



Downtown Woburn Parking Management Plan

City of Woburn, Massachusetts

October 2012



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ACKNOWLEDGEMENTS

This report was prepared on behalf of the City of Woburn through a competitive grant awarded through the Massachusetts Downtown Initiative of the State of Massachusetts' Department of Housing and Community Development (DHCD). The grant application was prepared by the City's Planning Board and Redevelopment Authority who provided oversight and review of the study's scope, public process, parking management recommendations, and this final report. In addition, many Woburn stakeholders participated in this process in the summer of 2012, including local business owners, residents, and the City's police, public works, engineering, and planning staff. On behalf of the DHCD, we would like to thank all stakeholders for their constructive input to this process.

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INTRODUCTION

The City of Woburn retained Nelson\Nygaard under a competitive Massachusetts Department of Housing and Community Development (DHCD) grant to develop a parking management plan for the downtown area. The work is intended to help inform the City of Woburn's assessment of the need to provide additional off-street parking to accommodate existing development and future growth.

The parking management plan is a continuation of the work that Woburn has completed to date in evaluating its parking supply. In Summer 2011, the City and Woburn Redevelopment Authority (WRA) conducted a downtown parking study to analyze existing conditions of on-street and off-street parking. The report concluded that additional downtown parking facilities were necessary to meet existing and projected parking demand. Using Institute of Transportation Engineers (ITE) estimates of parking demand for downtown Woburn land uses, the report determined that the existing parking shortfall was at as much as 350 spaces. The report recommended that opportunities to provide additional parking supply should be identified and considered.

Study Goals

In recognition of the early efforts, this study includes a review of the current work done to date and identifies and addresses specific questions on previous analyses and recommendations. Nelson\Nygaard also reviewed other available data, reports, and policies to analyze and identify recommended strategies and actions in creating a comprehensive Parking Management Plan Implementation Strategy. This parking management plan:

- Manages parking through optimization, pricing, regulation and the phased supply of parking spaces
- Designates specific on-street and off-street parking regulations and pricing on area maps
- Identifies necessary signs and locations
- Includes a phased implementation timeline and monitoring plan
- Establishes a parking management program that will encourage investment in Woburn Square, encourages additional residential units, and enhances its business climate

BACKGROUND AND UNDERSTANDING

The City of Woburn is a suburban city of approximately 38,000 residents located about 10 miles northwest of the City of Boston. Woburn features a mix of dense and dispersed residential neighborhoods, office and industrial parks, as well as open spaces, all centered around the city's downtown, Woburn Square. Rich with historic character, offices, retail stores and numerous restaurants, Woburn Square also boasts significant anchors such as City Hall, the Public Library, the Woburn District Court, the U.S. Post Office, as well as the Woburn Common, which hosts many public events throughout the year. As a civic, commercial and community center for residents, workers and visitors, Woburn Square plays a critical role contributing to the City's identity and economic growth and attracting residents and visitors. Like many downtowns today, Woburn is evolving.

The City of Woburn recognizes that the accessibility of Woburn Square plays an important role in determining its future. Woburn Square is located at the intersection of several major traffic arteries and is served by bus routes which provide convenient access to various destinations, as well as downtown Boston. However, perceived or actual parking constraints are believed to be limiting its future potential.



Business owners feel that many people are utilizing the public lots to park and ride, using the MBTA commuter buses 354 and 134 into Boston. Similarly, merchants and employees are believed to be often utilizing the on-street parking closest to their business. As a result, drivers commonly find it difficult to find parking in order to patronize restaurants and other businesses during the day. By 9:30 AM, parking can be difficult to find both on-street and off street and by lunch time, parking throughout the downtown is perceived to be at maximum capacity. There is additional peak parking demand again at night from restaurant goers and shopper, as well as a trade school located in the Square. While there is strong support for better managing the parking demand, there is concern for displacing commuters to residential streets in surrounding neighborhoods.

