 617-796-1253. For Telecommunications Relay Service dial 711.

#319-15

NEWTON CENTRE PARKING STRATEGY
PUBLIC PRESENTATION OF DRAFT PLAN

Save the Date
January 14th @ 7:45pm
Location TBD

The City Council's Public Safety and Transportation Committee will host a public meeting to hear a presentation on a comprehensive suite of potential management strategies for parking in Newton Centre. A thorough Q&A with the City's consultant team at Nelson\Nygaard will follow the presentation.

The draft suite of strategies have been developed based on on-the-ground parking data collection, field observations, and input through workshops, meetings, and online surveys. Feedback heard at this meeting will be used to create a final parking management strategy.

The draft plan will be published online in advance of the meeting.
Visit **www.newtonma.gov/parkingstrategy** for updates and to read the report.

Contact: James Freas | E: jfreas@newtonma.gov | T: 617-796-1120

Newton Centre Strategy Review

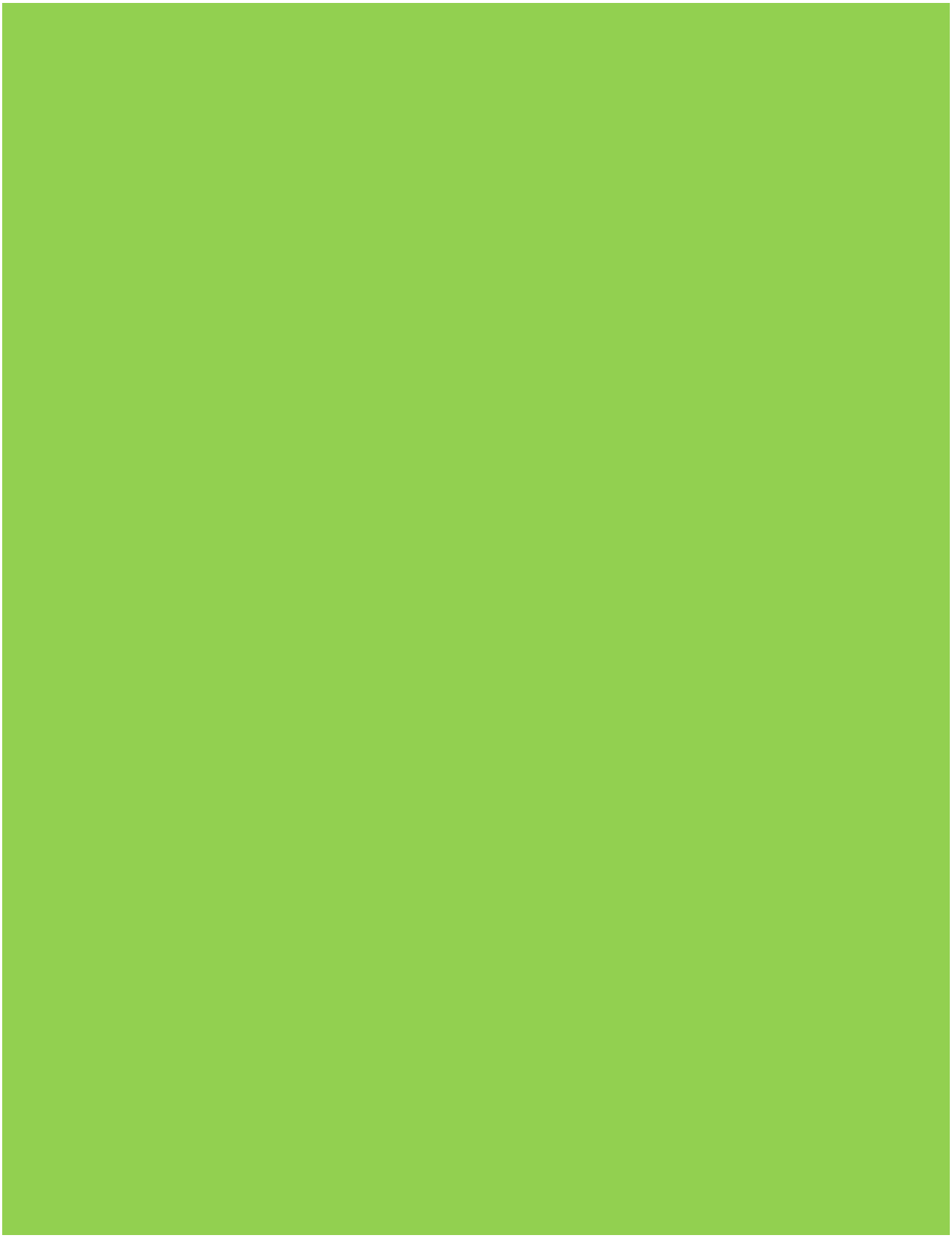
Come give feedback on the draft parking management strategy for Newton Centre.

#319-15

NEWTON CENTRE PARKING STRATEGY

NELSON NYGAARD

December 2015
DRAFT 2



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EXECUTIVE SUMMARY

ABOUT THE STUDY

Newton Centre is well poised with its mix of land uses, transportation options, and a walkable village center. The City's amenities, including excellent public schools, beautiful parks, and strong economy make the City, and Newton Centre in particular, a very desirable place to live, work, and visit. Newton Centre's success necessitates the need to balance mobility needs and parking pressures among customers and visitors, employees and employers, residents and commuters.

The 2015 Newton Centre Parking Strategy is a six-month strategic effort that documents current parking activities, identifies needs and opportunities, and recommends a series of strategies to achieve goals for the village center. The Strategy analyzes parking patterns through the collection of on-the-ground parking data, field observations, as well as input from workshops, stakeholder meetings, and an online survey.

Using new and existing data, the Newton Centre Parking Strategy recommends an active and adaptive management program of smart parking options through a mix of demand-responsive pricing, new technology, more efficient design, and context-sensitive regulations. The strategies include innovative and cost-effective programs and policies for the short and the long-term to be piloted and tested.

Many ideas presented in this document will need further vetting before implementation, but all are adapted best practices from other communities found to be appropriate for the Newton context. As the parking strategy moves into implementation, sequencing of projects will also require careful consideration. Strategies are tailored to respond to the concerns of the business community, residents, and commuters, and to support the City's commitment to multimodalism, sustainability, and diversity.

PROJECT GOALS

A set of goals for the Newton Centre Parking Strategy were established through a series of stakeholder and City staff discussions. Specifically, this project addresses the following goals:

1. Create a customer-oriented parking system
2. Develop sensible/reasonable parking regulations that are easy to use and easy to manage
3. Modernize and embrace parking technology
4. Establish a data-driven, flexible parking system that can adapt over time

STUDY PROCESS

From June 2015 – December 2015, the City, in collaboration with several partners from the business community and Newton Centre residents, led an open and inclusive process to develop a

strategic parking management approach for Newton Centre. A primary emphasis of the effort was to include and respond to multiple viewpoints and preferences on parking. The strategy included:

- More than 75 hours on foot in Newton Centre, including parking inventory, parking utilization and turnover counts, and field observations
- More than 15 meetings with business owners, employees, and residents
- More than 495 online survey responses
- Three open public input sessions, including a prioritization of strategies
- Incorporation and review of City planning efforts, ongoing initiatives, and related documents

KEY FINDINGS

Data and information, stories and survey results from the public, and observations resulted in several key findings:

- **Front-door spaces are full.**
  - On-street parking in the core of Newton Centre is functionally full, reaching 92% full during the busiest time of day.
  - Some of these prime on-street parking spaces in the core are being used by employees. 2015 survey results indicate that as many as 20% of Newton Centre employees park on-street in short-term metered spaces and either get tickets or shuffle their cars.
  - Desirable on-street spaces, such as those on Union Street, are used by parkers that stay for longer than the posted time limit (in the case of Union Street, parkers are limited to a two-hour stay, but observations indicate that 45% of spaces on Union Street are used by parkers staying for more than two hours).
  - When front-door spaces are full, the perception of the lack of parking is magnified, as this is typically the first experience for a customer or visitor to Newton Centre.
  - There is even less availability on-street in the evenings after the meters turn off/are no longer enforced, bringing frustration to dinner and evening entertainment patrons and establishments.
- **There is a need for more long-term parking.**
  - Although overall, 43% of all parking supply in Newton Centre is open at the busiest time of day, most of the designated long-term public parking spaces are full. Most of the available parking exists in public short-term spaces (two-three hour spaces), in private parking lots, and on side streets (most designated as two hour parking).
  - Based on length of stay data, there are some customers and visitors that wish to stay in the Centre for longer than two hours, but they are prevented from doing so on-street.
  - Some employees and commuters are using short-term spaces due to lack of convenient long-term parking.
  - Convenient long-term parking opportunities exist on some side streets and in privately owned parking areas, but there are barriers to accessing these parking areas due to resident concerns, lack of lease arrangements, and some special events.

- **Enforcement is not customer-friendly.**
  - A surprising number of anecdotes and stories from parkers indicate strong negative sentiments about parking enforcement practices.
  - Parking enforcement staff report being harassed and disrespected by parkers in Newton Centre.
  - Common parker issues include a harsh enforcement standard regarding time limits, ticketing while parkers are loading their cars or getting change to pay meters, and fix issues with broken meters and issuing of citations for non-compliance.
  - Some enforcement practices are inefficient and labor intensive due to unreliable technology and confusing regulations on-street.
- **Payment technology is inconvenient.**
  - Paying for parking with coins only is not convenient (particularly for 12-hour meters).
  - Older meters require more regular maintenance from the City and broken meters cause frustration from parkers (it is unclear whether or not one can park at a broken meter).
  - Coin-operated meters require manual adjustment to adjust rates (and rates shouldn't increase if they only allow quarters).
- **Walking barriers limit "park once."**
  - Large, complex intersections in Newton Centre are difficult to cross and require multiple signal cycles.
  - Some crosswalks are extremely long and leave the pedestrian exposed.
  - Some mid-block crossings have little protection from vehicles.
  - Some parking lots have no pedestrian infrastructure or accommodation, and designs promote driving fast.
  - Unfriendly pedestrian infrastructure can promote driving around the village center to multiple destinations instead of walking. This uses multiple parking spaces and causes increased traffic.
- **Signage is unclear or missing.**
  - There are no signs that indicate the enforcement span on metered blocks; it is unclear on when parkers should start and stop paying meters.
  - Regulatory signage varies in color and type and can be difficult to distinguish.
  - Color-code stickers on meter poles indicate time limits but are not visible when driving.
  - Regulatory signs within parking lots indicating time limits (three hour vs. 12 hour) are unclear.
  - There are few directional signs and few signs that identify municipal lots.
  - There is no parking map or information online about parking in Newton Centre.

STRATEGIES

The following strategies are intended to serve as overarching themes and guidance for parking management. These conclusions were developed based on: observations of Newton Centre, review and analysis of parking data, stakeholder discussions, and, most importantly, input from participants in workshops, meetings, and online throughout the study. This set of strategies is intended to lay the foundation of sound parking management practices appropriate for the Newton context. The strategies are intended to be routinely reviewed and refined for a changing, growing, and thriving Newton Centre and can serve as a model for other Newton villages. All of these strategies are interrelated and were developed to be considered in tandem.

Create Parking Availability in the Core

In order to foster a strong economic climate in village centers and to support City goals of supporting local business, the City should adopt several strategies to create availability in areas of highest demand. The City can make a vast impact on the perception and realities of over-parked areas through the following strategies:

- **Adopt an availability goal** to adjust regulations based on a target percentage of available parking, not based on politics or flat rates
- **Actively manage high demand parking areas** using price and enforcement span, not time limits, to manage parking resources
- **Build more on-street parking supply** through striping efficiencies, converting unused spaces to parking, and adding new spaces on wide roadways
- **Create an attractive parking option for employees** that will draw employees from customer spaces, increasing parking availability in the core

Establish Attractive Long-Term Parking Areas

Strategies to accommodate long-term parking can include approaches in multiple parking types: on-street parking (outside of high demand areas), public off-street parking, and privately owned or restricted off-street parking. In particular, some private off-street lots can be assets for long-term parkers; using these lots can help mitigate hunting for on-street spaces, which contributes to additional traffic and queues at intersections. Incentivizing longer-term parkers to park outside of the core can: maximize the use of existing parking, create availability in spaces “right out front” that are more valuable and thus more expensive, and encourage street activity and walkability. Long-term parking use can be optimized and encouraged through a combination of the following strategies:

- **Extend time limits of underutilized short-term spaces** by shifting some short-term parking spaces to long-term
- **Create lease agreements with private landowners to expand available supply** to better use underutilized parking in key areas instead of building new parking
- **Establish long-term parking options on side streets** through a street by street opt-in program to allow limited long-term parking; revenue generated would fund neighborhood improvements

Customer-Friendly Enforcement Practices

Re-orienting enforcement policies and practices, in conjunction with updating regulations and parking management practices, can be very helpful in reaching the parking goals set by the regulatory framework. As stated in Goal #1, this effort recommends a customer friendly approach, built on a demand -based pricing foundation. Thus, enforcement's role must change to support this updated policy. Parking enforcement operations should help to ensure and enforce parking availability and broader parking management goals, and not be punitive and deter customers and visitors away from Newton Centre. Particular policies and programs to consider are:

- **Consider first ticket free** (per calendar year) that provides information about parking rules and regulations
- **Consider progressive fines** to reward good behavior and deter repeat offenses
- **Align parking enforcement mission to City goals** with a customer-first approach

Upgrade Payment Technology

Parking management technology has come a long way since standard meters were introduced nearly a century ago. Many meter innovations dramatically changed the operations and management of parking, both for the user and the operator. Upgrades in technology have increasingly enhanced the customer and visitor parking experiences, made more efficient use of enforcement personnel, and simplified the evaluation and monitoring of parking utilization. Input from the public meetings, the online survey, and stakeholder interviews revealed that new parking meter technology that accepts debit/credit cards are preferred for both on- and off-street facilities. The City should consider options that:

- Make payment easy and convenient
- Use technology to pay by coin, debit/ credit, and cell
- Can combine meters & kiosks
- Can offer a "first 10 minutes free" option
- Use "virtual" permits, using license plates not stickers or hangtags
- Make enforcement easy
- Integrate with enforcement equipment

Improve Walking Environment

Improving the walking environment through low-cost treatments (paint) and more substantial (moving curb and re-orienting intersections) construction are high-impact ways to increase safety and walkability. Smaller intersections offer shorter walking distances, a more connected network, and added public spaces. A more connected pedestrian network incentivizes parkers to park once and walk to multiple destinations, instead of driving and using multiple parking spaces. And, many smaller intersections, particularly with updates to traffic signal cycles, can allow for the same vehicle throughput but in a much different environment, plus can sometimes include some additional on-street parking.

Considerations for improving the walking environment include:

- Shortened crosswalks
- Bumpouts

- Raised crossings
- Enhanced streetscaping
- Leading pedestrian interval
- Minimize/close excess curb cuts
- Pedestrian island/refuge
- Narrowed turn radii

Provide Signage and Information

Increased signage visibility and wayfinding will encourage the use of currently underutilized off-street lots and maximize the utility of prime, on-street spaces. Overall, signage should work with enforcement design and policy to eliminate confusion and ensure that all users understand the rules and locations of parking. Signage and information in Newton Centre should include:

- **Branded signage** that is easy to see and follow
- **Wayfinding signage** that directs parkers to parking areas as they arrive in Newton Centre
- **Clear regulatory signage** that identifies rules and regulations, including enforcement span at each block
- **Parking information and map** on the web and available through merchants that identifies rules and regulations

A summary map of many of the strategies identified is in Figure 1-1.

Figure ES-1 Newton Centre Parking Strategy Recommendations Summary Map

1 INTRODUCTION

ABOUT THE PARKING STRATEGY

Newton Centre is well poised with its mix of land uses, transportation options, and a walkable village center. The City's amenities, including excellent public schools, beautiful parks, and strong economy make the City, and Newton Centre in particular, a very desirable place to live, work, and visit. Newton Centre's success necessitates the need to balance mobility needs and parking pressures among customers and visitors, employees and employers, residents and commuters.

The 2015 Newton Centre Parking Strategy is a six-month effort that documents current parking activities, identifies needs and opportunities, and recommends a series of strategies to achieve Centre goals. The Strategy analyzes parking patterns through the collection of on-the-ground parking data, field observations, as well as input from workshops, stakeholder meetings, and an online survey. Using new and existing data, the Newton Centre Parking Strategy recommends smart parking options through a mix of demand-responsive pricing, new technology, more efficient design, and context-sensitive regulations. The strategies include innovative and cost-effective programs and policies for the short and the long-term. They are tailored to respond to the concerns of the business community, residents, and commuters, and to support the City's commitment to multimodalism, sustainability, and diversity.

Figure 1-1 Newton Centre Green Line T with Bicycle Parking

PROJECT GOALS

A set of goals for the Newton Centre Parking Strategy were established through a series of stakeholder and City staff discussions. Specifically, this project addresses the following goals:

1. Create a customer-oriented parking system
2. Develop sensible/reasonable parking regulations that are easy to use and easy to manage
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2013 PARKING STUDY

In 2013, the City of Newton conducted a parking study to assess parking supply and demand to support analysis for the feasibility of four parking redevelopment scenarios involving the Cypress Street and Centre Triangle parking lots. This study collected turnover data on a typical weekday and a typical Saturday in Newton Centre within the four municipal lots and core on-street areas (see red boundary in Figure 1-2). The 2013 study concluded that:

- On-street parking was operating under capacity with exception of Union Street, typically at capacity on both weekdays and weekends
- The short-term parking supply was sufficient for the current demand
- More all-day/long-term spaces were needed for commuters and Centre employees
- If the Centre Street parking lot were to be removed without building replacement parking elsewhere, demand would exceed supply in early afternoon, and if additional restaurant or retail were added to Newton Centre, demand could exceed supply at other times as well
- If a parking garage were built on the Cypress Street lot, the Centre Triangle parking lot could be redeveloped while having the potential to also meet future parking needs for future retail and restaurant growth

The 2015 Parking Strategy builds upon the findings from the 2013 study and expands the scope by including privately owned off-street parking facilities and surrounding blocks of on-street parking. This expanded look helps create a more comprehensive understanding of true parking supply and demand in Newton Centre: it helps identify the geographic extent of parking demand, quantifies spillover parking pressure on side streets, and creates an awareness of the availability (or lack of availability) of private parking facilities. In addition to taking a wider look at the area of parking demand around Newton Centre, the 2015 Parking Strategy also expands its focus to include a more comprehensive look at policies and strategies to improve parking management in Newton Centre.

STUDY AREA

The 2015 effort expands the area of focus used in the 2013 Parking Study by including privately owned parking areas and neighboring side streets. The 2015 Newton Centre Parking Strategy study area (see Figure 1-2) encompasses an area within roughly a quarter mile walk around Newton Centre. This study area helps create a more comprehensive understanding by inventorying key areas of parking activity, plus a block or two in every direction to monitor where parking demand lessens.

Figure 1-2 2015 Parking Strategy and 2013 Study Areas

2 KEY FINDINGS AND STRATEGIES

The following key findings and strategies are intended to serve as overarching themes and guidance for parking management. These conclusions were developed based on: observations of Newton Centre, review and analysis of parking data, stakeholder discussions, and, most importantly, input from participants in workshops, meetings, and online throughout the study. Technical analysis and data are included in the Appendices.

This set of strategies is intended to lay the foundation of sound parking management practices appropriate for the Newton context. The strategies set the context for a changing, growing, and thriving Newton Centre and can serve as a model for other Newton villages. All of these strategies are interrelated and were developed to be considered in tandem. They are also presented at a strategic level and will need additional review and feasibility assessments of each element prior to implementation. They include items not obviously parking-specific- such as walking environment improvements - with a big impact on parking behavior. As a whole, this Parking Strategy is about more than just parking: it sets the stage for a strong transportation backbone to support a wide set of community goals in Newton Centre.

Section 6 outlines the application of these strategies via a specific Action Plan.

KEY FINDINGS		STRATEGIES
Front-door spaces are full	➔	Create availability in core
Need for more long-term parking	➔	Establish attractive long-term parking areas
Enforcement is not customer friendly	➔	Address enforcement practices
Payment technology is inconvenient	➔	Upgrade payment technology
Walking barriers limit “park once”	➔	Improve walking environment
Signage is unclear or missing	➔	Provide signage and information

FINDING:
FRONT DOOR SPACES ARE FULL

Curbside spaces are not only an important resource for front-door access, these spaces are also in highest demand. On weekdays, on-street utilization is consistently high throughout the day in on-street core spaces, reaching 90% at the busiest times of day (Figure 2-3). In some areas, in particular Union Street, the on-street spaces are nearly 100% full all day (Figure 2-2).

Furthermore, the parking turnover counts found that despite posted two hour time limits, 25% of parking spaces are occupied by cars that are over-staying the time limit (especially in the areas of highest demand - Union Street and Braeland Avenue. Additionally, survey findings illuminate that approximately 30% of business owners and employees park in short-term on-street spaces, shuffling cars around (Figure 2-4); these prime-desired spaces could be freed up for use by customers.

Figure 2-1 Parking on Union Street

Figure 2-2 Weekday Utilization of 2 Hour Parking Spots on Union Street

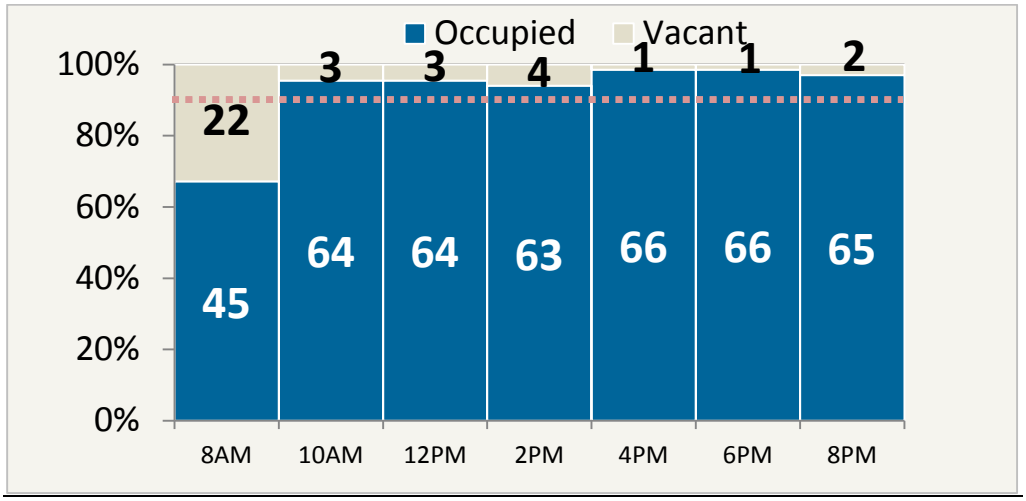


Figure 2-3 On-street Utilization in the Core (and Core Map)

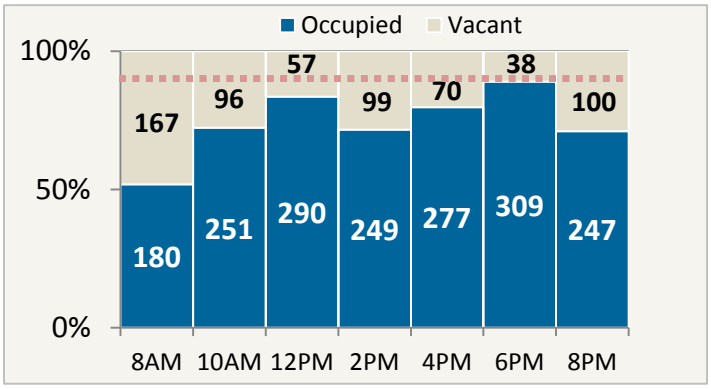
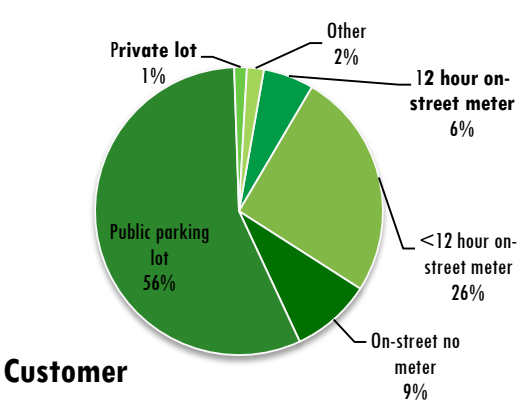
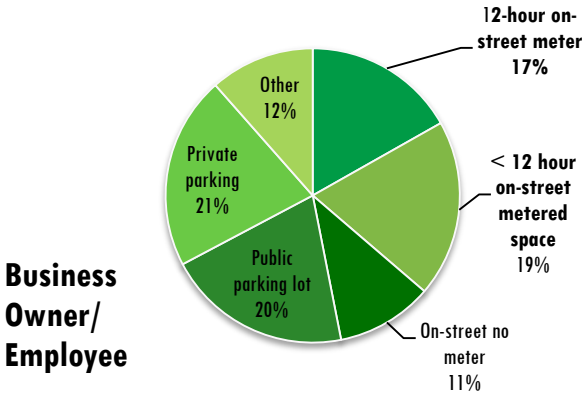


Figure 2-4 Newton Centre Employees Park in Prime On-Street Spaces





STRATEGY:
CREATE PARKING AVAILABILITY IN THE CORE (A)

In order to foster a strong economic climate in village centers and to support City goals of supporting local business, the City should adopt several strategies to **create availability in areas of highest demand**. The City can make a vast impact on the perception and realities of over-parked areas through the following strategies:

Adopt an Availability Goal (A2)

Parking rates should be set to effectively manage parking demand with an adaptive system. This means that parking policies should be dynamic to respond to changes in parking supply and demand. These rates cannot be static; they should respond to changes in land use and the community. Newton should establish parking rates based on parking demand to achieve a goal set by the City and community. **If the City adopts an "Availability Goal" for Newton Centre, rates should be adaptively adjusted until the goal is achieved.** For example, based on the current parking demand data, if a goal was set to have at least 10% of spaces available at all times on Union Street, today's high demand would warrant an increase in price. Likewise, some blocks where the demand is low would warrant a decrease in price.

Adopting an availability goal and adjusting price to meet this goal would require a reliance on parking utilization data, as well as delegating the responsibility of rate adjustment to parking management staff, not elected officials. In tandem with new parking technology (which dynamically assesses parking utilization), staff would also have easier ability to adjust the cost of parking as need be for availability. With this, some communities have also 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.

The City should consider Availability Goals in Newton Centre where, at minimum:

- 15% availability of each block's on-street parking (Core and Secondary)
- 10% availability of all off-street parking (Core and Secondary)
- 30% availability of other on-street parking (Surrounding)

Actively Manage High Demand Parking Areas (A1)

Pricing of parking to be the highest 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, as well as offer drivers a choice. **The City should rely on price, not time limits, to manage parking**. Price will incentivize parkers to comply with the

BEST PRACTICE – Salem, MA

Using parking utilization data, the City determined how and where parking demand varied throughout downtown Salem. The City created multiple districts with different rates to match demand. By offering multiple rates, the City incentivized filling more spaces in its previously empty garage and created more availability on-street. More information is available at www.parkinginsalem.com.

rules, rather than setting up rules that (according to 2015 data), 25% of parkers are breaking. Principles for creating availability by parking management include the following strategies:

Time Limits

Arbitrary time limits do not enhance customer experience, but rather limit visitors, shoppers, and diners to short periods of stay. **If a customer would like to stay in town to patronize businesses, then they should be able to park on-street (and pay the meter) or off-street and spend as little or as much time as they'd like.** Turnover data and enforcement input both reflect that many parking users wish to stay longer than the on-street meters allow. Instead of using arbitrary short time limits to encourage turnover (which often just encourages "shuffling" by customers and employees), price should be used to manage parking availability.

Enforcement Hours

Today, the pricing and enforcement hours varies, but can begin as early as 7AM and end as late as 7PM depending on the area[1]. However, these are not necessarily the hours of demand. **Parking management should be active during the hours of demand, not just during "typical" weekday office hours.** Utilization counts show that demand extends further into the evening than the current enforcement hours. Thus, in higher-demanded areas, pricing could be extended until 8PM or 9PM, or whenever the high demand ends. This pricing and enforcement hour extension is expected to markedly increase available spaces for customers at high demand times, like during the dinner hour. These hours can also be continually adjusted over time to meet demand as part of a dynamic parking management system. In order to ascertain changes in the enforcement hours, further consideration is needed to evaluate enforcement staff capacity and existing contracts.

Demand-Based Pricing

Parking should be priced highest in the busiest, most desirable areas and the price point should be balanced to maintain availability and allow parkers to self-select where they are going to park, based on their own price sensitivity and willingness to walk further. 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.

Build More On-Street Parking Supply (A6)

Although parking utilization counts indicate that there is ample supply to meet today's parking demand, **using curbside space to add parking supply in areas of high demand can help relieve some perceived parking pressure.** Increasing curbside spaces also increases the total number of "front door" spaces. Adding on-street parking within the existing right-of-way is also a cost effective and easy option for expanding parking supply, whereas adding off-street parking supply is generally more costly, has a lengthier process, and difficult based on land ownership and location.

Additional on-street parking supply opportunities could be considered for feasibility in areas where:

- Regulations could be changed to metered on-street parking, such as marked "live" parking or taxi spaces (Figure 2-5).

[1] http://www.newtonma.gov/civicax/filebank/documents/37297

- Spaces are overly long. Some parking spaces are striped to be 24-feet long; standard guidance suggests 20-22 feet is sufficient (Figure 2-6).
- Parking could fit but is not supplied today. This may reduce the length of queue capacity, adding parking closer to intersections, or narrowing lane widths.
- Extra curbside space that is not appropriate or long enough for vehicular parking should be considered for bicycle corrals or motorcycle/scooter parking.

All of the potential areas where on-street parking could be "added" should be further evaluated by City engineers.

Figure 2-5 Potential Opportunities to Add On-Street Parking

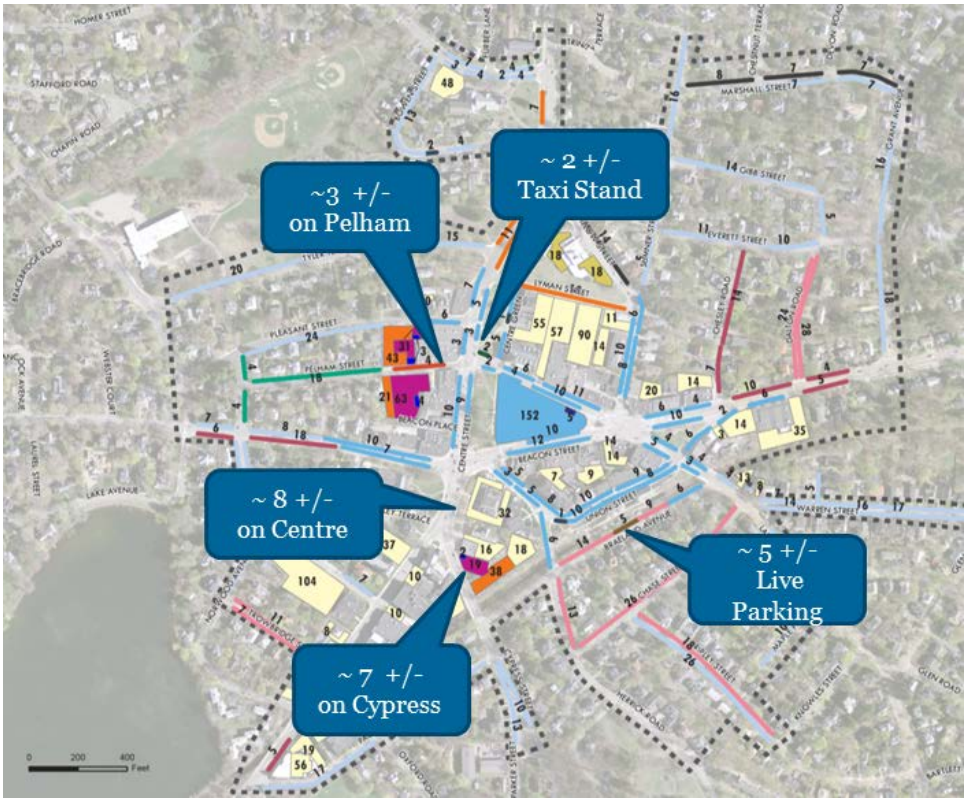
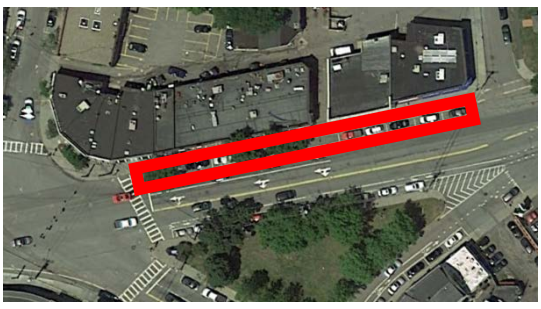


Figure 2-6 Some On-Street Spaces Can be Shortened to Add More Supply



A Parking Garage in Newton Centre?

The need for a parking garage was thoroughly analyzed in the 2013 study, which concluded that the public parking supply was sufficient to meet demand, unless public parking lots were replaced with new development. Since the data collected in 2015 is consistent with 2013 patterns, this report supports the 2013 conclusions and builds upon them, recommending several active parking management strategies to manage parking before consideration of building a structure. As of the 2015 counts, more than 1,000 parking spaces exist in the Centre but go unused – at the busiest time of day.

A garage may be needed in Newton if parking demand increases, due to increased economic activity, land development, reduction in parking supply, or a combination of these factors. Rather than attempting to forecast a point at which this may happen, best parking management practice would instead monitor overall Centre utilization at least annually and begin planning for new parking supply when utilization begins to exceed 80-percent of the overall supply. If or when a garage is warranted in the Centre, careful consideration is needed for financing and cost recovery (national trends indicate an above-ground structure can be ~$25,000 per space and below ground $40,000 per space), and that the success of a garage is still dependent on active management of other parking resources in the vicinity.

Create an Attractive Parking Option for Employees

Currently, employees are using short-term metered spaces to park, some of which are prime customer spaces. Employees and business owners often have longer-term as well as more frequent parking needs and may be willing to park farther away if well-priced, clear and convenient options are available. **Clearly offering attractive long-term parking options could draw employees from customer spaces, and thus parking availability in the core would increase.**

Price for Availability (A2)

To achieve the desired availability goal and improve customer satisfaction, demand-based pricing incentivizes demand to be better spread among supply. Based on parking utilization data from 2015, Figure 2-5 shows a set of recommended pricing zones to more effectively manage demand: a core zone (red), close to the heart of the center and areas of highest demand, a secondary or sub-core zone (orange) which is adjacent to the core but a slightly farther walk from high-demand locations, and the peripheral surrounding zone (blue), mostly consisting of residential side streets.

Based on observed utilization in these areas, the City should set zone-based rate changes and modify based on demand to meet the Newton Centre Availability Goals. Figure 2-8 shows a set of recommended rate changes that are responsive to the utilization trends observed in the 2015 study. Since the current demand rates are tied to current regulations and pricing, this also recommends future regulations, pricing, and an expected or target utilization based on the proposed management. These proposed numbers are based on national price elasticity standards for parking pricing, based on 2015 utilization data. These numbers are conceptual strategies that will need to be further assessed for feasibility and, once established, these rates and regulations are intended to be adjustable as need be to meet the availability target.

Figure 2-7 Proposed Parking Management Zones

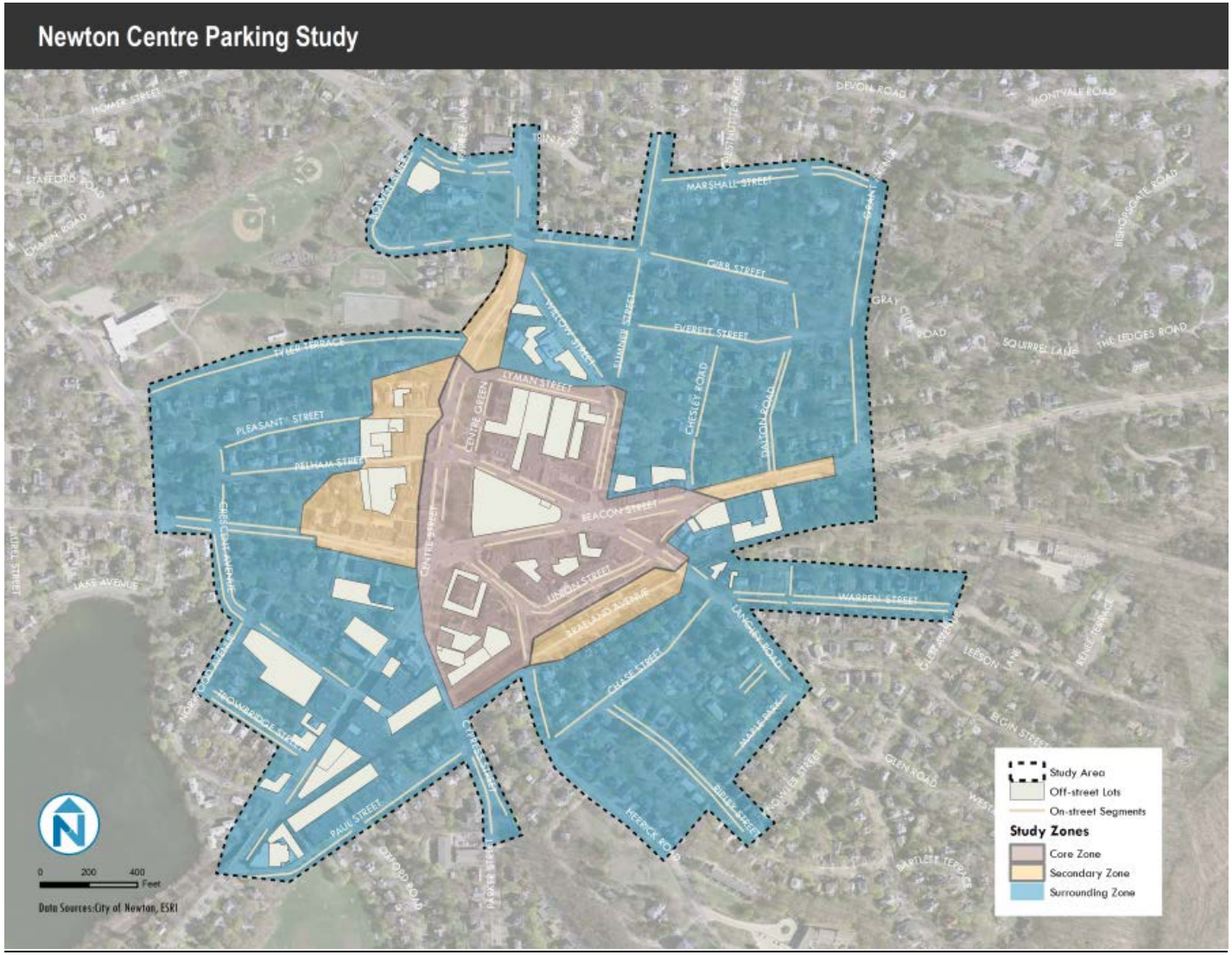


Figure 2-8 Proposed Parking Management Zones - Today vs. Proposed Initial Regulations[2]

Zone	Today's Regulations	Proposed Initial Regulations	Today's Peak Utilization	Expected Future Utilization[3]	Number of Spaces
Core	On-Street: ▪ $0.75/hr, 2-hr limit Off-Street: ▪ $0.75/hr, 3-hr limit ▪ $0.50/hr, 12-hr limit Varied span	$1.00 / hr for first five hours $2.00/hr after five hours No Time Limits Span: 9am - 8pm	92% (Wednesday, 6PM)	85%	247
Secondary	On-Street: ▪ $0.75/hr, 2-hr limit Off-Street: ▪ $0.75/hr, 3-hr limit ▪ $0.50/hr, 12-hr limit Varied span	$0.50/hr for first five hours $2.00/hr after five hours No Time Limits Span: 9am - 6pm	82% (Wednesday 12PM)	82%	78
Surrounding	Most $0 with 2-hr limit Varied span	Street-by-street opt-in Option A: ▪ Residents only ▪ $200/yr for residents ▪ 2-hr limits for non-permit holder parking (at no cost) ▪ Visitor option ▪ Regular enforcement Option B: ▪ Residents and Employees/Commuters ▪ $25/yr for residents ▪ $25/month for limited non-resident permits (up to 50% of spaces on street) ▪ 2-hr limits for non-permit holder parking (no-cost) ▪ Visitor option ▪ Regular enforcement ▪ Benefit to park free at Newton Centre meters for one-hour Option C: ▪ Status quo Span: 9am - 9pm	26% (Wednesday, 12PM)	40-50%	792

[2] Parking pricing to be managed and adjusted in support of an established Parking Availability Goal

[3] Calculated using an elasticity value of -0.3.

FINDING:
NEED FOR MORE LONG-TERM PARKING

Several findings throughout the study process indicated inadequate long-term parking management, which impacts all user groups. Nearly one-third of employees and business owners who responded to the survey indicated that they park in short-term on-street spaces – spaces ideally reserved for customers. Moreover, the turnover survey revealed that 25% of on-street spaces in the core have a time limit of two hours, but are filled with cars who overstay those limits.

In addition, elsewhere in the study area, parking assets are underutilized while users hunt for parking in the core area (Figure 2-10). Many of these underutilized parking spaces are in privately owned or restricted parking lots, whose owners may not want parkers driving in and out all day but who may be open to earning some income by leasing the lots for long-term parking. Others are on side streets, where most residents park in their own driveways (Figure 2-11).

Strategies to accommodate long-term parking demand should provide a greater variety of choices, eliminate unproductive "shuffling" between short-term spaces, and incentivize remote parking.

The City of Newton has already tackled a similar challenge in Auburndale, where the on-street parking system includes areas for employees to park on-street (Figure 2-9).

Figure 2-9 Auburndale's On-Street Parking Management

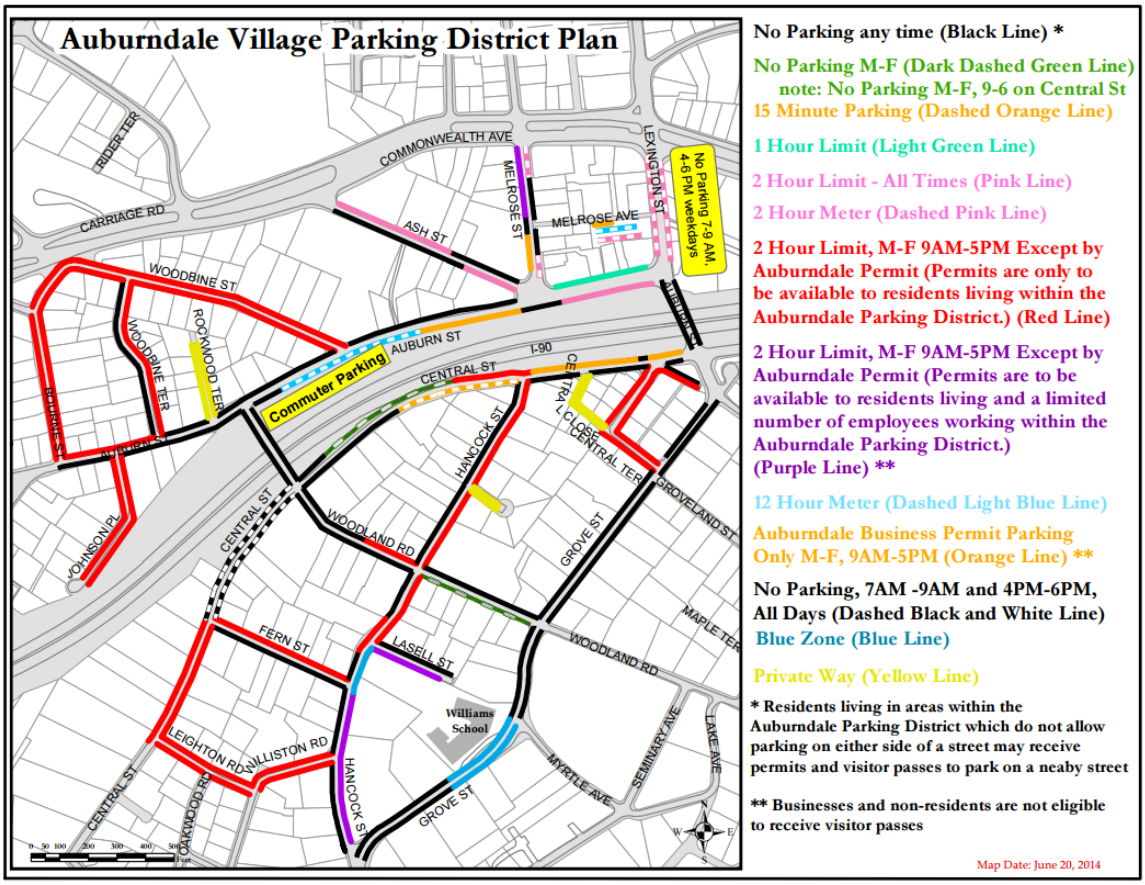
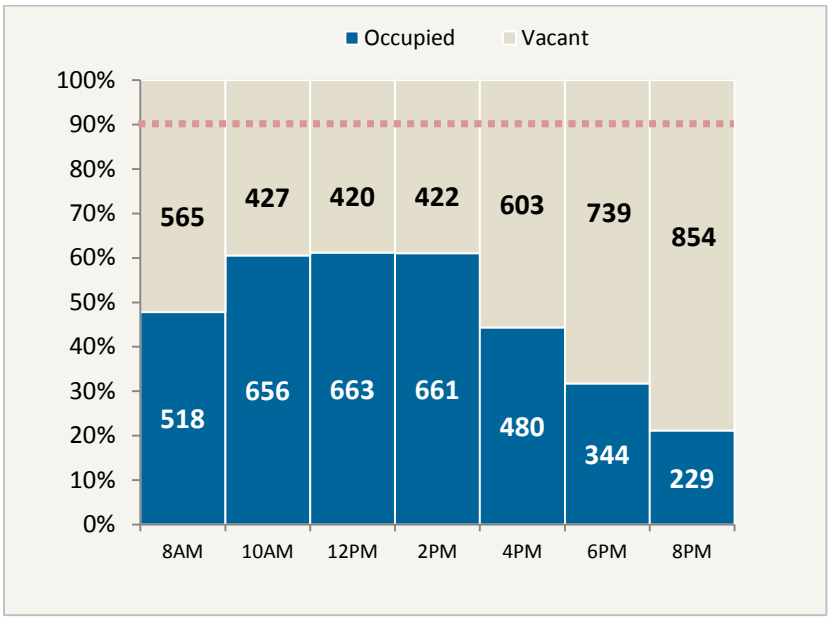
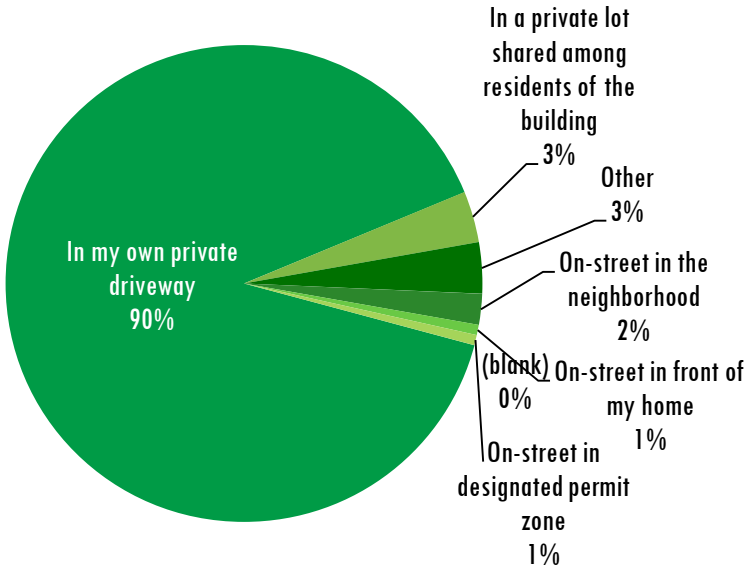


Figure 2-10 Privately-Owned Off-Street Parking is Only 60% Used at Peak



(*Charts are Off-Street Parking Only)

Figure 2-11 Where Residents Typically Park in Their Neighborhood



STRATEGY:
ESTABLISH ATTRACTIVE LONG-TERM PARKING AREAS (B)

Strategies to accommodate long-term parking can include approaches in multiple parking types: on-street parking (outside of high demand areas), public off-street parking, and privately owned or restricted off-street parking. In particular, some private off-street lots can be assets for long-term parkers; using these lots can help mitigate hunting for on-street spaces, which contributes to additional traffic and queues at intersections. Incentivizing longer-term parkers to park outside of the core can:

- **Maximize the use of existing parking**
- **Create availability in spaces "right out front" that are more valuable and thus more expensive**
- **Encourage street activity and walkability**

Remote parking use can be optimized and encouraged through a combination of the following strategies:

Extend or Eliminate Time Limits of Underutilized Short-Term Spaces (B5)

The three-hour spaces are consistently underutilized in the Pelham and Pleasant Street lots. Additionally, the designations of the three and 12-hour spaces in these lots is confusing to parkers, particularly those unfamiliar with the area. As the combination of location and time limits in these lots makes them less desirable for short-term customers, **some of these short-term parking spaces in off-street lots have availability throughout the day.**

Based on the utilization data, the City should consider shifting some short-term parking areas to long-term parking. In Newton Centre, the City should extend the time limits of the three-hour spaces to offer more parking to those that would like to stay for more than three-hours, and use price to maintain some availability in those spaces rather than having parkers use them all day long. This will **maximize the use of existing parking assets that currently are underutilized.**

Create Lease Agreements with Private Landowners to Expand Available Supply (B6)

Some private parking lots are ideal opportunities for parking to be shared, either because they are underutilized at certain times of day, because they have spare capacity throughout the day - for example a church on weekdays, and/or because the lots are in easy-to-access locations. These opportunities can be good candidates for long-term parking as

BEST PRACTICE – Lexington, MA

In Lexington Center, the Town leases spaces at a church and local utility that are not used during weekday peak hours. This expanded parking supply for employees and customers, and created revenue for those two entities.