Previous Parking Study

In 2011, the City of Woburn and Woburn Redevelopment Authority (WRA) conducted a downtown parking study, which analyzed the ability of existing on-street and off-street parking to address demand, in addition to parking layouts, revenue opportunities and regulations. Existing parking demand was estimated using the *Parking Generation 4th Edition* (Institute of Transportation Engineers, 2010) and used to determine the minimum number of parking spaces required for the land uses on all developed parcels in Woburn Square. In addition, over 100,000 square feet of land available for retail and residential development was identified, which may contribute to future parking demand.

The analysis concluded that a total net demand of approximately 1,979 parking spaces was estimated for the downtown study area. However the existing downtown parking supply consisted of only 1,629 parking spaces, including on-site private parking as well as the four off-street public parking lots. A parking deficiency of approximately 350 spaces was identified.

To address the parking deficiency calculated by the land use analysis, the City of Woburn is in the process of designing an additional parking facility in Woburn Square. A parking deck with at least 150 and potentially up to 350 net new parking spaces will be added to the Walnut Street Municipal Parking Lot. This DHCD study was a well-timed opportunity to develop a downtown parking management plan to better manage both the existing parking spaces and the new spaces to be built. This parking management plan is intended to help the community gain a better understanding of parking characteristics within Woburn Square and what techniques can be used to improve parking resources.

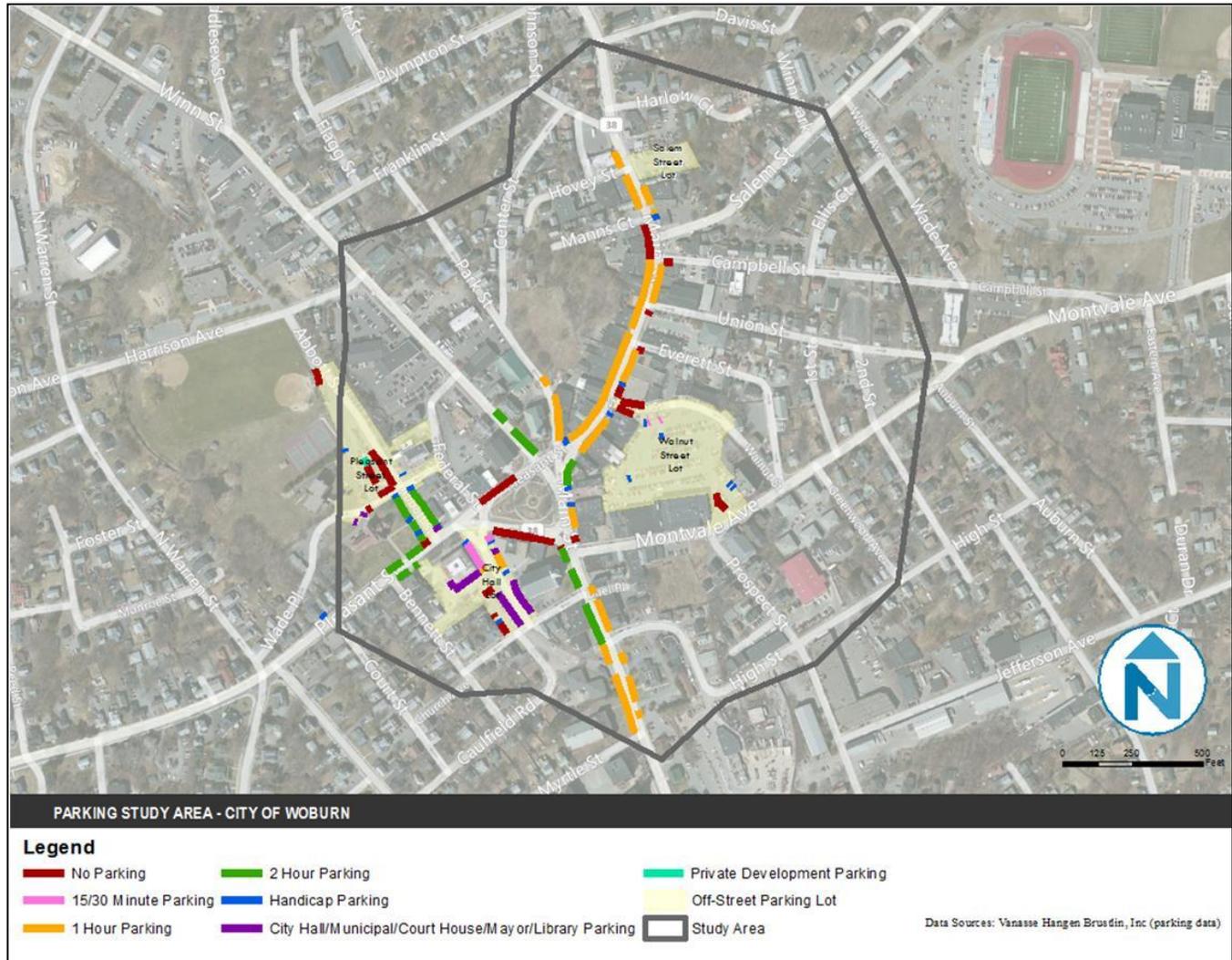
Downtowns, especially in smaller cities, present unique challenges for determining parking sufficiency. Supplies that are – or are perceived to be – insufficient reduce accessibility for motorists, limiting economic viability and future development opportunities. However, an over-supply of underutilized parking can degrade the quality of a downtown, making it appear empty and less vibrant while at the same time eroding the walkability that is one of the primary competitive advantages of historic downtowns like Woburn Square. An appropriate balance of well-managed parking can preserve the character and attractiveness of the downtown while ensuring convenient and efficient access that promotes commercial growth. A comprehensive approach to parking management recognizes that well-managed parking is only the means to greater ends.