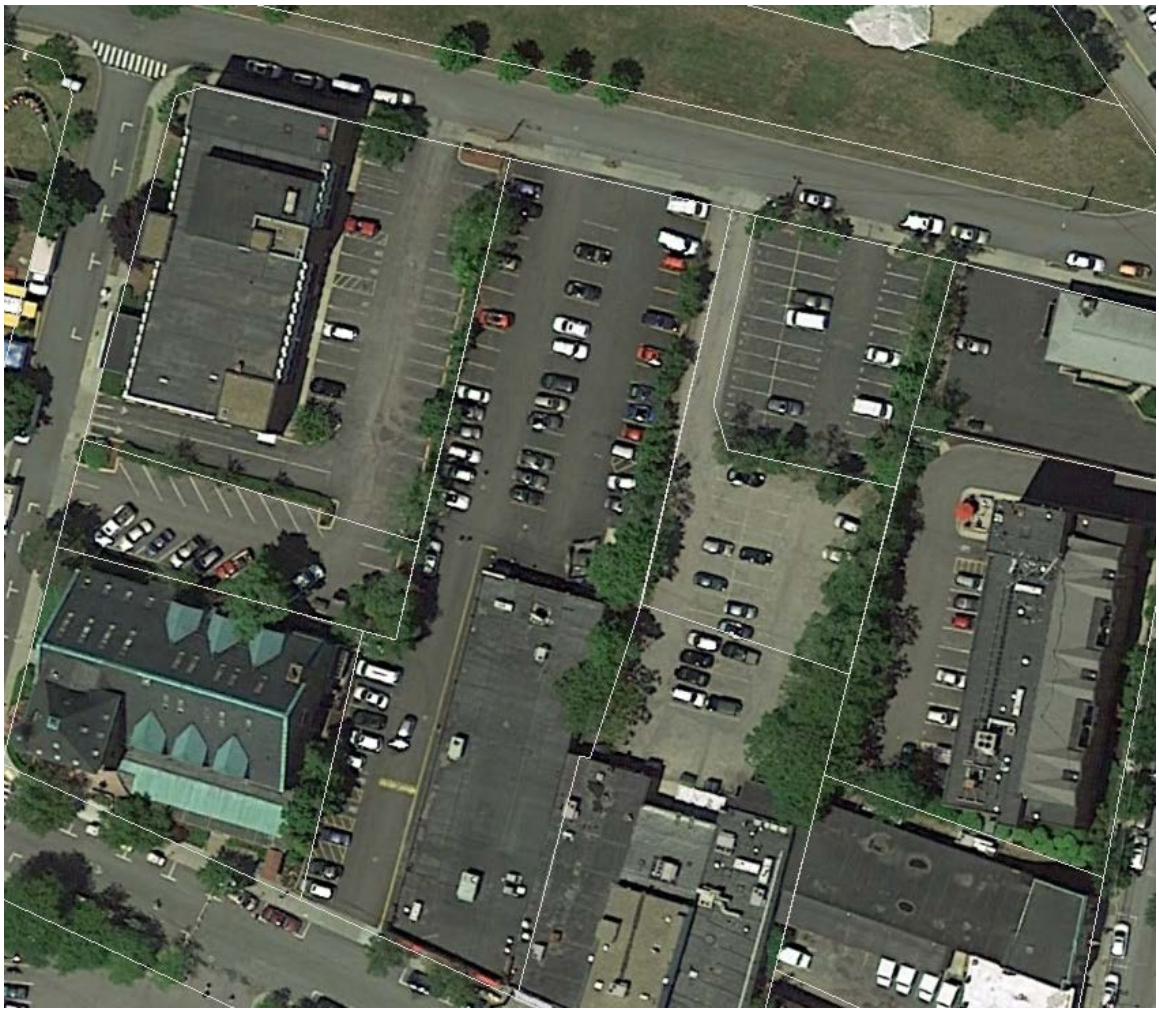
landowners may more readily agree to that than short-term parkers driving in and out throughout the day.

Currently, Newton Zoning requires a Special Permit for any sharing of parking spaces; this limits the flexibility of being able to share parking. The City of Newton should take an active role in seeking and facilitating shared parking agreements, which can take many forms:

- City leases spaces from a private owner for public use
- Private owner leases spaces from another private owner
- Private owner opens spaces to public use, for example a bank after hours

These agreements expand parking supply without expensive expansions that use valuable downtown land for parking.

Figure 2-12 Example: Restricted Use/Private Lots Off of Lyman Street



Specifically, the restricted use/private lots off of Lyman Street (behind Walgreen's and neighboring establishments) (Figure 2-12) would be good candidates for a shared parking agreement: overall, they are consistently underutilized, their adjacency may warrant combining the lots, which would likely increase the parking supply, they are nearby to core Centre activity, and some of these lots are used already by transient parkers.

Other potential shared parking opportunities could include churches, schools, banks, and medical offices. Some of these types of facilities are within a five to seven minute walk from the village center, others are a longer walk but could be explored as a free or cheap parking option.

Figure 2-13 Possible Locations for Remote Parking Agreements

Figure 2-14 Potential Pilot Streets for Permits

Establish Long-Term Parking Options On Side Streets (B2-B4)

Side streets are an excellent opportunity to expand usable supply at a low cost. Establishing clear parking options on side streets can be a cost-effective way for Newton Centre to move long-term parkers out of the core. One approach to manage this system is through permits. The system could allow a limited number of permit holders access to particular streets. This would protect residential streets from excess spillover and allow regular permit holders to park beyond the specified time. Potential program elements include:

- Opt-in program, street by street
- Establishing a goal to create long-term parking areas and fund neighborhood improvements
- Invest permit and enforcement revenues in neighborhood

- Evening and/or overnight parking restrictions

Opt-in program could include the following:

- Option A: Resident Parking Only, meaning that on-street parking would be available to residents only
  - Could maintain the existing two-hour parking if no permit
  - Could include visitor permits
  - Doesn't expand long-term parking but allows for short-term parking walkable to the village center, as today
  - Regular enforcement
  - Permit and enforcement revenues invested back into neighborhood
- Option B: Resident + Limited Non-Resident Holder Permits, meaning that up to half of the parking spaces on-street could be leased to a permit holder (could be a Centre employee or commuter)
  - Could dedicate spaces at end of blocks to non-residents
  - Could allow resident courtesy for one hour free parking at Newton Centre meters
  - Could maintain the existing two-hour non-permit holder parking if no permit
  - Could include visitor permits
  - Expands long-term parking while also preserving short-term parking walkable to the village center
  - Enforcement hours could be set for non-resident permit holders, beyond the current City ban on overnight on-street parking
  - Regular enforcement
  - Permit and enforcement revenues invested back into neighborhood
- Option C: Status Quo, meaning that today's regulations would remain

Initial rates for consideration, which are based on today's demand, are proposed and included in Figure 2-8.

The City may want to pilot this program on select streets. Some streets to consider are shown in Figure 2-14. The streets in the yellow areas have about 180 spaces which are about 50% utilized at peak. This proposed scheme would provide a maximum of 90 spaces for permit parking.

BEST PRACTICE – Commercial On-Street Parking District | Brookline, MA

Brookline established an on-street parking permit program for employees in 2008. The idea was brought about during a process to establish a residential parking permit program that would also update the cost of parking violations. Seeing the potential impact this could have on commercial area employees, merchants requested to create a permit program that would protect and serve parking opportunities for employees.

Hangtag permits were created for residential streets in a quarter to half mile area of the commercial districts. The number of permits per street roughly equals forty percent of the legal parking supply on a given street. Permits cost $500 per year (running from July 1st to June 30th) and permits allow employees to park on their designated street with exemption to the two hour rule from 8am to 8pm, Monday through Saturday.

In Fiscal Year 2015, 539 participated in the program and, in FY 2016, 515 have been sold. Typically, there is a waiting list of employees who would like to purchase permits and 20 to 25 employees will buy permits as space in the program becomes available.

FINDING:
ENFORCEMENT IS NOT CUSTOMER-FRIENDLY

While enforcement of parking regulations throughout Newton Centre is dependable and comprehensive, **enforcement practices could be made friendlier and also more effective.**

Parking enforcement is time-consuming and labor intensive. In Newton Centre, varied and short time limits are difficult to enforce. Current enforcement operations require a manual process to track length of stay for each car. While continually necessary, enforcement operations should be designed to work in tandem with updated parking regulations and signage.

A successful parking management program should be structured for compliance, decreasing the need to write tickets as the parking system will engender fewer violations. However, the current system is not welcoming to visitors who find themselves with an expensive ticket for visiting Newton Centre for more than two hours, and thus a poor impression of Newton Centre. This is reflected below:

Figure 2-15 Comments about Enforcement Collected in Survey and Workshops

"The meter maids are really relentless here compared to other towns. If you're 5 mins late, esp in the 9-10 am timeframe, you will get a ticket. **I think this is harsh and sends the wrong message to people choosing to visit Newton Centre** over "The Street" and the like."

"I regularly get tickets while I am buckling my child in the carseat to go home."

"I go into the store to grab quarters and get a ticket before I am even back at my car."

STRATEGY:
ESTABLISH CUSTOMER-FRIENDLY ENFORCEMENT PRACTICES (C)

Re-orienting enforcement policies and practices, in conjunction with updating regulations and parking management practices, can be very helpful in reaching the parking goals set by the regulatory framework. The enforcement team should be re-oriented to support parking goals:

1. **Create a customer-oriented parking system**
2. Develop sensible/reasonable parking regulations that are easy to use and easy to manage
3. Modernize and embrace parking technology
4. Establish a data-driven, flexible parking system that can adapt over time

As stated in Goal #1, this effort recommends a customer friendly approach, built on a demand -based pricing foundation. Thus, enforcement's role must change to support this updated policy. Parking enforcement operations should help to ensure and enforce parking availability and broader parking management goals, and not be punitive and deter customers and visitors away from Newton Centre. Particular policies and programs to consider are below:

BEST PRACTICE – Hartford, CT

In 2012, Hartford Parking Authority reorganized their parking management to become a municipal business enterprise focused on customer service and revenue. The Authority contracts parking staff through a bid-selected private agency and their staff responsibilities include:

- Courtesy
- Directions
- Enforcement

The new parking staff program has successfully re-cast HPA's image to be more customer-friendly and efficient.

Consider First Ticket Free with Information (C2)

A first ticket free (per calendar year) policy can be applied for non-safety violations such as overtime or missing a meter payment. **This system of issuing a warning is friendlier to users and could serve to change public perception of parking difficulties.**

In concert, the City could consider adapting its parking violation tickets to provide parking information, such as tips on where long-term parking is located, what the rules and regulations are, and where to find free parking.

Once parking technology is upgraded, it will be easier and more automatic for enforcement to do more dynamic tasks with their jobs as well, as they will be able to track and catalogue initial versus repeat offenders.

Consider Progressive Fines

Rather than raising citation rates across the board, Newton could consider increasing citation fees for multiple offenses. The City already does this for handicapped parking violations but could expand this to all parking infractions. A fine structure that differentiates between a first offense and a fourth offense is also more welcoming to parkers as it **rewards good behavior while deterring repeat offenses.** For example, the citation rate could double with each repeat offense. This strategy will also go hand-in-hand with upgraded technology, which will make enforcing this easier.

Align Parking Enforcement Mission to City Goals (C1)

Enforcement is part of an integrated parking system. The standards and protocols of enforcement staff should be evaluated and better aligned with City goals. In addition, Newton should continue to train and utilize its parking enforcement officers to be focused on encouraging appropriate parking behavior through friendly assistance and providing directions, as opposed to diligent ticket writing (Figure 2-16). **Enforcement should continue to focus on ensuring availability for customers.**

Similarly, continued coordination is essential between the parking enforcement staff and parking management within the City. Parking enforcement staff 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. Parking enforcement officers are a vital resource to identify patterns and influence policy.

Figure 2-16 Parking Enforcement Provides a Face to Downtown in Raleigh, NC

Allow Sponsored Holiday Parking (C3)

In order to further reinforce a customer-friendly atmosphere, the City could consider implementing a program where paid parking is sponsored by a local business on holidays or during special events. This could be implemented through branded meter covers, signage, and online.

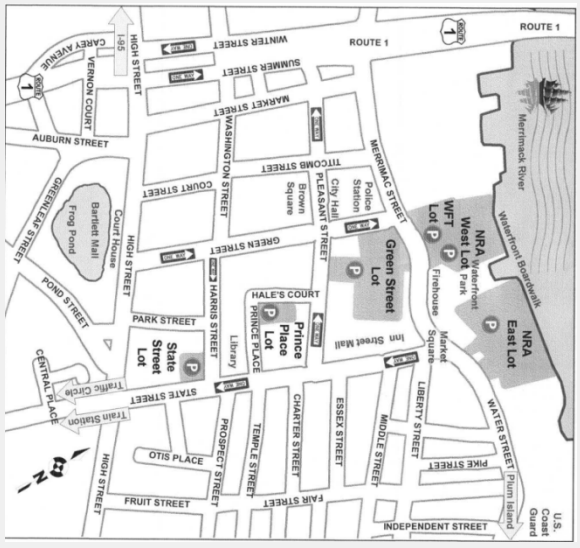
FINDING:
PAYMENT TECHNOLOGY IS INCONVENIENT

Newton Centre's existing parking meters are coin-operated (Figure 2-17). One lot has a kiosk that takes credit cards and cash. With the meters limited by coins-only, it is **difficult to raise rates, change rates by geography or time of day, enforce parking infractions, or provide dynamic messaging to users.** Coins are collected manually and do not provide block by block data that is useful in evaluation. From the user perspective, customers, employees and even businesses **are frustrated by the constant search for change** just to feed the meters. Although difficult to document, it is understood that parking compliance in Newton Centre is low because of payment limitations.

Figure 2-17 Payment Technology in Newton Centre

STRATEGY:
UPGRADE PAYMENT TECHNOLOGY (D1)

BEST PRACTICE
Newburyport, MA



Parkers in Newburyport can pay for parking with their cellphones with a "Parkmobile" app. The app works at all six municipal paid parking lots downtown.

Parking management technology has come a long way since standard meters were introduced nearly a century ago. Many meter innovations dramatically changed the operations and management of parking, both for the user and the operator. **Upgrades in technology have increasingly enhanced the customer and visitor parking experiences, made more efficient use of enforcement personnel, and simplified the evaluation and monitoring of parking utilization.** Input from the public meetings, the online survey, and stakeholder interviews revealed that new parking meter technology that accepts debit/credit cards are preferred for both on- and off-street facilities.

Convenient parking technology eases the burden of payment for the user, and several options are available (Figure 2-18). The City should consider options that:

- Make payment easy and convenient
- Use technology to pay by coin, debit/ credit, and cell
- Can combine meters & kiosks
- Can offer a “first 10 minutes free” option
- Use "virtual" permits, using license plates not stickers or hangtags
- Make enforcement easy

Integrate with enforcement equipment

Figure 2-18 Payment Technologies Including Credit Card meters and Pay by Phone

Pay by phone technology infrastruture is a simple matter of signage:

Meter and kiosk technology that accepts many forms of payment is easy for users to understand and access

App Image source: Town of Chapel Hill, http://www.townofchapelhill.org/town-hall/departments-services/police/parking/parking-in-downtown-chapel-hill/on-street-parking/how-to-use-parkmobile-when-paying-for-meters

These options may include:

- **Smart meters**, which are single-head meters that fit into existing meter poles and take multiple forms of payment. Depending on the technology, these meters can integrate with back-end software that allows the City to nimbly change prices and determine availability.
- **Pay by license plate kiosks,** which uses one kiosk for multiple parking spaces, where the user can pay with coin or credit, and the payment is linked to their license plate. The City of Newton has also collected feedback that having more than one kiosk in each lot would be helpful for customer convenience, and that snow/rain covers or shelters are desired.
- **Pay by phone,** where a parker can pay to park (or add time) via a cellphone. This is best implemented when applied as a supplemental layer to other parking technology. 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

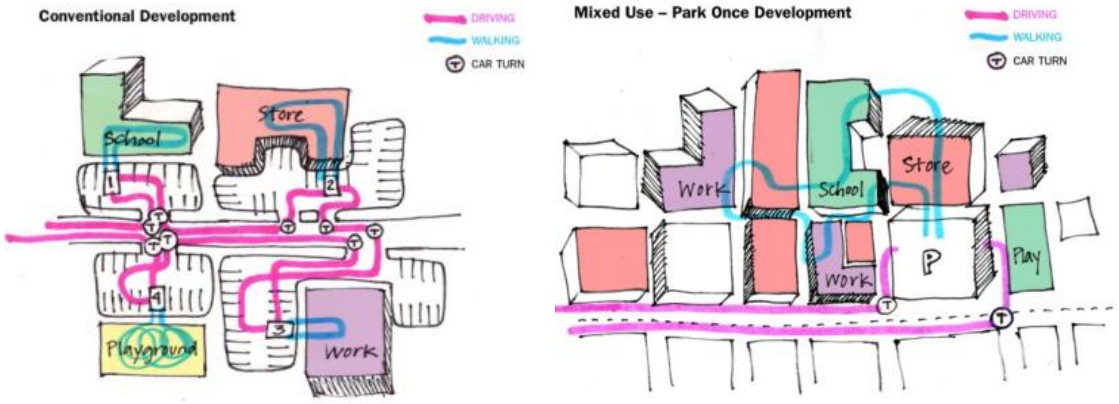
FINDING:
WALKING BARRIERS PREVENT "PARK ONCE" ENVIRONMENT

Parking is not just about parking: it is about getting from one's car to a destination, about not driving when there are other transportation options, and about which parking lots are used based on easy and safe access. Newton Centre is generally walkable. However, there are hidden, and not-so-hidden areas which act as pedestrian barriers, effectively becoming points which pedestrians, and even parkers avoid. These points are seen to affect parking utilization and availability, and it is important to understand that these barriers have different effects on different user groups. Customers are most likely to want to park close, or in view of their destination. Employees may be willing to park further away, but may have concerns about safety and visibility. Tourists need clear direction as motorists, and once parked, as pedestrians to featured locations. Commuters typically find the shortest walk from where they can park to the train station.

Large intersections, unsafe crossings (or crossings that feel unsafe), lengthy wait and crossing times, speeding traffic and other unpleasant walking experiences deter pedestrians even if there are sidewalks in an area. This in turn makes parking seem farther away, so that many want to park directly or very close to their destination and do not want to walk. 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 Newton, the desire is to "park once" and walk to destinations. However, a poor walking environment can deter this behavior, instead increasing vehicular congestion and decreasing the number of people on the street (Figure 2-19).

Figure 2-19 Parking and Traffic Patterns in Conventional vs. Mixed Use Development



STRATEGY:
IMPROVE WALKING ENVIRONMENT (E)

Improving intersections is a high-impact way to increase safety and walkability. Smaller intersections offer shorter walking distances, a more connected network, and added public spaces. Another important **benefit of a more connected pedestrian network is that parking facilities are in closer proximity to the driver's destination.** Additionally, better lighting and safer crossings make parking assets feel more accessible. And, 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 the walking environment include:

- **Bumpouts** – 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.
- **Enhanced Streetscaping -** Trees, benches, and other street features encourage walkers to linger on the street, creating a more active environment. Moreover, these improvements add to the richness of the streetscape and may slow traffic that has something more to look at than a blank wall or parking lot.
- **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.
- **Minimize/Close Excess Curb Cuts** – Every driveway is a conflict between people walking and people driving. Consolidating curb cuts reduces these conflicts and provides a smoother, simpler, more comfortable walk.
- **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.
- **Foot Traffic** – Encouraging walking to and from parking has the simple benefit of adding to foot traffic, which in turn creates a more comfortable and safe environment.
- **Maintenance** – Regularly re-stripe pedestrian markings like crosswalks with bright, reflective paint.
- **ADA Compliance** – Ensure curb cuts are ADA compliant and push buttons use the latest technology.

With respect to walking and circulating around Newton Centre, the following intersections and areas were identified as particularly challenging from a safety and convenience perspective:

- Beacon Street/Langley Road
- Langley Road and Centre Street
- Centre Street and Beacon Street
- Centre Triangle lot

Concepts were developed to show how these areas could be improved to support Centre goals. All ideas are concepts and shown via hand sketch; they are not engineered and would need

substantial analysis before implementation. Particularly, they would need to be assessed for their impact on traffic flow changes.

However, many of these concepts could all be implemented on an interim pilot level that could eventually be analyzed for construction feasibility in the long-term. The intersection concepts were developed from a safety and circulation improvement perspective, but they also make significant room for additional on-street parking in the core of Newton Centre. Note that the three conceptual intersection redesigns were also developed as a complementary system – based on the related directionality changes, some improvements would not make sense without the implementation of the others.

Figure 2-20 Key Identified Newton Centre Environment Improvements

Beacon Street/Langley Road Intersection

The existing intersection at Beacon Street and Langley Road (Figure 2-21) is overly large with complicated turning maneuvers and intersection cycles, causing safety issues for pedestrians and headaches for all users of the village center. With the current one-way street configuration southbound on Langley Road, a lot of traffic circulates through this intersection while trying to find parking.

Figure 2-21 Existing Beacon Street / Langley Road Intersection

A conceptual redesign (Figure 2-22) could make use of curb extensions to not only shorten crossing distances for those who walk but to also create room for additional on-street parking and increased stacking areas. A raised table slip lane would be used for a slow right turn maneuver from Beacon Street to Sumner Street, and it pulls these drivers out of the traffic signal, simplifying the cycle. This conceptual redesign would both improve pedestrian safety and create additional public spaces which could be used by nearby cafes.

Figure 2-22 Concept for Beacon Street / Langley Road Intersection

Langley Road and Centre Street Intersection

In today's circulation at Langley Road and Centre Street (Figure 2-23), in order to avoid the Centre Street and Beacon Street intersection and to find parking in the Centre Triangle Lot, many southbound drivers on Centre Street choose to make a left turn onto Langley Road. In order to support the conceptual redesign in Figure 2-22, this directionality would need to be reversed.

Figure 2-23 Existing Langley and Centre Intersection

Changing Langley Road to be northbound would allow for several improvements:

- Remove need for left turn lane on Centre Street
- Creates protected right turn from Langley Road to Centre Street
- Improved pedestrian crossing safety on Centre Street
- Supports narrowing of Beacon Street/Langley Road intersection

A complementary directional change and intersection redesign at Centre Street and Langley Road (Figure 2-24) would support the Beacon Street and Langley Road intersection concept, while also reducing left turn queues on Centre Street. Additionally, this circulation change may have an effect on rebalancing on-street parking utilization on Langley Road to other areas of Newton Centre. The proposed conceptual redesign creates room for a protected right turn pocket on Langley Road, leaving room for improved pedestrian crossing safety accommodations on Centre Street

Figure 2-24 Concept for Centre Street and Langley Road Intersection

Centre Street and Beacon Street Intersection

Similar to the intersection of Beacon Street and Langley Road, the Centre Street and Beacon Street intersection (Figure 2-25) also poses significant challenges for all users, including pointed delay for drivers and safety issues for those who walk around Newton Centre.

Figure 2-25 Existing Centre Street and Beacon Street Intersection

A redesign of this intersection and the Centre Street corridor section between Beacon Street and Cypress Street (Figure 2-26) could make use of pedestrian safety islands to reduce the overly large nature of this intersection while also creating shorter crossing distances, additional vehicle stacking space, and additional room for on-street parking. This design would also include raised table slip lanes at all corners of the Centre Street and Beacon Street intersection, allowing these through movements while also calming traffic and providing accessibility for pedestrians.

Figure 2-26 Concept for Centre Street and Beacon Street Intersection

Centre Triangle Lot

The existing Centre Triangle Lot has a lot of excess pavement with zero accommodations for walking safely from one's vehicle through the parking lot to one's destination. There is also significant danger posed to walking in this lot by both the cut-through traffic from Beacon Street to Langley Road and from cars making use of the excess pavement to speed around the lot to find parking.

Figure 2-27 Existing Centre Triangle Lot

This lot could be redesigned to create a safer, more beautiful, and hospitable walking environment while also mitigating speeding cut-through traffic (Figure 2-28). Once engineered, this could result in a small gain or loss of parking supply, but this design would moreover be implemented in order to reduce cut-throughs and to increase safety for people who walk in Newton Centre, which includes people who walk from their cars to nearby businesses.

Figure 2-28 Concept for Centre Triangle Lot Redesign

FINDING:
SIGNAGE IS UNCLEAR OR MISSING

Signage is an important element of parking management. Providing clear identification of parking facilities aids in understanding where it is acceptable to park and where it isn't. **Newton Centre has a healthy visitor business, and having clear guidance for these patrons, who are unfamiliar with the area, is a crucial component of their experience.**

Existing signage is difficult to understand, both on public and private property. Figure 2-29 below shows existing parking signage that is either inconsistent, hard to read, or both.

Figure 2-29 On-Street Signage in Newton Centre

Colored stickers on the meters provide additional information, show in Figure 2-30.

Figure 2-30 On-Street Meter Information

These direct color-code stickers makes regulations clear once one has parked. However, these stickers have the following issues for on- and off-street meters:

On-Street Meter Stickers:

- Are not visible while driving
- Require advance knowledge of color code
- Are inconsistent: 12 Hour is sometimes red and sometimes white
- Do not indicate pricing span
- Face the sidewalk (and pedestrians), not the street (and drivers)

Off-Street Meter Stickers:

- Are unclear before entering lot
- Create unclear divisions within lot
- Regulation zone hard to see behind parked cars
- Do not indicate pricing span

STRATEGY:
PROVIDE SIGNAGE AND INFORMATION (F)

Increased signage visibility and wayfinding will encourage the use of currently underutilized off-street lots and maximizes the utility of prime, on-street spaces. Overall, signage should work with enforcement design and policy to eliminate confusion and ensure that all users understand the rules and locations of parking. Signage should be available:

- **Before You Arrive:** Making parking information available for visitors and customers before arriving will allow parkers to plan their trips ahead of time and find parking with ease. Having a single, simple map posted on the City's website, Centre merchants' websites, and posted at other activity centers, will provide a consistent informational guide. Off-street parking lots should be consistently branded on the website as well as on site.
- **At Your Arrival:** Signage should be clearly visible, designed consistently, placed in strategic locations, and should provide clear guidance to and from parking locations. Off-street lots should have easy-to-read identification entrance signs and exit signs, including information on regulations.
- **During Your Stay:** Providing clear pedestrian signage helps to create and promote a "park once" district, allows customers to feel comfortable walking to multiple locations on foot. Signage also allows parkers to easily find their destination and parked vehicle at either end of their trip.

Figure 2-31 Proposed Locations for Parking-Related Signage

Branding and Signage of Public Parking (F3)

BEST PRACTICE – Pittsfield, MA

In Pittsfield, MA, the public garage did not have signage to signify it was open to all users. The City recently invested in standard blue signage to make the garage more recognizable to parkers.

Image Source: Downtown Pittsfield Facebook

Signage should be clearly visible, designed consistently, placed in strategic locations, and should provide clear guidance to and from parking locations. Off-street assets should have easy-to-read entrance signs and exit signs, including rate information.

Nationally, many towns have adopted the traditional "blue P" signage. This is easy for first-time visitors to understand and use to navigate to parking. Rather than many of the signs shown in Figure 2-29, that tell parkers where they *can't* go, this signage is welcoming and helps parkers figure out where parking is available to them.

Figure 2-32 Proposed "Blue P" Signage for Lots on Pelham Street

Enhance Wayfinding to Parking (F3)

Off-street lots behind commercial areas are assets for long-term parkers and help avoid cruising for on-street spaces, which contributes to traffic downtown. Figure 2-32 shows a sample street in Newton Centre where signage would clearly help direct users to off-street facilities. In addition, Figure 2-33 shows proposed locations on-street before arrival that would help guide drivers to parking.

BEST PRACTICE – Salem, MA

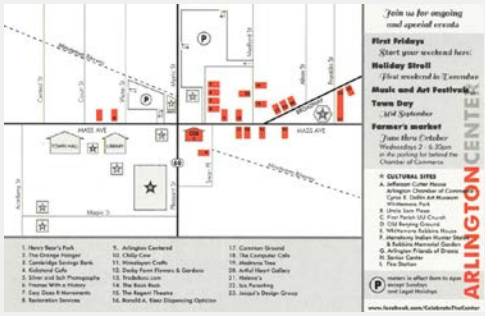
Image Source: Nelson\Nygaard

Figure 2-33 On-Street Directional Signage to Parking

Create Business Community Connection with Parking Through Information (F2)

Making parking information available for visitors and customers before arriving to Newton Centre will allow parkers to plan their trips ahead of time and find parking with ease. Having a single, simple map posted on the City's website, downtown merchants' websites, and posted at other activity centers, will provide a consistent informational guide. Off-street parking lots and garages should be consistently branded on the website as well as on site.

BEST PRACTICE – Arlington, MA



Center merchants in Arlington Center created a double-sided printed postcard that identifies special events, business locations, and parking areas.

BEST PRACTICE – West Newton Square, MA

West Newton Square map shows parking and transit routes, plus identifies major destinations.

3 ACTION PLAN

Parking strategies proposed for Newton Centre cannot be implemented overnight, nor can they all be implemented concurrently. Some strategies, however, can be implemented quickly; others may take years. Some strategies work well when implemented together; others must wait until a series of steps are taken first.

The Action Plan is a roadmap that supports the strategies outlined in the previous section. It is ordered by recommended timeframe for implementation and categorized based on the six primary strategies already identified. The Action Plan can be a living document and used by City staff, business partners, and residents to help inform decisions.

The Action Plan is organized via the following structure:

- Time Frame
  - Short Term = to be implemented within one year
  - Medium term = to be implemented between one and three years
  - Long term = to be implemented in more than three years
- Strategy
  - The six umbrella strategies, as identified in Chapter 2 run along the left side
- Impact of sub-strategy actions
  - Catalytic (Dark grey shaded) - key effective strategy to address identified issues
  - Supportive (Light blue shaded) -not critical beneficial for optimal impact

Within this structure, the Action Plan includes the following for each sub-strategy action:

- ID
  - Identification code that start with a letter (associated with Strategy) and number (linked to consecutive Actions)
- Actions
  - The specific steps to move towards or implement recommendations
- Implementation Considerations
  - Select factors to be evaluated and/or integrated into decision-making and roll out of Actions
- Community Priority
  - A green dot in the right-most column is included if this action was identified in the October/November 2015 survey as top priority during the prioritization phase of the project

Figure 3-1 Newton Centre Parking Action Plan

Strategy	ID	Actions	Implementation Considerations	Community Priority
SHORT TERM				
Create Parking Availability in the Core	A1	Evaluate proposed zonal boundaries	*Consider project study area, but also surrounding areas, particularly to the north and south of study area*	●
		Evaluate proposed rates, time limits, and span	*Select date to re-evaluate impact of initial rate structure*	●
		Calculate financial impacts of rate, time limit, and span changes	*Consider fiscal impacts to Parking Authority, but also consider secondary effects to businesses*	●
	A2	Create availability goal	*Consider 15% available of each street's hourly paid on-street; 10% paid off-street; 30% surrounding areas/ side streets*	●
		Draft regulatory changes needed	*Consider transferability to other Newton Villages and precedent setting pilot; tie into technology for adaptive changing and set up system so staff can change rates over time with demand*	●
	A4	Coordinate enforcement hour changes with Parking Enforcement Officers (PEO)	*The simpler the enforcement hour changes, the more easy to coordinate with enforcement*	
	A5	Update signage as needed	*May need to conduct existing signage inventory first*	
	A6	Evaluate identified areas for on-street parking expansion	*Should also track what regulation these spaces would be (i.e. signage impacts, meters, etc.); Needs to be assessed for feasibility with Engineering*	
	A6	Change signs/ regulations for live parking and/or taxi spaces	*May necessitate closer look at loading areas; consider one, consolidated drop-off/pick-up area at T (provides better service and easier to enforce)*	

Catalytic

Supportive

SHORT TERM

Strategy	ID	Actions	Implementation Considerations	Community Priority
Establish Attractive Long-Term Parking Areas	B1	Evaluate identified areas for long-term parking expansion	*Consideration of private property ownership and current parking utilization, plus special events*	●
	B2	Work with residents to identify pilot streets	*Clearly indicate "opt-in" program; needs clear materials, deadlines, and point of contact (identify City staff)*	●
		Identify online permit system	*Consider compatibility with other City IT initiatives/permitting and collections*	●
		Coordinate permits to be enforced via LPR	*Coordinate choice of LPR technology with PEO contract and new payment technology*	●
	B3	Identify/ establish mechanism for neighborhood funds reinvestment	*Determine proper mechanism to track revenues and expenses; create guidelines for process*	●
	B4	Create Permit Benefit District program guidelines	*Keep it simple and model after national best practice*	●
	B5	Evaluate short-term spaces that could be extended to long-term	*Build in flexibility based on effectiveness at satisfying demand*	
	B6	Evaluate identified underutilized restricted/ private parking areas - including remote parking	*Considering access, safety, proximity to high-demand locations*	●
		Explore shared parking agreements with landowners	*Update Newton Zoning to easier allow sharing of parking spaces; Prioritize locations that have ample availability throughout the periods of high demand*	●
		Explore legal terms/ draft shared parking agreements with variable terms	*Key considerations: lease length, rate, maintenance, lighting, security, signage, enforcement*	●

Catalytic

Supportive

Strategy	ID	Actions	Implementation Considerations	Community Priority
SHORT TERM				
Address Enforcement Practices	C1	Align PEO mission with City goals - Draft parking enforcement mission - Training tied to City goals/ mission -Have monthly parking team meetings	*Should have participation from multiple departments and PEOs to develop goal-oriented mission and next steps; tied to technology upgrades*	
	C2	Consider first ticket free per calendar year - Use enforcement data to identify financial impact	*Consider compatibility with other City IT initiatives (permitting and collections)*	
	C3	Allow sponsored holiday parking -Allow businesses to pay for meters	*Understand parking availability considerations. Outline program limitations*	
Upgrade Payment Technology	D1	Evaluate cost proposals from MAPC procured vendors and others	*Work with IT to ensure back-end connectivity (e.g. solar vs. wired, etc.)*	
		Invite several technology vendors to pilot/ test payment technology on Beacon/ Centre Streets and in lots. Use for demonstration, education, and user feedback.	*Will require coordinated publicizing and outreach to local businesses and residents*	●
		Determine procurement of: - Smart meters and/or kiosks - Pay by cell vendor - License plate recognition (LPR) enforcement - Online permit registration and payment	*Consider compatibility with other City IT initiatives/permitting and collections*	●
		Roll out pay by cell -Create promotional cards and programs to explain how pay by cell works -Pilot in one of the lots	*Ensure compatibility with enforcement*	●

Catalytic

Supportive

Strategy	ID	Actions	Implementation Considerations	Community Priority
SHORT TERM				
Improve Walking Environment	E1	Pilot one proposed intersection improvement with landscaping materials and paint	*Select location based on pedestrian safety/available pedestrian injury data/higher pedestrian demand locations; assess feasibility with Engineering*	●
	E2	Further assess feasibility and draft paint re-striping scheme for Centre Lot	*Work with Engineering and DPW to maximize pedestrian safety, circulation, and number of parking spaces*	●
	E3	Evaluate operations of proposed intersection redesigns	*Using temporary measures such as cones, paint, planters*	●
	E4	Improve crosswalk striping and visibility	*Consider new signage and lighting for select crosswalks*	●
Provide Signage and Information	F1	Identify addresses for public parking lots and add to Google	*Aim to tie address to the primary entry of the parking lot*	
	F2	Create print and web-ready parking map with parking information summary, - Print and distribute to local businesses - Post on City webpage - Encourage businesses to post online	*Collaborate with local businesses to map Centre businesses and parking locations*	
	F3	Inventory existing parking signage GPS locate locations, type, content, image	*Work with GIS*	

Catalytic

Supportive

Strategy	ID	Actions	Implementation Considerations	Community Priority
MEDIUM TERM				
Create Parking Availability in the Core	A4	Review and propose changes to PEO contract	*Evaluate existing contract terms and identify methods to achieve larger goals*	
	A6	Restripe on-street spaces to 20 feet	*Areas may warrant engineering analysis; coordinate with utility projects and roadway resurfacing/ repaving*	
	A6	Stripe, sign, and meter (if applicable) new on-street parking spaces	*Areas may warrant engineering analysis*	
	A7	Evaluate Parking Benefit District (village-by-village or Citywide) to invest parking revenues in parking and transportation improvements	*Work with legal department to craft legal Benefit District language*	
	A8	Conduct loading needs evaluation (including deliveries, taxis, shuttles)	*Consider time of day needs and shared loading zone space*	
	A10	Conduct BC game day parking evaluation	*Collect data on game days to understand extent of spillover parking*	
	A10	Determine key changes needed to address identified issues	*Work with community to identify most appropriate solutions*	
	A11	Draft design plan and evaluate replacing south side of parallel parking with reverse angled parking on Union Street	*Work with Engineering and Department of Public Works*	

Catalytic

Supportive

Strategy	ID	Actions	Implementation Considerations	Community Priority
MEDIUM TERM				
Establish Attractive Long-Term Parking Areas	B4	Draft regulatory changes needed	*Consider transferability to other Newton Villages and precedent setting pilot*	●
	B9	Conduct a comprehensive zoning code evaluation; consider adopting/ modifying best practices in parking codes for downtown areas	*Coordinate with other zoning code updates; use existing parking data to create Newton-specific code*	
Address Enforcement Practices	C3	Explore adding educational information to parking citations - Work with City to identify FAQs	*Work with PEOs and enforcement software to ensure practical*	
	C4	Explore and consider progressive fines - Model financial impact based on existing data	*Work with PEOs and enforcement software to ensure practical*	
Upgrade Payment Technology	D1	Replace existing meter heads with new technology	*Work with Department of Public Works*	●
	D1	Work with PEOs and City staff to determine issues with existing LPR system	*Work to ensure system is fully operational and compatible with new payment technology*	●
Improve Walking Environment	E3	Draft plans for select intersection redesigns	*Work with Engineering to study and develop*	●
	E3	Include intersection construction in CIP in 2016	*Coordinate with other area improvements (repaving, etc.)*	●
Provide Signage and Information	F3	Confirm locations and quantities of wayfinding and lot identification signage	*Work with City departments to coordinate with other signage management; coordinate with intersections*	
		Design content (including Lot Names) and layout for signage – create standardized model of signs	*Work with City departments to coordinate with other signage management*	
		Determine costs and order signage materials, including supportive poles, etc.	*Develop maintenance plan*	
		Install signage	*Work with Department of Public Works*	

Catalytic ■ Supportive □

Strategy	ID	Actions	Implementation Considerations	Community Priority
LONG TERM				
Create Parking Availability in the Core	A3	Evaluate parking demand during peak hours at least once per season. Adjust rates and regulations as needed based on demand/ availability goal.	*Assign as a Departmental responsibility, add to work calendar - explore adding to PEO enforcement contract*	●
Establish Attractive Long-Term Parking Areas	B7	Explore parking lot efficiencies with private landowners	*Prioritize locations with multiple adjacent curb cuts and in close proximity and in high-traffic areas*	
	B8	Monitor and evaluate long-term parking demand on-street and lots established via shared parking agreements. Adjust rates based on demand.	*Assign as a Departmental responsibility, add to work calendar - explore adding to PEO enforcement contract*	
Address Enforcement Practices	C5	Evaluate rebranding of enforcement staff	*Work with PEOs to identify ongoing training and identify relevant pro-active customer-oriented functions*	
Improve Walking Environment	E3	Construct intersection redesigns	*Construction management*	●
Provide Signage and Information	F3	Evaluate signage impact; determine re-locations, updates, etc.	*Work with Department of Public Works*	

Catalytic

Supportive

APPENDIX A PARKING INVENTORY

This section documents the supply and regulations of Newton Centre parking facilities. The inventory is based on existing data provided by the City with additional data collected from field observations in Spring 2015.

KEY FINDINGS

- There are 2,581 total parking spaces in the entire study area, with 1,117 on-street and 1,464 off-street in parking lots.
- 57% of the inventory is in off-street parking lots
- Most on-street parking in the Newton Centre study area is available for public use, the vast majority of which is both time-restricted and priced.
- With differing regulations on almost every side street, there are 35 unique on-street regulations (these regulations are listed in Figure A-3).

INVENTORY

Figure A-1 enumerates all of the parking spaces in the 2015 Parking Strategy study area, including all off-street and on-street spaces. Figure A-2, Figure A-3, and Figure A-4 also detail the breakdown of regulations, time limitations, and cost of the various on and off-street spaces. All parking inventory data was compiled and used to create a complete parking database of all parking facilities in the study area, which was then geo-coded to spatially display the existing parking facilities, as shown in Figure A-2.

Figure A-1 Parking Inventory

Parking Location	Number of Spaces	Percentage of total	Publicly Available[1]	Restricted-use[2] / Private	City-Owned	Non-City Owned
Off-Street	1,464	57%	367	1,097	417	1,047
On-Street	1,117	43%	1,089*	28	1,117	0
Total	2,581	100%	1,506	1,075	1,534	1,047

* Does not include taxi stands or permitted spaces

As articulated in Figure A-1, the majority of parking spaces are off-street (57%) and, of those off-street spaces, the vast majority (74%) are restricted-use/private access. The majority of on-street spaces are publicly available and they are predominantly time-restricted, as can be seen in Figure A-3. 313 (28%) of all on-street spaces are metered, predominantly around the core.

[1] Publicly available spaces are those that not restricted to particular users.

[2] Restricted-use spaces are those reserved for a particular set of users, like customers, employees, or a specific group of users for particular establishment.

As can be seen in Figure A-2, most side streets surrounding the core have parking on at least one side of the street. The majority of these side street parking areas have a two hour time limit but the time of day restrictions vary widely by street, creating a lot of complexity in the parking system (the extent of documented regulations can be seen in Figure A-3). Most other side streets are time-limited to one hour or have a time of day restriction which would prevent parking at rush hour or parking there all day.

There are also some unique regulations on select streets throughout Newton Centre. On Langley Road, there are two parking spaces reserved for taxi stands. On Braeland Avenue, there are five spaces reserved for "live" parking for drop-off and pick-up from the Green Line T station. And on Pelham Street and Crescent Avenue, there are 26 on-street spaces reserved for residential parking permit holders, which cost $25 per year and include two visitor parking placards.