PARKING SUPPLY EVALUATION

Study Area

The study area selected for the parking management study covers a majority of parking spaces in the downtown core of Woburn. The study area includes four City-owned off-street public parking lots including the Walnut Street lot, City Hall lot, Pleasant Street lot, and Salem Street lot. The on-street parking spaces are found along Main Street from Myrtle Street to Harlow Court; Pleasant Street, from Bennett Street to Main Street; and along Winn Street and Part Street, approximately 200 feet from Main Street.



Existing Supply

The City and Woburn Redevelopment Authority initiated the 2011 parking study by conducting an inventory of the existing public parking supply in the study area. Vanasse Hangen Brustlin (VHB) completed this inventory in August of 2011. While on-street and off-street parking spaces were physically counted and recorded to determine the total supply inventory, the detailed inventory only accounted for public parking, which totals nearly 700 spaces. VHB estimated that there are an additional 930 privately-controlled spaces off-street within Woburn Square. The downtown Woburn parking supply map on the previous page depicts the location of the public off-street and on-street parking facilities, along with their regulations. The governing public parking regulations are summarized on the next page.



Existing Parking Supply	
Type	Spaces
Off-Street Public Lot	559
Walnut Street Lot	254
City Hall Lot	108
Lot abutting Pleasant Street	157
Lot north of Salem Street	40
On-Street Public Spaces	140
Main Street	116
Pleasant Street	8
Winn Street	7
Park Street	9
Off-Street Private Lots	930
Total On- and Off-Street Supply	1,629

EXISTING PARKING MANAGEMENT PRACTICES

Currently, no metered on-street parking spaces or off-street payment system exists in the study area. Instead, parking management is regulated through enforcement of time limit restrictions, a downtown resident permit system, and designated City employee parking.

Time Limited Parking

The parking in the downtown off-street public parking lots is free of charge and mostly with no restrictions and/or regulations. The exceptions with limitations include the lot abutting Pleasant Street, where the library has signed 2-hour limits on 40 spaces, and the City Hall Lot, where there are about 60 spaces assigned for City staff and 20 spaces for 15-30 minute time-limited parking. Generally, parking in municipal parking lots is restricted to only serve business and residential users in the downtown district. Cars are not permitted to park longer than 24 hours, unless the vehicle has a parking permit.¹ Any vehicle parked overnight in a municipal lot without a permit is considered in violation and is subject to a parking citation accompanied by a \$20 fine.²

In addition, downtown on-street parking mostly consists of a mix of one-hour and two-hour areas. One-hour parking is used on Main Street, which consists of predominantly restaurant and retail ground-floor uses, with offices and some residential units on upper floors. Two-hour parking is on Pleasant, Main, and Winn Streets, mostly located near institutional uses, including City Hall, the library, and the district courthouse.