Of the off-street parking facilities, four of those are managed by the City. All have individually metered parking spaces (unless noted otherwise) and they have the following characteristics:

- Pleasant Street
  - Located behind CVS between Pleasant Street and Pelham Streets
  - 31 3-hour parking spaces ($0.75/hr) and 43 12-hour spaces ($0.50/hr)
- Pelham Street
  - Located behind Panera between Pelham Street and Beacon Place
  - 63 3-hour spaces ($0.75/hr) and 21 12-hour spaces ($0.50/hr)
- Centre Triangle
  - Located between Langley Road, Beacon Street, and Centre Street
  - 152 2-hour spaces ($0.75/hr)
- Cypress Street
  - Located by the green line tracks, with access off of Cypress Street
  - Has one kiosk-style meter
  - 19 3-hour spaces ($0.75/hr) and 38 12-hour spaces ($0.50/hr)

Figure A-2 Parking Inventory and Regulations

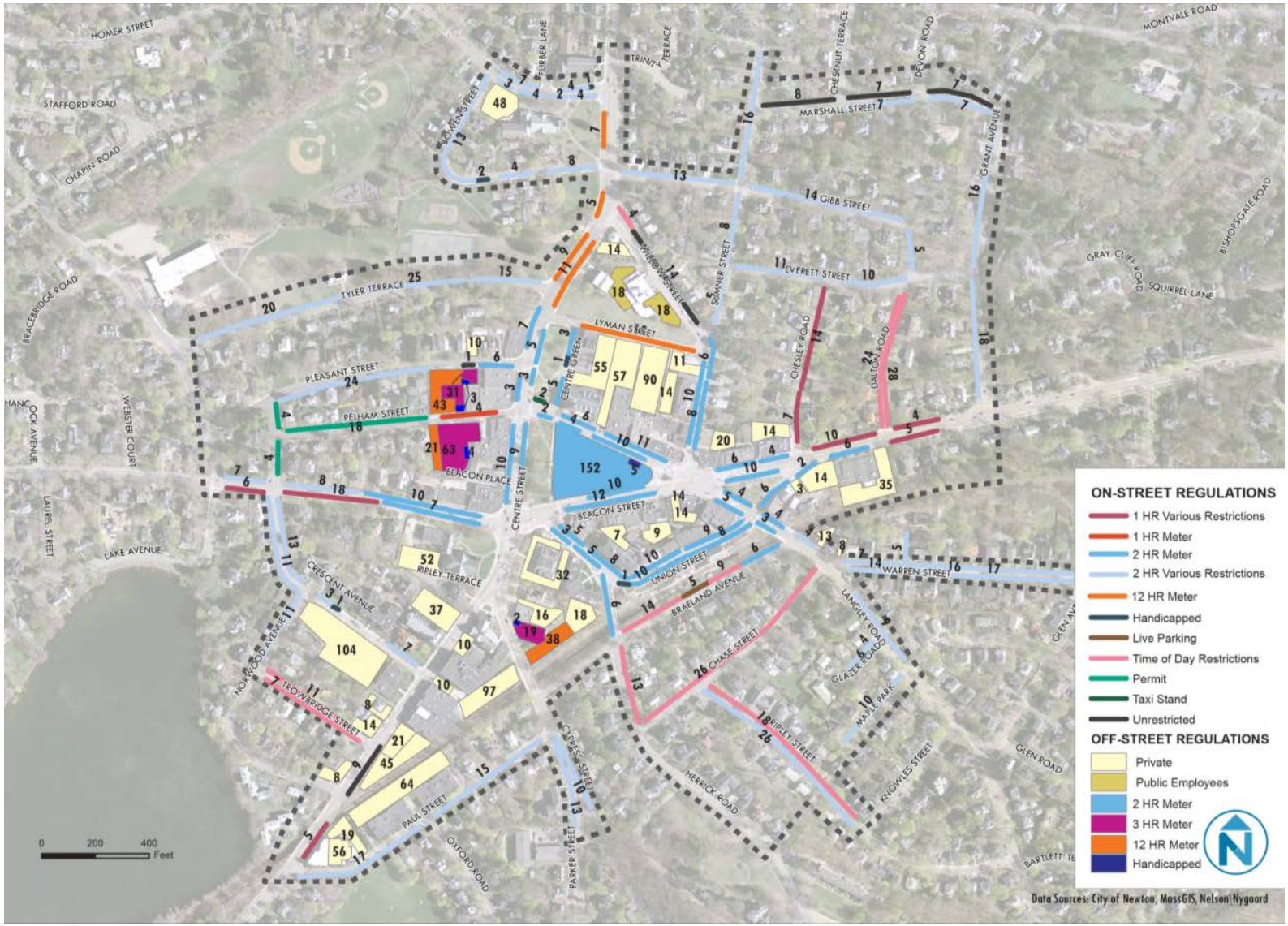


Figure A-3 On-Street Parking Regulations

Regulations and Time Limit Restrictions	Cost	Total	%
1 HR 7AM-7PM, Except Sat-Sun	Free	7	1%
1 HR 7AM-7PM, Except Sun	Free	14	1%
1 HR 8AM-6PM, Except Sat-Sun	Free	5	0%
1 HR 8AM-6PM, Except Sun	Free	19	2%
1 HR 9AM-4PM, No Parking 7-9AM or 4-6PM	Free	24	2%
1 HR Meter, 8 AM – 6PM	$0.75/hr	4	0%
2 HR	Free	104	9%
2 HR 7AM-10PM, Except Sat and Sun	Free	4	0%
2 HR 7AM-10PM, Except Sun	Free	152	14%
2 HR 7AM-6PM, Except Sat or Sun	Free	11	1%
2 HR 7AM-7PM	Free	5	0%
2 HR 7AM-7PM, Except Sat-Sun	Free	16	1%
2 HR 7AM-7PM, Except Sun	Free	13	1%
2 HR 7AM-7PM, Except Sun, No Park 10PM-6AM	Free	60	5%
2 HR 8AM-4PM, No Parking 4-6PM	Free	8	1%
2 HR 8AM-6PM, Except Sat Sun	Free	11	1%
2 HR 8AM-6PM, Except Sat-Sun, Boston College Game Day Exceptions	Free	34	3%
2 HR 9AM-5PM, Except Sun	Free	12	1%
2 HR, Except Sat-Sun	Free	46	4%
2 HR Meter, Varies, Starts as early as 7AM ends as late as 7PM	$0.75/hr	267	24%
2 HR, No Parking 7-9AM or 4-6PM	Free	7	1%
2 HR, No Parking 9-11AM or 3-6PM Except Sat or Sun	Free	13	1%
12 HR Meter, 8AM-6PM	$0.50/hr	42	4%
Handicapped	Free	6	1%
Live	Free	5	0%
No Parking 4-6PM	Free	23	2%
No Parking 7-9AM	Free	4	0%
No Parking 7AM-10PM Except Sun	Free	26	2%
No Parking 7AM-7PM	Free	13	1%
No Parking 7AM-7PM Except Sun	Free	18	2%
No Parking 8AM-5PM Except Sun	Free	52	5%
No Parking 8AM-6PM Except Sat-Sun	Free	18	2%
Permit	$25/yr	26	2%
Taxi Stand	Free	2	0%
Unrestricted	Free	46	4%

Figure A-4 Off-Street Parking Regulations

Regulation & Time Restriction	Enforcement Hours	Cost	Total	%
2 HR Meter	8AM – 6PM	$0.75	152	41%
3 HR Meter	8AM - 6PM	$0.75	113	31%
12 HR Meter	8AM – 6PM	$0.50	102	28%
TOTAL	--	--	367	--

APPENDIX B PARKING UTILIZATION AND TURNOVER

PARKING UTILIZATION

Parking utilization counts provide a time series of typical parking demand for a typical day in an area. A chart of hourly utilization rates for one specific location is valuable, but seeing how that location behaves among others located nearby can reveal patterns and trends not evident in numbers alone. The lot which is completely full may be right around the corner from another lot that has plenty of availability at that same time.

Parking utilization counts were conducted for the entire study area, providing a snapshot of the time and location of parked cars for typical days. The project team conducted parking utilization counts on two weekdays (Wednesday, June 3rd, 2015 and Wednesday, June 10th, 2015) and two weekend days (Saturday, June 6th, 2015 and Saturday, June 13th, 2015) on two hour intervals starting at 8:00AM and ending at 10:00PM. Consideration was made to collect data on both a Red Sox game day and a non-game day for both a weekday and weekend: Red Sox games took place at 7:10PM on Wednesday, June 3rd, 2015 and at 4:05PM on Saturday, June 6th, 2015. In the charts and maps to follow, the data from the Red Sox game days (Wednesday, June 3rd and Saturday, June 6th) is shown since parking demand was overall higher on those days.

Optimal Capacity

Parking can be defined as being at optimal capacity when there is at least one empty space per block face, ensuring easy customer access to businesses, but also allowing for a bustling environment. This typically equates to a target of 10-15% vacancy per block face and 5%-10% vacancy off-street. If any block or parking facility has less availability than the target, it is effectively at its functional capacity.

Methodology

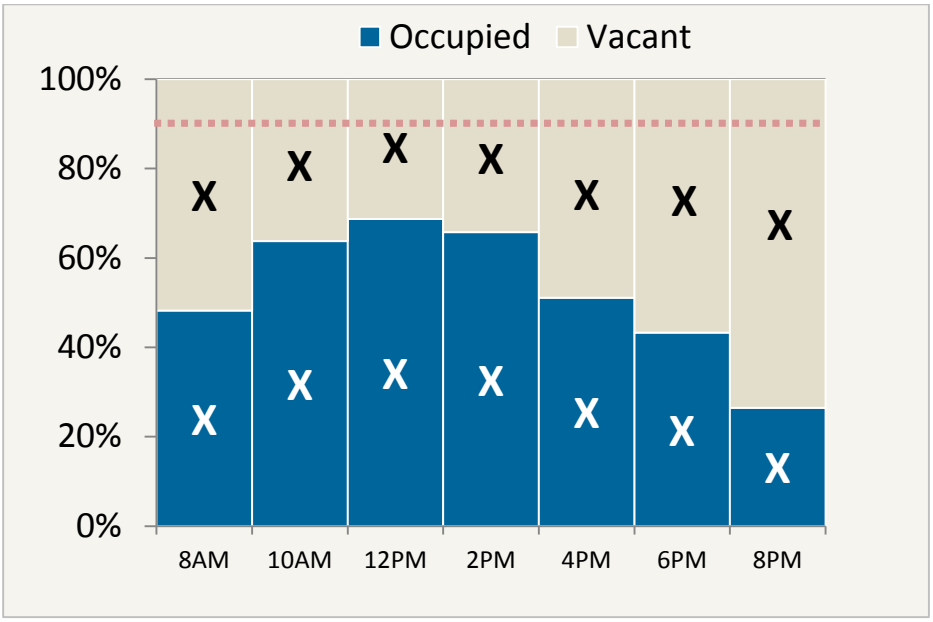
It is important to note that the individuals collecting data counted each on-street segment and off-street lot at exact intervals. For example, if the Cypress Lot was counted at 8:05AM in the first loop, then it was counted at 10:05AM in the second loop, etc. This consistency ensured data accuracy to help draw conclusions about trends within two-hour windows.

The data collection days were typical of a spring environment in Newton Centre; counts were conducted on days with no construction, non-holidays, and days without special events (other than home Red Sox games).

Utilization Chart General Format

Throughout this document utilization for the entire study area, a smaller focus area, or even a single parking lot will be presented in the format seen in Figure B-1. Blue bars display the percentage of the total inventory which is occupied and the absolute vehicle count shown in white within the bars. Beige bars represent the unused parking capacity adding up to 100%. The absolute number of empty parking spaces within the area in question is written in black in each column. The columns themselves represent time periods beginning with the time listed below that specific column (e.g. 8AM-10AM = 8AM). The red line on the charts at 90% indicates parking as "functionally full". This allows for a 10% parking reserve. Typically, national research indicates that on-street parking is functionally full at 85% and most off-street parking full at 90%.

Figure B-1 Example Utilization Chart



UTILIZATION - KEY FINDINGS

- Parking is busiest on weekdays at 12PM (57% full) and at 10am on weekends (43% full); overall, there is significant parking availability even at the busiest times of day.
- Off-street parking is generally higher utilized than on-street parking, as most of the on-street parking in Newton Centre is on side streets, which is time limited or restricted.
- In the village center "core", it is difficult to find available public parking: public lots are 90% full and on-street spaces are 84% full at peak, effectively at functional capacity.
- Union Street is the only on-street parking area consistently more than 90% full throughout the day.
- At peak, there are over 400 spaces unused in private lots.
- Longer-term parking spaces (12-hour) are consistently full throughout the weekday day, while spaces with shorter time limits (mostly two and three hours) show more availability.

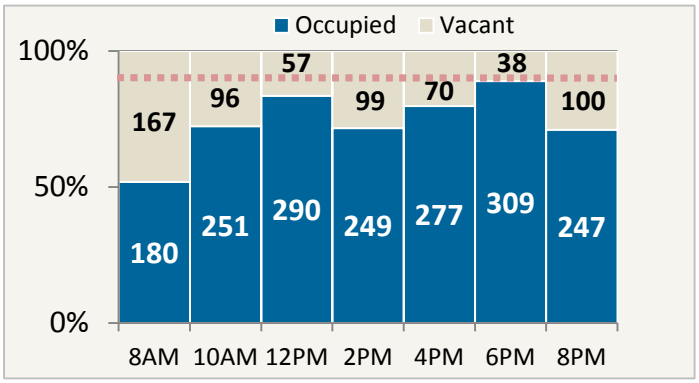
- Overall, weekend utilization is lower; however, demand in public lots spikes around brunch/lunchtime (10:00 AM – 4:00PM).
- On weekends, there are at least 60 on-street spaces in the core of Newton Centre that go unused, even at peak hours; at other times, 90 or more on-street spaces are available.
- Since the 2013 study, some on-street time limits were extended from one hour to two hours; these spaces have slightly higher utilization in 2015 than in 2013.

Weekday Utilization

On-Street Core Zone Weekday Utilization

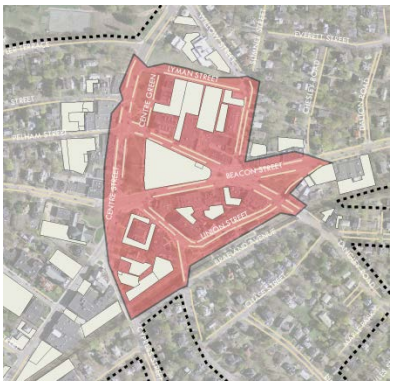
On-street parking in the "core" of Newton Centre is in much higher demand than in any other parking area of Newton Centre. The key retail activity draws a higher rate of parking usage than the study area as a whole; thus, a "core" area was defined to better examine on-street parking supply and demand in the heart of Newton Centre. Core area boundaries are outlined in Figure B-3. Figure B-2 shows that the demand for on-street parking spaces in the core is consistently high throughout the day, reaching nearly 90% (the mark at which parking becomes functionally full, giving the impression of lack of parking).

Figure B-2 Core Zone Weekday On-Street Utilization



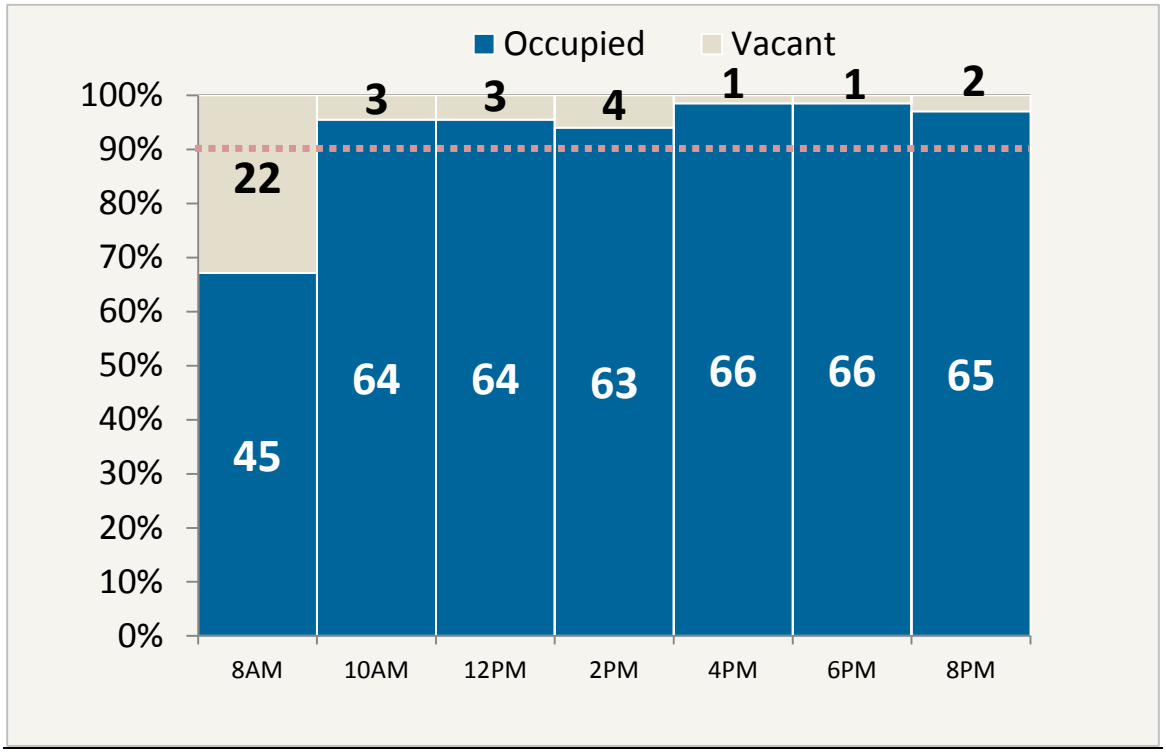
NOTE: Data from Wednesday, June 3rd, 2015

Figure B-3 On-Street Core Zone Area



Demand on Union Street in particular, which is near the Newton Centre T station and many small businesses and restaurants, remains constantly full throughout the day (as illustrated in Figure B-4), regularly above 90% full.

Figure B-4 Utilization of 2 Hour Meter Spaces on Union Street



NOTE: Data from Wednesday, June 3rd, 2015

Weekday Utilization by Zone

Based on observed utilization patterns of higher and lower demand on-street and in public parking lots, the team sub-divided the study area into three zones with distinct patterns: core, secondary, and surrounding.

In the core zone, which includes all on- and off-street public parking shown in Figure B-6, parking is busiest, as seen in Figure B-5.

Figure B-5 Weekday Public Parking Utilization in the Core Zone

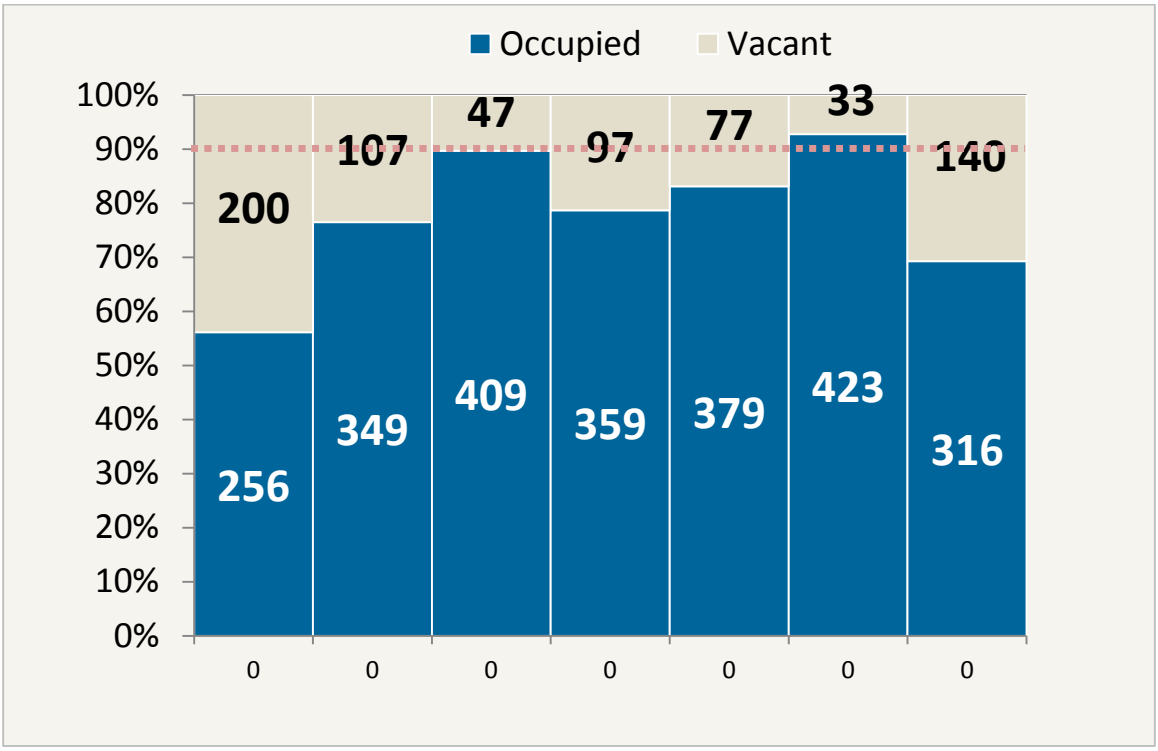
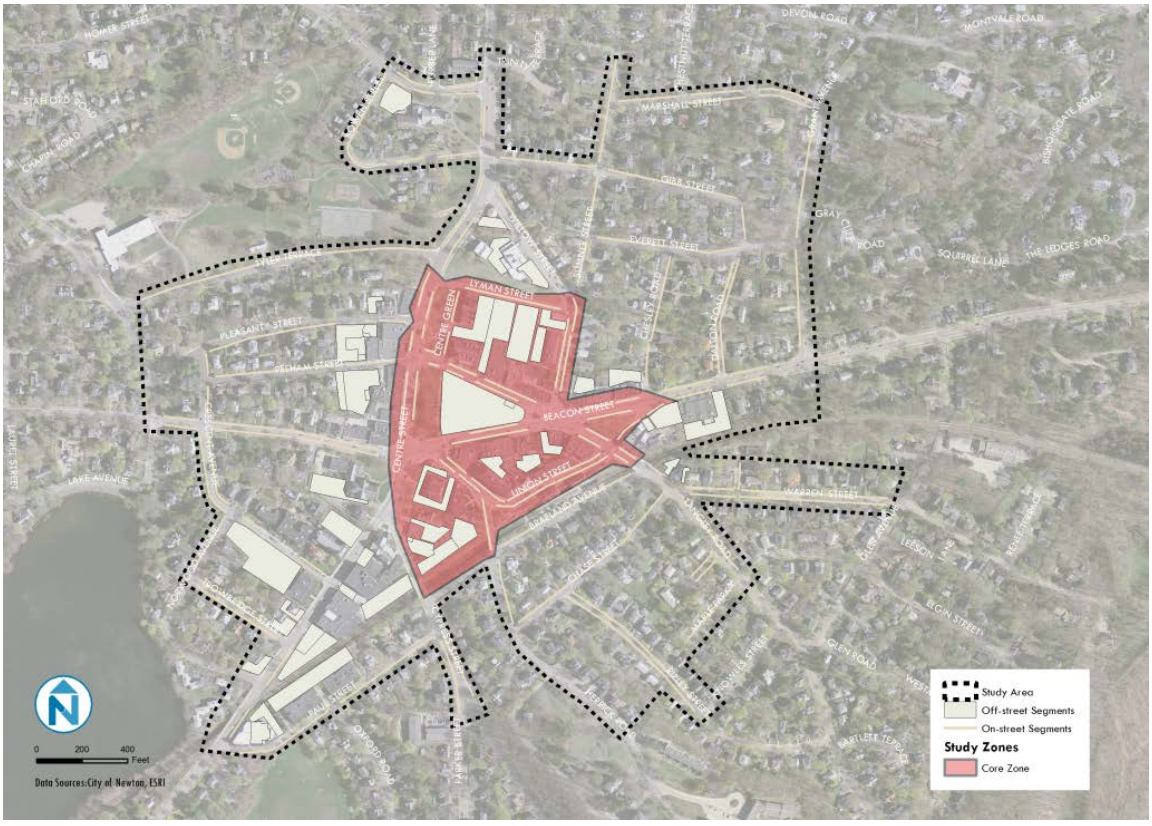


Figure B-6 Core Zone



In the secondary zone, which includes public on- and off-street parking assets in the shaded areas of Figure B-8, parking peaks midday at noon around 80%, while parking is available at other times of day as can be seen in .

Figure B-7 Weekday Public Parking Utilization in the Secondary Zone

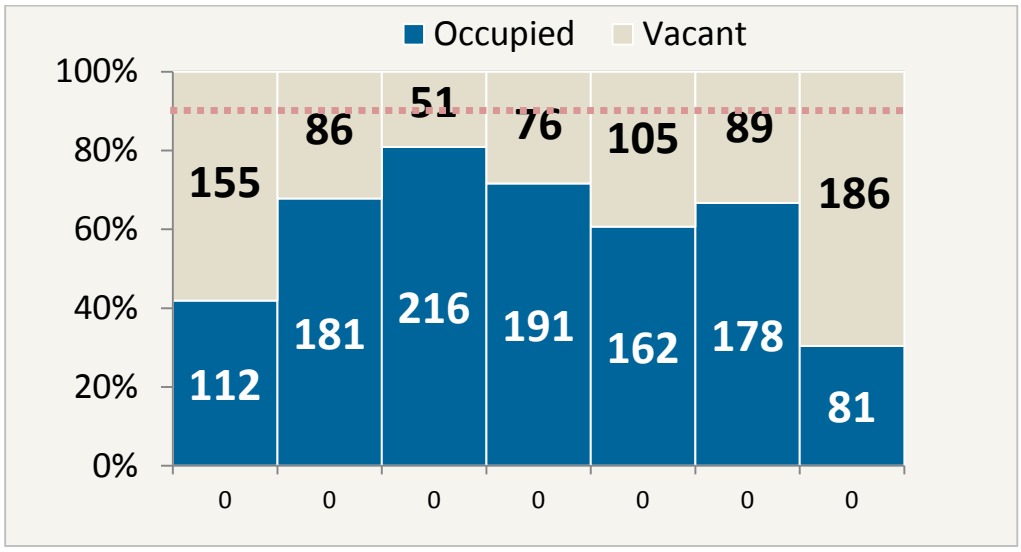
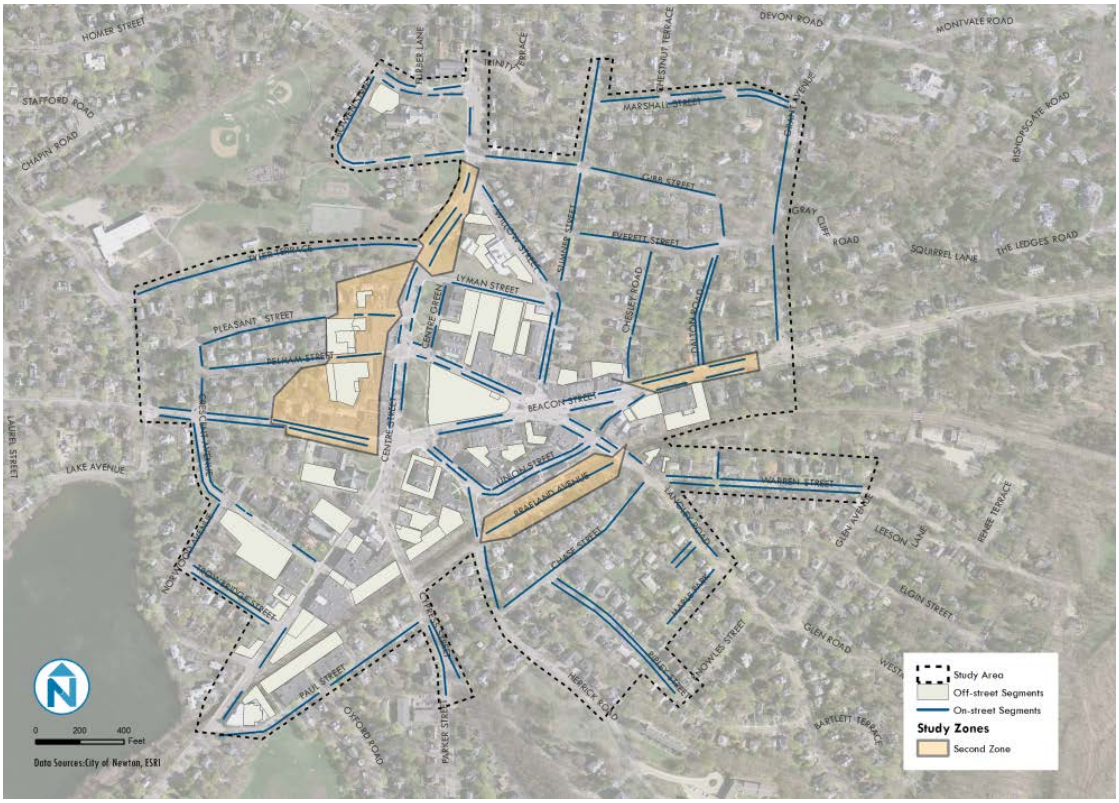


Figure B-8 Secondary Zone



In the surrounding zone of private off-street facilities and time-limited side streets (Figure B-10), parking is abundantly available throughout the day. On-street parking utilization in these areas peaks just under 25% at noon (Figure B-9).

Figure B-9 Weekday Public Parking Utilization in the Surrounding Zone

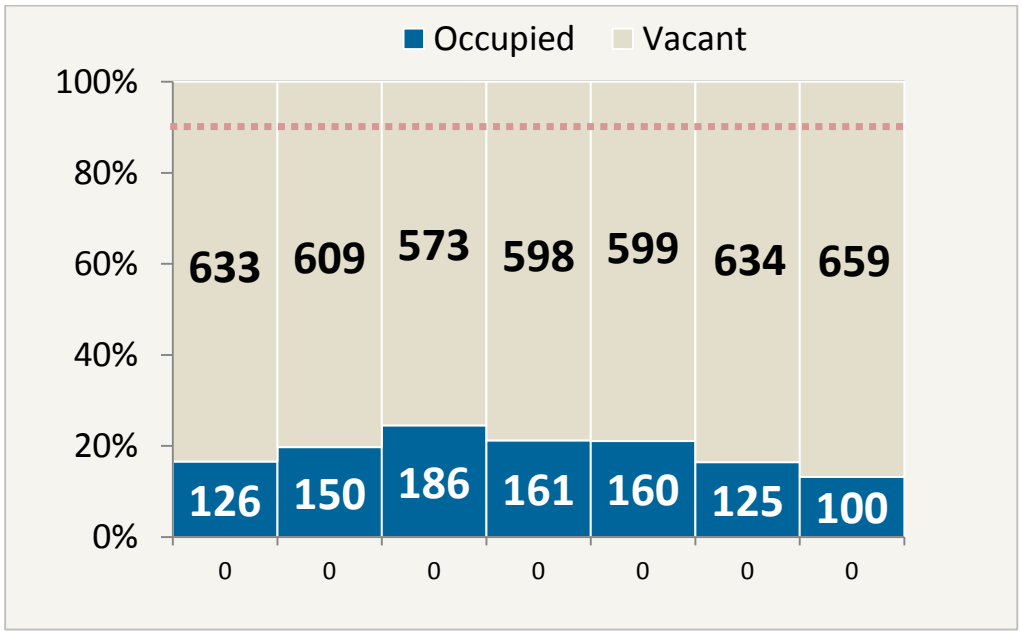
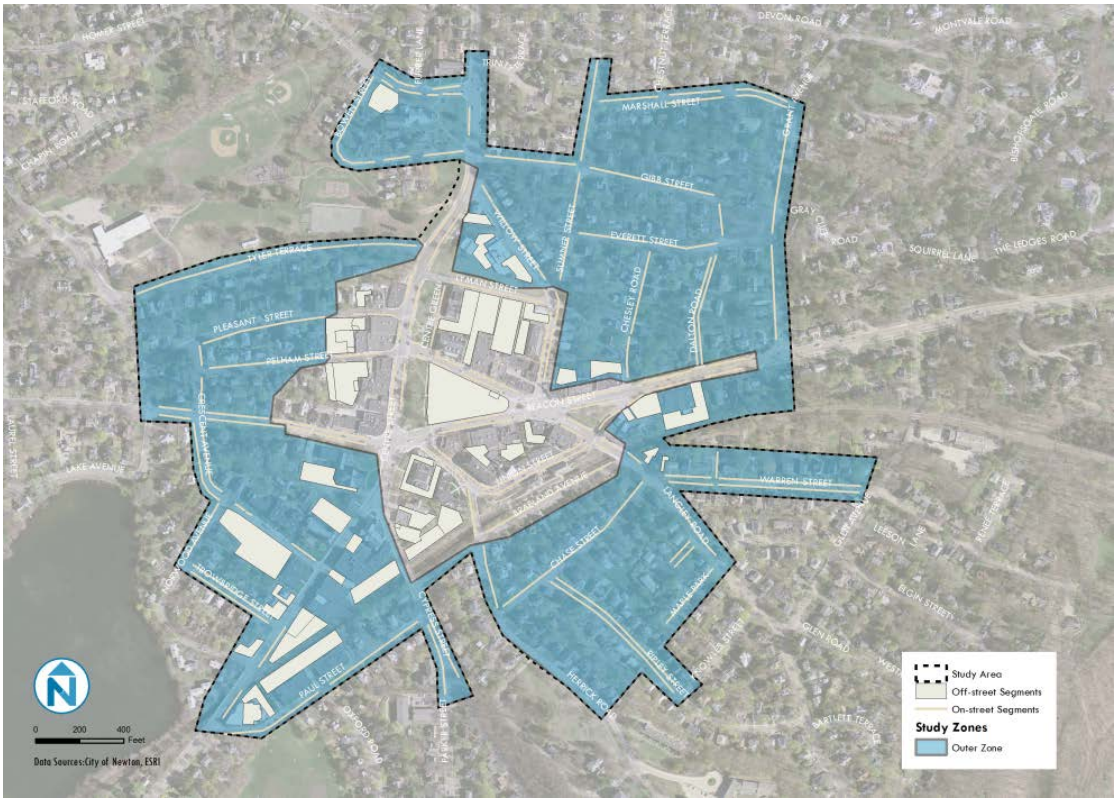


Figure B-10 Surrounding Zone



On-Street vs. Off-Street Weekday Utilization

Looking at the entire study area, on-street and off-street parking both peak at noon (Figure B-11 and Figure B-12). While both parking types peak at midday, overall, the off-street parking has a considerably higher utilization rate at 69%, while on-street parking utilization peaks at 43% full, meaning 600 on-street spaces are unused. It is important to note that these are aggregate numbers over the entire Newton Centre study area, with localized areas experiencing different use dynamics. Nevertheless, overall off-street parking reaches only about 25% utilization by 8PM, meaning there is a total of 1,800 unused spaces in the evening.

Within off-street parking, there is an obvious difference in demand for publicly accessible off-street parking and restricted use/private parking (Figure B-13 and Figure B-14). Restricted use/private off-street parking is no more than 61% full at 12PM. 400 restricted use/private parking spaces are unused at the busiest time of day. Publicly accessible off-street parking is has a higher demand: the four public lots are consistently at least 70% full throughout the day and reach the functionally full level of 90% occupancy at peak (12PM).

Figure B-11 Weekday Utilization - On-Street

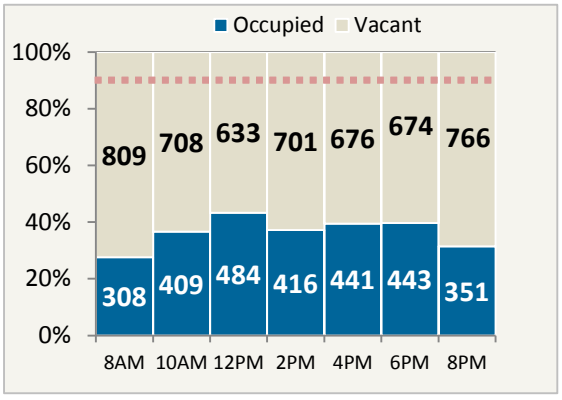


Figure B-12 Weekday Utilization - Off-Street

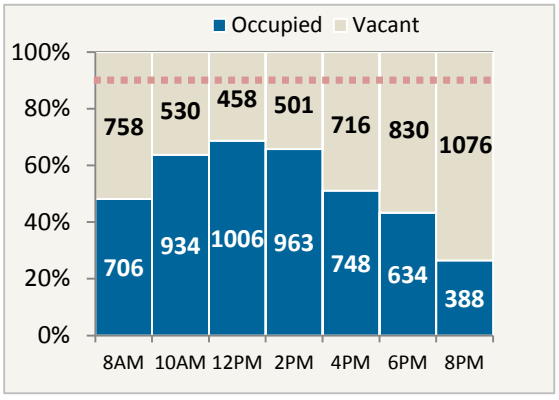


Figure B-13 Publicly Accessible Off-Street Parking Weekday Utilization

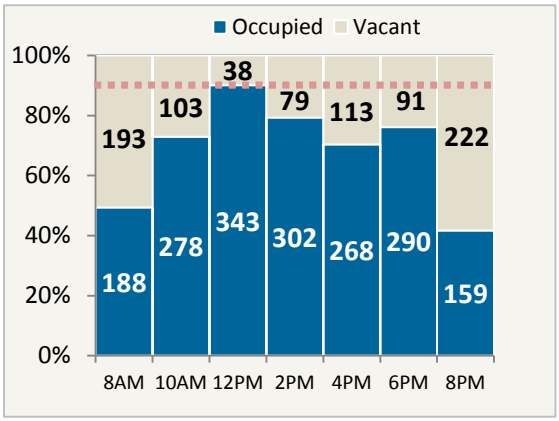
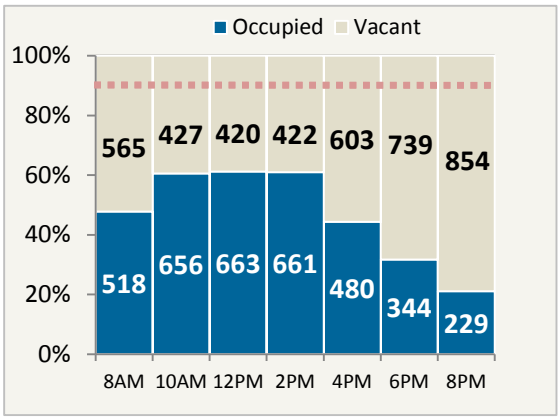


Figure B-14 Restricted Use/ Private Off-Street Parking Weekday Utilization



NOTE: All charts from Wednesday, June 3rd, 2015

Weekday Utilization in Public Parking Lots

Many people who park in Newton Centre choose where to park based on location and by time limit. Public lots are 91% full at peak, and utilization is consistently high in the Centre Triangle, Pelham Street and Cypress Street lots (Figure B-15, Figure B-16, and Figure B-17). The Centre Triangle lot peaks at 12PM and 6PM, with more than the functionally full level of 90% occupancy at those times, but has availability at other times of day. The Pelham Lot follows a similar lunch-time and dinnertime peak trend while the Pleasant Street lot follows a bell curve peaking around 2PM when it approaches functionally full (Figure B-18). The Cypress Street lot is close to functionally full or completely full at most times of the day, especially until 6PM when spaces start to become available.

The 12-hour spots in all of these lots are consistently functionally full throughout the day, especially in the Pelham lot until 8AM to 8PM and in the Cypress lot 8AM to 4PM and in the Pleasant Street lot are full between 10AM and 2PM.

Figure B-15 Centre/Triangle Public Lot Utilization

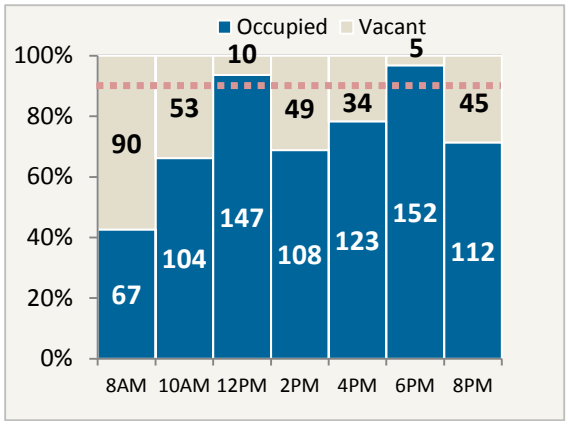


Figure B-16 Pelham Street Public Lot Utilization

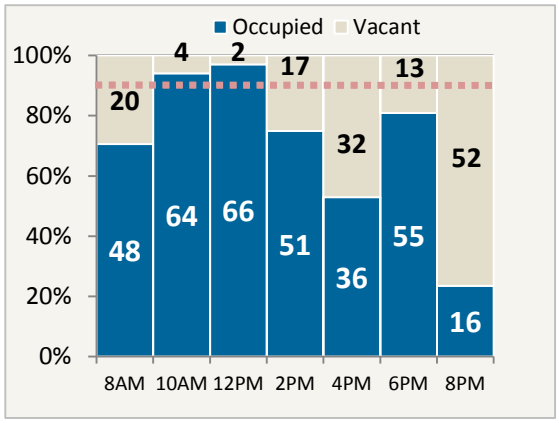


Figure B-17 Cypress Street Public Lot Utilization

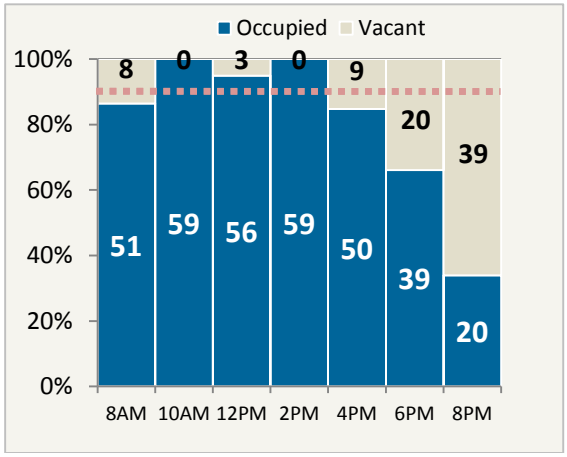
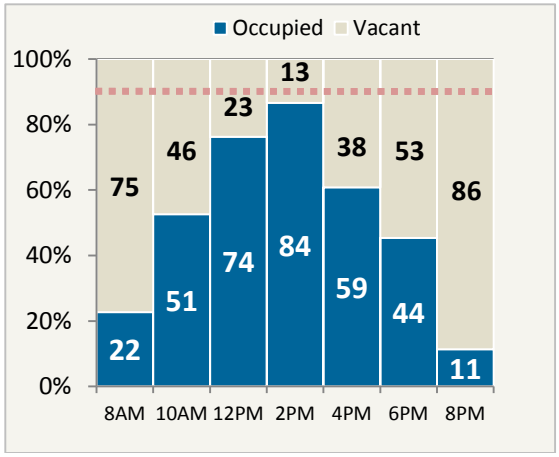


Figure B-18 Pleasant Street Public Lot Utilization



NOTE: Data from Wednesday, June 3rd, 2015

Figure B-20 shows that the on- and off-street 12-hour parking spaces are consistently occupied throughout the traditional workday. Three-hour spaces, however, have substantial capacity

throughout the day, with exception of early afternoon (when they approach functional maximum occupancy at 2PM).

Figure B-19 Three Hour Meter Utilization

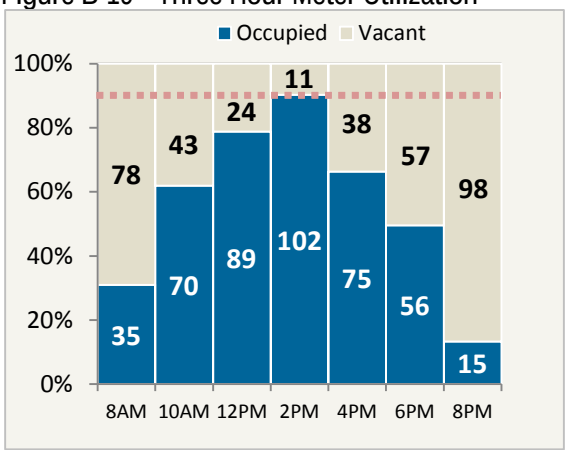
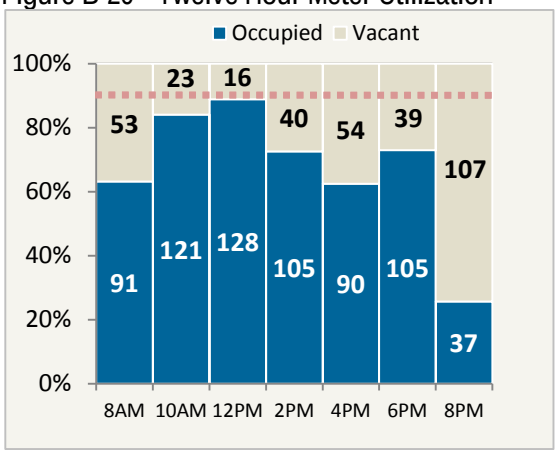


Figure B-20 Twelve Hour Meter Utilization

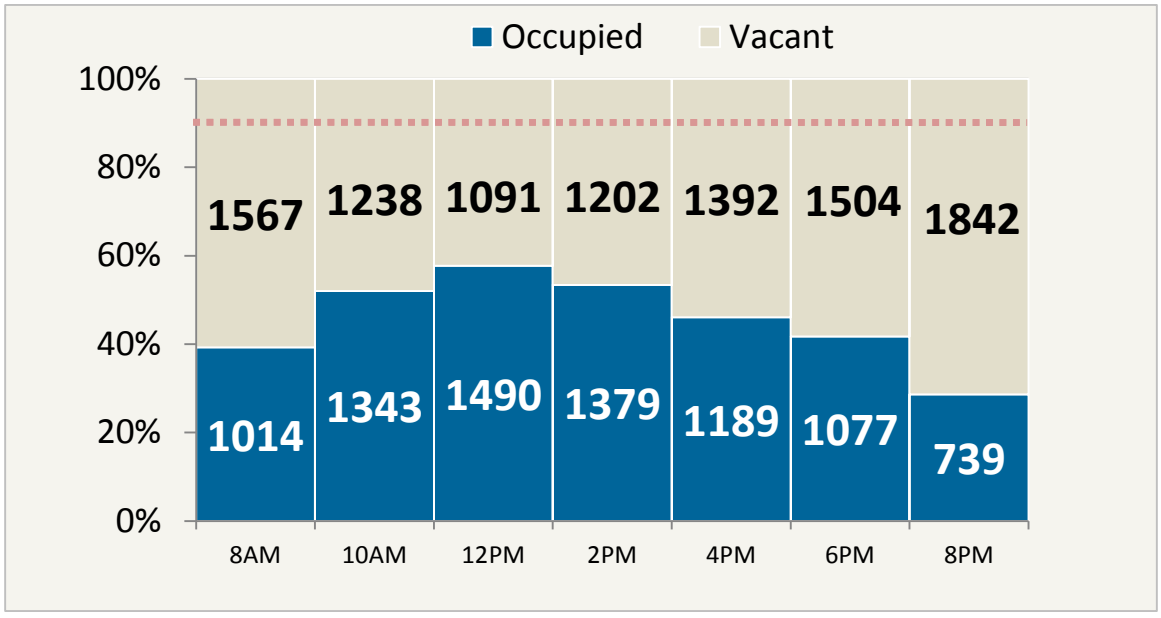


NOTE: Data from Wednesday, June 3rd, 2015

Overall Weekday Utilization

Overall, there is generally a lot of parking availability on weekdays. The peak period of weekday parking activity in Newton Centre is at 12PM with 57% of all spaces occupied. Parking utilization steadily drops off in the afternoon with 8PM utilization at less than 30% of all spaces.[3]

Figure B-21 Overall Weekday Utilization, Wednesday



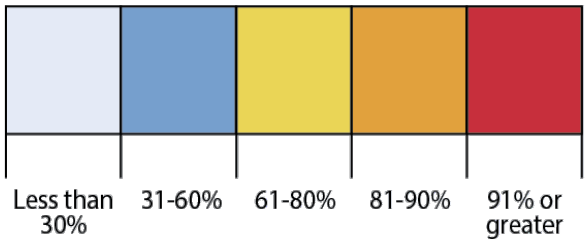
NOTE: June 3rd, 2015; Red Sox Game: 7:10PM

[3] Data was collected on both a Red Sox game day and a non Red Sox game day to discern increased demand related to those that might be parking in Newton Centre to go into Boston for the game. Demand was slightly higher at certain times during this day than on the non Red Sox game day, so this analysis includes graphs of data from that day. Complete maps from all days can be found in the appendix.

Weekday Spatial Analysis

To develop the spatial analysis, the parking utilization data collected during the parking counts was geo-coded to be displayed on a series of maps. The maps show the use of each parking facility by color-code, as explained below. The "breaks" (Less than 30% full; 31-60% full; 61-80% full; 81-90% full; more than 90% full) are used to evaluate the fullness of a parking facility and are based on national standards that indicate when a parking area is functionally full.

- **Light blue/blue** refers to 0-30% and 31-60% utilization, points at which on-street blocks and off-street facilities are viewed as underutilized. Any resource that consistently performs at this level, especially during peak-demand periods should be viewed as having excess capacity.
- **Yellow** refers to blocks and facilities with 61-80% utilization and represent moderately used resources. The nearer utilization levels approach the high end of this range, the more efficiently they are being utilized and nearing ideal levels of use.
- **Orange** refers to utilization between 81-90% and is considered at an ideal level of use. Parking demand in these areas is well-used and is approaching functional capacity.
- **Red** denotes parking above the functional capacity of the area of 90%, giving the impression of lack of parking. Despite maximized efficiency, these blocks or facilities are full or near full, and in some cases demand exceeds supply.



Weekday Spatial Utilization Patterns

On Wednesday, June 3rd, 2015, the following trends were observed:

- Demand on Union Street, near the T station and many small businesses and restaurants, remains constantly full throughout the day.
- On weekday mornings, spaces and lots near the Newton Centre T station, around Union Street and South of Beacon Street, generally filled up first (Figure B-22 and Figure B-23).
- 12 hour spaces in the three public lots are functionally full by 10am.
- At lunchtime and in early afternoon, the Centre Triangle Lot and the lots behind Langley Road businesses show increased demand (Figure B-24 and Figure B-25).
- Around 6pm, demand is high throughout the core, particularly in on-street spaces and in the Centre Triangle Lot. The three public lots with 12 and 3 hour meters have more availability (Figure B-27).
- By 8pm, demand in most areas has decreased, with the exception of on-street parking on Union Street (Figure B-28).

Figure B-22 Weekday Utilization, 8AM

Figure B-23 Weekday Utilization, 10AM

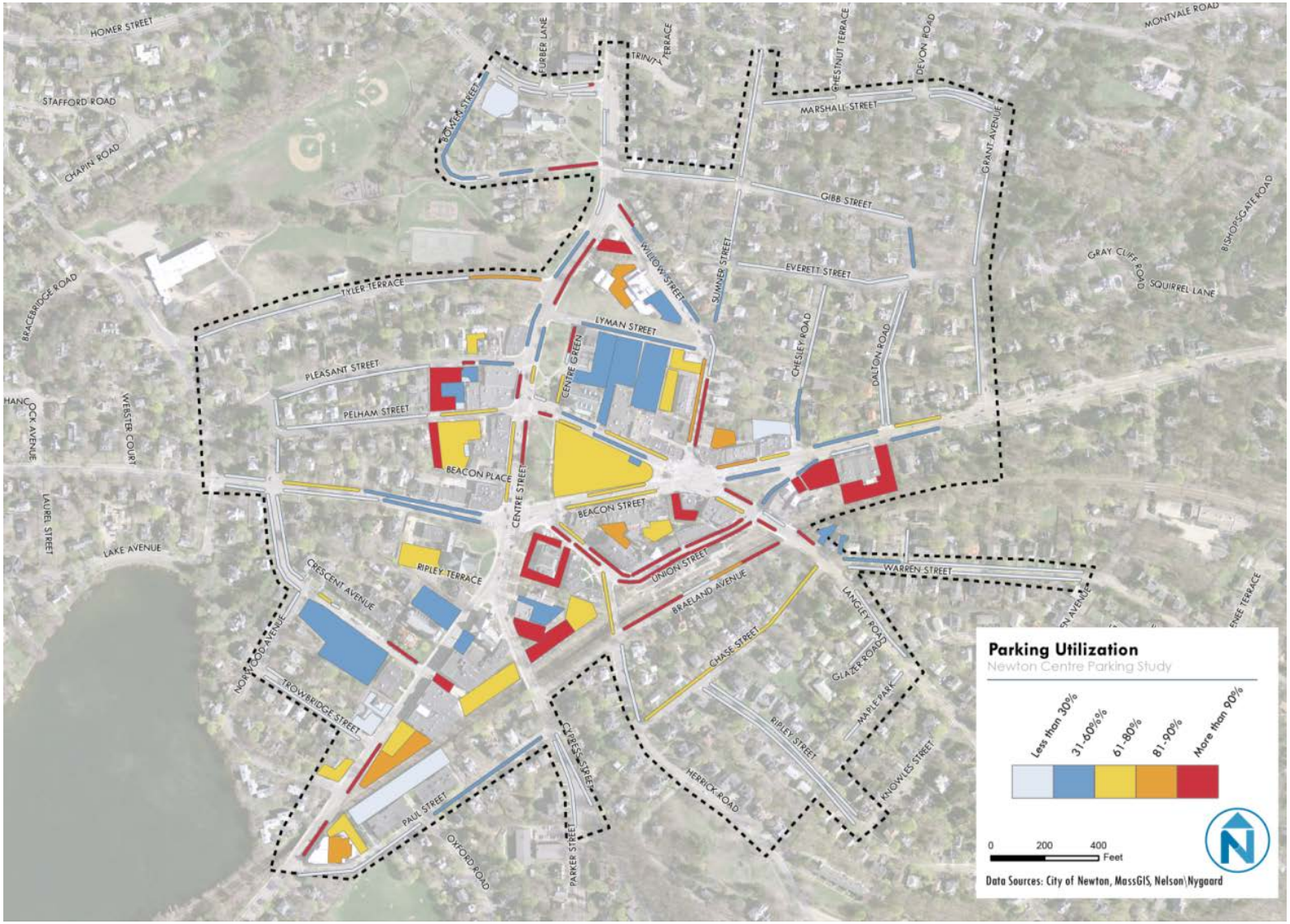


Figure B-24 Weekday Utilization, 12PM

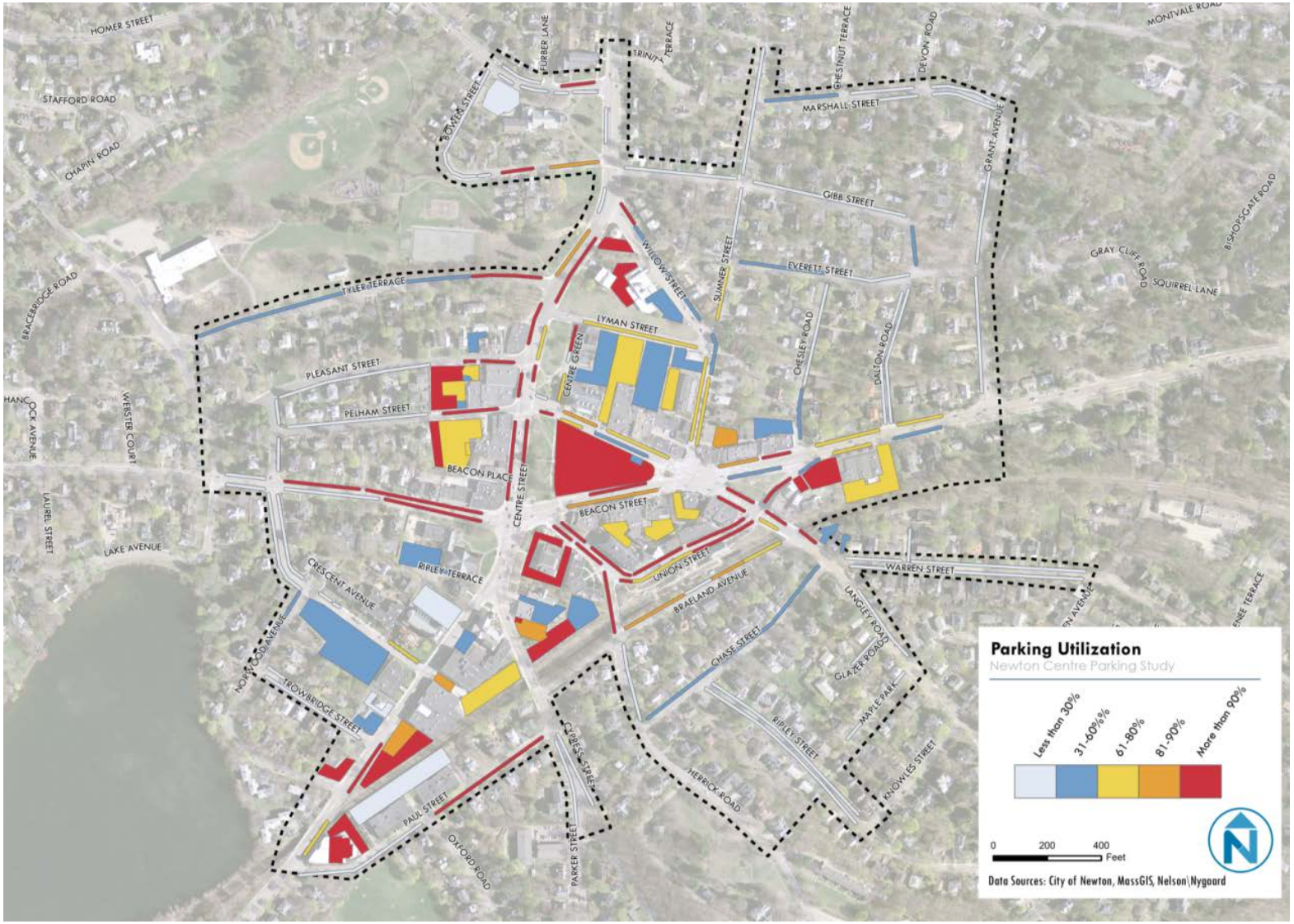


Figure B-25 Weekday Utilization, 2PM

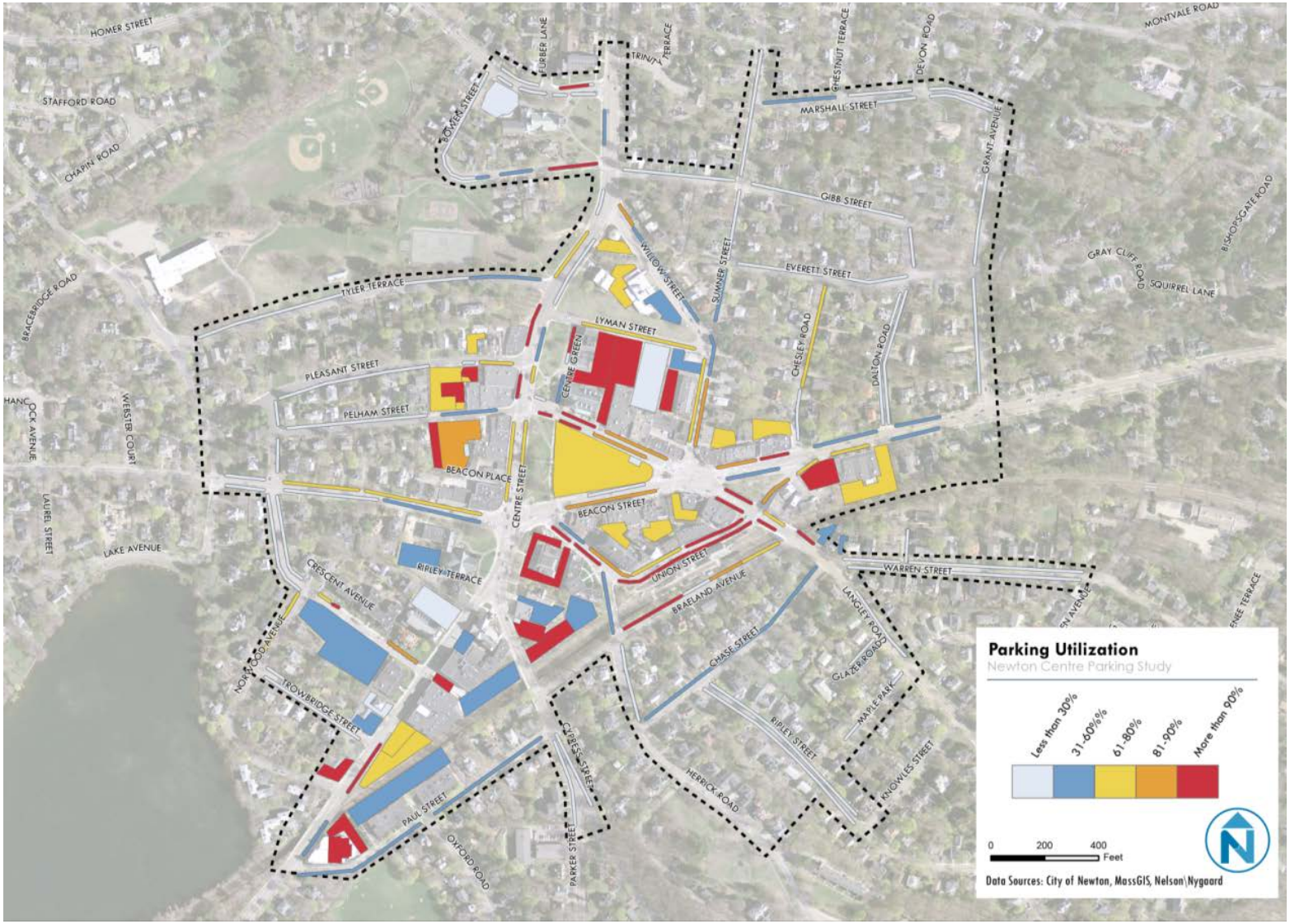


Figure B-26 Weekday Utilization, 4PM

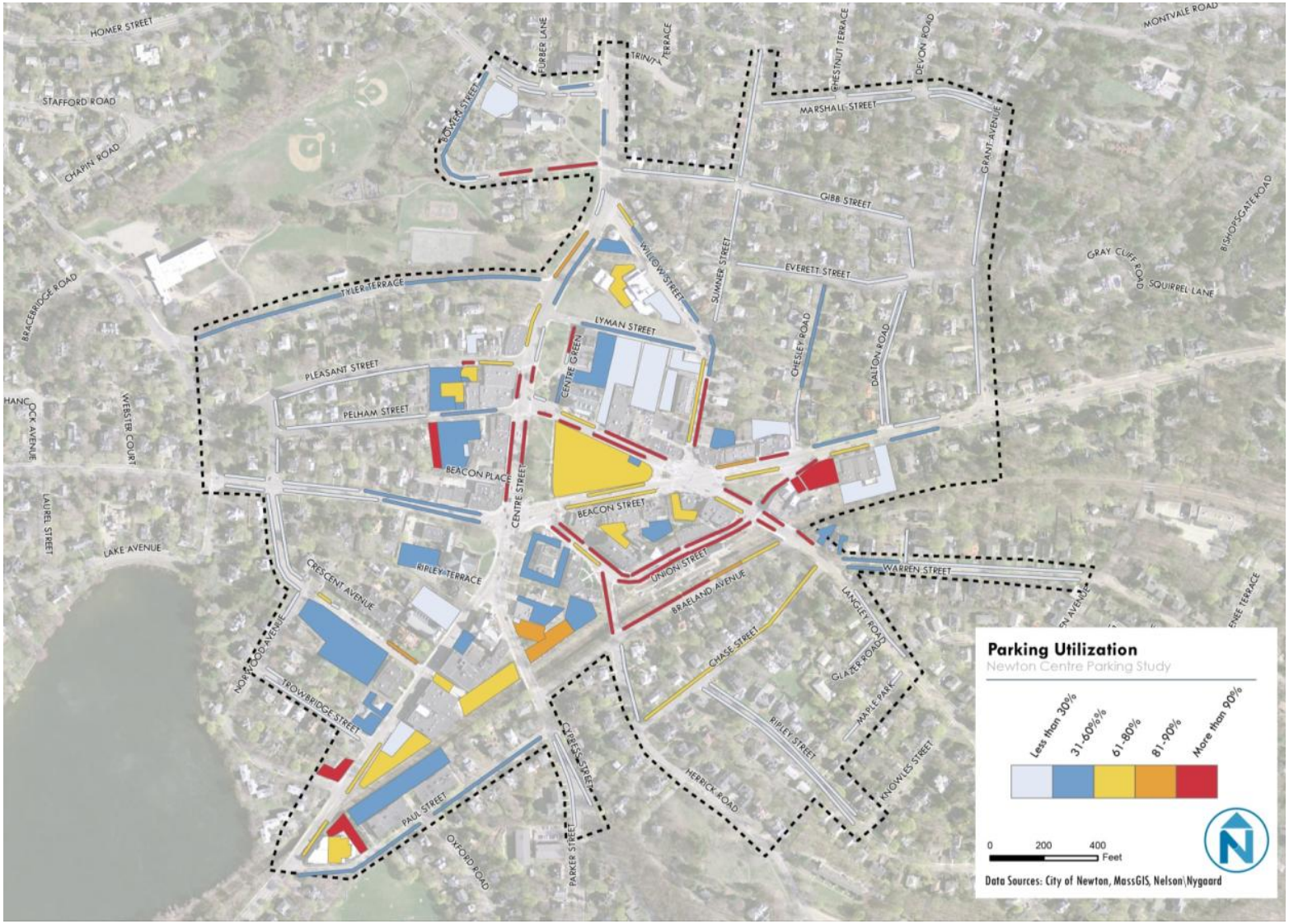


Figure B-27 Weekday Utilization, 6PM

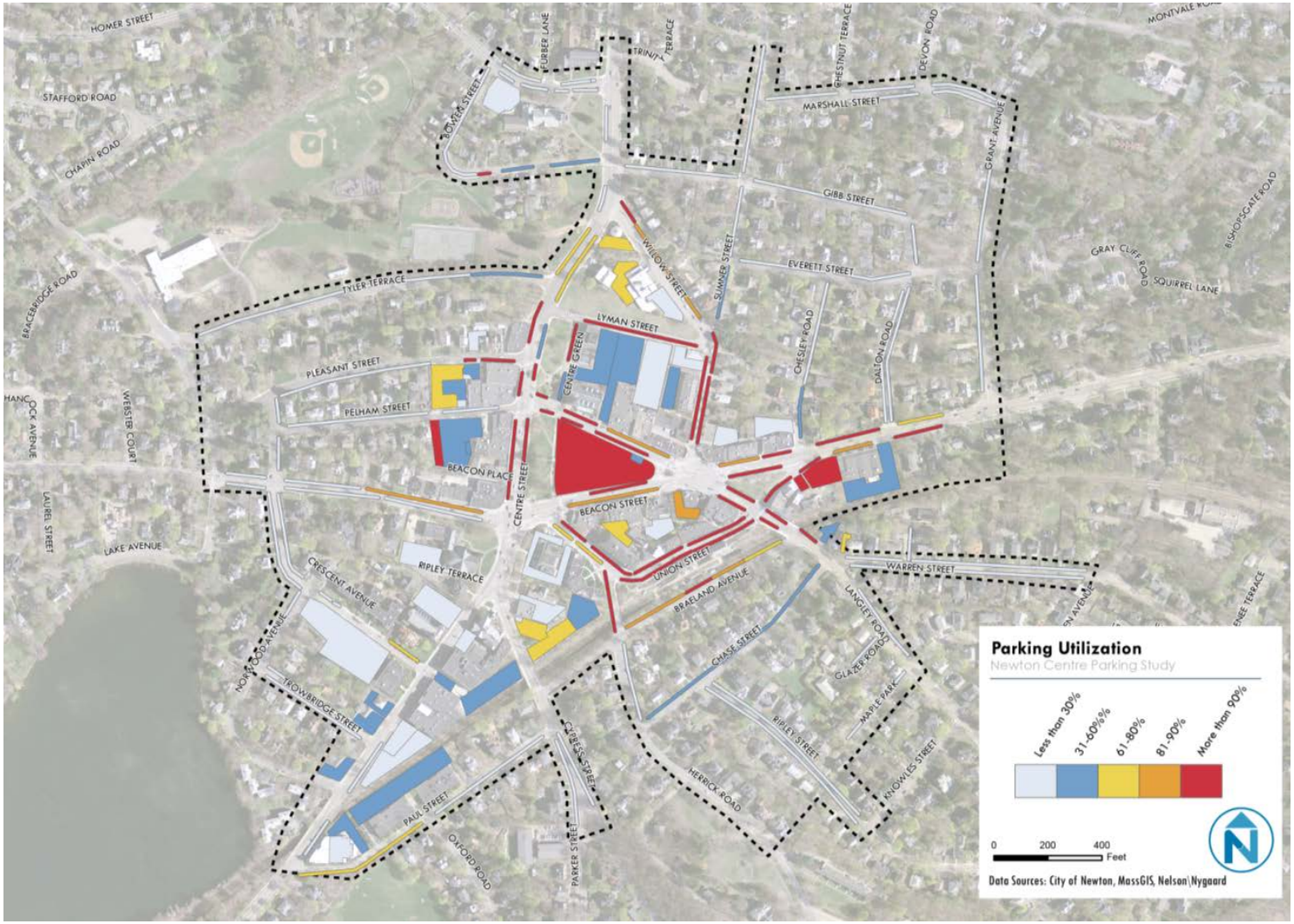
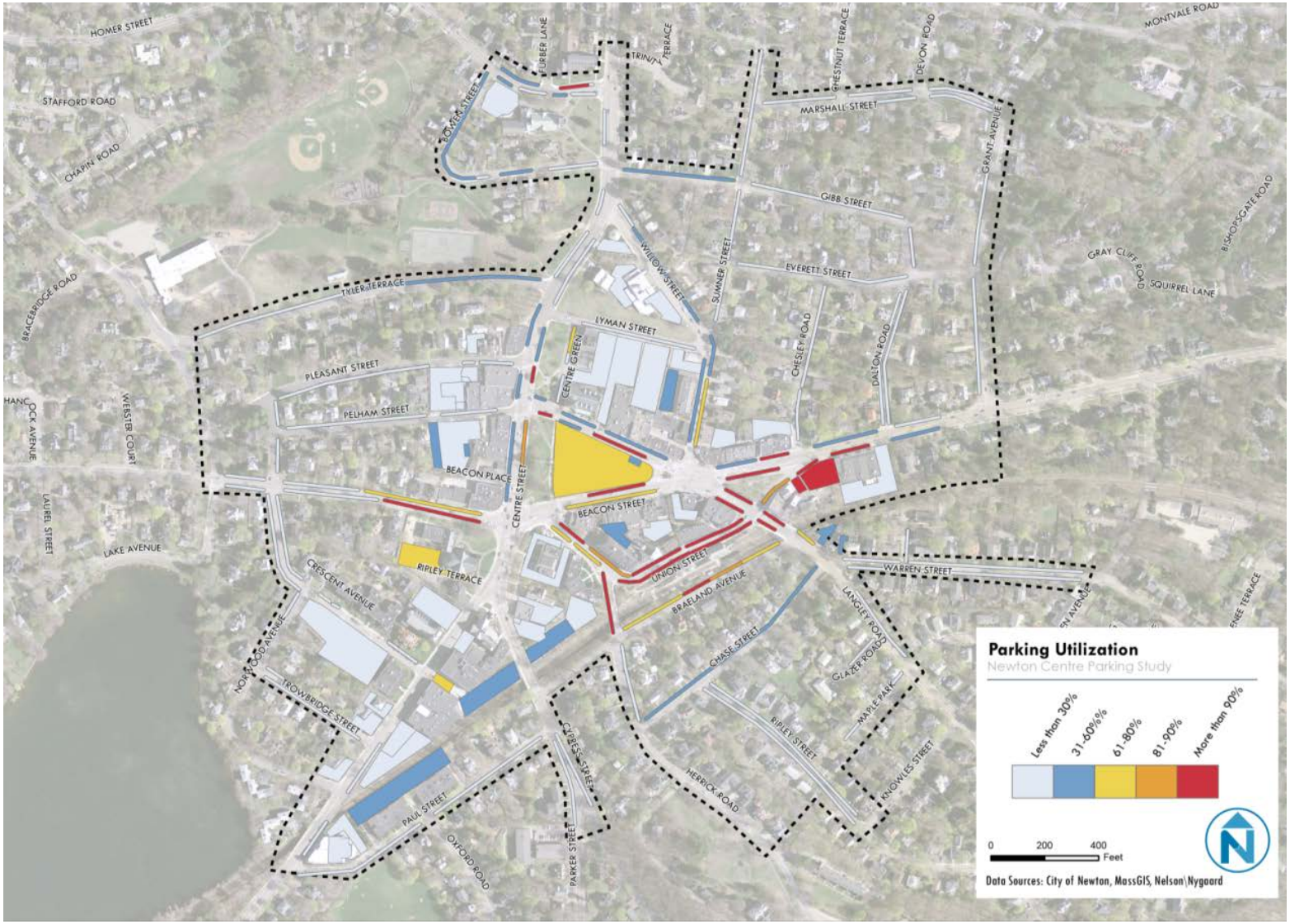


Figure B-28 Weekday Utilization, 8PM

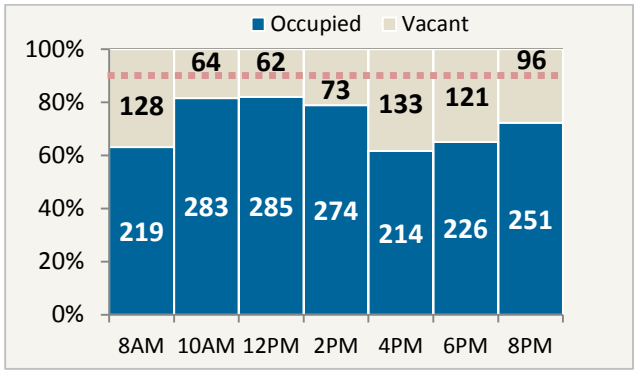


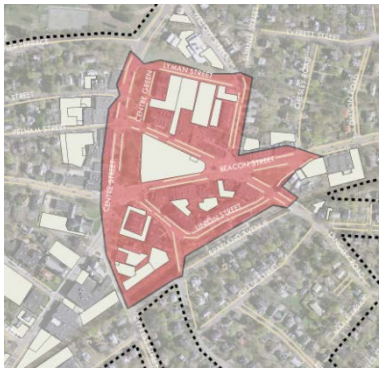
Weekend Utilization

On-Street Core Zone Weekend Utilization

Like on weekdays, parking demand is highest in the on-street spaces in the "core" of Newton Centre. As shown in Figure B-29, utilization is consistently high in these areas and runs between 79-82% from 10AM – 4PM, which is an ideal and efficient level of use of these resources.

Figure B-29 Weekend Utilization in On-Street Core





NOTE: Data from Saturday, June 6th, 2015

Weekend Utilization by Zone

Across all on- and off-street public spaces in the core zone, weekend demand is lower over the course of the day compared with the weekday. As shown in Figure B-30, utilization in this area is typically above 50% with a peak around noon slightly above 85%.

Figure B-30 Weekend Public Parking Utilization in Core Zone

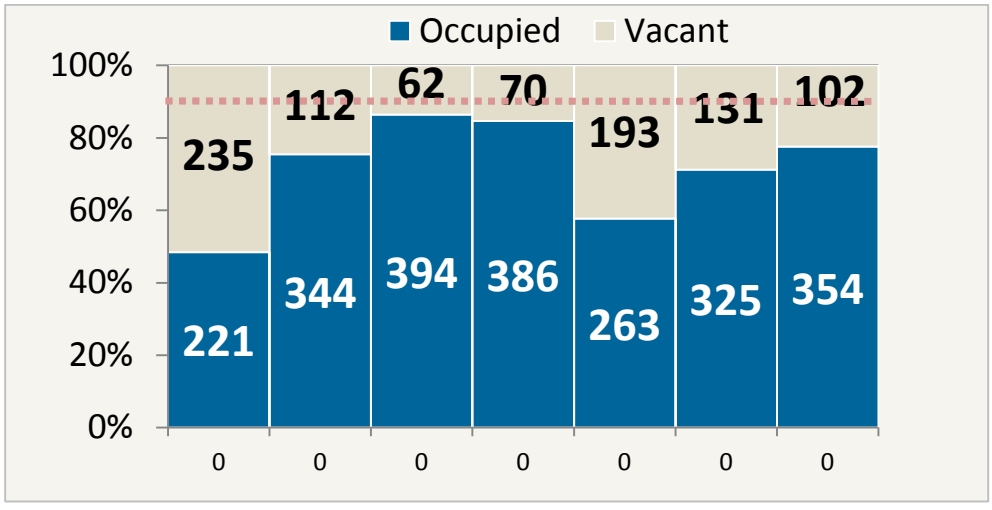
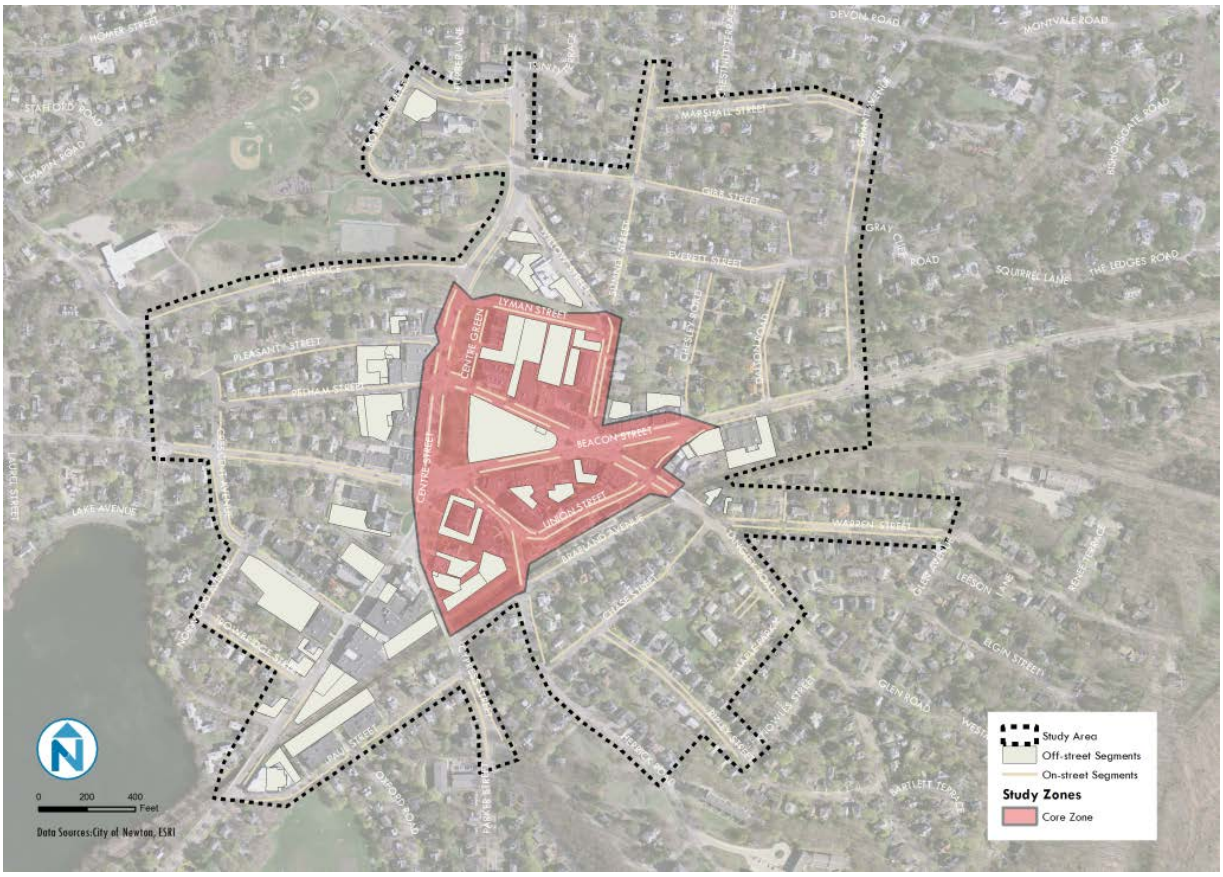


Figure B-31 Core Zone



Demand in the secondary zone, which includes public on-street spaces and some public off-street lots, is occupied throughout the day between 50 and 70% occupancy with a taper off after 4PM (Figure B-32).

Figure B-32 Weekend Public Parking Utilization in the Secondary Zone

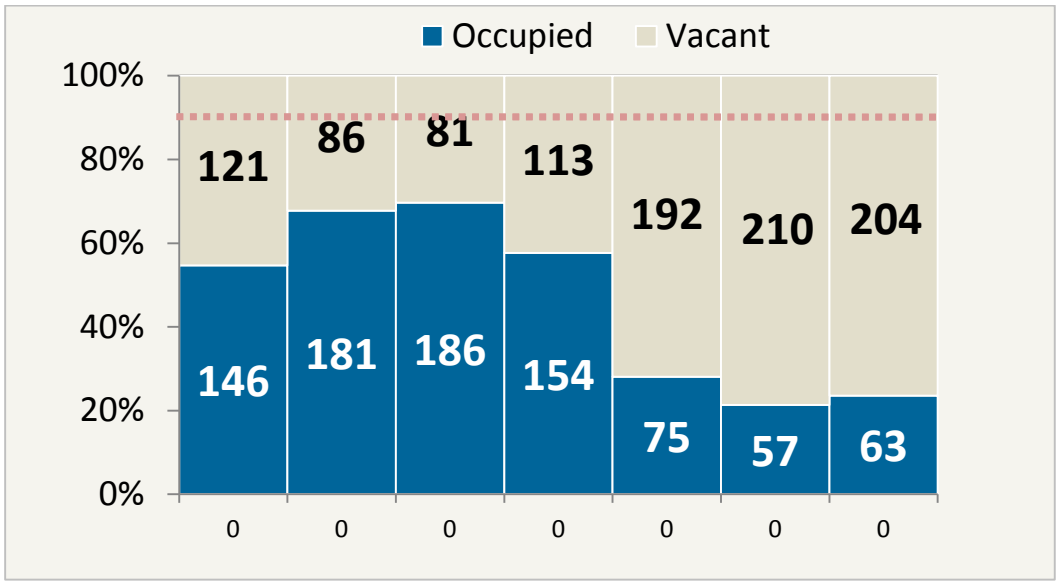
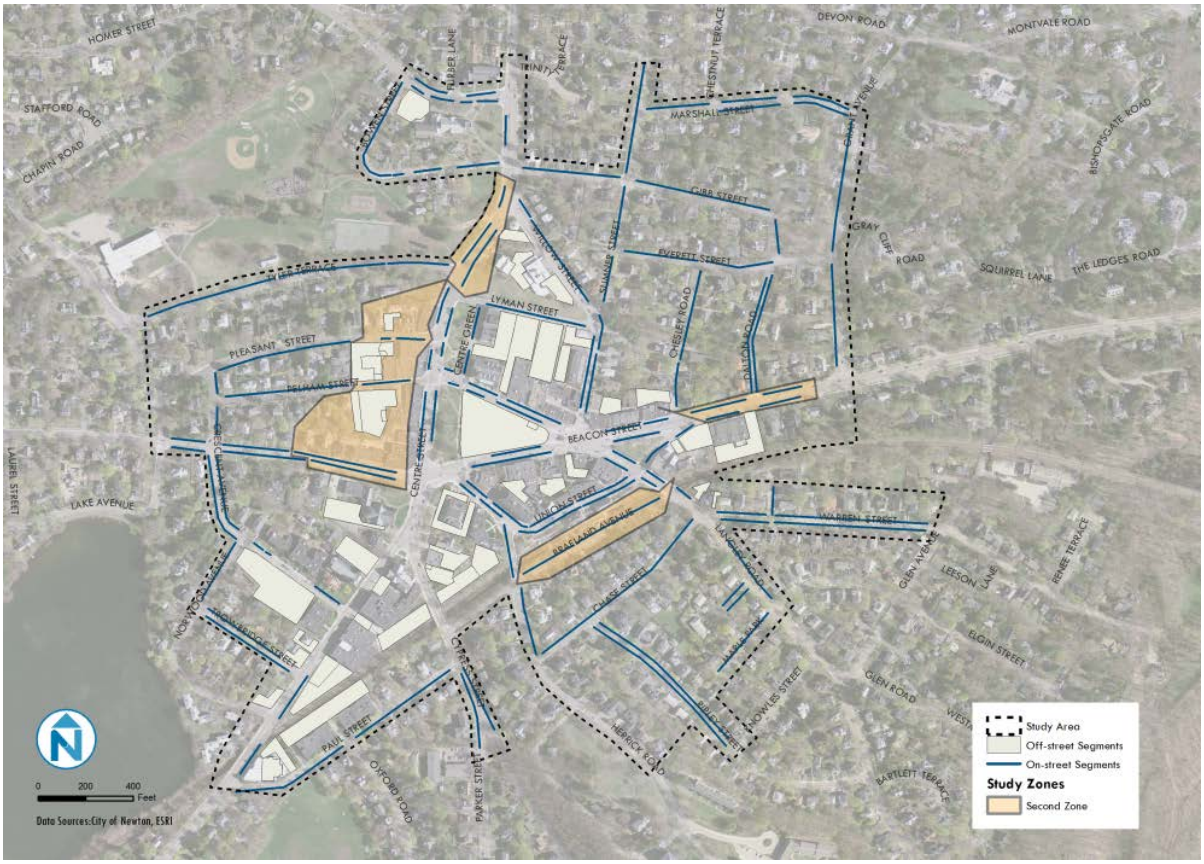


Figure B-33 Secondary Zone



Parking is consistently available in the surrounding zone (Figure B-35), which consists of private off-street parking and time-limited side streets. On-street weekend demand is regularly below 25% of capacity.

Figure B-34 Weekend Utilization in the Surrounding Zone

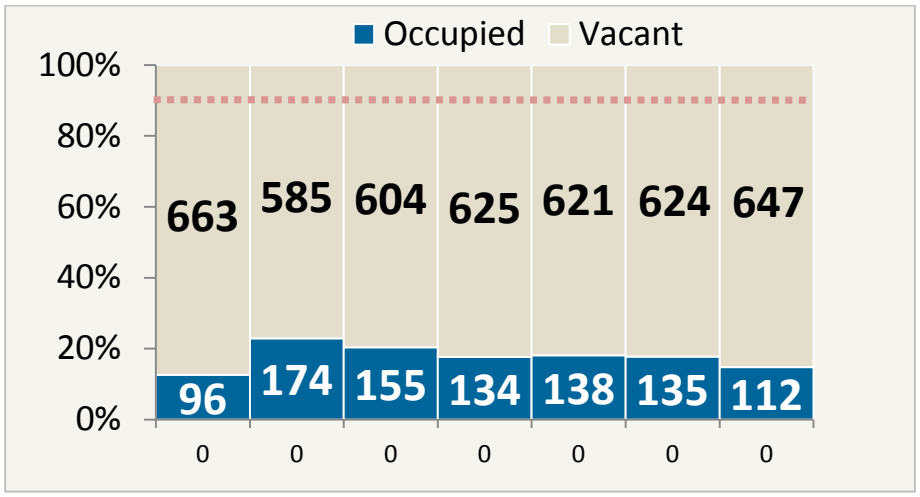
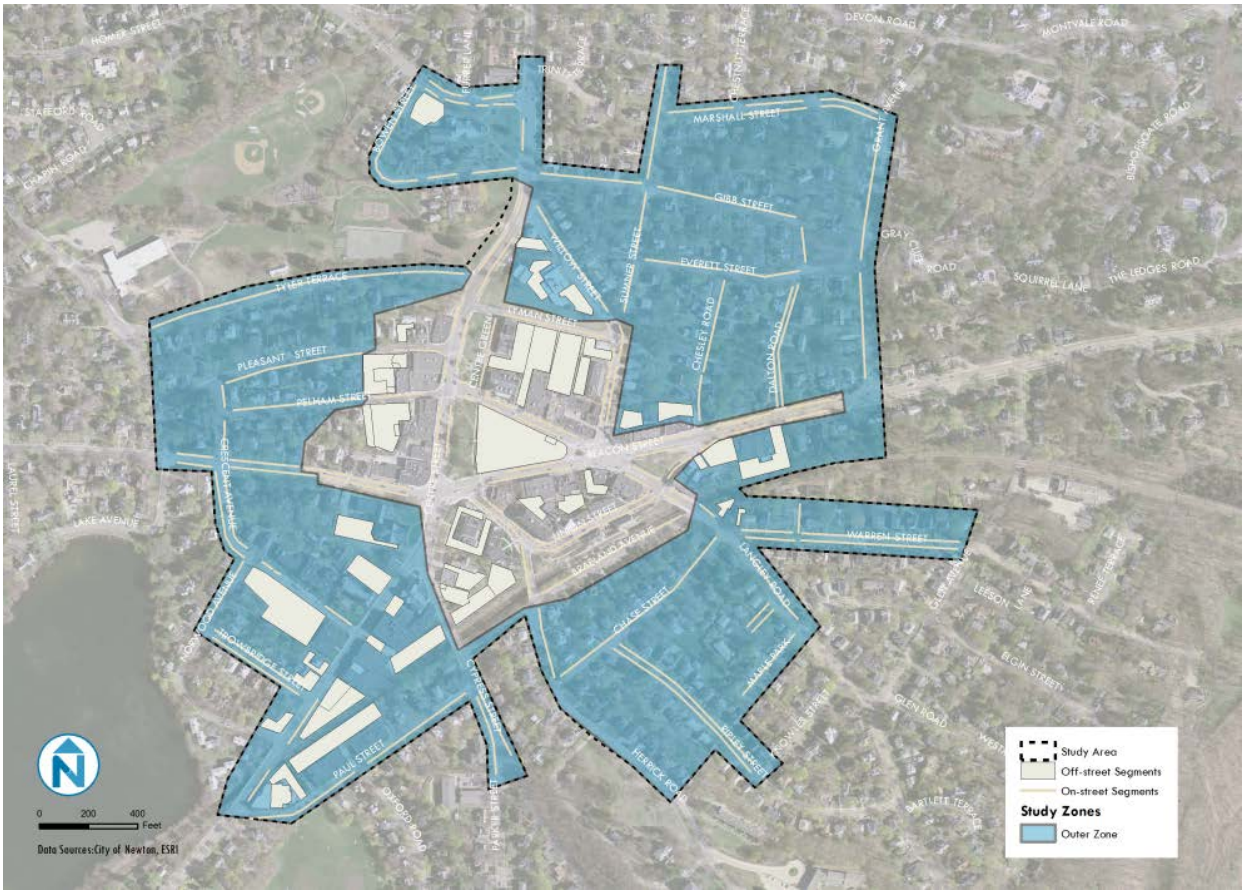


Figure B-35 Surrounding Zone



On-Street vs. Off-Street Weekend Utilization

Throughout the study area, the off-street and on-street parking are moderately utilized, at 43% and 41% respectively. As shown in Figure B-36, on-street parking is consistently underused on weekends and peaks at 12PM and, as can be seen in Figure B-37, off-street parking is also consistently available and peaks in the middle of the day near lunch.

As on weekdays, the publicly accessible off-street lots are consistently higher-utilized than are the restricted use/private lots (Figure B-38 and Figure B-39). In the publicly accessible off-street lots, utilization spikes around brunch/lunchtime (10:00AM – 4:00PM), peaking at 79% while restricted use/private off-street demand is low throughout the day, with occupancy below 35% at all times.

Figure B-36 Weekend Utilization - On-Street

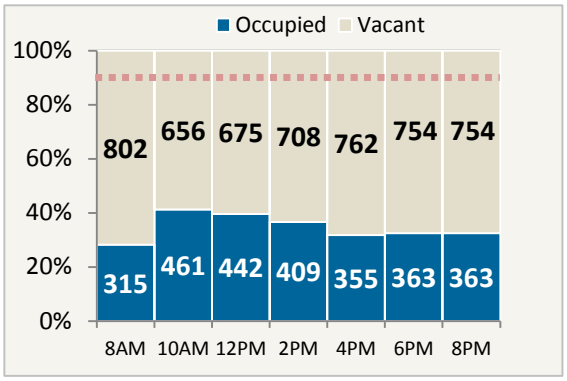


Figure B-37 Weekend Utilization - Off-Street

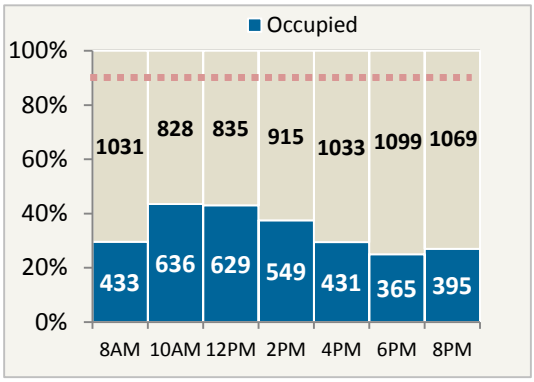


Figure B-38 Publicly Accessible Off-Street Parking Weekend Utilization

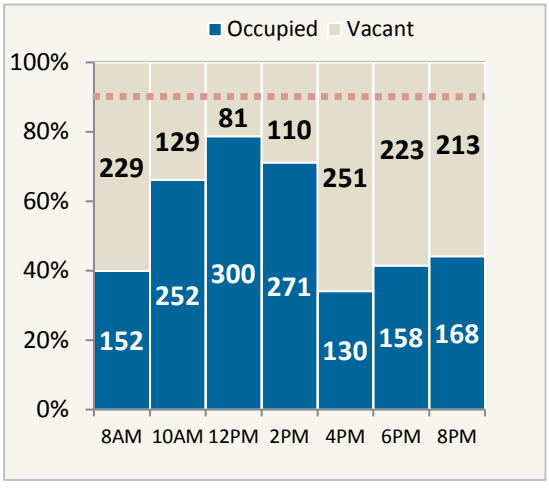
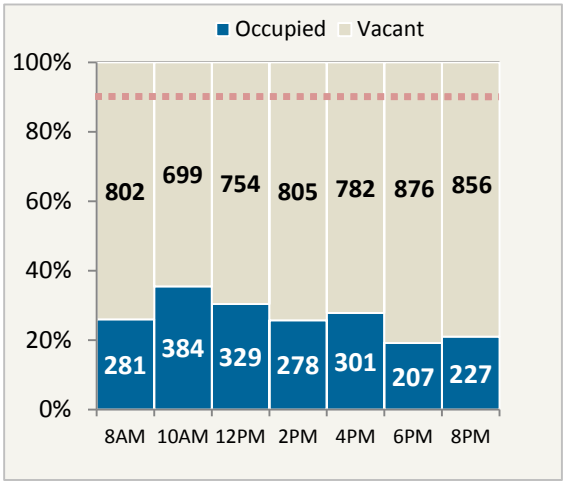


Figure B-39 Restricted Use/Private Off-Street Parking Weekend Utilization



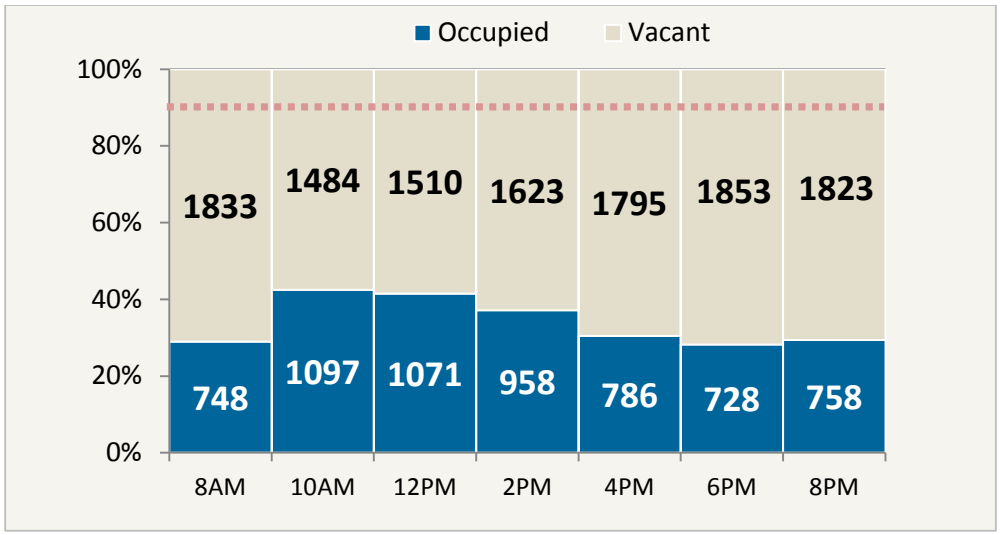
NOTE: All charts from Saturday, June 6th, 2015

Overall Weekend Utilization

There is consistent parking availability on weekends. As shown in Figure B-40, parking activity on Saturday, June 6th peaks at 10AM with 43% of all spaces occupied. Parking utilization is largely maintained until 12 PM after which utilization drops throughout the day. Demand is consistent in

the evening with restaurant goers. Weekend parking utilization in the entire study area ranges from a low of 28% to a high of 43%.