¹ "Title 12 - Streets, Sidewalks and Public Places." City of Woburn. www.cityofwoburn.com/documents/Clerk/Municipal%20Code/Title%2012%20-%20Streets,%20Sidewalks%20and%20Public%20Places.PDF (accessed May 31, 2012).12-31.

² "ibid.

Permit Program

Woburn ordinance allows the city clerk’s office to issue parking permit stickers at \$5/permit each year for individuals who use municipal lots in the business downtown district for residential purposes. The amount of permits distributed by the City Clerk’s office is restricted to the number of parking permits allowed by any special permitted site in the Business Downtown District. Furthermore Business Downtown Residential dwellings that do not require special permits are restricted to two parking permits per dwelling.³

Governance

The Woburn Traffic Commission, formed by legislation in 2006, is the body responsible for adopting and amending local traffic and parking regulations. The Commission is presently working to update the 1935 Woburn Traffic Code, which is still in effect.



Enforcement

Parking regulation enforcement, ticket processing, and collections are handled by the Traffic Bureau and Parking Ticket Clerk, sub-units of the Woburn Police Department’s Services Division. Enforcement routes and times are variable, with police regularly targeting areas where repeat offenders are identified by the City and local merchants or residents.

Parking Violation Schedule (Excerpt)							
Double Parking	Overtime Parking	Overnight Parking	Meter Violation ⁴	Meter Overtime ⁴	Handicap Violation	Over 72 Hrs.	Others ⁵
\$20	\$15	\$20	\$5	\$5	\$300	\$50	\$15-20

³ Ibid.

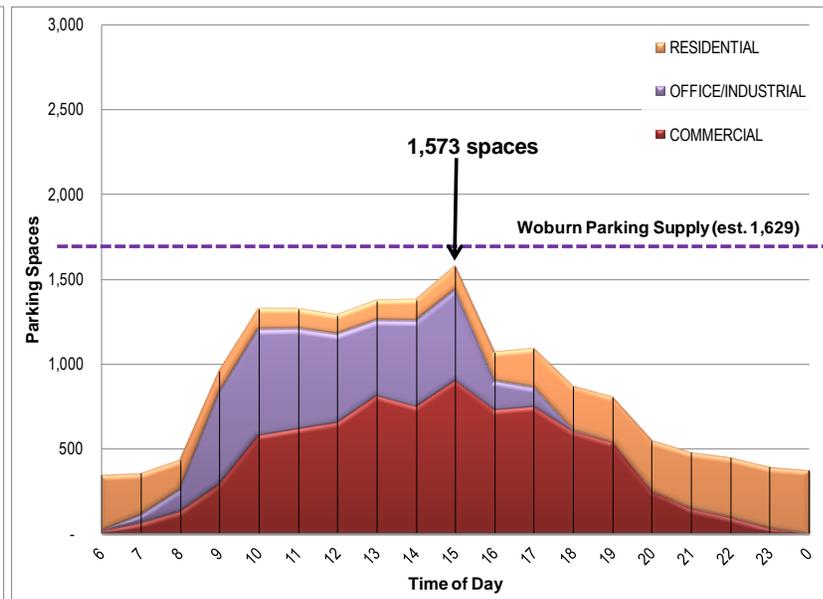
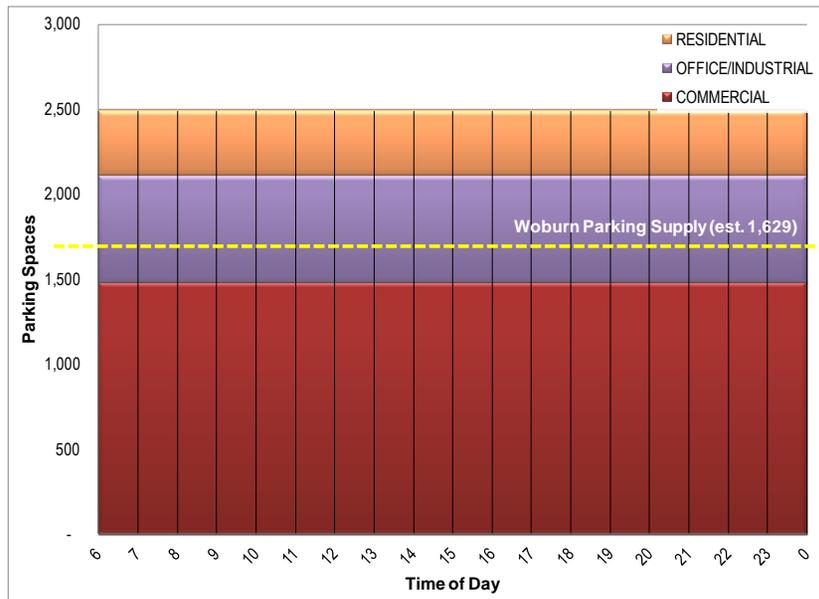
⁴ Meters do not exist in Woburn today, however the violation from when they were present remains in Woburn’s regulations.