Figure B-40 Overall Weekend Utilization, June 6th, 2015



NOTE: Red Sox Game: 7:10 PM[4]

Weekend Spatial Analysis

The weekend spatial analysis revealed the following patterns:

- Similar to weekdays, demand remains very high, with most spaces being full throughout the day on Union Street.
- The Pelham Street, Cypress Street, and Pleasant Street lots begin to fill up at 10AM on Saturdays (Figure B-42).
- Demand increases in the Pleasant Street and Centre Triangle lots and most on-street spaces in the core become full around 12PM on Saturdays (Figure B-43).
- At 2PM (Figure B-44), demand is still high in on-street spaces in the core, especially on Union Street, and remains relatively high in the off-street public lots. Demand is also quite high in select private off-street lots around Newton Centre.
- Parking demand lulls in most areas at 4PM and 6PM (Figure B-45 and Figure B-46).
- Demand spikes again at 8PM in the Centre Triangle Lot and in many on-street spaces on the east side of the core (Figure B-47).

[4] Data was collected on both a Red Sox game day and a non Red Sox game weekend day to discern increased demand related to those that might be parking in Newton Centre to go into Boston for the game. Demand was slightly higher at certain times during this day than on the non Red Sox game day, so this analysis includes graphs of data from that day. Demand maps from all days can be found in the appendix.

Figure B-41 Weekend Utilization, 8AM

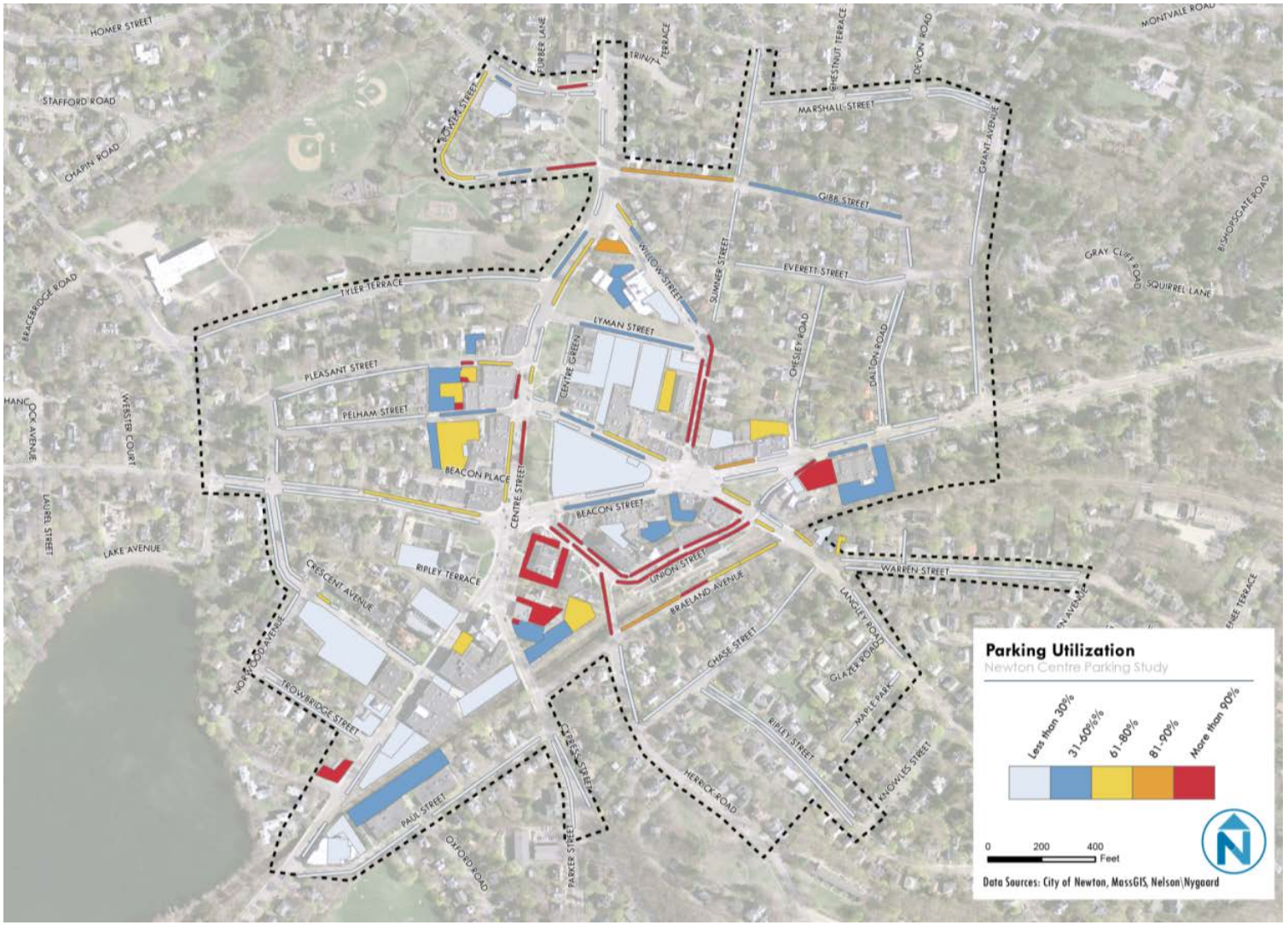


Figure B-42 Weekend Utilization, 10AM

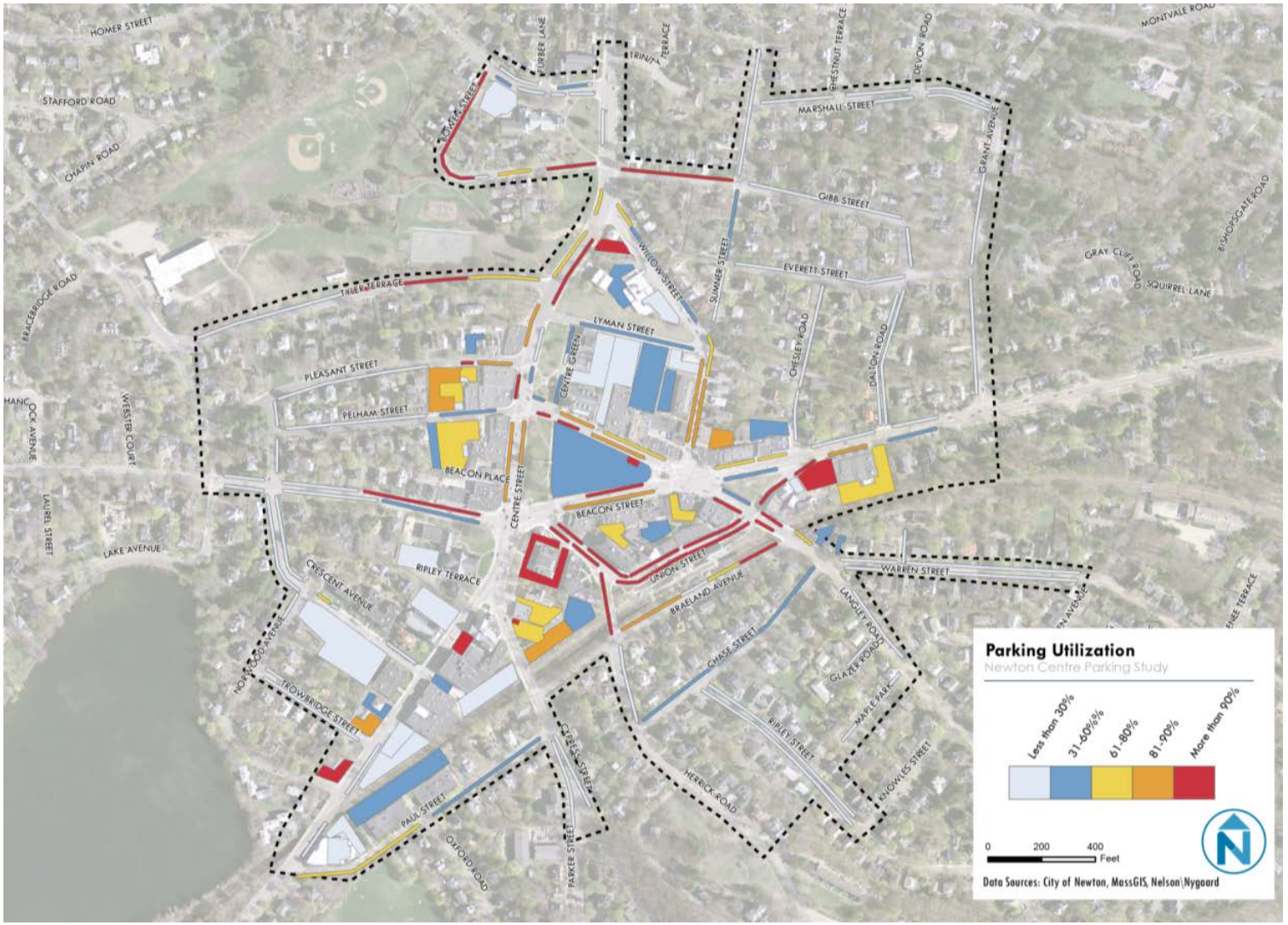


Figure B-43 Weekend Utilization, 12PM

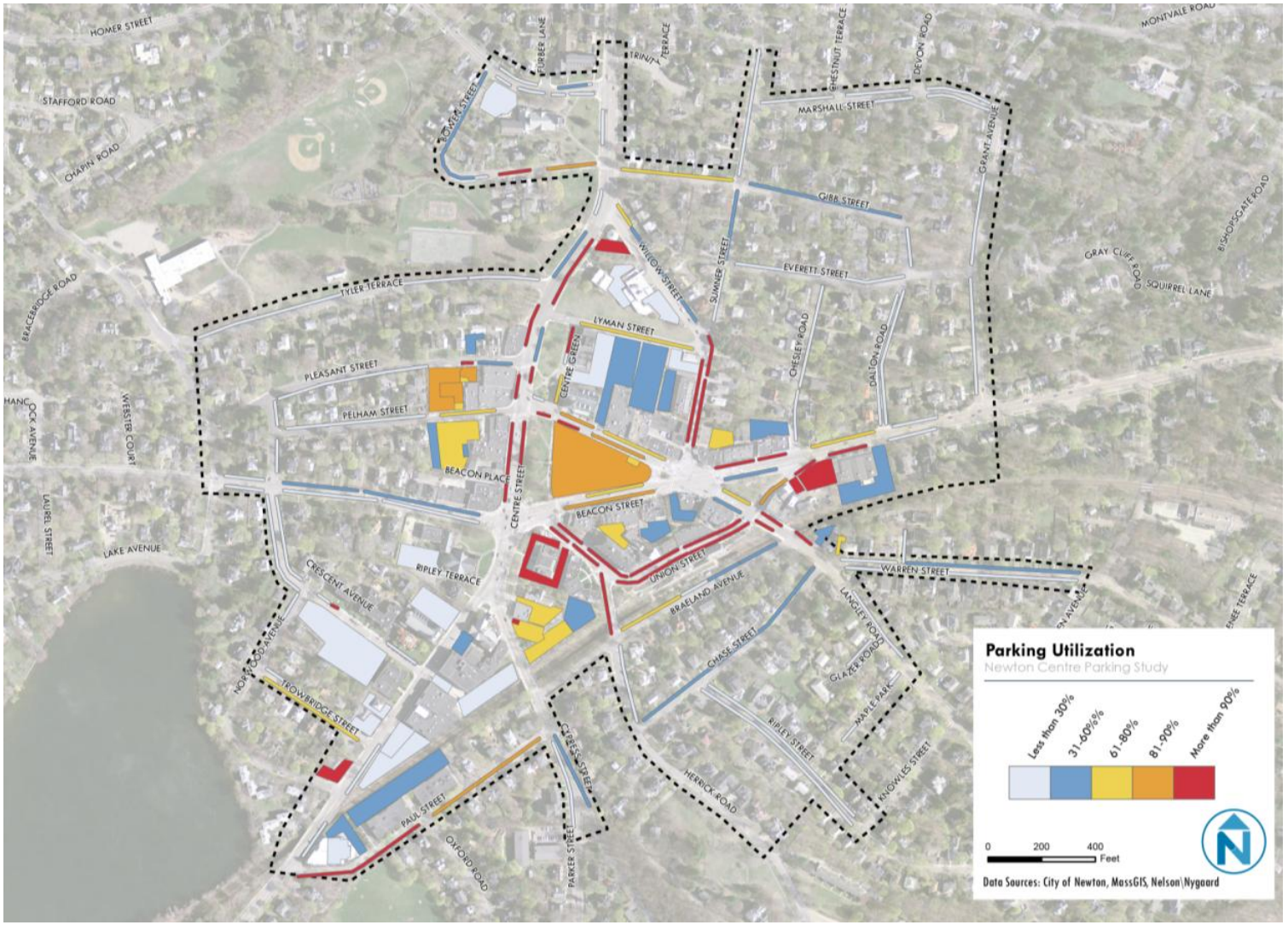


Figure B-44 Weekend Utilization, 2PM

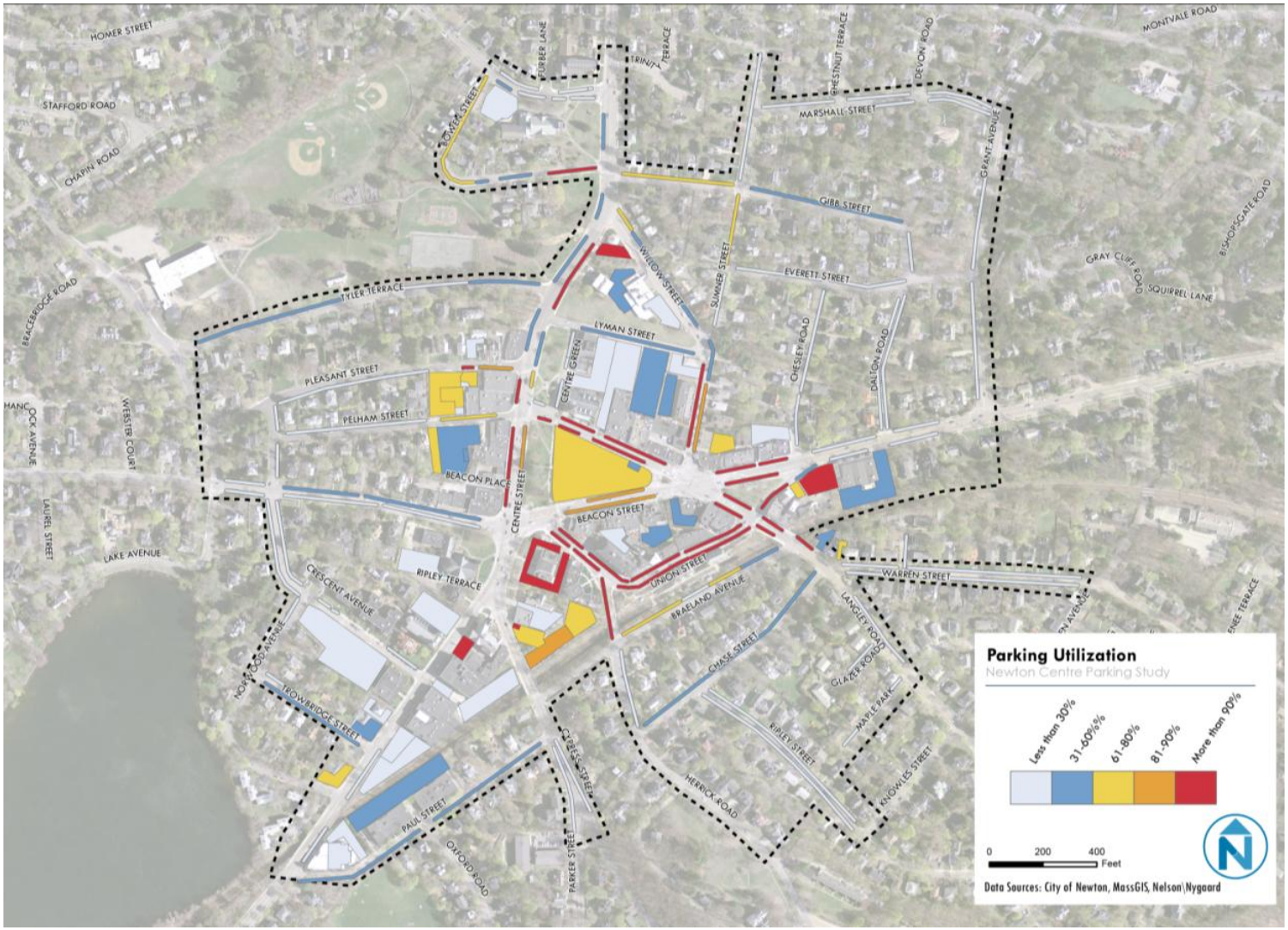


Figure B-45 Weekend Utilization, 4PM

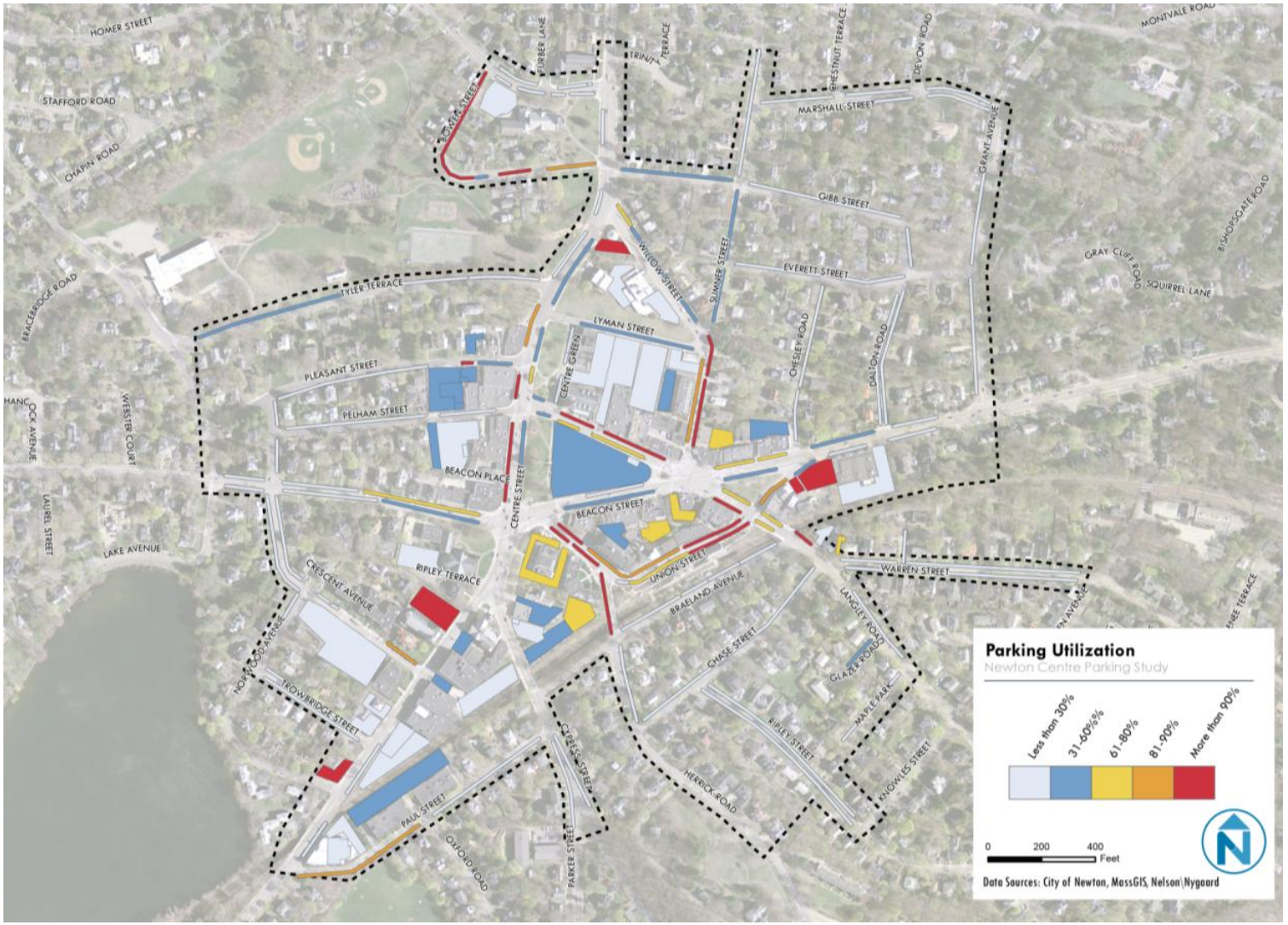


Figure B-46 Weekend Utilization, 6PM

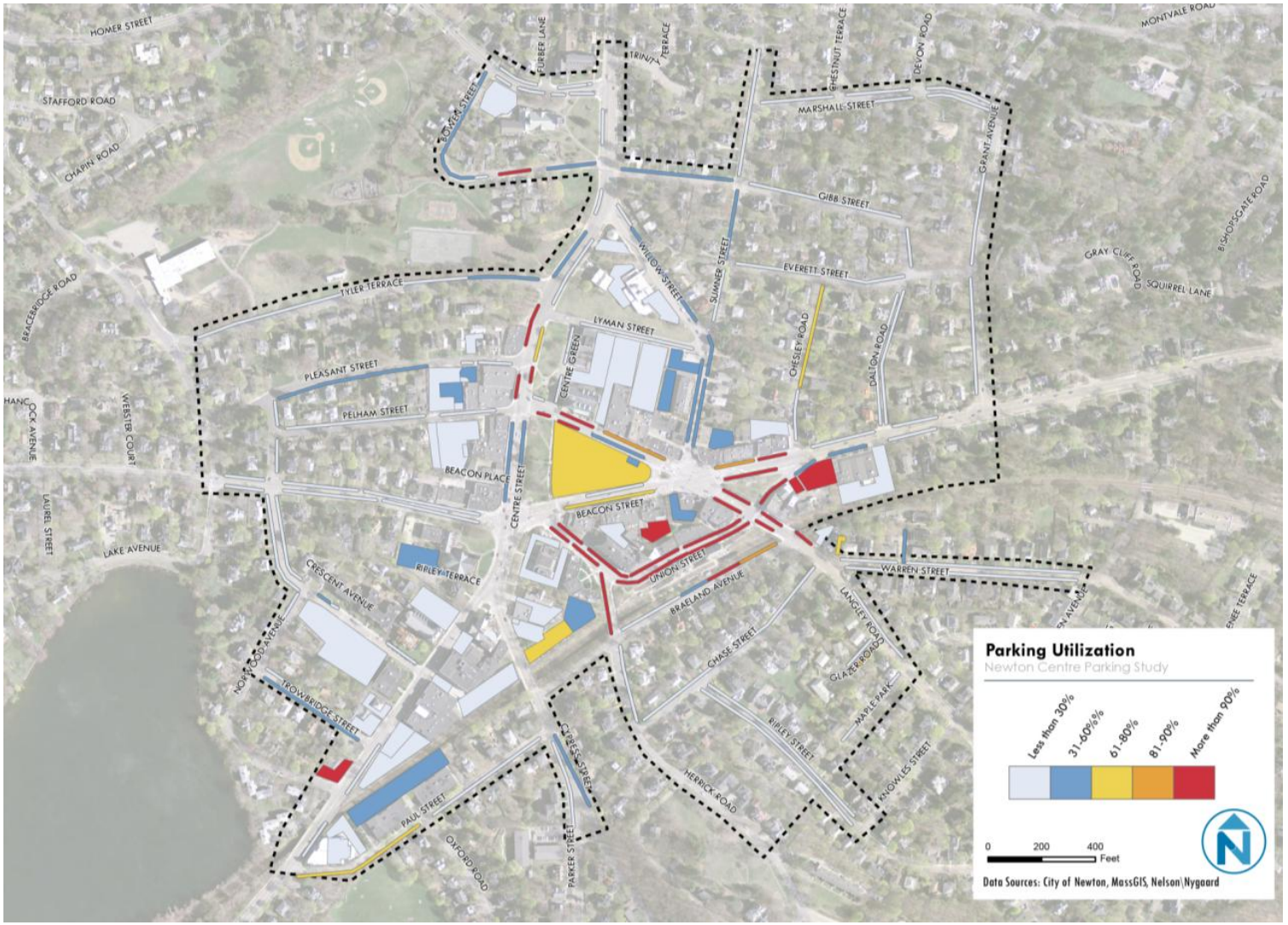
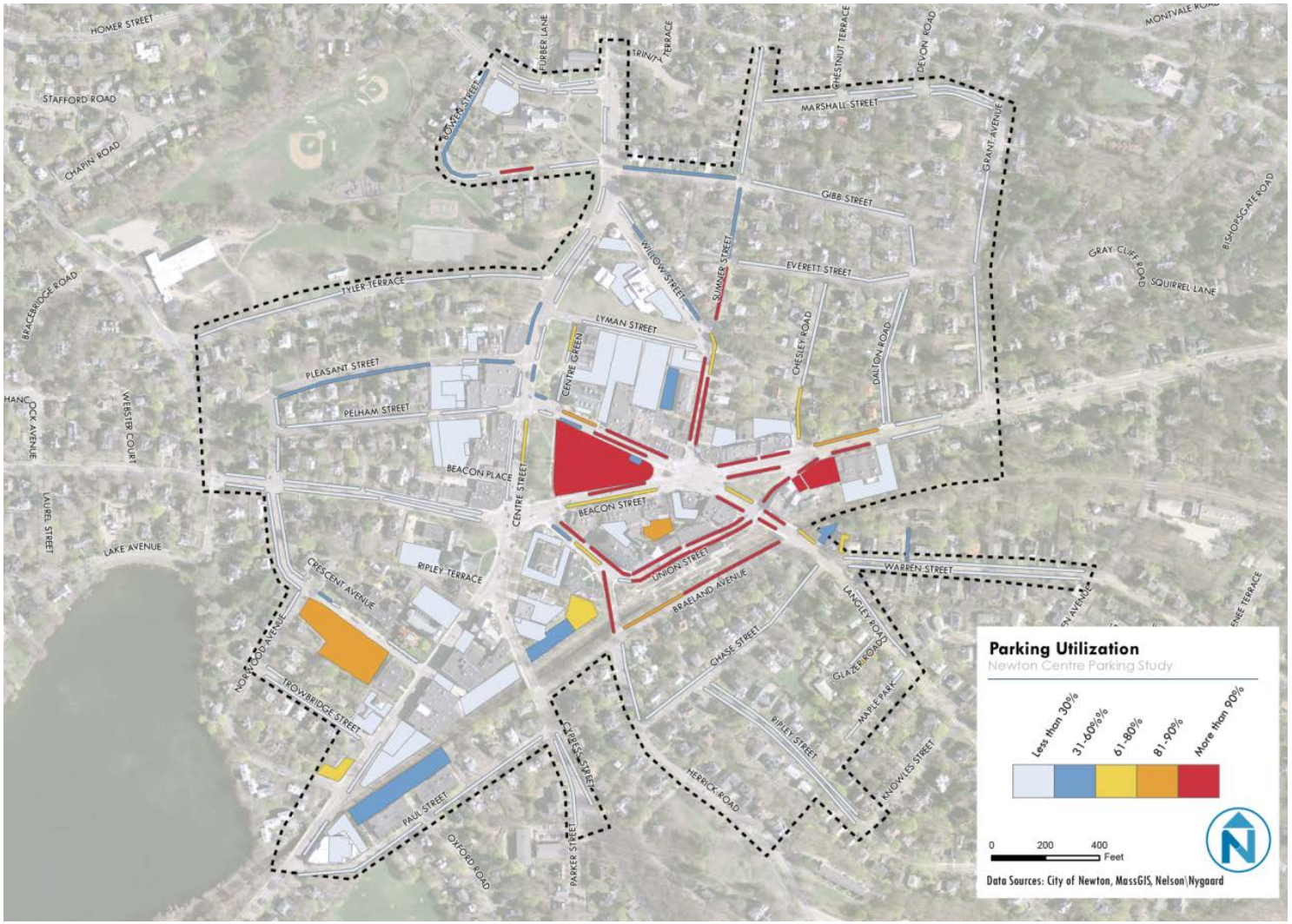


Figure B-47 Weekend Utilization, 8PM



COMPARATIVE 2013 AND 2015 UTILIZATION

The 2015 parking strategy builds upon data collected in the 2013 Newton Centre Parking Study. As a result of the 2013 study, the City of Newton extended nearly all of the one hour on-street time limits to two hours (area of change as shown in yellow (Figure B-52). The following section serves to compare how demand has changed between 2013 and 2015; in particular with the change from one hour to two hour meters.

Overall 2013 and 2015 Utilization Comparison

Figure B-48 and Figure B-49 show that overall weekday utilization has increased slightly since 2013, most notably during breakfast, lunch and dinnertime peaks. This likely reflects demand from the number of restaurants that have been added to the area since 2013.

Figure B-48 Overall Weekday Utilization: 2013 Study

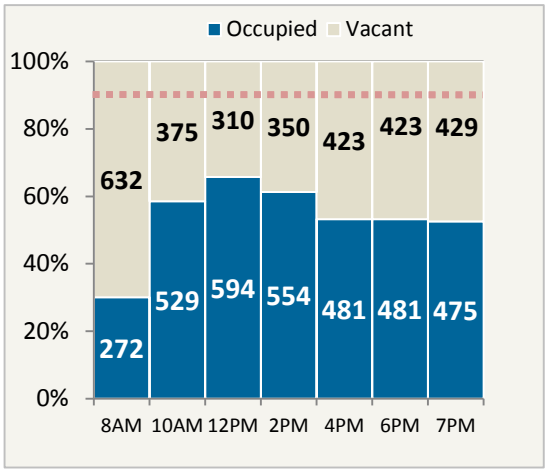
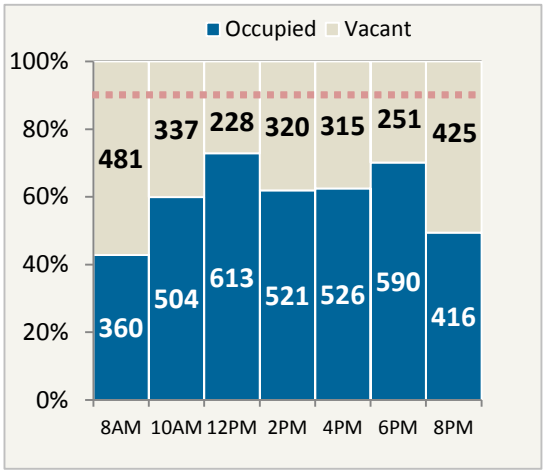


Figure B-49 Overall Weekday Utilization: 2015 Strategy



NOTE: Data from Wednesday, June 3rd, 2015; Red Sox Game 7:10pm

One Hour to Two Hour Space Utilization

As a result of the 2013 study, the City of Newton changed most one hour on-street parking meters to two hour meters. As can be seen in Figure B-50 and Figure B-51, utilization is generally higher in these spaces since this conversion. In 2013, on-street parking meters had considerable availability throughout the day and demand peaked at 7PM, when 70% full (Figure B-50). In 2015, demand is consistently higher at all times of the day, being close to functionally full (90%) at both lunchtime (12PM to 2PM) and dinnertime (6PM to 10PM).

Figure B-50 2013 Study: 1 Hour Meter Utilization

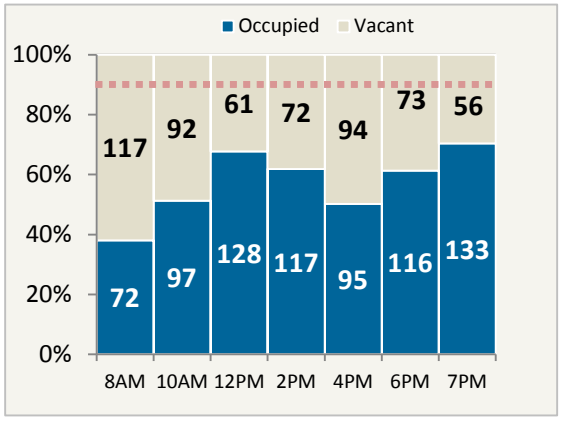
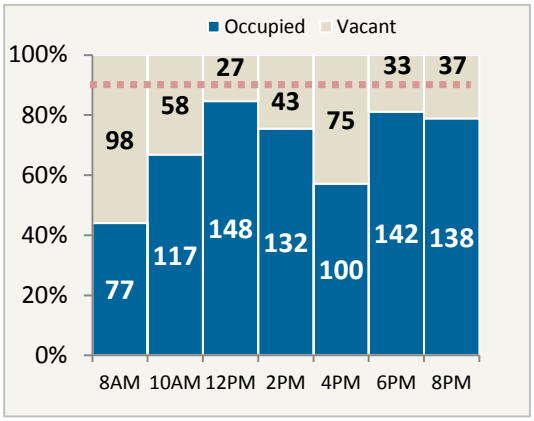
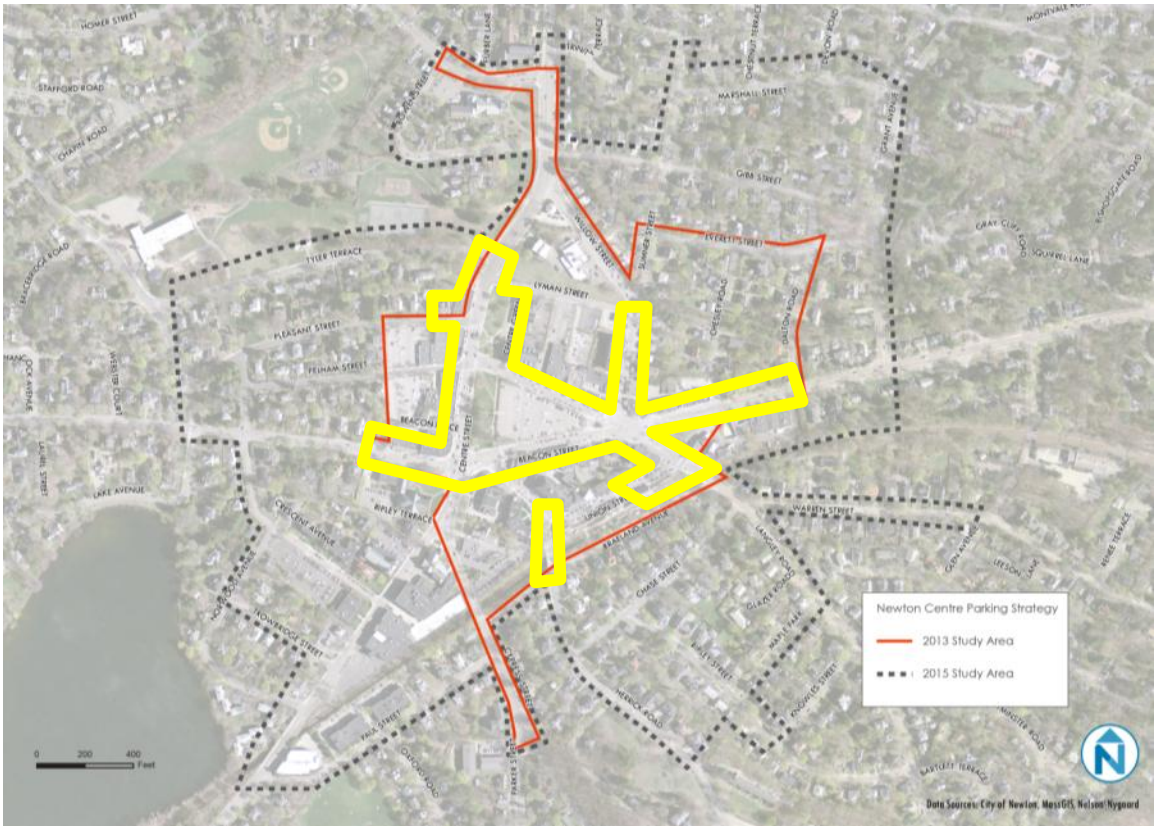


Figure B-51 2015 Strategy: 2 Hour Meter Utilizatior



NOTE: Data from Wednesday, June 10th, 2015 * Non Red Sox Game Day

Figure B-52 1 Hour to 2 Hour Meter Change Area (Yellow)



2013 to 2015 Comparative Spatial Analysis

As can be seen in Figure B-53and Figure B-54, since 2013, during weekday peak, parking utilization has increased or stayed the same in all off-street public lots and in most areas with on-street meters. Demand has increased most dramatically in the publicly-accessible Pelham Street and Pleasant Street lots and in the Cypress Street lot. Generally, demand has remained low and constant at most longer-term on-street blocks, like those in the north area of the village center.

Figure B-53 2013 Study: Weekday Peak Utilization – 1 PM

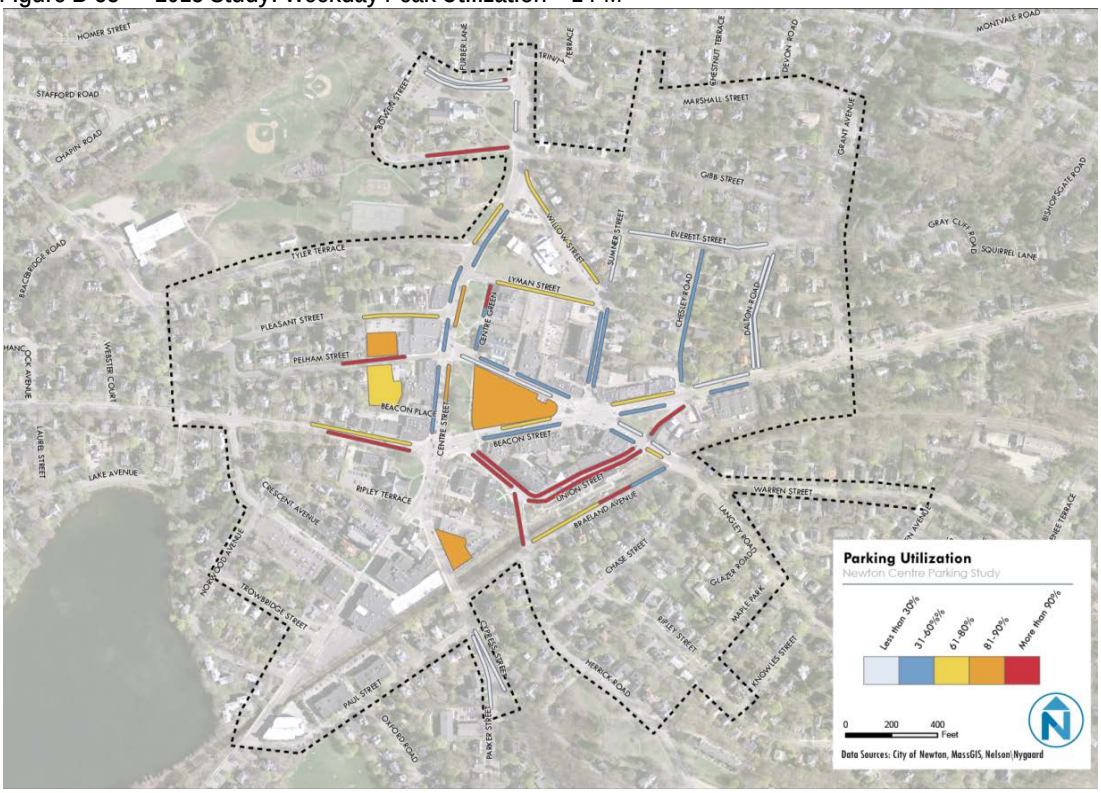
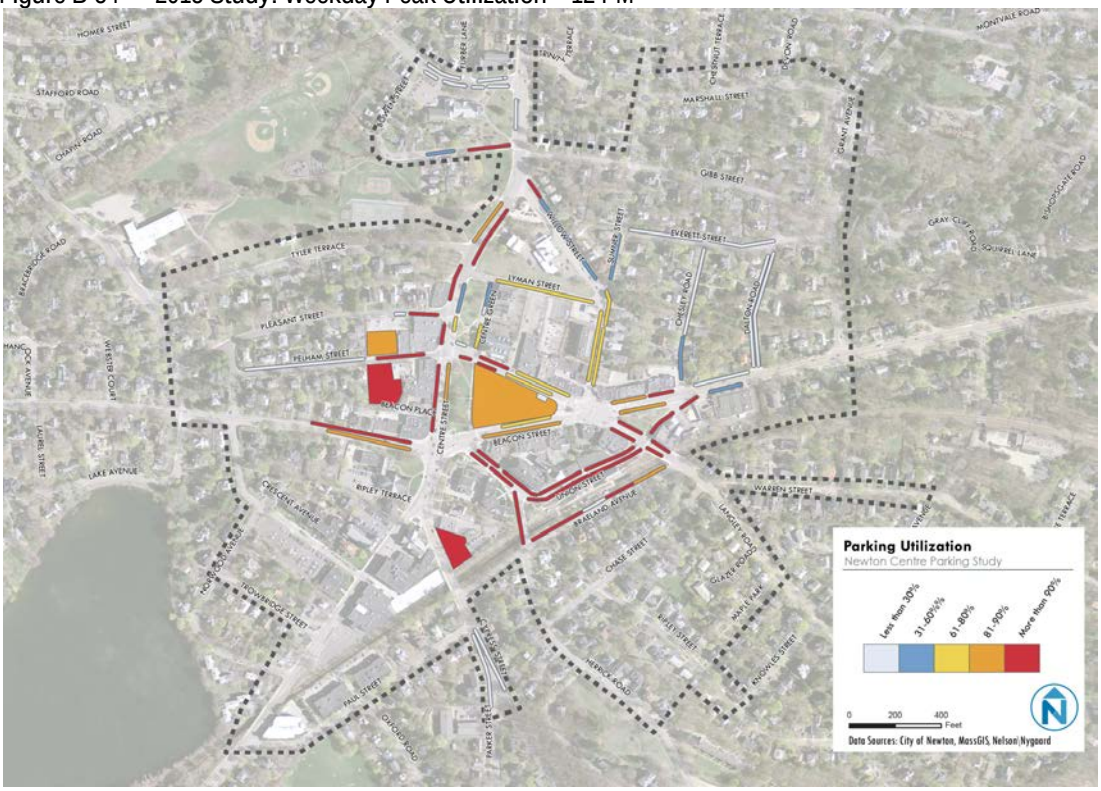


Figure B-54 2015 Study: Weekday Peak Utilization – 12 PM



*Note: includes only segments for which data was also collected in 2013 study.

TURNOVER COUNTS

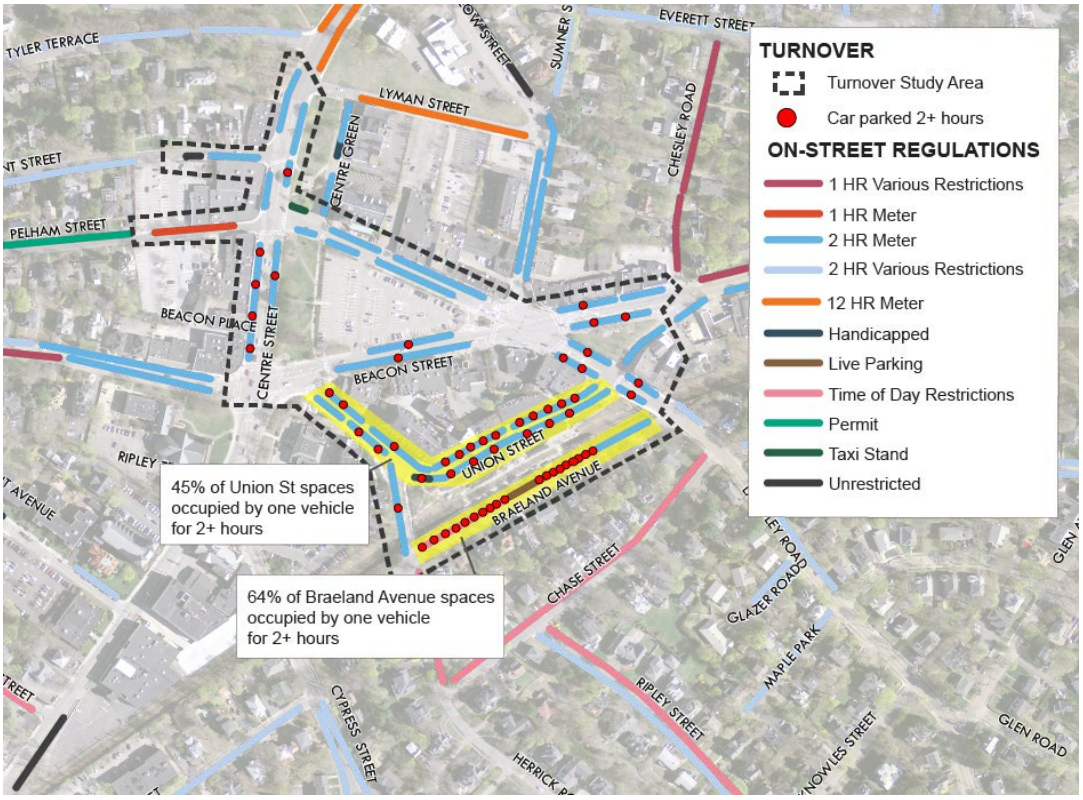
While utilization is the key to understanding where and when parking is available in Newton Centre, the team also analyzed length of stay in key areas. “Turnover” is an indication of how long vehicles are remaining in one parking space. This analysis provides insight into compliance of current regulations and is an indicator of parking needs/desires.

Turnover counts were collected on a Wednesday during the busiest time of day, from 10AM to 2PM on on-street blocks in the core, as outlined in Figure B-55. The majority of these on-street spaces are metered with a two-hour time restriction. Observations of the time and duration parked by each car in every space were collected in 30-minute increments by tracking license plates.

TURNOVER - KEY FINDINGS

- 25% of cars in the turnover study area stay for longer than two hours.
- Cars overstay the time limits on Braeland and Union Street most egregiously:
  - 45% of cars parked on Union Street stayed for more than two hours
  - 64% of cars parked on Braeland Avenue overstayed the time limit
- Length of stay likely longer on Union and Braeland compared to other streets due to proximity of longer-term parking

Figure B-55 Turnover Count Study Area and Observations



APPENDIX C PUBLIC INPUT

Throughout this process, the City of Newton made it a priority to include community input on an ongoing basis. This effort included multiple opportunities for public input, including:

- An **online survey** with about 500 respondents
- "**Pop-up workshops**" on the streets (Thursday, September 10, 2015))
- Targeted **stakeholder** interviews
- A **strategy prioritization workshop** (October 28)

Through all of these outreach efforts, the team was able to ascertain user-based issues, concerns, and values as they relate to parking in Newton Centre.

ONLINE SURVEY

The perceptions, experiences, and preferences of people who park in Newton Centre were collected through an online survey. The survey was open from July to September 2015, and garnered about 500 responses. The sections below outline the responses and trends in the survey data, including conclusions from both the quantitative and qualitative survey responses.

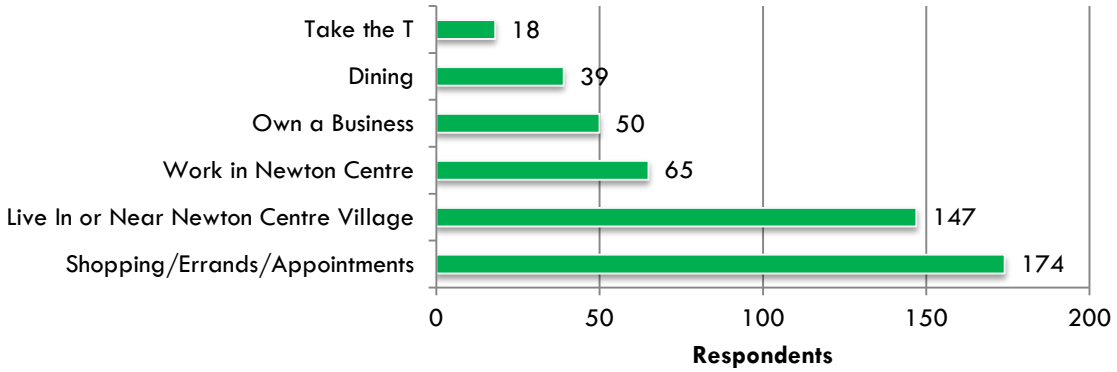
ONLINE SURVEY: KEY FINDINGS

- Customers and commuters typically park off-street, while 47% of business owners and employees report parking on-street
- Most customers, business owners and employees are able to park within a block of their destination
- Most respondents are able to find parking in less than five minutes on an average day
- Residents primarily park in their own private driveways and residential lots and generally do not have issues with finding parking on their block
- Many residents commented that the time-limited side street parking system does not meet their needs to have their guests park on street
- Parkers perceive parking enforcement to be harsh and aggressive
- Ease of finding a space, location relative to destination, and parking time limits are among the most important issues for those that park in Newton Centre

Reasons for going to Newton Centre

The majority of survey respondents either go to Newton Centre for shopping, errands, and appointments (35%) or they live in or near Newton Centre (30%) (Figure C-1). These identified "user groups" are used to gain more insight on particularly preferences throughout the survey.

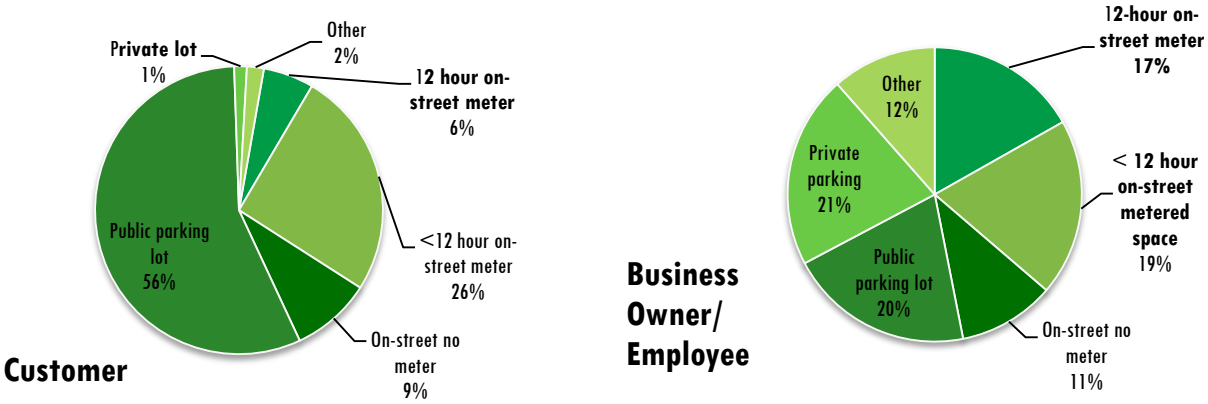
Figure C-1 Why do you come to Newton Centre?



Parking patterns

Customers, commuters, and business owners and employees all have very different parking patterns. As shown in Figure C-2, customers and commuters typically park off-street in public lots (56% and 50% respectively). 47% of business owners and employees report parking in on-street parking spaces and only 21% park in private lots. Many on-street parking spaces are often the ones "right out front" that might be the most attractive to potential customers.

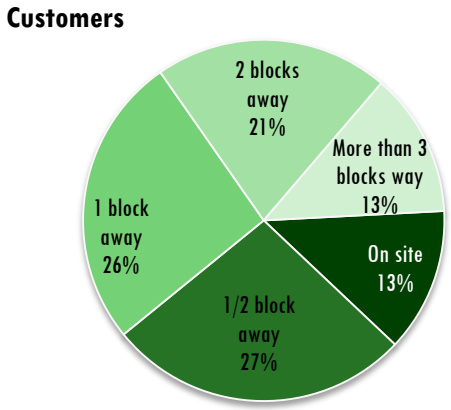
Figure C-2 Where are people parking in Newton Centre?



In general, the majority of customers and about half of business owners/employees (66% and 51% respectively) are parking within one block of their destinations, as shown in Figure 47. About half of business owner and employee respondents report typically parking two or more blocks away, whereas only 34% of customers park more than a block away from their destination. Thus, those off-street spaces that customers are utilizing may be more convenient than the on-street spaces employees report using

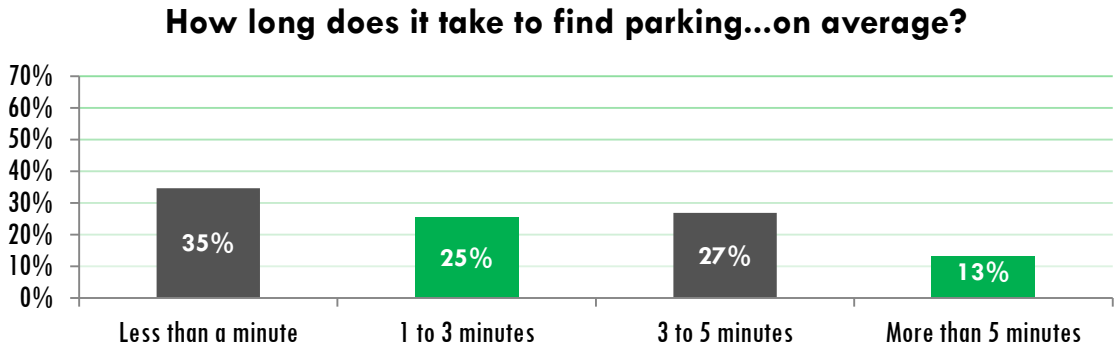
Figure C-3 shows that a large majority of customer and a slim majority of employee survey respondents reported that they park 1 block away or less from their ultimate destination. Employees are far more likely to park 2 blocks away or more (49%) than customers (34%).

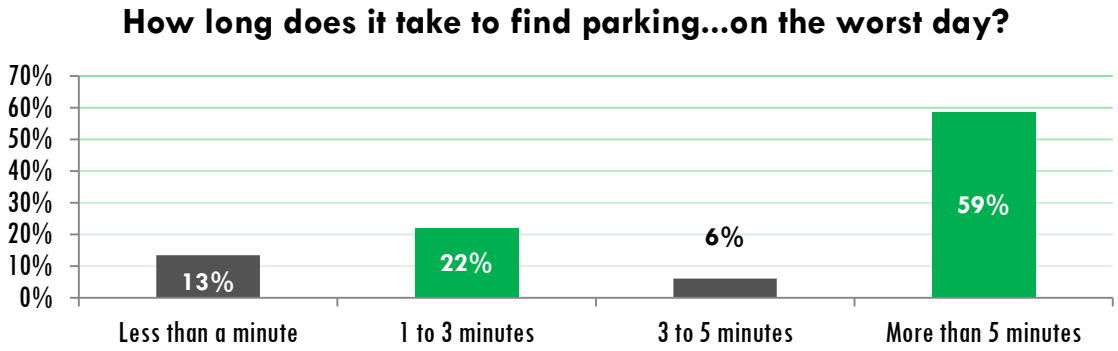
Figure C-3 How far did you park from your destination?



The perception of a parking crunch can be related to the rare occasions when drivers cannot find parking regardless of a more typical day. On an average day, 35% respondents were able to find parking in less than a minute. However, on their worst day, more than half of respondents (59%) spent more than five minutes looking for parking – and it is often these times that color the perception of parking. Overall, the majority of survey respondents (60%) report being able to find parking within three minutes on average, as shown in Figure C-4.

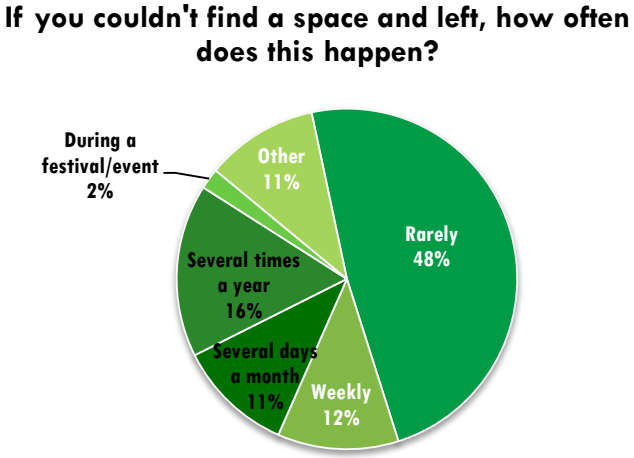
Figure C-4 How long does it take for you to find parking?





A considerable number of respondents (46%) have failed to find parking in Newton Centre, as shown in Figure C-5. While the majority of these instances occur rarely or only several times a year (48% and 16%), a concerning percentage report experiencing this on a weekly or month basis (12% and 11%).

Figure C-5 Failure to find parking in Newton Ce



Residential Parking Patterns

A clear majority of resident respondents report that they either park in their private driveway or in a private lot associated with their residence (90% and 3%) as shown in Figure C-6. Only 4% report parking on-street, implying general parking availability on residential side streets, which was also reflected in the utilization data in residential areas (Figure C-6). 82% of respondents also reinforce that on-street parking is typically easy to find without a problem, as shown in Figure C-7.

Figure C-6 Where residents typically park in their neighborhood

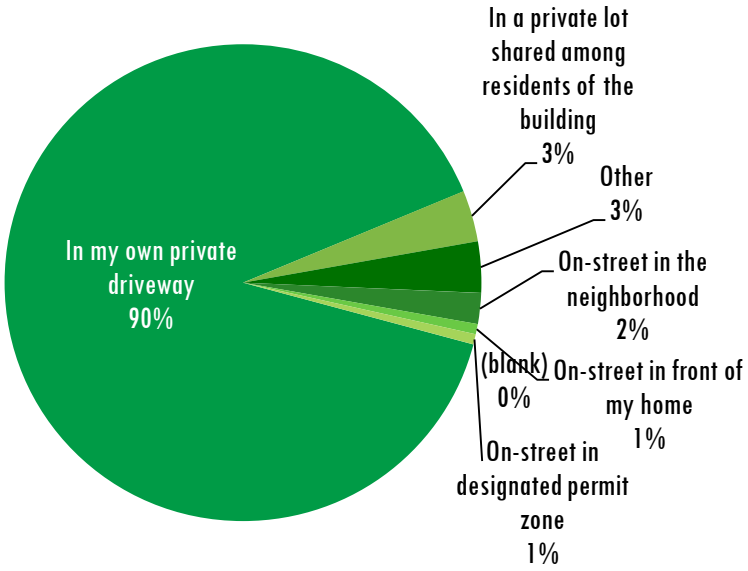
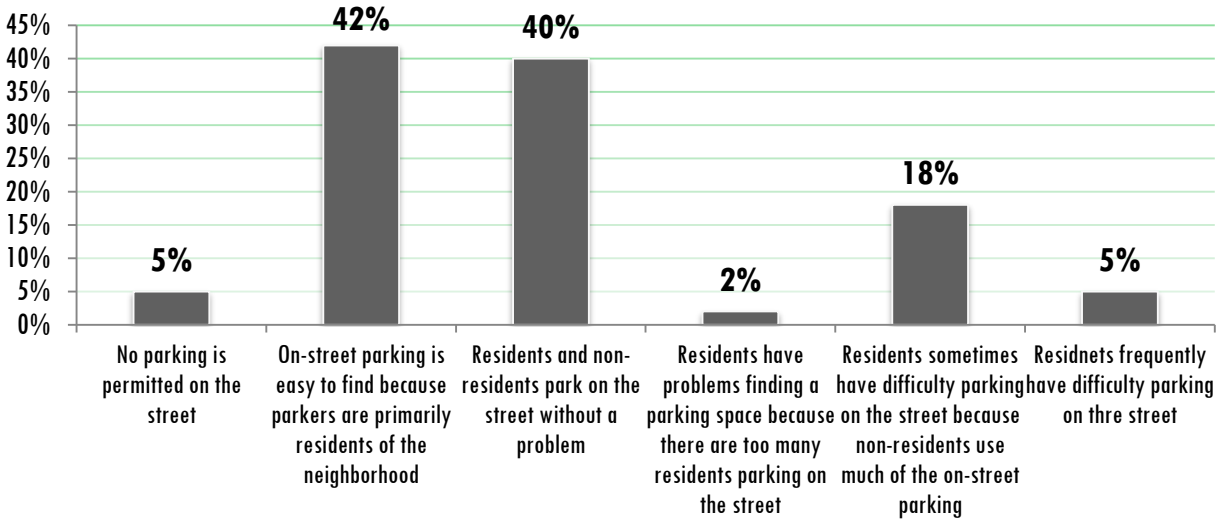


Figure C-7 On-street parking conditions in residential neighborhoods



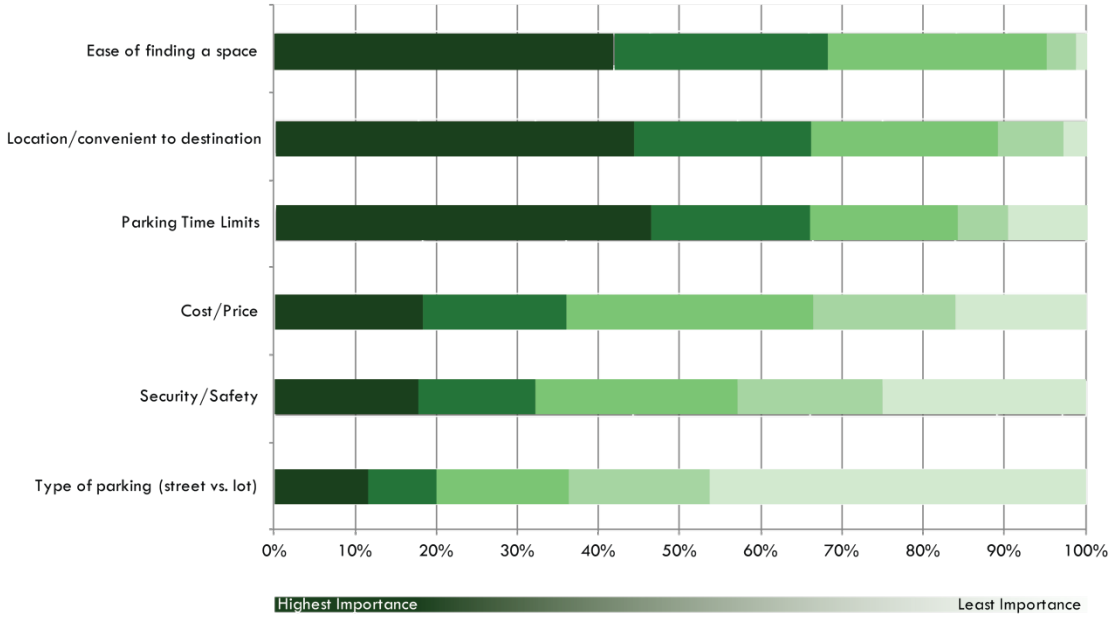
In the comments section of the survey, numerous resident respondents reported concerns about resident parking issues. Those comments revolved around the following themes:

- Need for residential parking exceptions on Boston College game days
- Desire for flexibility to have the ability to park more than two hours on their respective street
- Concerns about driving speeds on residential side streets
- Desire for guest parking passes

Parking Priorities

Survey respondents were asked to report the issues of relative importance with respect to parking in Newton Centre. As shown in Figure C-8, ease of finding a space, the location and convenience of parking location to destination, and the parking time limits are of highest importance to respondents.

Figure C-8 What's most important about parking in Newton Centre?



Enforcement

In the open response section of the survey, multiple respondents expressed concern about the harshness of parking enforcement and its effect on the attraction of visiting Newton Centre:

> "The meter maids are really relentless here compared to other towns. If you're 5 mins late, esp. in the 9-10 am timeframe, you will get a ticket. **I think this is harsh and sends the wrong message to people choosing to visit Newton Centre** over "The Street" and the like."

> **"I regularly get tickets while I am buckling my child in the carseat to go home."**

> **"I go into the store to grab quarters and get a ticket before I am even back at my car."**

STAKEHOLDER MEETINGS

The review of background information, online surveys, and public meetings were complemented by a series of targeted stakeholder interviews that gathered input on conditions from those very familiar with parking in Newton Centre. The primary goal of stakeholder interviews was to gather understanding of specific experiences and perspectives through a free-flowing dialogue about parking. Stakeholders were identified by City staff. The team met with nearly 40 individuals.

Interviewed Stakeholders

- Centre businesses
- Residents
- Transportation advocates
- Developers/ property management companies
- Property owners
- Councilors
- City staff
- Parking enforcement

STAKEHOLDERS: KEY FINDINGS

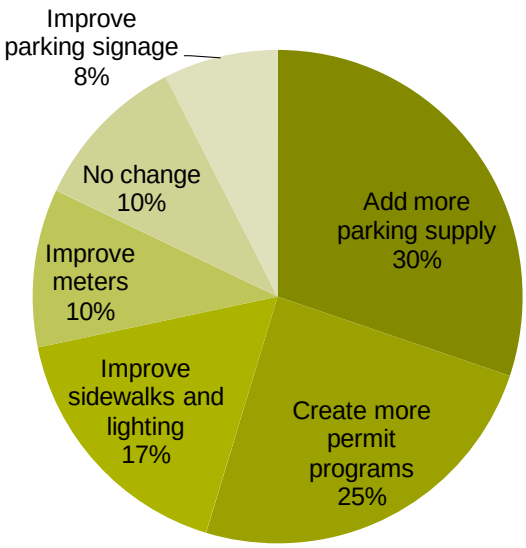
- The long-term spaces typically get occupied by commuters before employees and business owners arrive for work.
- People observe employees shuffling cars between short-term spaces throughout the day.
- There is substantial cut-through traffic on numerous side streets and within the Centre Triangle and Walgreen's parking lots.
- There are bottlenecks from parking around the edge of Newton Centre where parking becomes unregulated and unenforced.
- Parking enforcement has observed rampant abuse of time limits and of handicapped parking privileges being used by non-handicapped users.
- The coin-operated parking meters regularly malfunction, creating issues for enforcement, lost revenue, and customer frustration.
- Regulatory signage is often unclear.

POP-UP WORKSHOPS

On Thursday, September 10th, the City convened two public pop-up workshops on the streets: one near the Centre Triangle Lot of Newton Centre and the other on Union Street by the train station. Advertised on the City website, various email listservs, and through local news outlets, all were invited to participate at the pop-ups. Participants included Newton Centre residents, business owners, property owners, Aldermen, Centre employees, and customers/visitors who all brought various perspectives and issues to the table.

These workshops collected general input drawn up on parking maps of the area, and well as targeted information via interactive input exercises to understand parking preferences and priorities related to what strategies should be considered for Newton Centre.

Figure C-9 Pop-Up Workshop: Parking Strategy Prioritization Results



From the initial prioritization exercises, it was found that most participants want to add more parking supply (30%) and create more permit programs (Figure C-9). As is illustrated in Figure C-11 and Figure C-12, common comments included insight into cut-through traffic patterns, dangerous intersections, double parking zones, areas of high demand, and regulation abuse.

Figure C-10 Pop-Up Workshop Photos and Community Markup


NO CHANGES TO PARKING


Parking Is too EXPENSIVE! Ahhh $

Figure C-11 Summary of Pop-Up Workshop Public Input

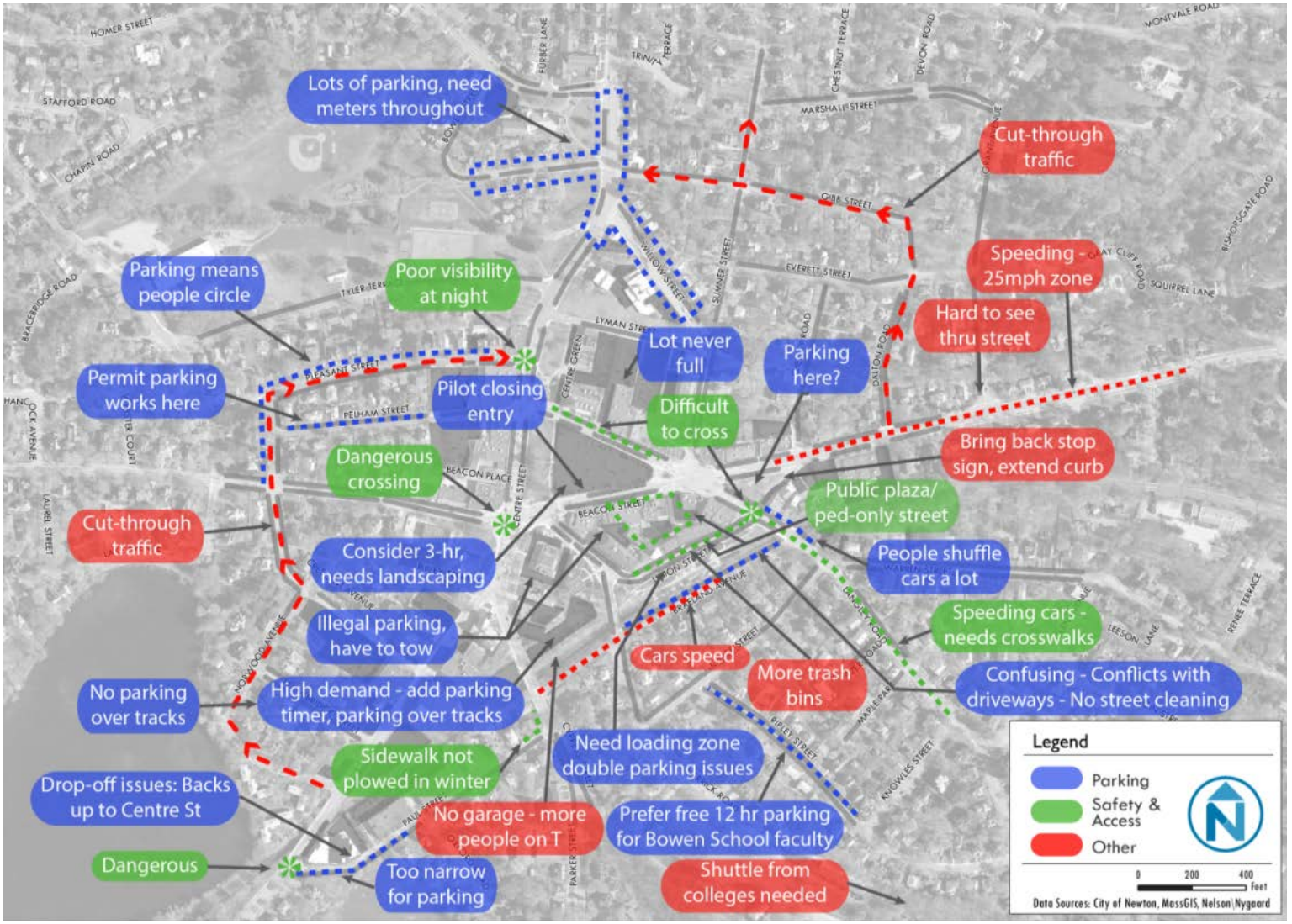


Figure C-12 Additional Pop-Up Workshop Public Input

TOPIC	COMMENTS
Parking	▪ Need for long-term parking ➢ There is not enough 12-hour parking ➢ There is need for more employee parking ➢ Parking time limits are too short ➢ Reduce parking minimums ➢ Build another garage ▪ Improve on-street parking ➢ Better signage throughout should be installed ➢ Install parking meters that can take payments by credit card ➢ There should be no permits on residential streets ▪ Better coordination of commuter parking ➢ Commuter parking on residential streets should not be allowed ➢ Satellite parking lots could be better used ➢ There is not enough commuter parking ➢ Provide parking shuttles to off-site parking ▪ Parking and business development needs ➢ Too much aggressive enforcement deters business ➢ Dinnertime parking is hard to find ➢ Provide free holiday parking ▪ Better enforcement of parking rules ➢ The city needs to better enforce restrictions ➢ Too many parking waivers are granted
Safety & Access	▪ Need more handicapped parking on- & off-street ▪ Promote biking/walking
Other	▪ Benches should face each other, not the street ▪ Rules of the road are hard to understand in Newton

STRATEGY PRIORITIZATION WORKSHOP

On October 28th, the City hosted a workshop to present initial parking management strategies. The workshop was televised. The evening included a presentation on key findings and initial strategies followed by an interactive prioritization exercise. After the presentation, the team handed out worksheets for each participant to rank the top five strategies they would most like to see implemented in Newton Centre. For viewers at home, the meeting recording and the prioritization exercise were posted online.

Figure C-13 Strategy Prioritization Workshop

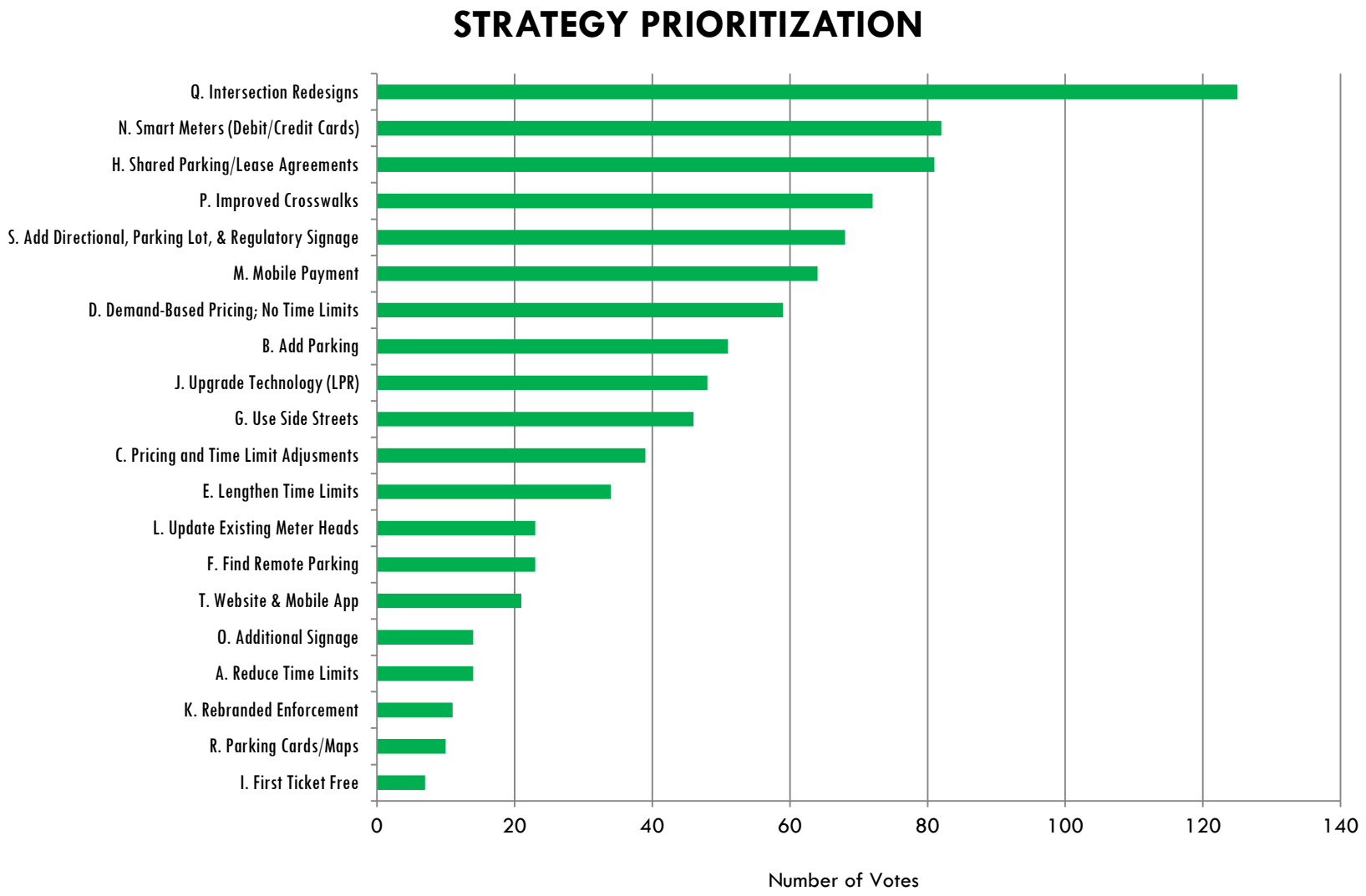
Figure C-14 shows the worksheets that were presented at the workshop. Low, medium, and high impact strategy options were presented under six key strategy categories. To better inform participant choices, explanatory descriptions of each of the sub-strategies were presented verbally at the workshop and in written form in the online survey.

Figure C-14 Initial Strategy Options Information Sheet

Key Strategies	Level of Impact			
	LOW		MEDIUM	HIGH
1. Create availability	A. Reduce Time Limits (shorten 2 hour time limits to 1 hour or less)	B. Add Parking (stripe more on-street parking spaces in core area)	C. Pricing + Time Limit Adjustments (vary existing pricing and time limits system to respond to needs)	D. Demand-Based Pricing; No Time Limits (eliminate time limit system and use variable pricing to shift demand)
2. Establish long-term parking areas	E. Lengthen Time Limits (extend 2-3 hour meters to 6+ hours)	F. Find Remote Parking (establish parking areas within walking or shuttle distance to Centre)	G. Use Side Streets (limited number of long-term permits on opt-in streets)	H. Shared Parking / Lease Agreements (create agreements to use privately owned parking for long-term parkers)
3. Address enforcement	I. First Ticket Free (customer-first policy to allow first parking violation per year to be free)		J. Upgrade Technology (LPR) (use more license plate recognition technology to efficiently enforce)	K. Rebranded Enforcement (parking officers as Centre envoys)
4. Upgrade technology	L. Update Existing Meter Heads (improved/regular maintenance of coin operated meters)		M. Mobile Payment (introduce pay for parking by cell phone app/text)	N. Smart Meters (debit/credit cards) (replace meters with single head or kiosks that accept debit/credit cards)
5. Improve walking environment	O. Additional Signage (install signage at crosswalks for awareness)		P. Improved Crosswalks (upgrade crosswalks with paint, raised tables, medians, curb extensions, lighting)	Q. Intersection Redesigns (simplify and reduce the size of intersections to reduce crossing distance, time, exposure)
6. Provide signage and information	R. Parking Cards/Maps (create informational materials that identify parking areas and Centre businesses)		S. Add Directional, Parking Lot, & Regulatory Signage (install signage to guide wayfinding and clarify rules/regulations)	T. Website & Mobile App (create one-stop-shop for parking identifies parking lots and Centre businesses)

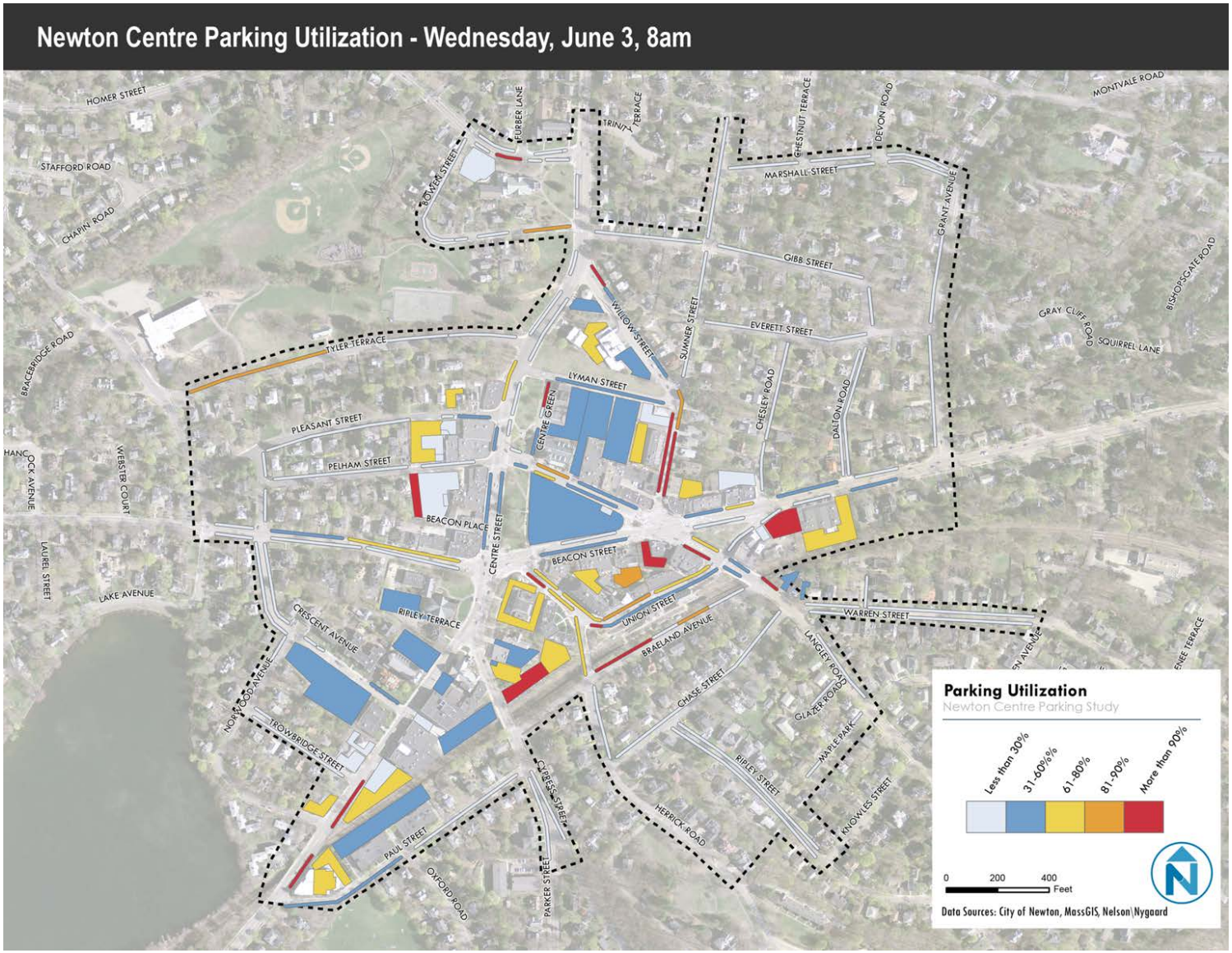
The results of this survey are summarized in Figure C-15. When given a choice between strategies presented, intersection redesigns were ranked as the top priority, followed by smart meters and shared parking agreements. Generally, quality of experience strategies were ranked higher than adding parking supply.

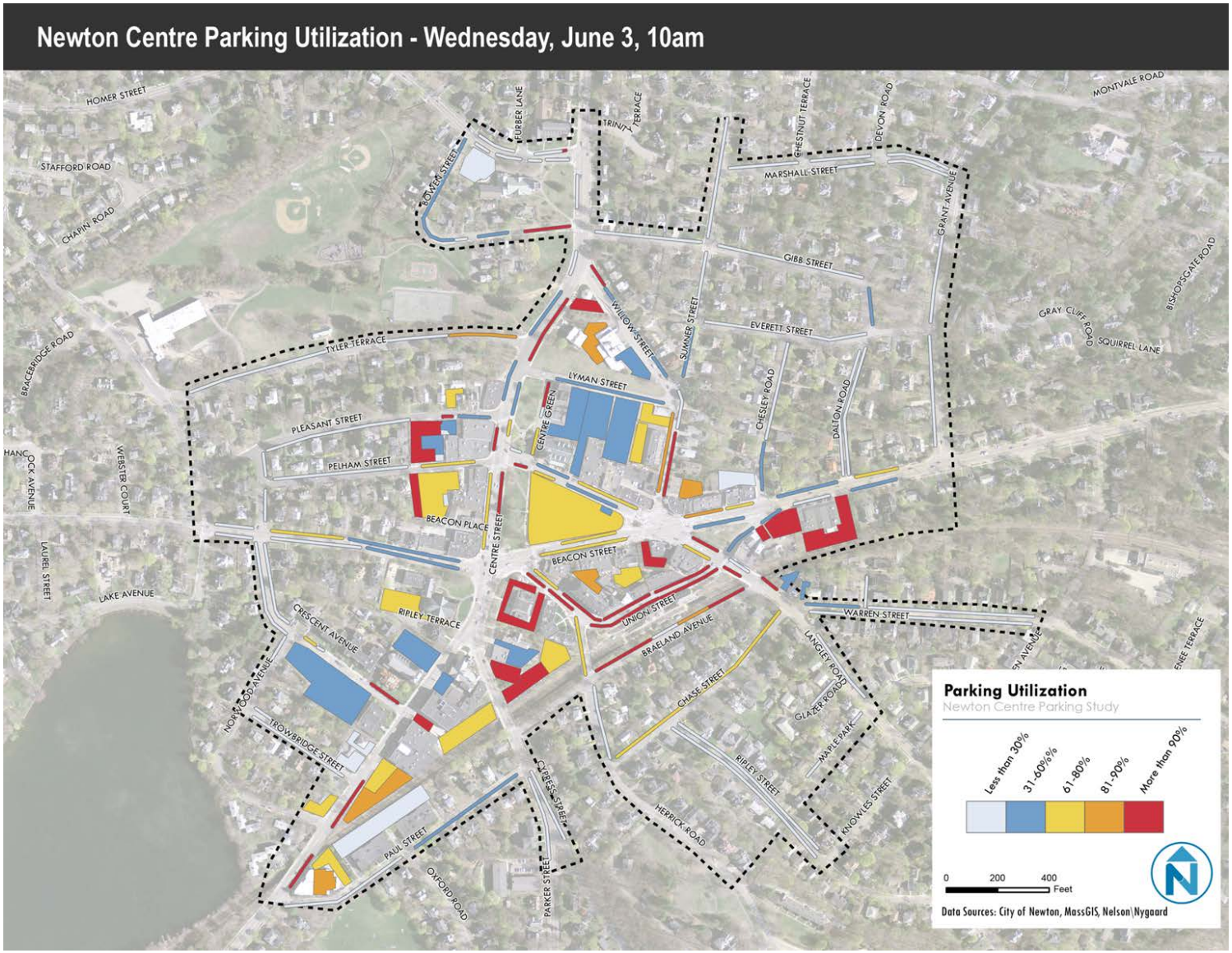
Figure C-15 Initial Strategies Workshop: Public Prioritization Input Results

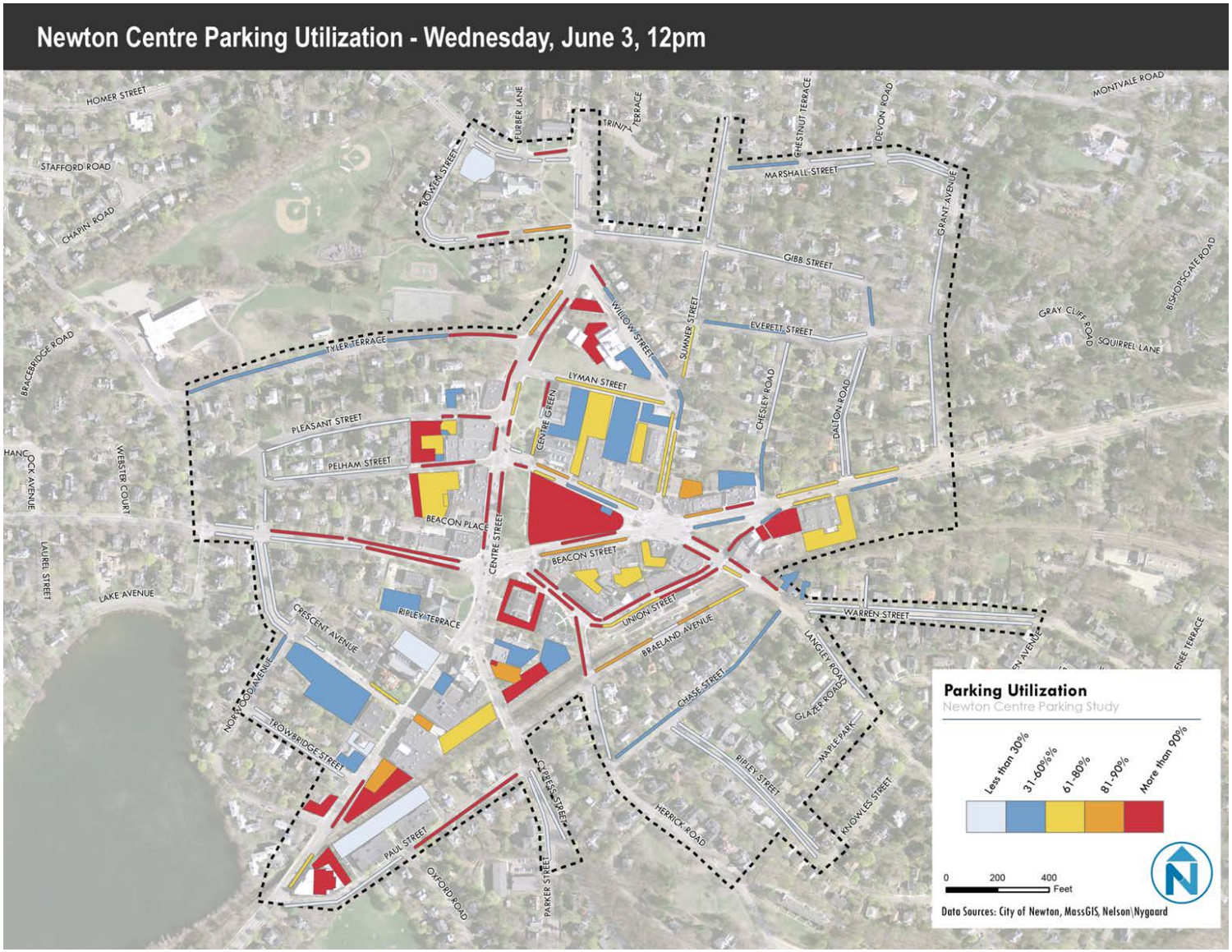


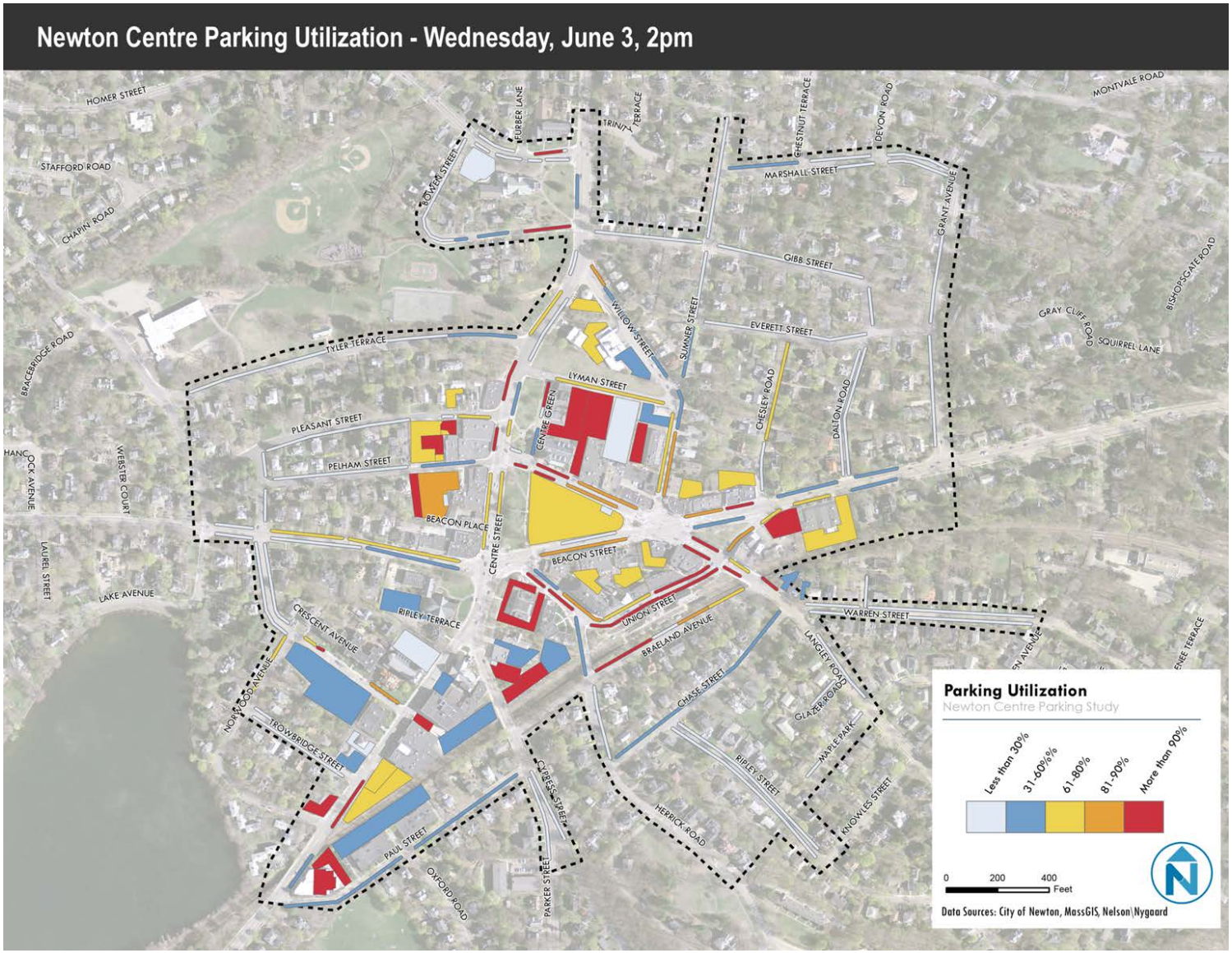
APPENDIX D PARKING UTILIZATION MAPS

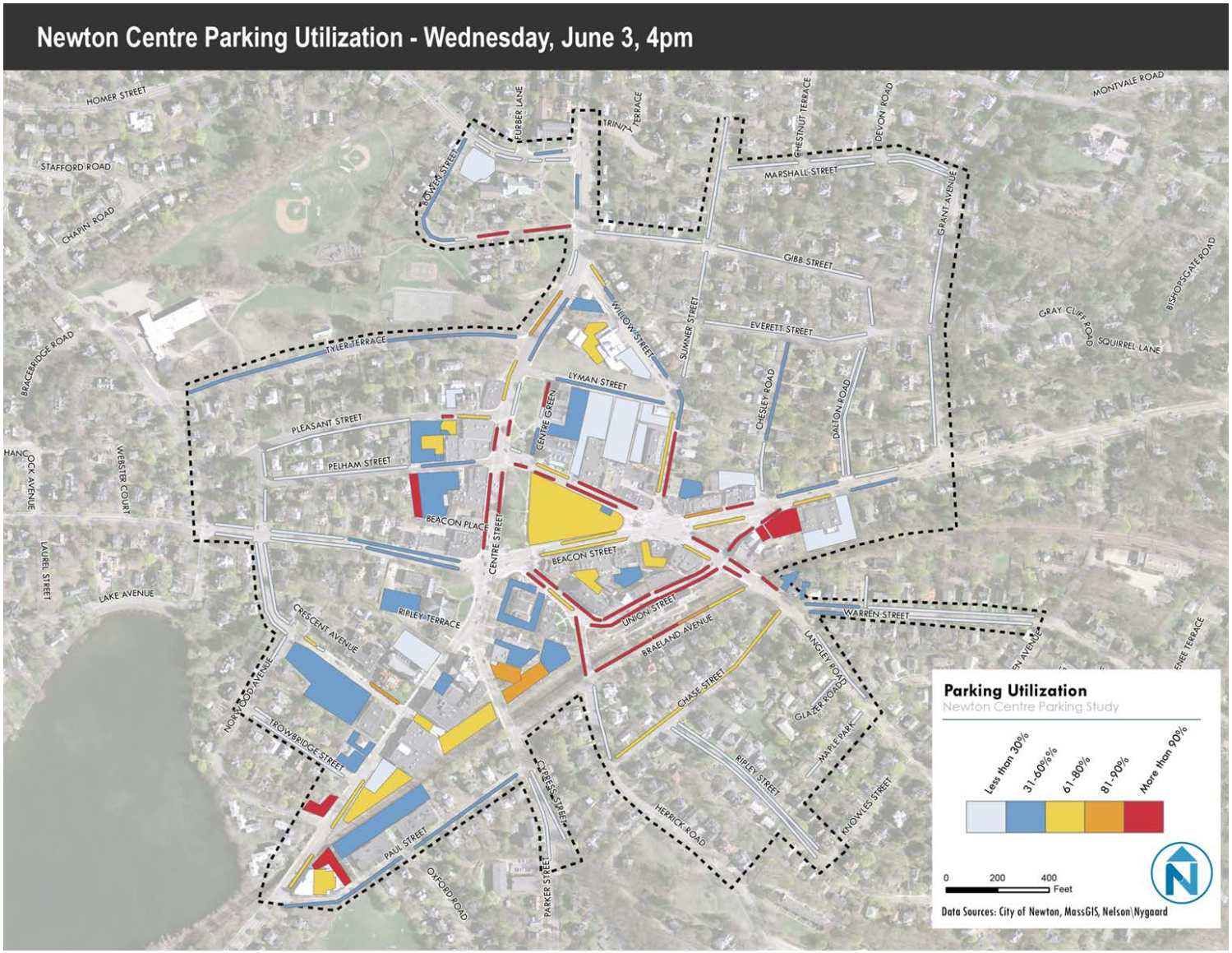
Newton Centre Parking Utilization - 2013 Weekday Peak, 1pm