⁵ Includes snow removal, hydrant, intersection, driveway, sidewalk, crosswalk, bus stop, taxi, fire, tow zone, and other typical violations.

ESTIMATED PARKING DEMAND

The 2011 VHB parking study identified a maximum parking demand of 2,500 spaces according to the *Parking Generation Manual* of the Institute of Transportation Engineers (ITE). A chart of such demand throughout the hours of the day is shown below on the left. VHB acknowledged that shared parking benefits could reduce this demand to about 1,980 spaces, which is still more than the number of spaces in Woburn Square (1,630). As a result, VHB recommended construction of 350 new parking spaces to meet the demand.

However, Woburn’s observed parking demand does not meet this level of utilization, prompting Nelson\Nygaard to re-run the shared parking analysis. The chart on the right shows full application of the Urban Land Institute’s shared parking model, which suggests that demand of Woburn Square’s use mix is only 1,573 spaces. Given that vacancies are observed at the points of highest demand, this lower utilization estimate is a better reflection of conditions on the ground. Nonetheless, there is no effective spare capacity in Woburn Square, necessitating expansion of supply and/or aggressive demand management, including parking pricing.



PUBLIC PROCESS

Community involvement was a critical component of the development of a parking strategy for downtown Woburn. On the evening of June 20th, local residents, business owners, and employees were invited to participate in a hands-on “Parking Open House” designed to gather as much quantitative input as possible through several interactive components:

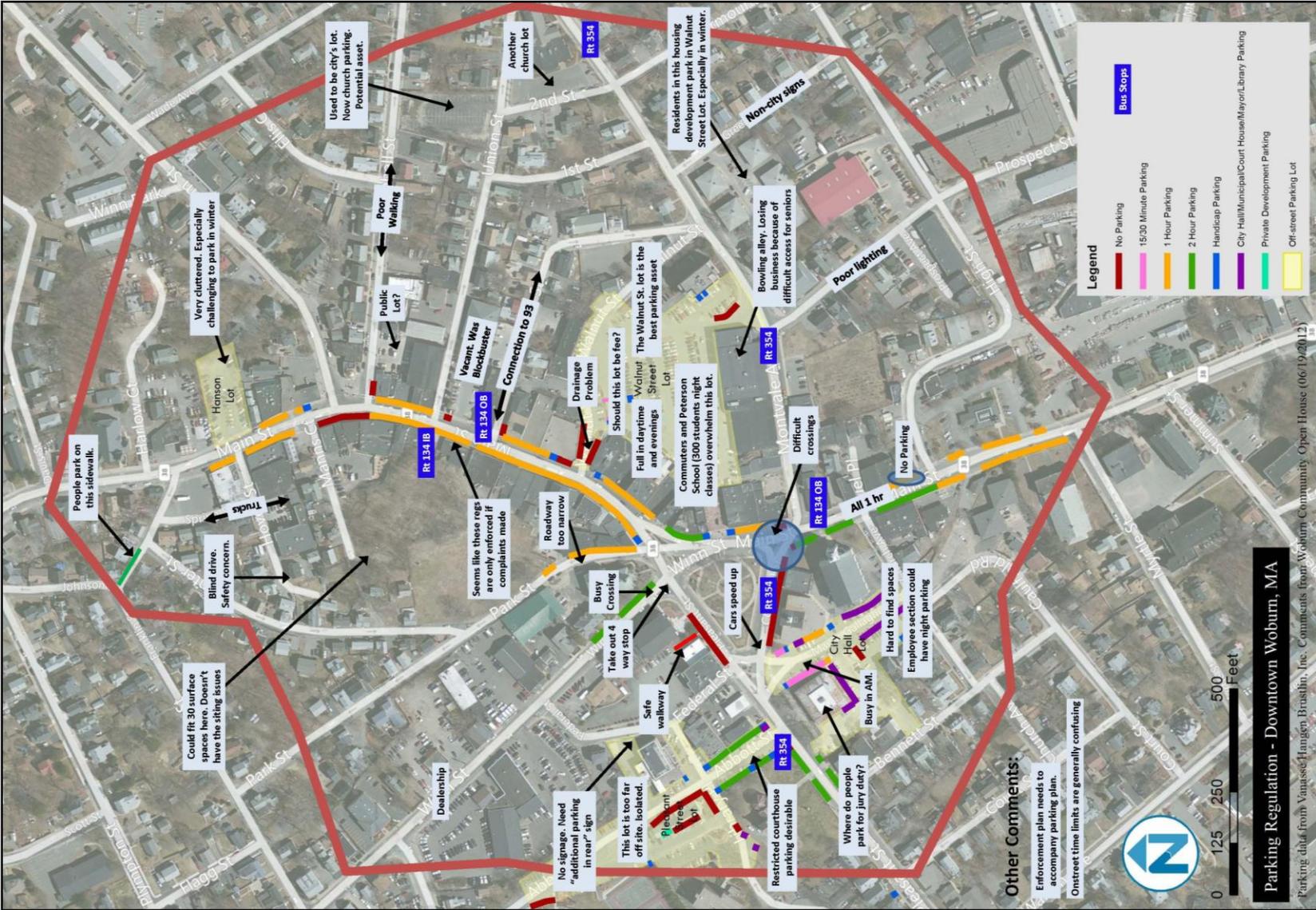
- Parking priorities voting exercise
- Parking needs & opportunities map mark-ups
- Background information presentation and discussion

More than 30 interested citizens and stakeholders participated in response to flyers and email invitations distributed by the City.



Needs and Opportunities Map

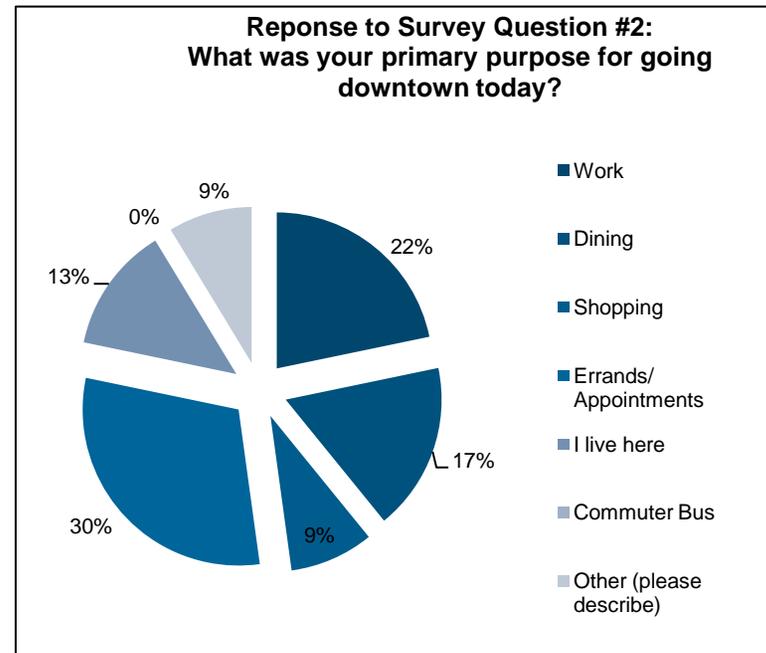
Participants were invited to share specific comments about what works and does not work with respect to parking in downtown. Participants and facilitators marked up maps directly to indicate specific places of concern or where good ideas for possible changes could occur. All maps were compiled into the master version below, which summarizes strengths and weakness as well as suggested opportunities for parking improvements.