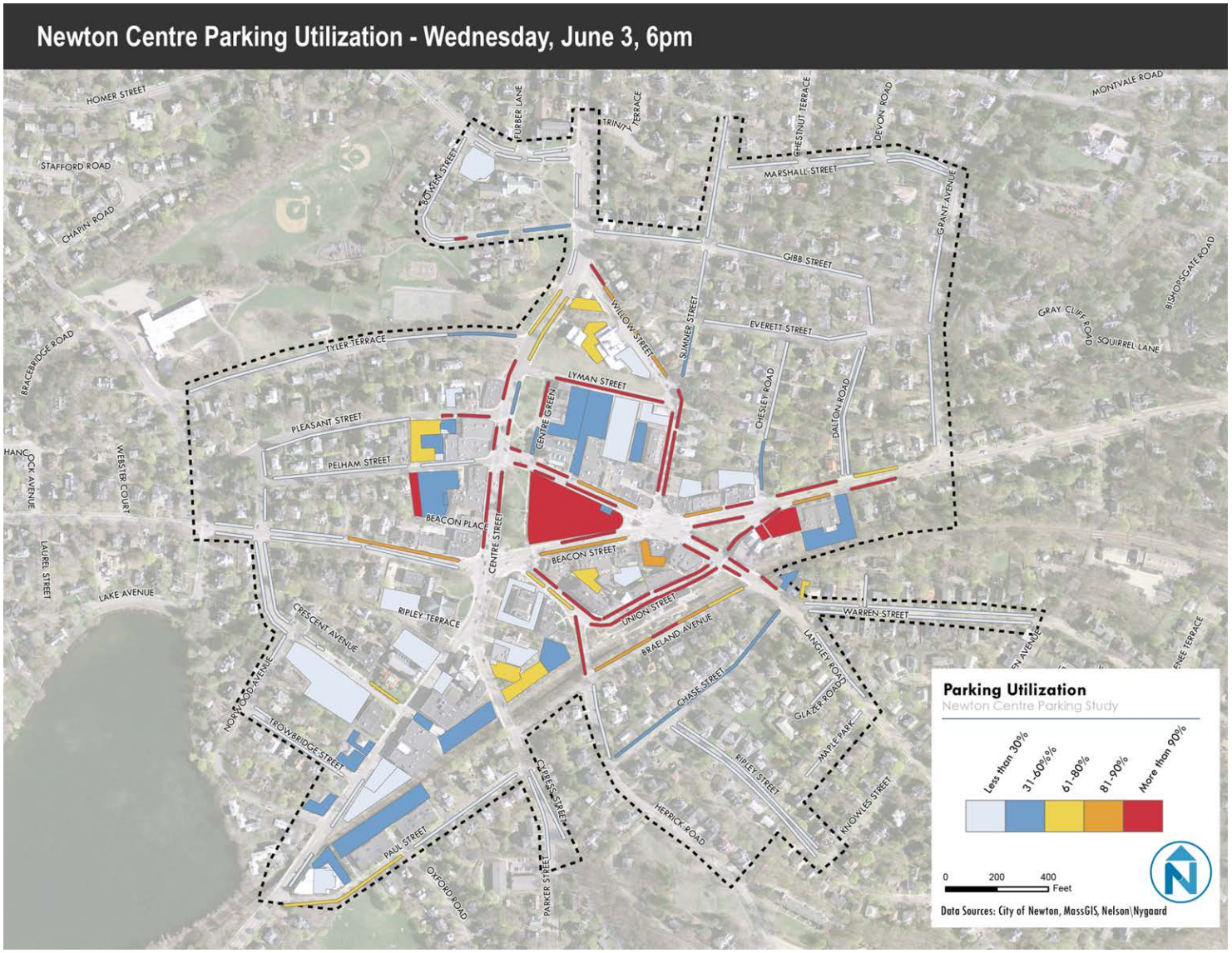

Newton Centre Parking Utilization - Wednesday, June 3, 8am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
WILLOW STREET
SUMNER STREET
EVERETT STREET
GRAY CLIFF ROAD
SQUIRREL LANE
BISHOPSGATE ROAD
BRACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
UNION STREET
WARREN STREET
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
NONANTUM AVENUE
CHASE STREET
GLAZER ROAD
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CLAREMONT STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

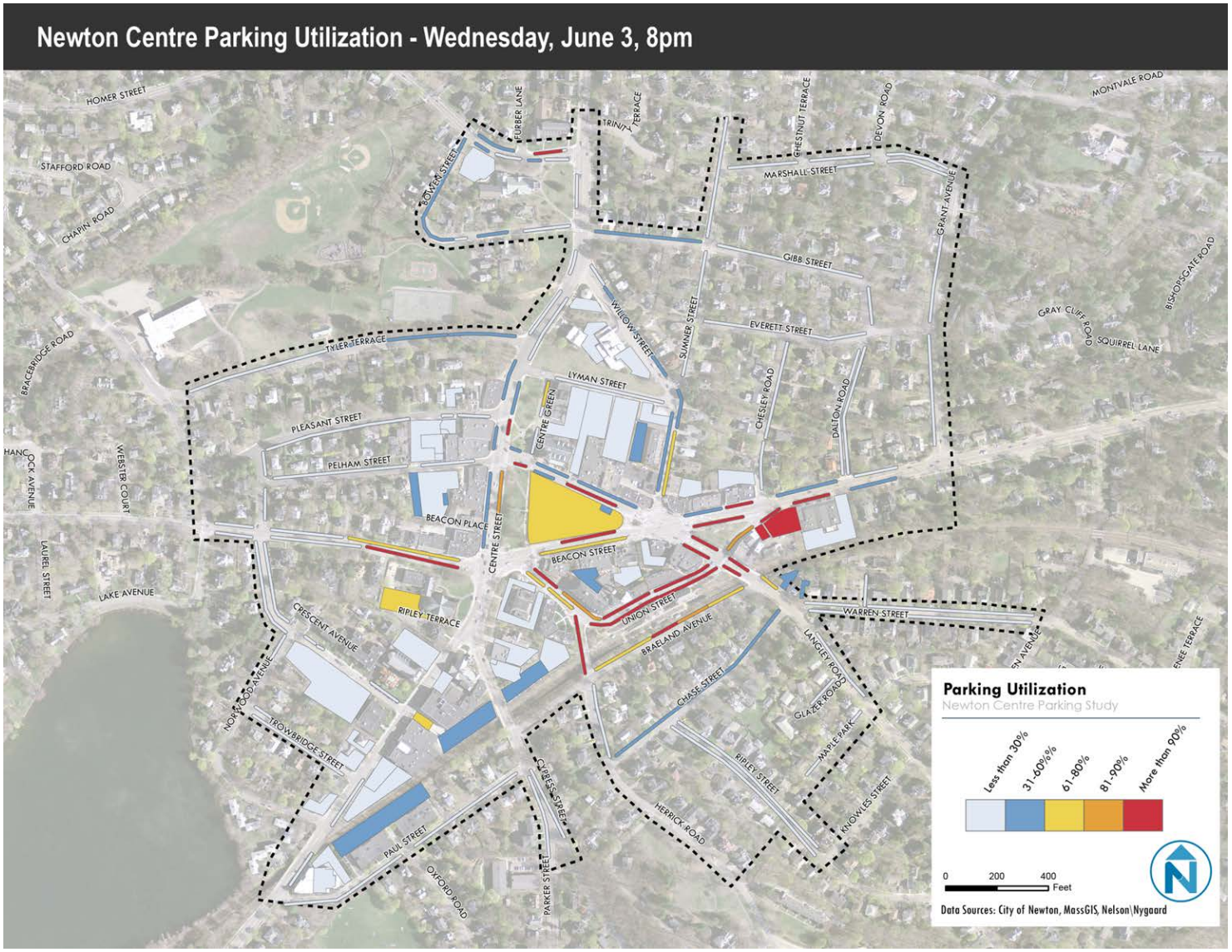

Newton Centre Parking Utilization - Wednesday, June 3, 10am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
WILLOW STREET
SUMNER STREET
EVERETT STREET
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NONANTUM AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
CURRIER STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

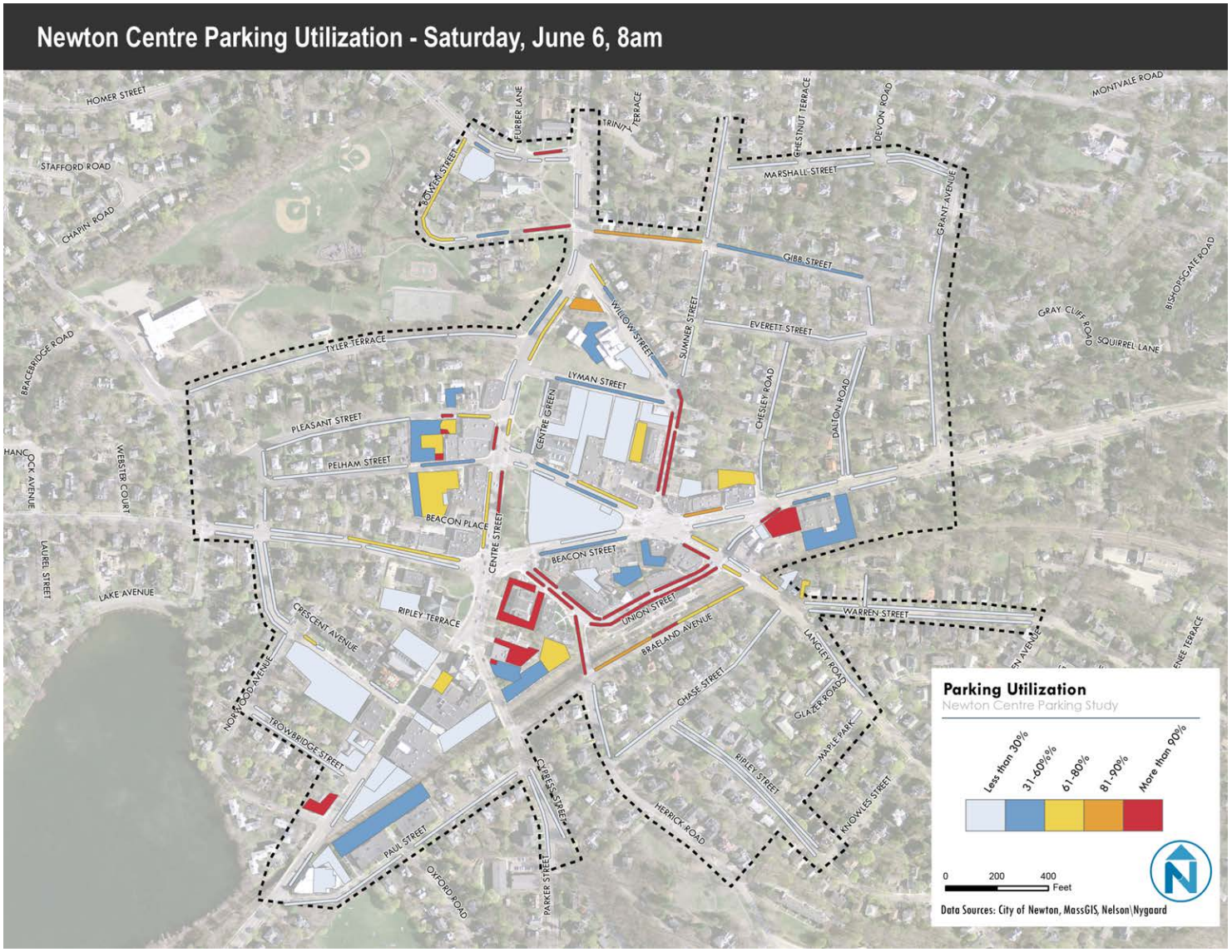

Newton Centre Parking Utilization - Wednesday, June 3, 12pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FOXES STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
UNION STREET
WARREN STREET
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
NORFOLK AVENUE
CHASE STREET
GLAZER ROAD
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
CURTIS STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

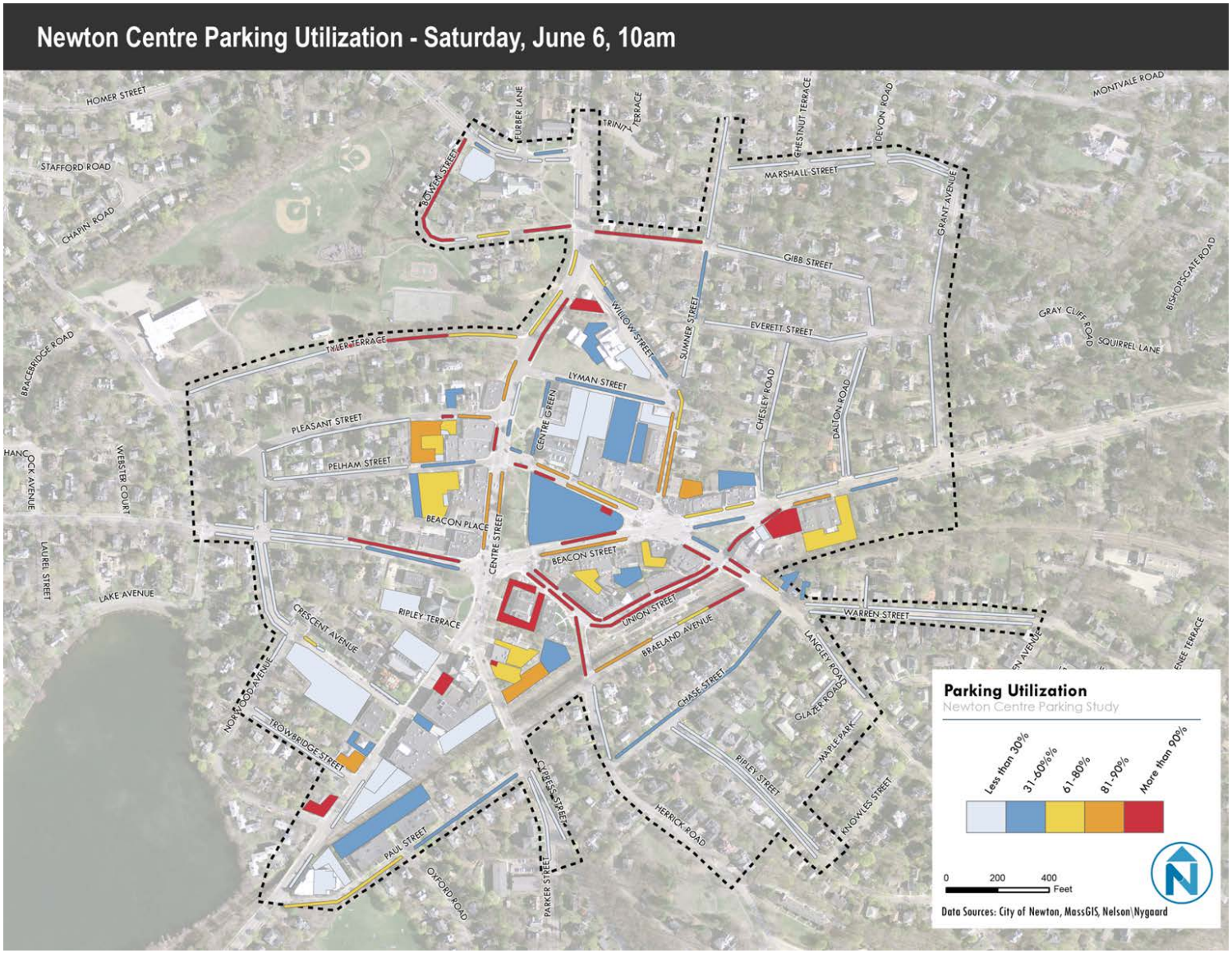

Newton Centre Parking Utilization - Wednesday, June 3, 2pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FURBER LANE
TRINITY TERRACE
FOXES STREET
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
CHESLEY ROAD
DALTON ROAD
BRACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
CENTRE GREEN
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
UNION STREET
WARREN STREET
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
NONANTUM AVENUE
CHASE STREET
GLAZER ROAD
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
CLAREMONT STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

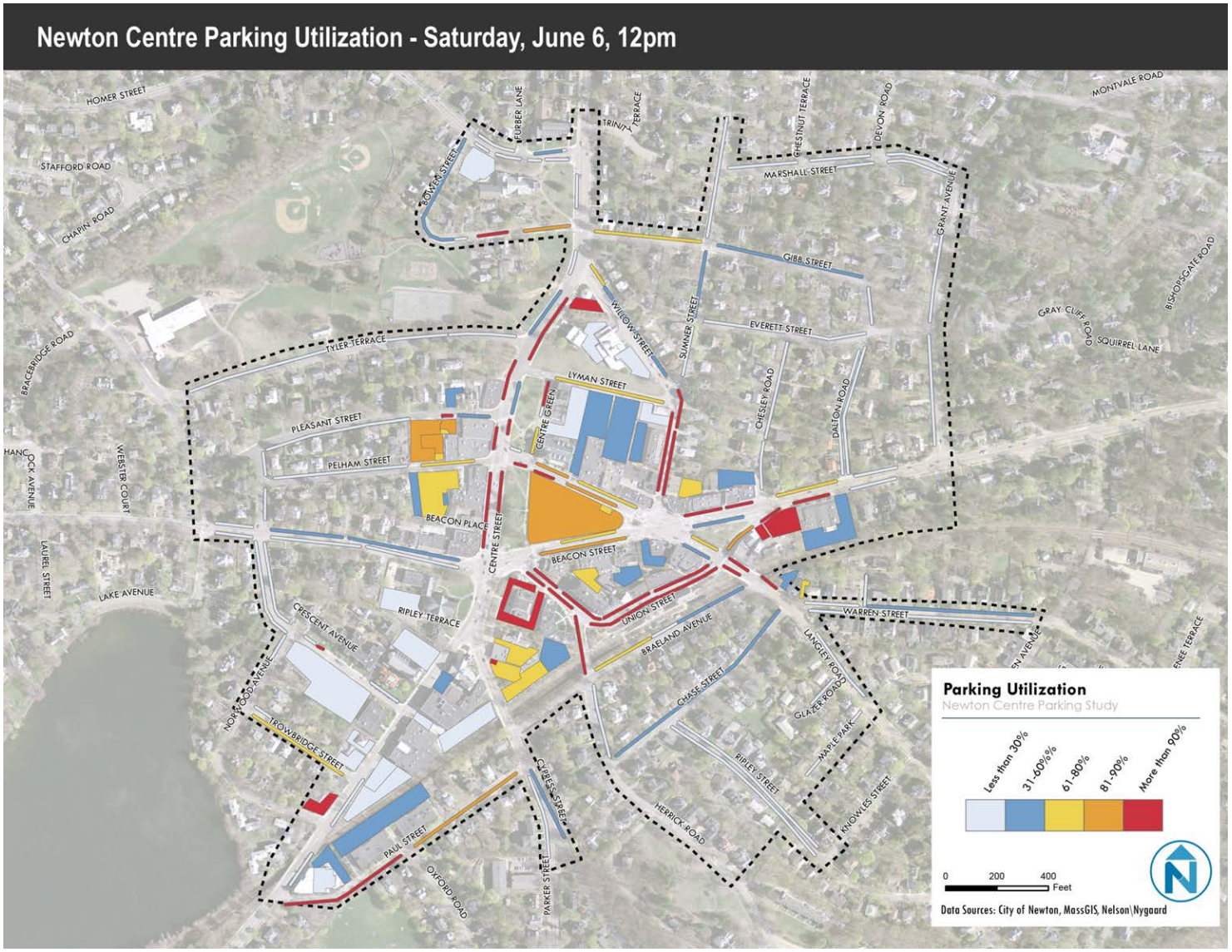

Newton Centre Parking Utilization - Wednesday, June 3, 4pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
EVERETT STREET
WILLOW STREET
SUMNER STREET
CHESLEY ROAD
DALTON ROAD
BRACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
PLEASANT STREET
PELHAM STREET
CENTRE GREEN
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
UNION STREET
BRAELAND AVENUE
WARREN STREET
CRESCENT AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NONANTUM AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
CYPRESS STREET
HERRICK ROAD
PAUL STREET
PARKER STREET
OXFORD ROAD
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

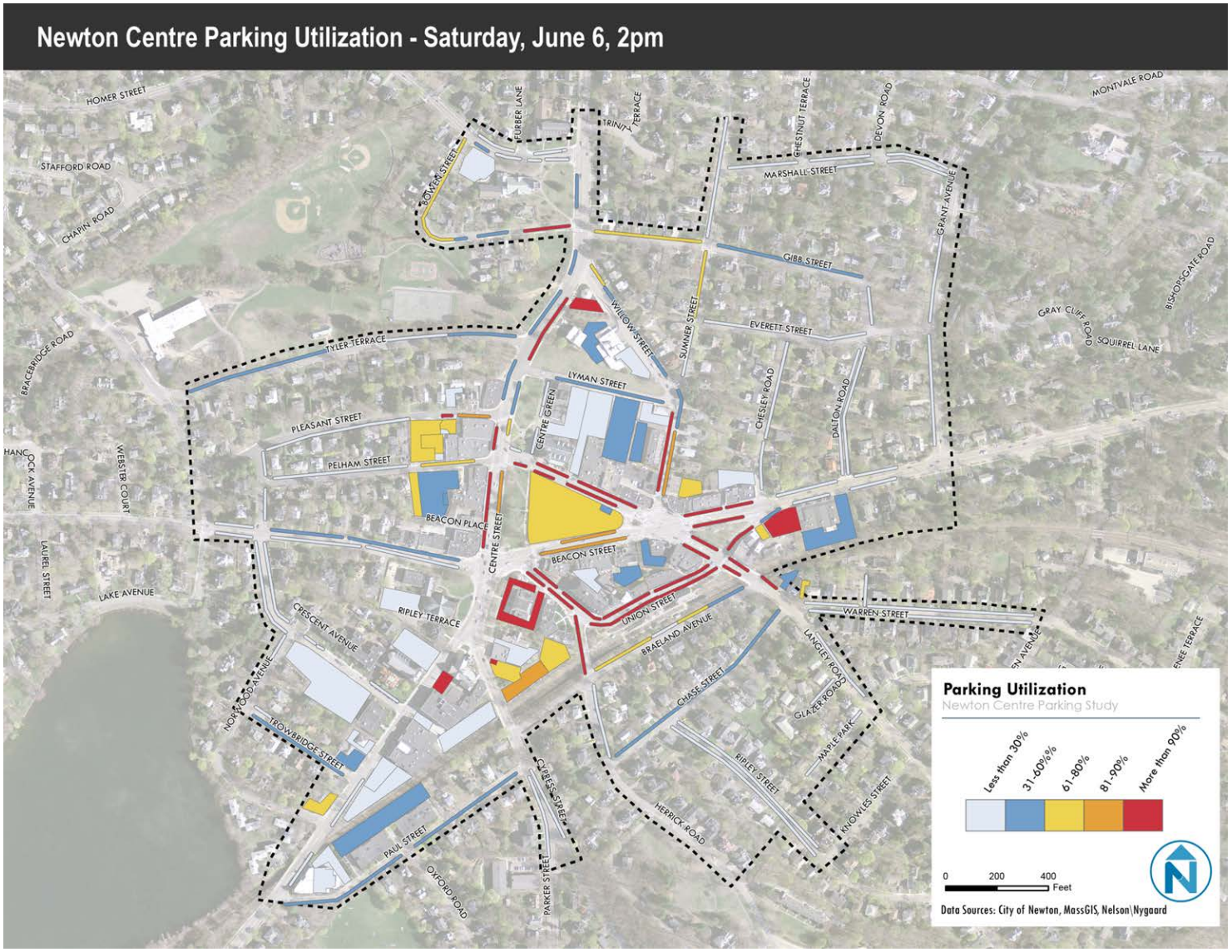

Newton Centre Parking Utilization - Wednesday, June 3, 6pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
NORWOOD AVENUE
CHASE STREET
GLAZER ROAD
TROWBRIDGE STREET
MAPLE PARK
CYPRESS STREET
RIPLEY STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard


Newton Centre Parking Utilization - Wednesday, June 3, 8pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BEACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
UNION STREET
WARREN STREET
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

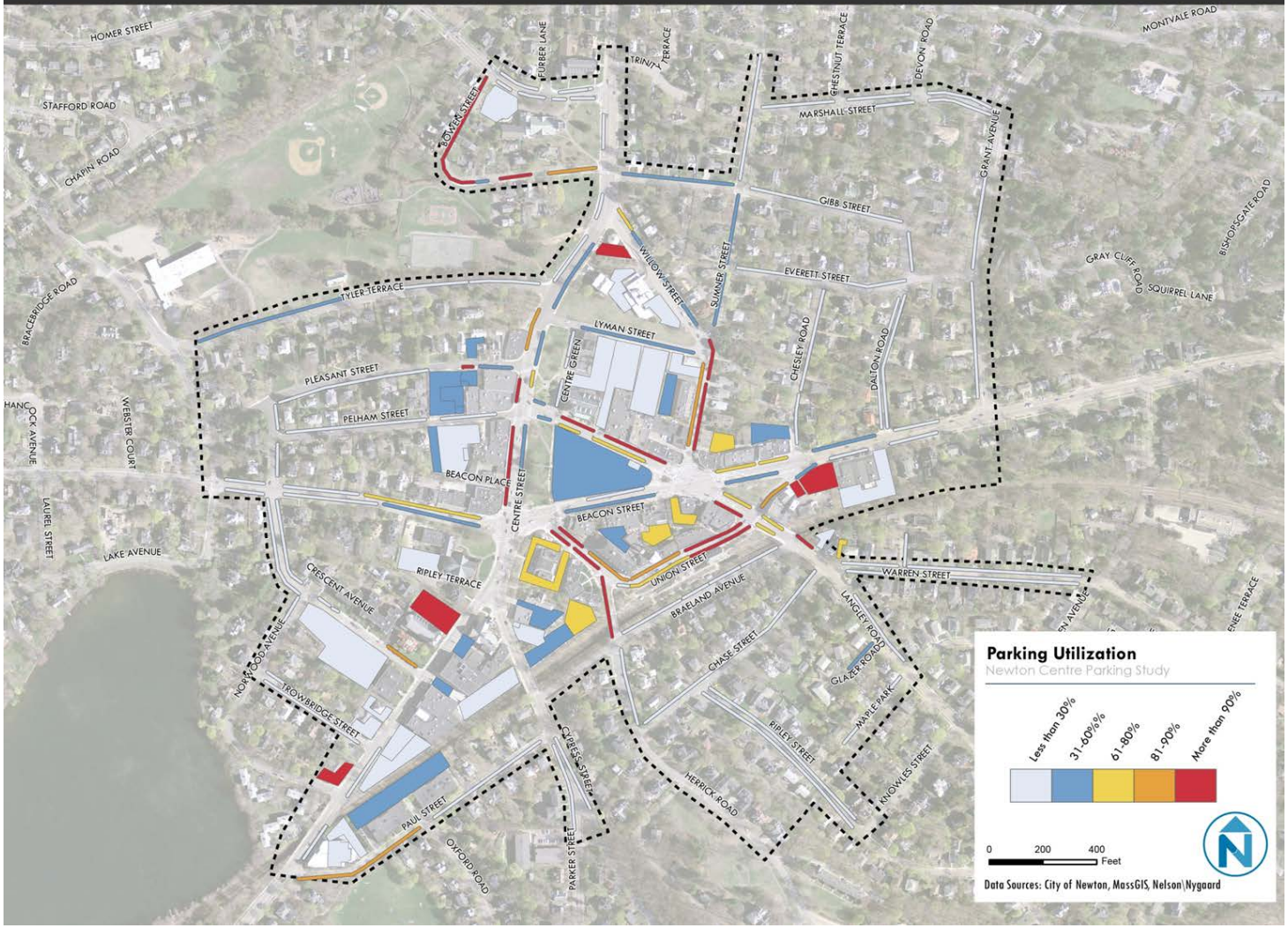

Newton Centre Parking Utilization - Saturday, June 6, 8am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
GLAZER ROAD
CHASE STREET
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
CYPRESS STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard


Newton Centre Parking Utilization - Saturday, June 6, 10am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BRACEBRIDGE ROAD
HANCOCK AVENUE
WEBSTER COURT
LAUREL STREET
LAKE AVENUE
FURBER LANE
TRINITY TERRACE
TOWER STREET
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
TWIER TERRACE
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
CENTRE GREEN
PLEASANT STREET
PELHAM STREET
BEACON PLACE
CENTRE STREET
BEACON STREET
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
MAPLE PARK
NORFOLK AVENUE
TROWBRIDGE STREET
CLAFLIN STREET
RIPLEY STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

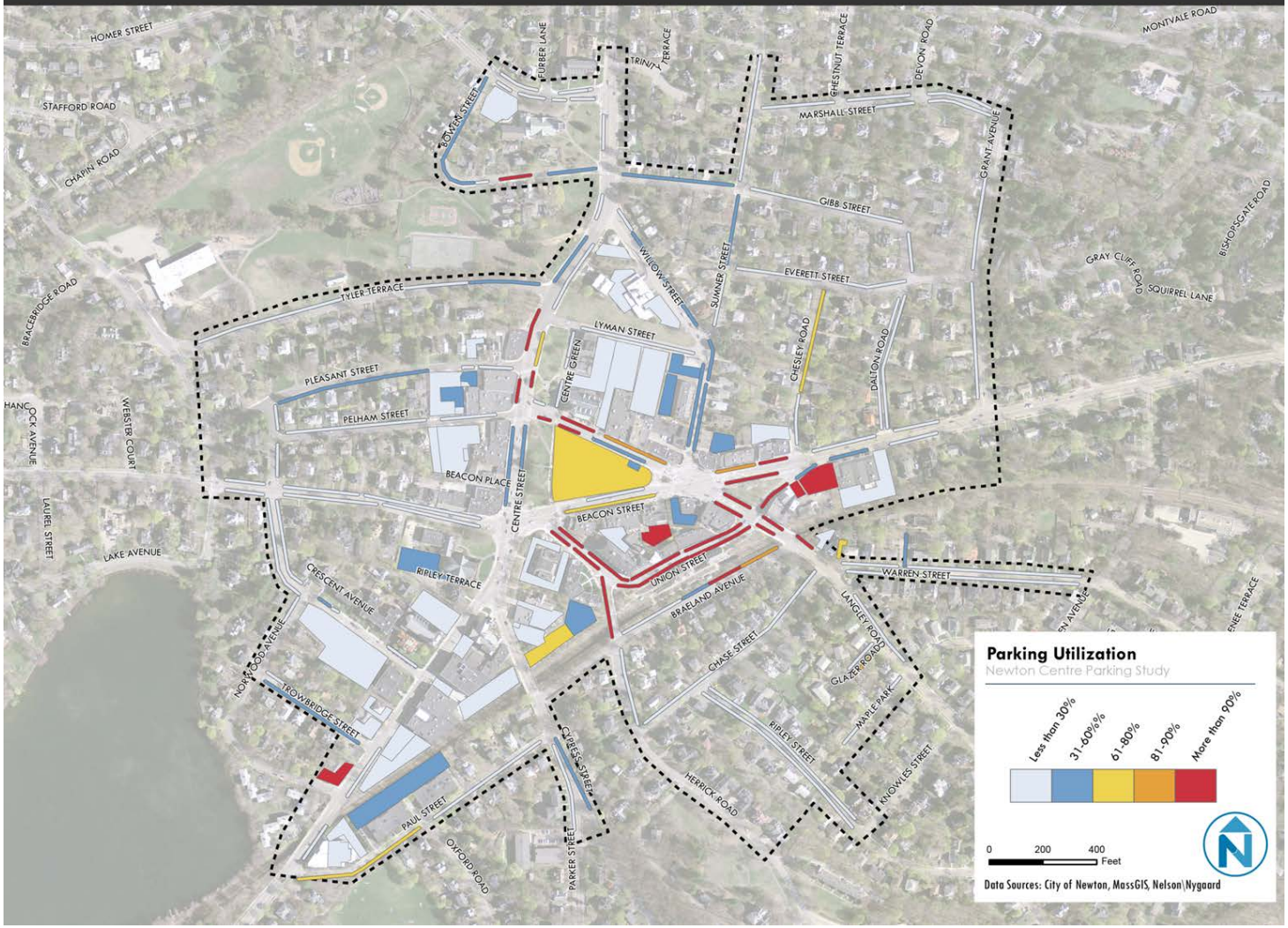

Newton Centre Parking Utilization - Saturday, June 6, 12pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BEACONSFIELD ROAD
HANCOCK AVENUE
WEBSTER COURT
LAUREL STREET
LAKE AVENUE
CRESCENT AVENUE
NORFOLK AVENUE
TROWBRIDGE STREET
RIPLEY TERRACE
PLEASANT STREET
PELHAM STREET
BEACON PLACE
CENTRE STREET
CENTRE GREEN
LYMAN STREET
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
GIBB STREET
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MARSHALL STREET
GRANT AVENUE
MONTVALE ROAD
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
CHESLEY ROAD
DALTON ROAD
BEACON STREET
UNION STREET
BRAELAND AVENUE
CHASE STREET
WARREN STREET
LANGLEY ROAD
GLAZER ROAD
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
HERRICK ROAD
CYPRESS STREET
PARKER STREET
PAUL STREET
OXFORD ROAD
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard


Newton Centre Parking Utilization - Saturday, June 6, 2pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
BEACERIDGE ROAD
TYLER TERRACE
LYMAN STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

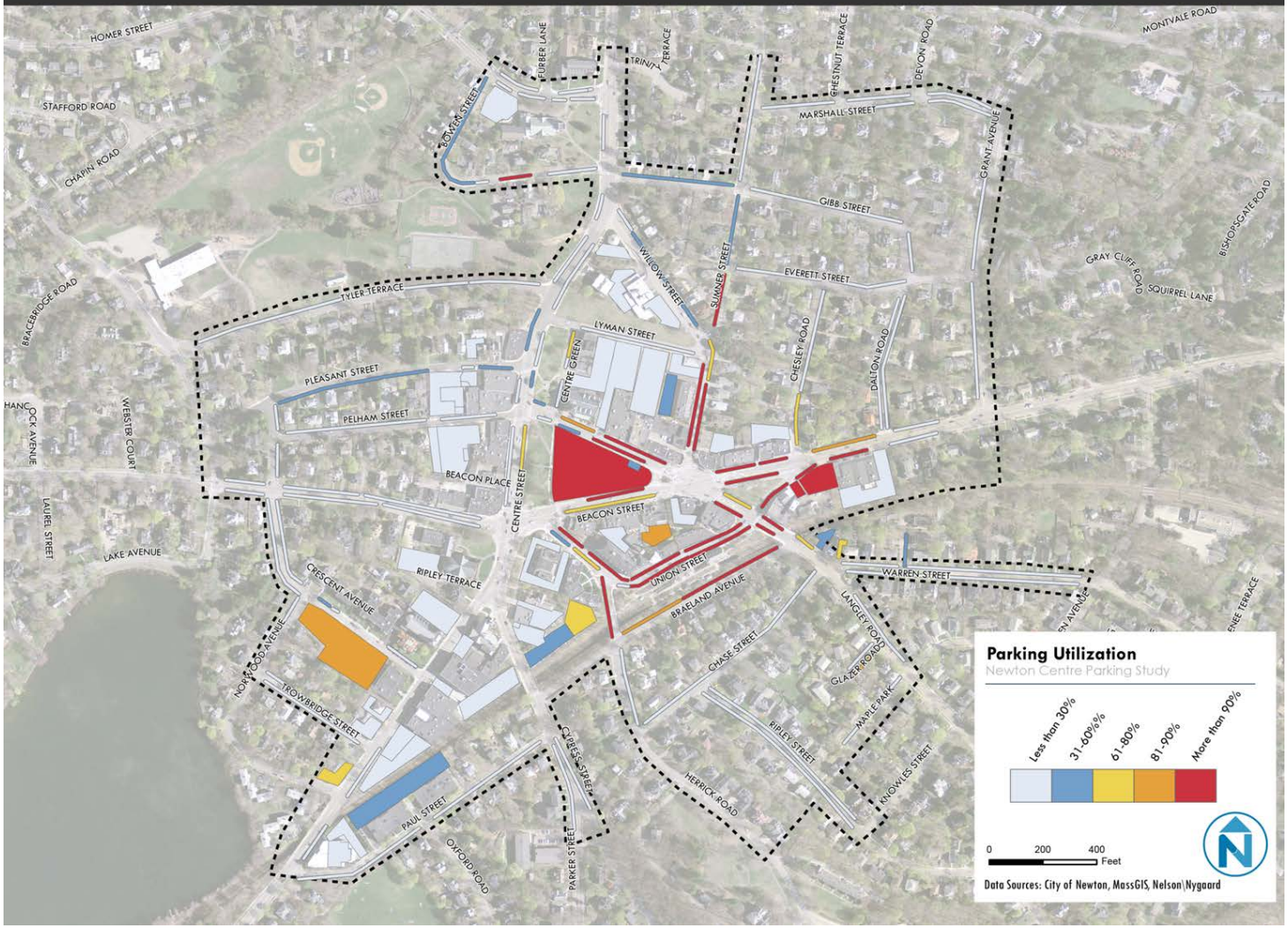
Newton Centre Parking Utilization - Saturday, June 6, 4pm



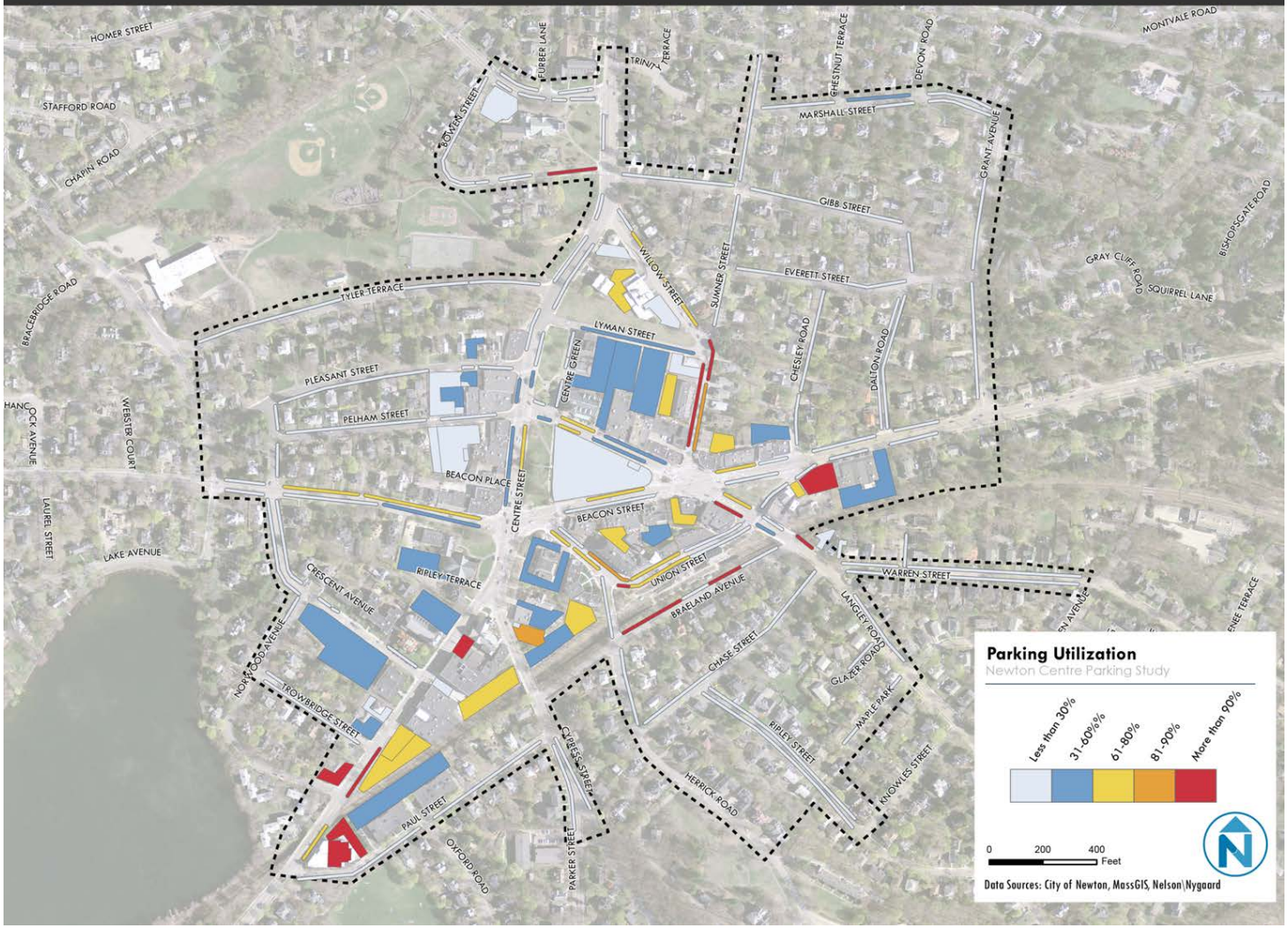
Newton Centre Parking Utilization - Saturday, June 6, 6pm

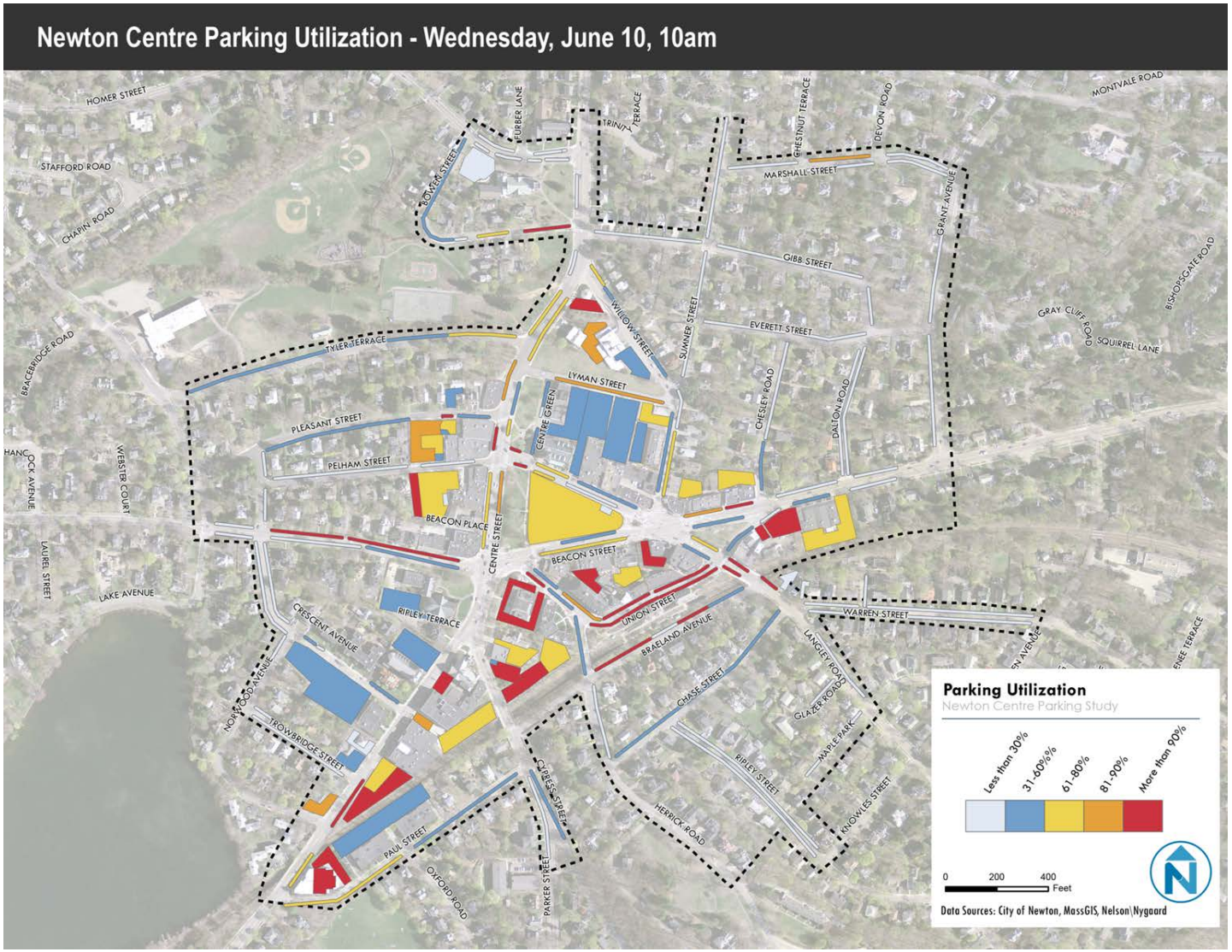


Newton Centre Parking Utilization - Saturday, June 6, 8pm

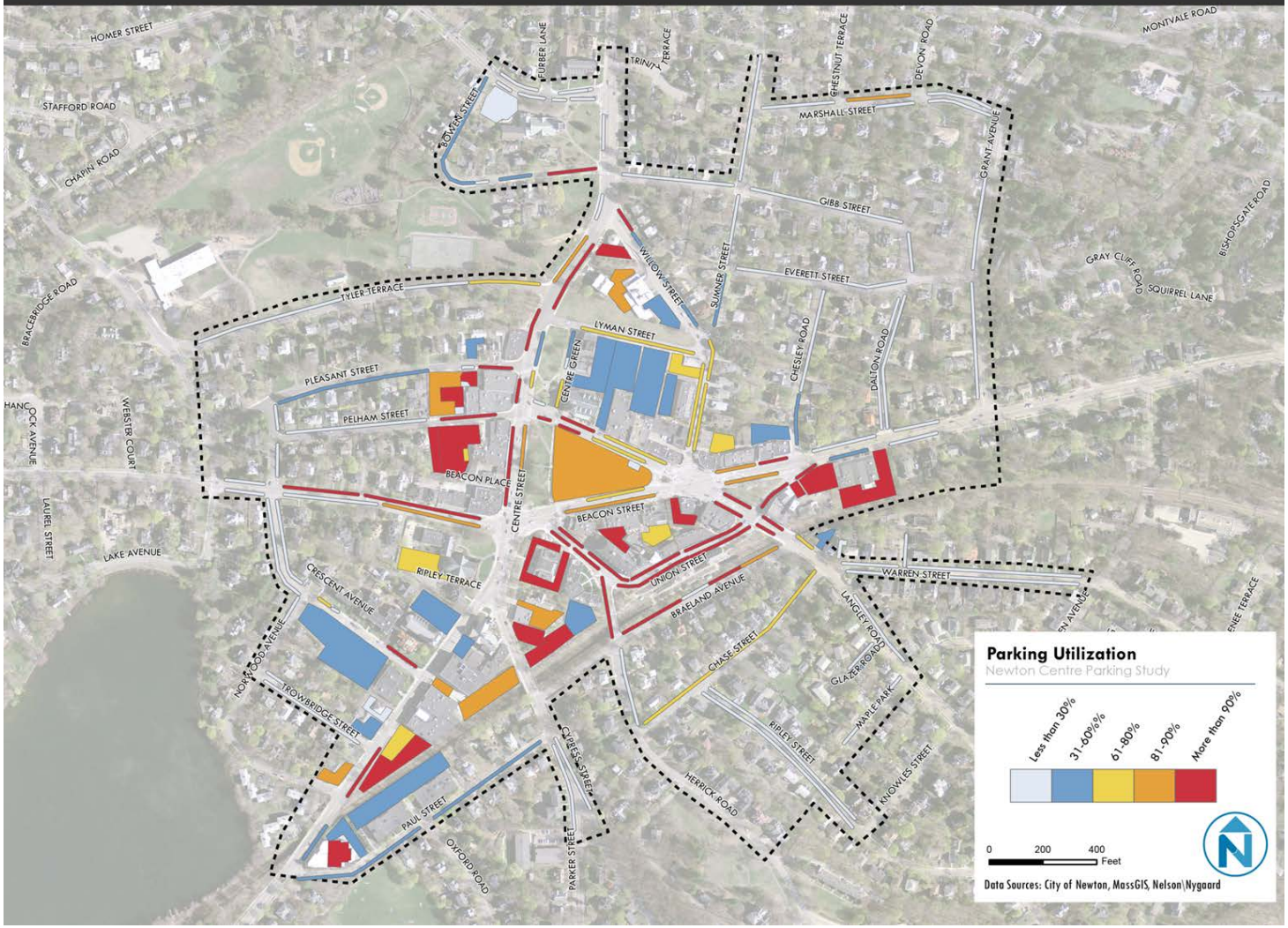


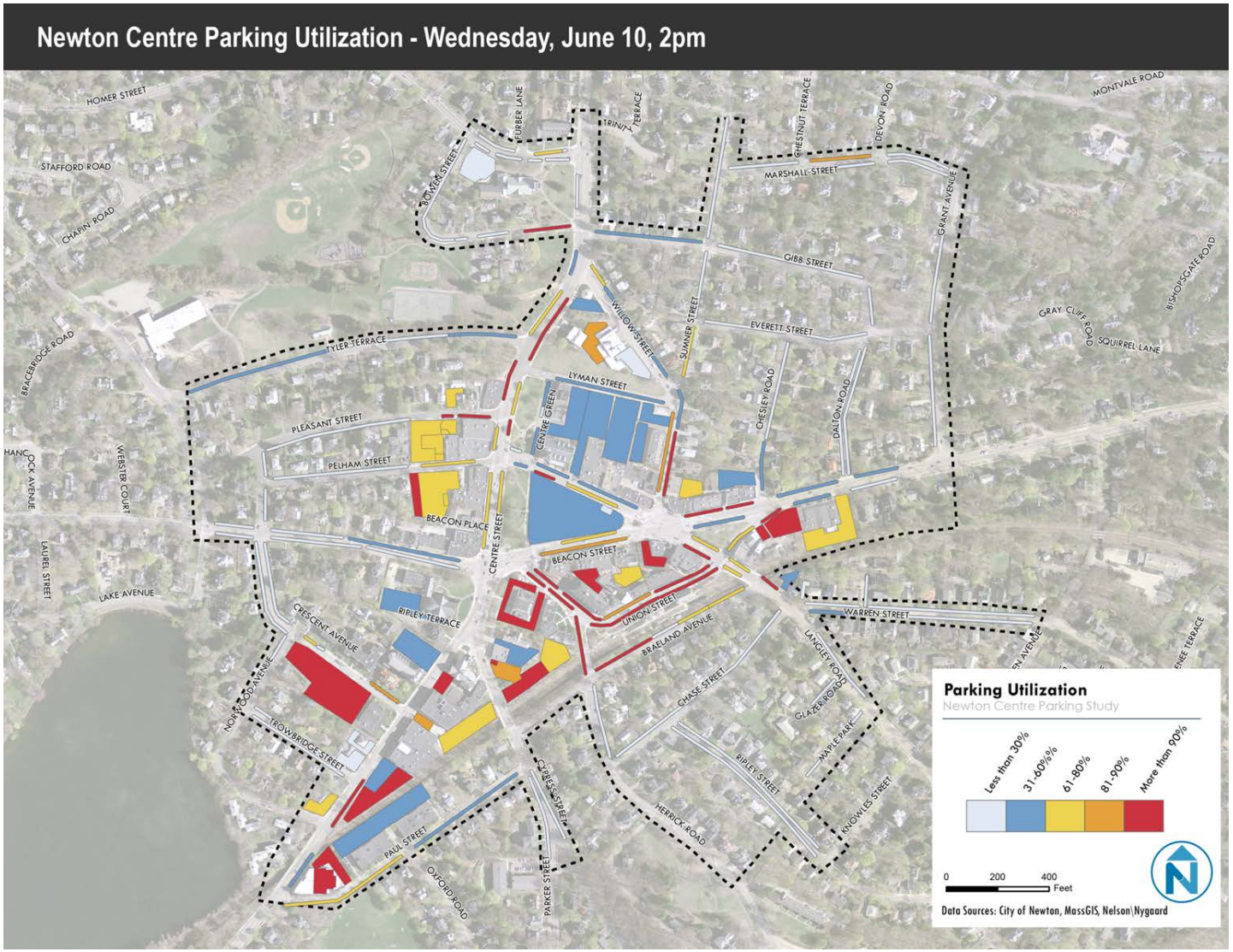
Newton Centre Parking Utilization - Wednesday, June 10, 8am

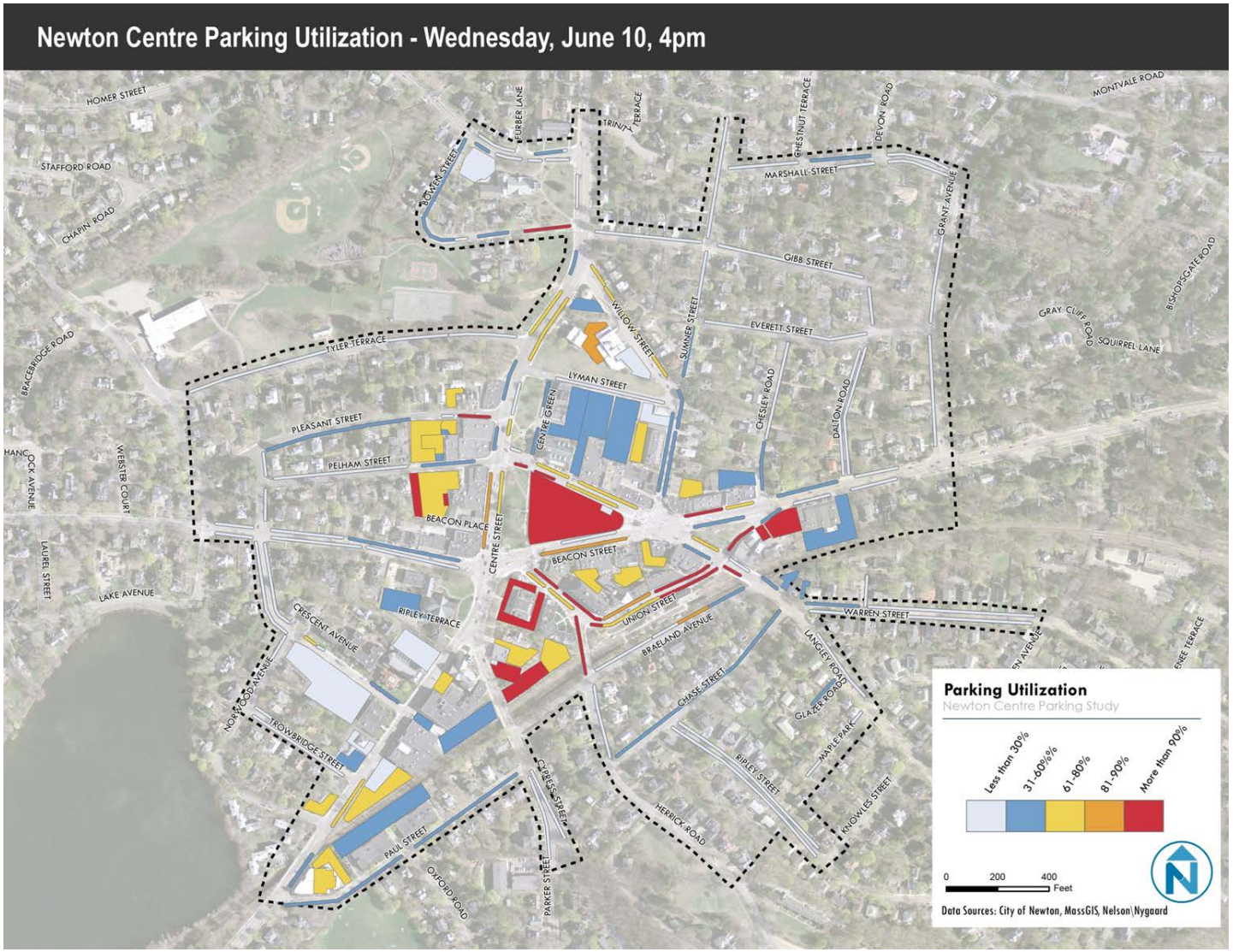


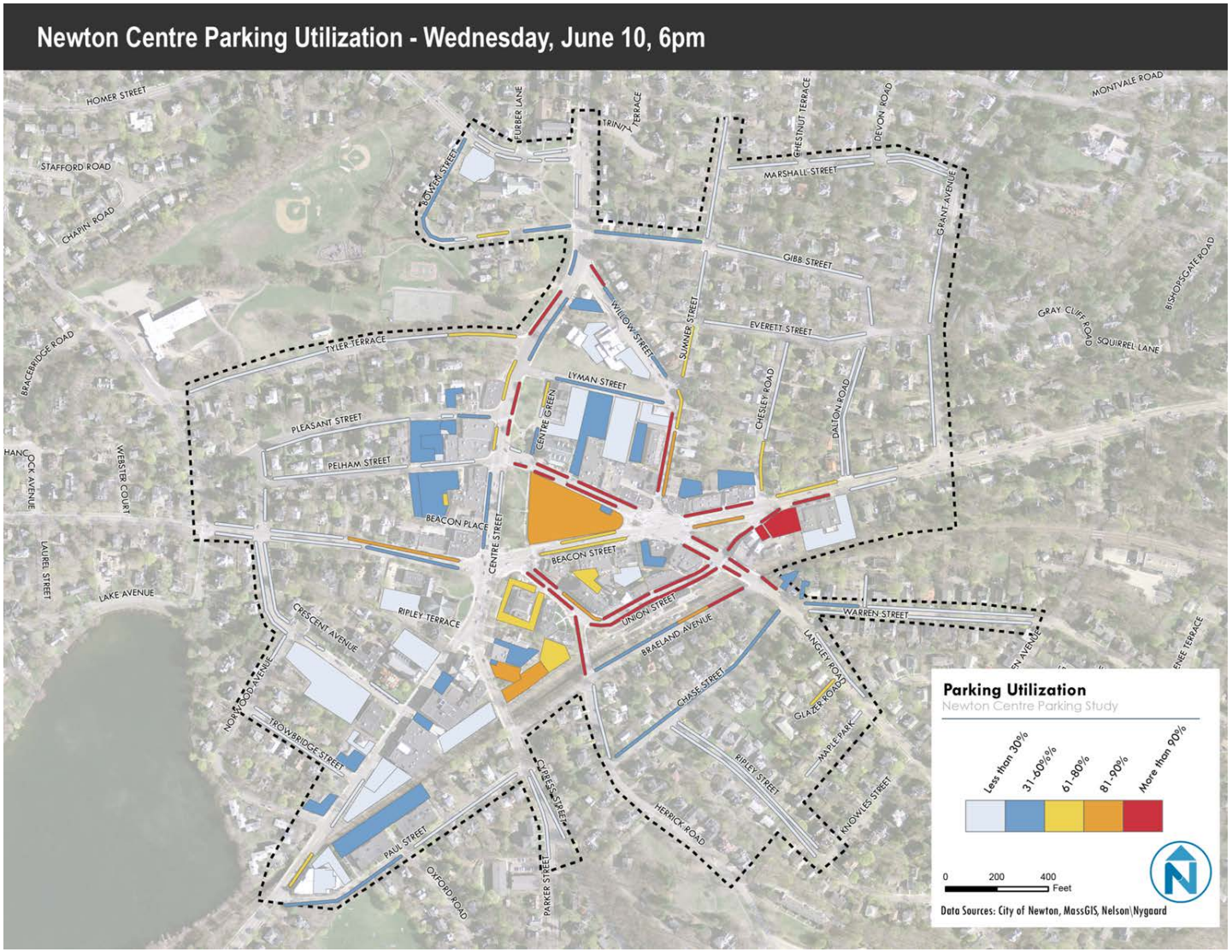

Newton Centre Parking Utilization - Wednesday, June 10, 10am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BEACEBRIDGE ROAD
HANCOCK AVENUE
WEBSTER COURT
LAUREL STREET
LAKE AVENUE
TYLER TERRACE
BOWER STREET
FORBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
PELHAM STREET
BEACON PLACE
CENTRE STREET
BEACON STREET
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
GLAZER ROAD
MAPLE PARK
RIPLEY STREET
KNOWLES STREET
HERRICK ROAD
CHASE STREET
RIPLEY TERRACE
CRESCENT AVENUE
NORWOOD AVENUE
TROWBRIDGE STREET
CYPRESS STREET
PALM STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

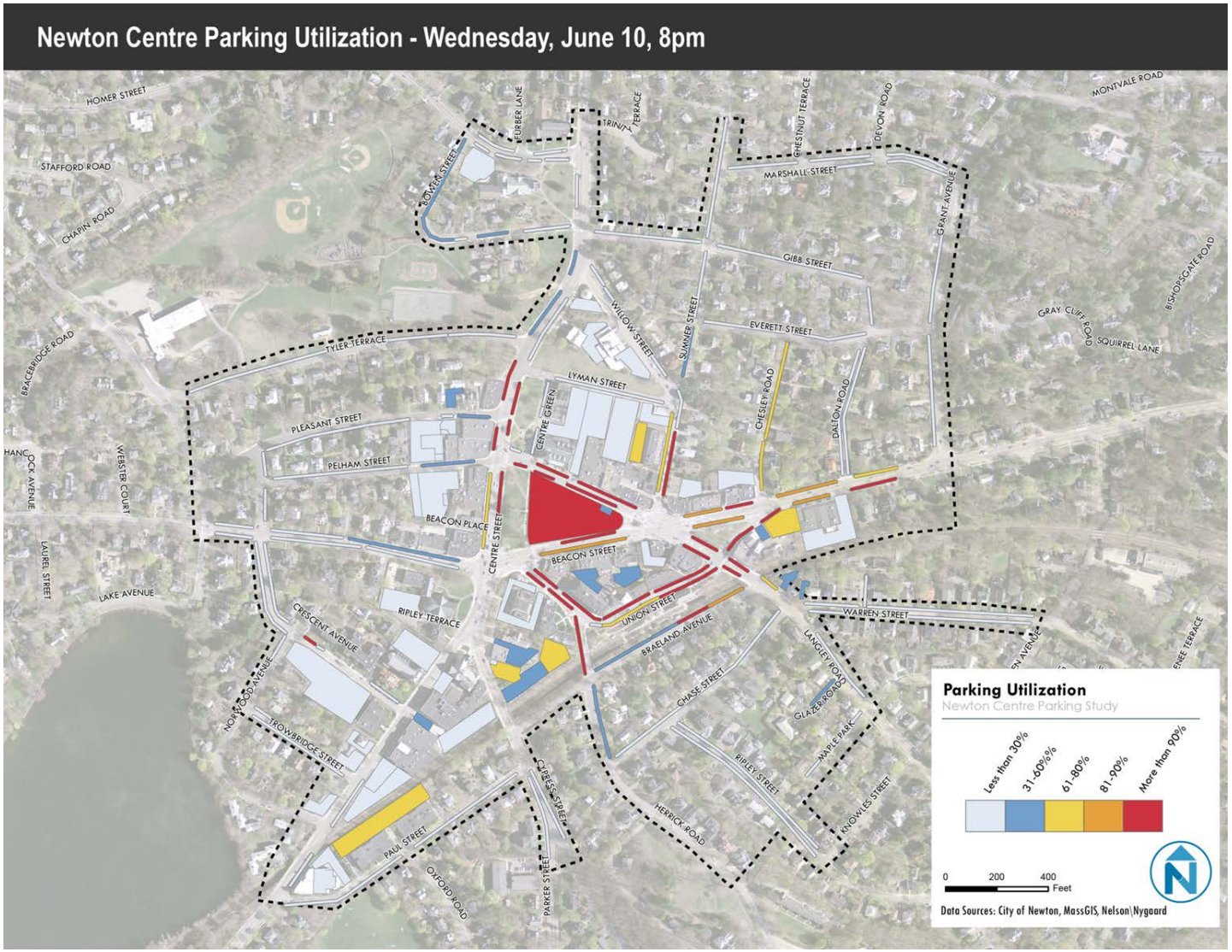
Newton Centre Parking Utilization - Wednesday, June 10, 12pm

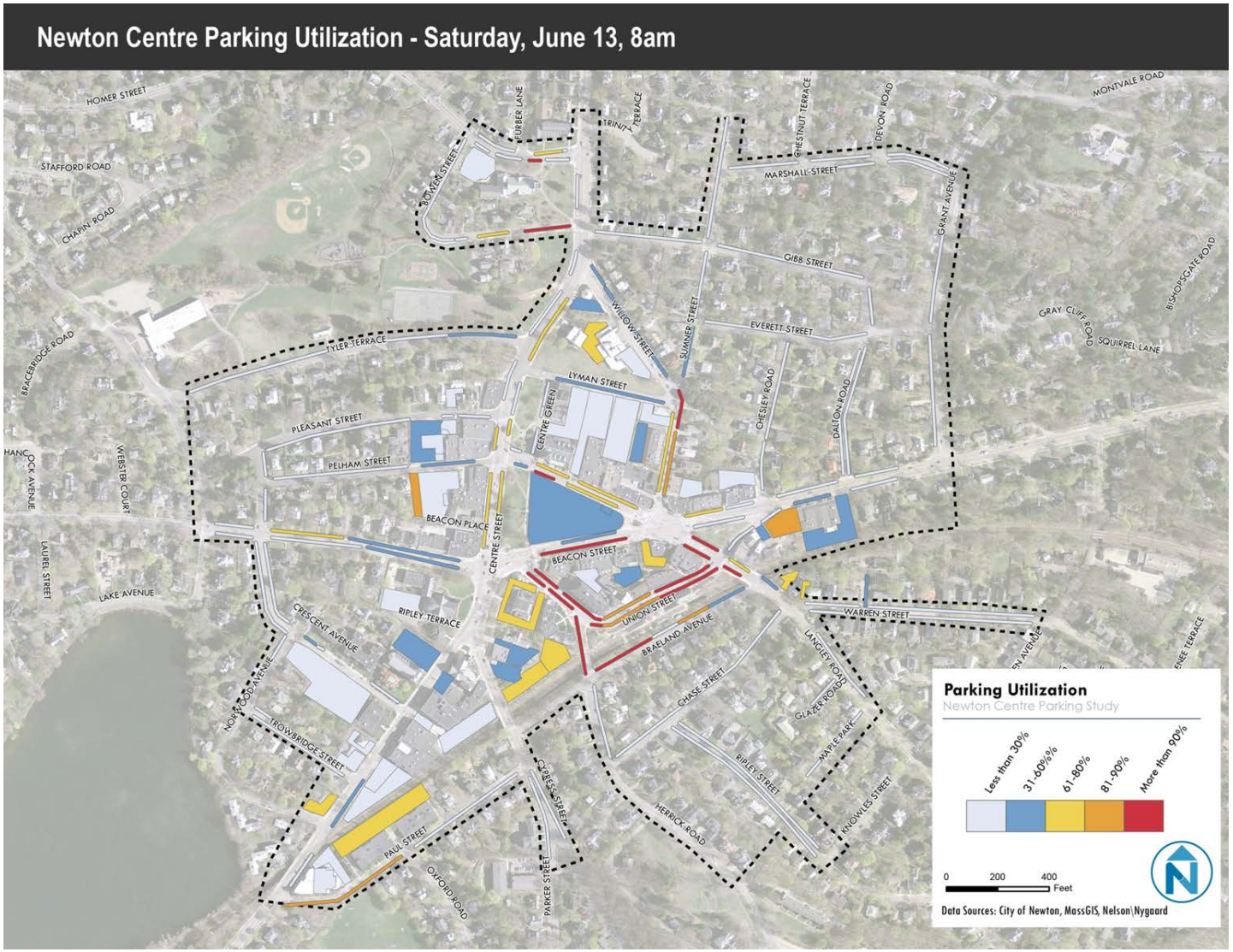


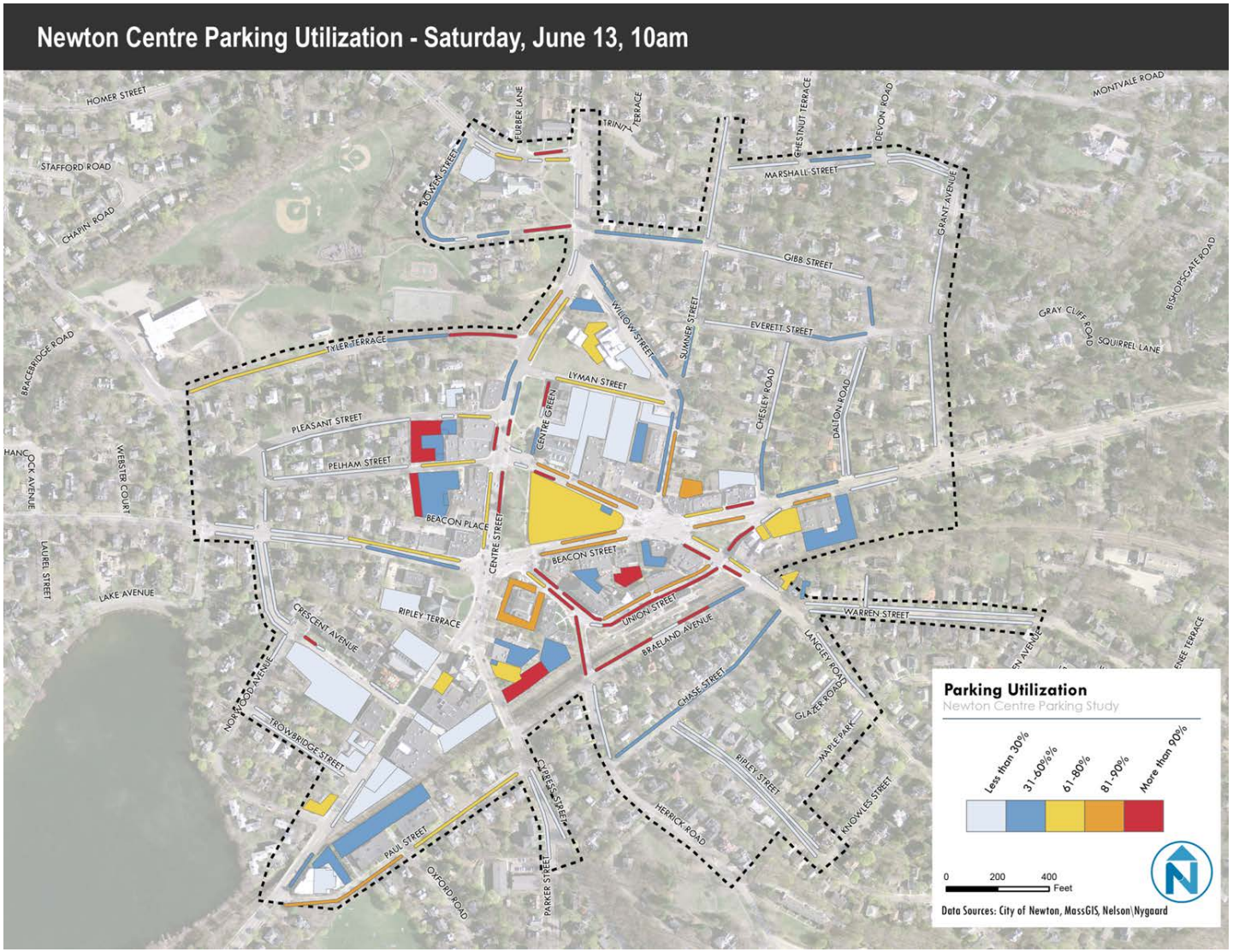

Newton Centre Parking Utilization - Wednesday, June 10, 2pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FORBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
CRESCENT AVENUE
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

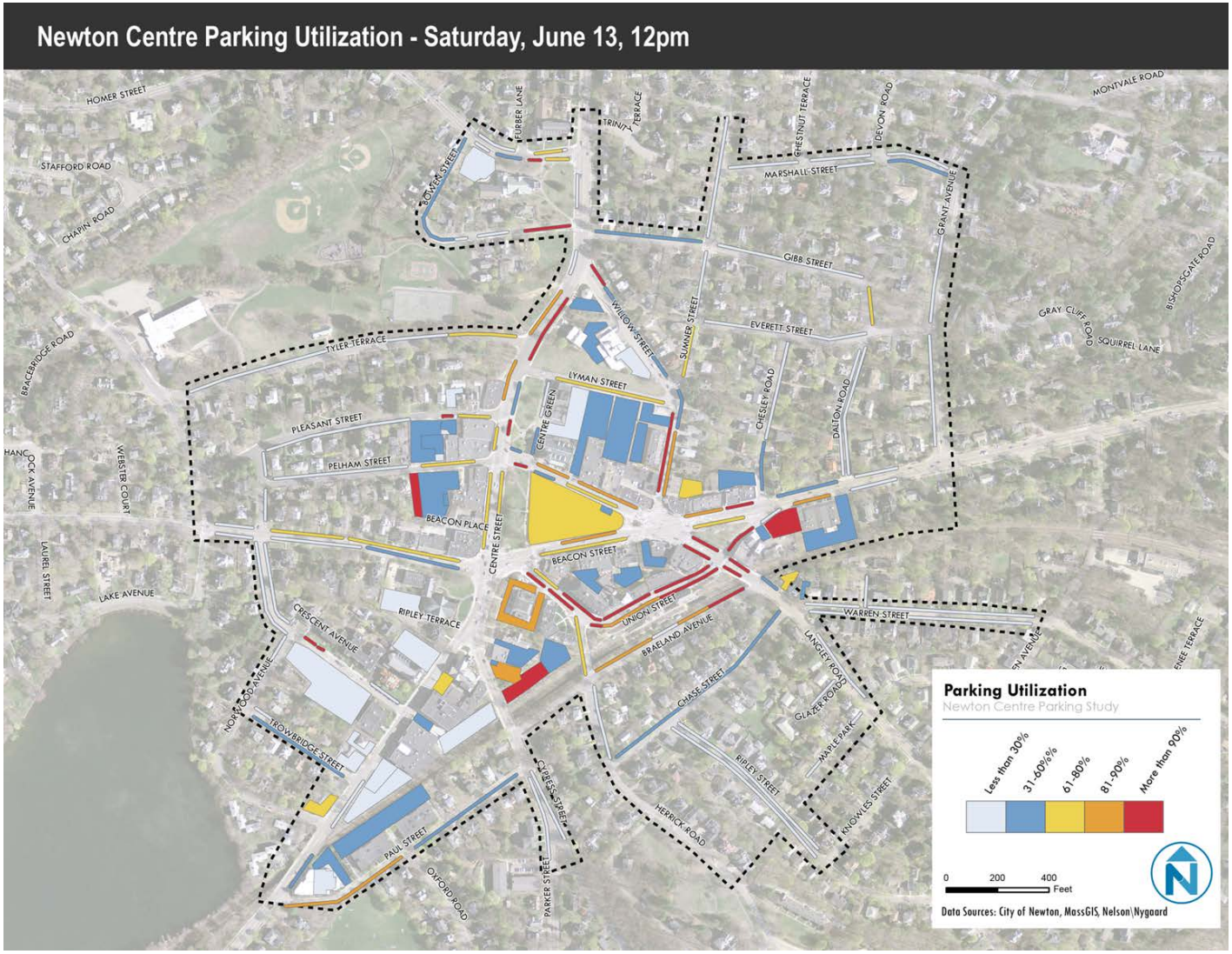

Newton Centre Parking Utilization - Wednesday, June 10, 4pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BRACEBRIDGE ROAD
HANCOCK AVENUE
WEBSTER COURT
LAUREL STREET
LAKE AVENUE
TYLER TERRACE
PLEASANT STREET
PELHAM STREET
BEACON PLACE
CRESCENT AVENUE
RIPLEY TERRACE
NORWOOD AVENUE
TROWBRIDGE STREET
PAUL STREET
OXFORD ROAD
PARKER STREET
CYPRESS STREET
HERRICK ROAD
RIPLEY STREET
KNOWLES STREET
MAPLE PARK
GLAZER ROAD
LANGLEY ROAD
CHASE STREET
BRAELAND AVENUE
UNION STREET
BEACON STREET
CENTRE STREET
CENTRE GREEN
LYMAN STREET
WILLOW STREET
SUMMER STREET
EVERETT STREET
GIBB STREET
BOWEN STREET
FORBER LANE
TRINITY TERRACE
MARSHALL STREET
CHESTNUT TERRACE
DEVON ROAD
GRANT AVENUE
CHESLEY ROAD
DALTON ROAD
WARREN STREET
MONTVALE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BISHOPSGATE ROAD
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard


Newton Centre Parking Utilization - Wednesday, June 10, 6pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BEACEBRIDGE ROAD
HANCOCK AVENUE
WEBSTER COURT
LAUREL STREET
LAKE AVENUE
TYLER TERRACE
PLEASANT STREET
PELHAM STREET
BEACON PLACE
BEACON STREET
CENTRE STREET
CENTRE GREEN
LYMAN STREET
WILLOW STREET
SUMMER STREET
EVERETT STREET
GIBB STREET
MARSHALL STREET
BOWER STREET
DUBBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
GRANT AVENUE
MONTVALE ROAD
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
CHESLEY ROAD
DALTON ROAD
RIPLEY TERRACE
CRESCENT AVENUE
NORWOOD AVENUE
TROWBRIDGE STREET
PAUL STREET
OXFORD ROAD
PARKER STREET
CYPRESS STREET
HERRICK ROAD
UNION STREET
BRAELAND AVENUE
CHASE STREET
RIPLEY STREET
GLAZER ROAD
LANGLEY ROAD
MAPLE PARK
KNOWLES STREET
WARREN STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

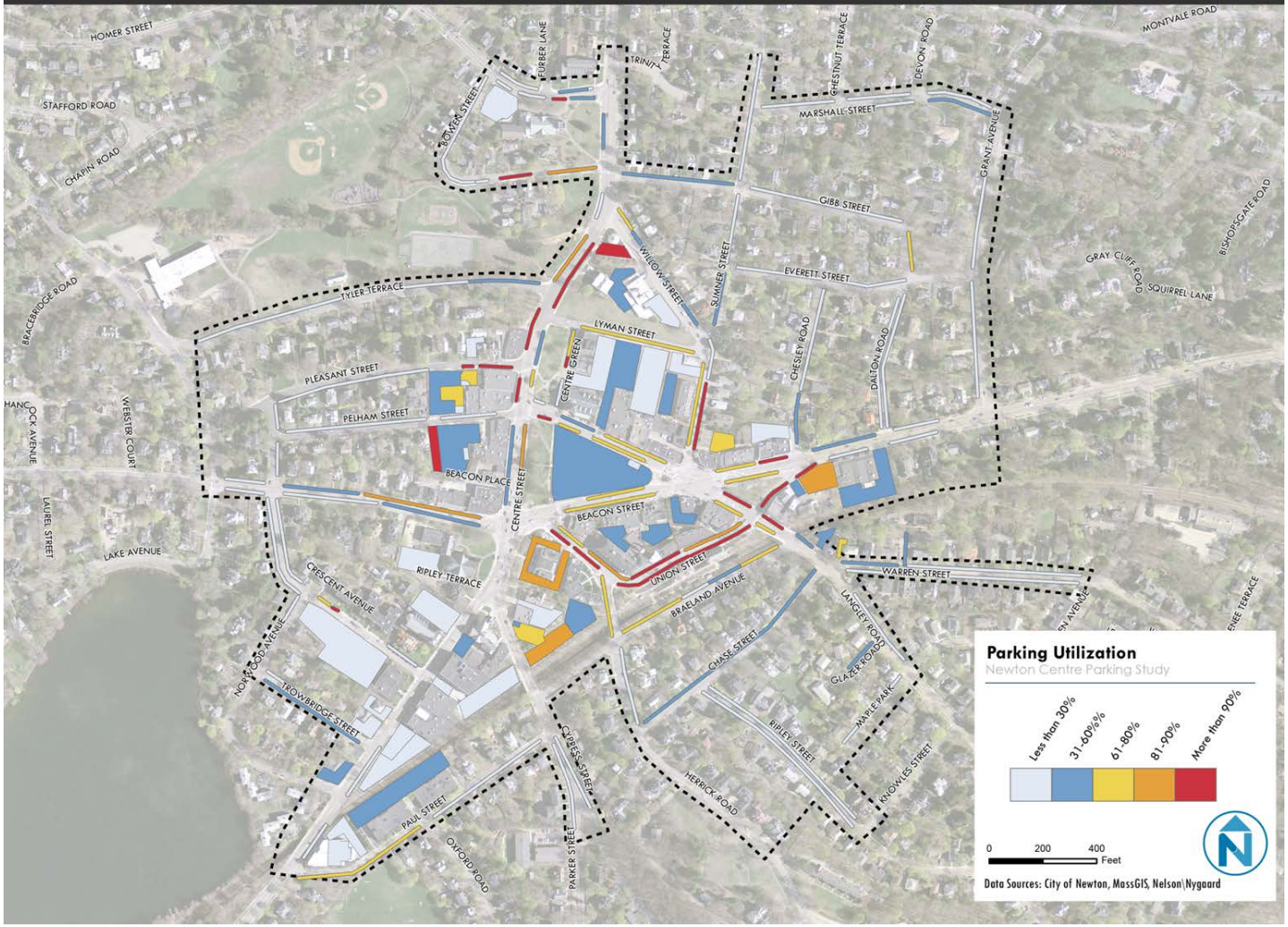

Newton Centre Parking Utilization - Wednesday, June 10, 8pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
DUBBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
BEACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
CRESCENT AVENUE
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
MAPLE PARK
NONANTUM AVENUE
TROWBRIDGE STREET
RIPLEY STREET
KNOWLES STREET
CURBEE STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard


Newton Centre Parking Utilization - Saturday, June 13, 8am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWEN STREET
FORBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
WILLOW STREET
SUMNER STREET
EVERETT STREET
TYLER TERRACE
BRACEBRIDGE ROAD
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
CENTRE GREEN
PLEASANT STREET
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
UNION STREET
WARREN STREET
RIPLEY TERRACE
CRESCENT AVENUE
BRAELAND AVENUE
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NONANTUM AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

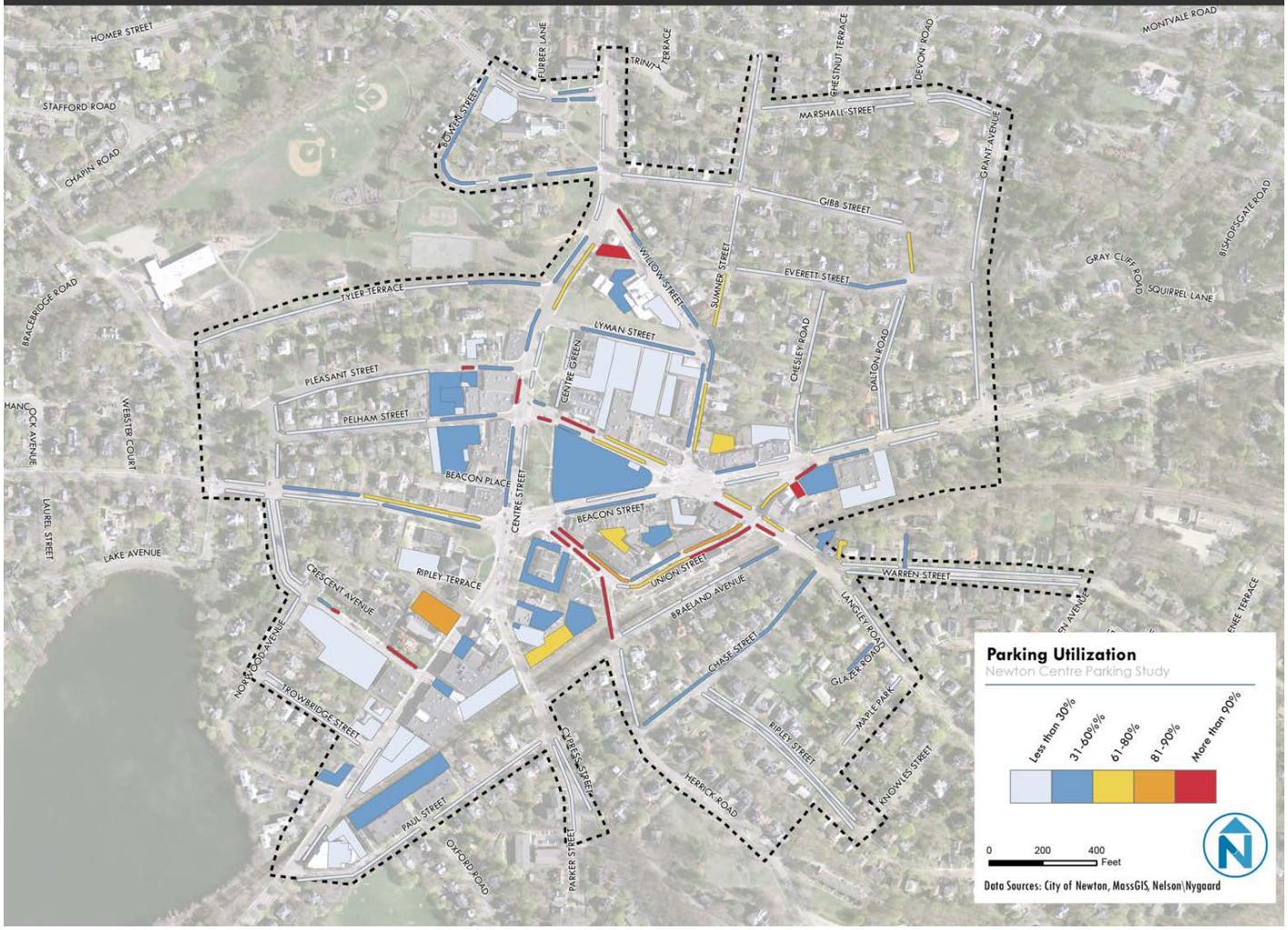

Newton Centre Parking Utilization - Saturday, June 13, 10am
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
TORBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
CRESCENT AVENUE
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

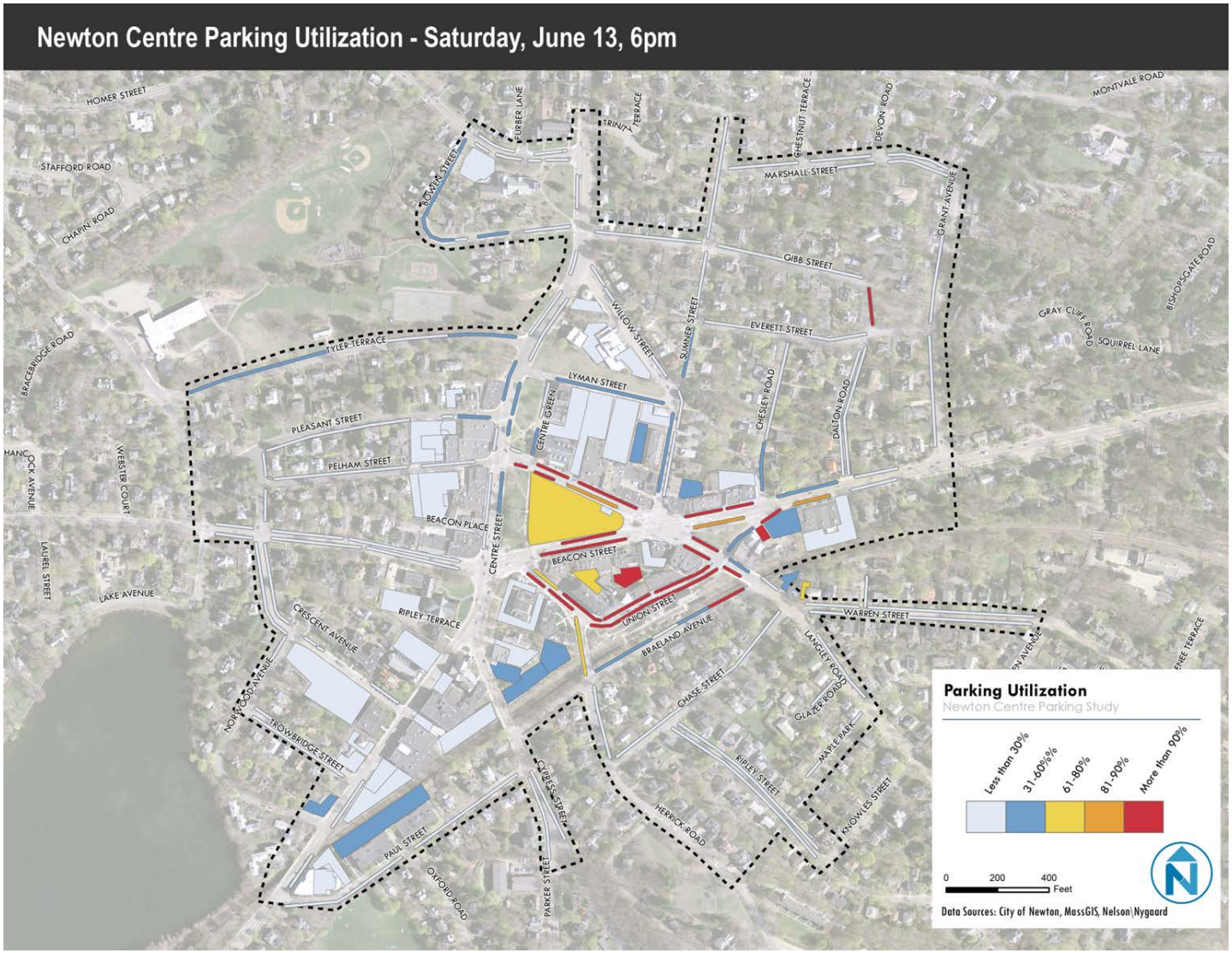

Newton Centre Parking Utilization - Saturday, June 13, 12pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
BISHOPSGATE ROAD
GRAY CLIFF ROAD
SQUIRREL LANE
BRACEBRIDGE ROAD
TYLER TERRACE
WILLOW STREET
SUMNER STREET
EVERETT STREET
LYMAN STREET
CHESLEY ROAD
DALTON ROAD
PLEASANT STREET
CENTRE GREEN
PELHAM STREET
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
RIPLEY TERRACE
CRESCENT AVENUE
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
NORWOOD AVENUE
TROWBRIDGE STREET
MAPLE PARK
RIPLEY STREET
CYPRESS STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

Newton Centre Parking Utilization - Saturday, June 13, 2pm



Newton Centre Parking Utilization - Saturday, June 13, 4pm




Newton Centre Parking Utilization - Saturday, June 13, 6pm
HOMER STREET
STAFFORD ROAD
CHAPIN ROAD
BOWER STREET
FURBER LANE
TRINITY TERRACE
CHESTNUT TERRACE
DEVON ROAD
MONTVALE ROAD
MARSHALL STREET
GRANT AVENUE
GIBB STREET
WILLOW STREET
SUMMER STREET
EVERETT STREET
GRAY CLIFF ROAD
SQUIRREL LANE
BISHOPSGATE ROAD
BRACEBRIDGE ROAD
TYLER TERRACE
LYMAN STREET
PLEASANT STREET
PELHAM STREET
CENTRE GREEN
CHESLEY ROAD
DALTON ROAD
HANCOCK AVENUE
WEBSTER COURT
BEACON PLACE
CENTRE STREET
BEACON STREET
LAUREL STREET
LAKE AVENUE
CRESCENT AVENUE
RIPLEY TERRACE
UNION STREET
BRAELAND AVENUE
WARREN STREET
LANGLEY ROAD
CHASE STREET
GLAZER ROAD
MAPLE PARK
NONANTUM AVENUE
TROWBRIDGE STREET
CURTIS STREET
RIPLEY STREET
KNOWLES STREET
HERRICK ROAD
PAUL STREET
OXFORD ROAD
PARKER STREET
Parking Utilization
Newton Centre Parking Study
Less than 30%
31-60%%
61-80%
81-90%
More than 90%
0
200
400
Feet
Data Sources: City of Newton, MassGIS, Nelson\Nygaard

Newton Centre Parking Utilization - Saturday, June 13, 8pm