WOBURN PARKING SURVEY

A Parking Survey was conducted by the City that was designed to collect general parking behavior information and preferences of Woburn visitors, employees, and residents. The survey was posted on the City’s website for City residents, businesses, and visitors to complete. A copy of the survey is included in the Appendix. The following information was discovered through the survey process:

- An overwhelming majority of respondents (97%) travel by automobile to get to downtown Woburn.
- **Most of the respondents** (82%) travel downtown several times a week (2 or more times a week), where about half of respondents (56%) consider themselves to be primarily customers (people who come downtown to shop, run errands, and dine) of the downtown.
- Both employees and customers **perceive that the search for parking in downtown Woburn takes a relatively long time.** On a normal day customers and employees estimate it takes nearly 8 minutes to find a parking space. On the worst day it can take almost 18 minutes to find a spot.
- **A majority of the respondents** (71%) tend to search for parking rather than park in the same place. A large percentage (89%) of those find parking, park relatively close to their destination (less than a 4 minute walk).
- Most of the respondents (72%) who drove into Woburn Square have simply left at least once in the past three months because of failure to find parking.



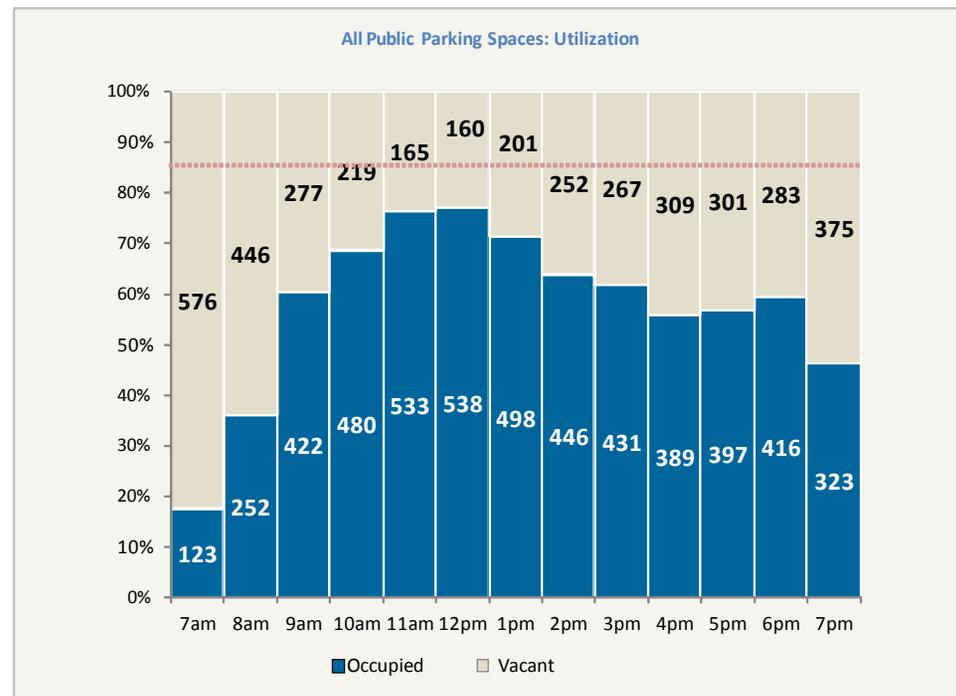
PARKING UTILIZATION

Parking Utilization Profiles

In order to ensure that parking management systems are operating efficiently, a certain level of vacancy is preferred both on- and off-street. It is ideal to have at least one empty on-street space per block face in a downtown, ensuring easy customer access to businesses. This typically equates to about 1 out of 8 spaces free, or a target of 15-percent vacant per block face. Similarly a goal of at least 10-percent vacancy is considered ideal in off-street lots. If any facility has less availability, it is effectively at its functional capacity and drivers perceive parking problems.

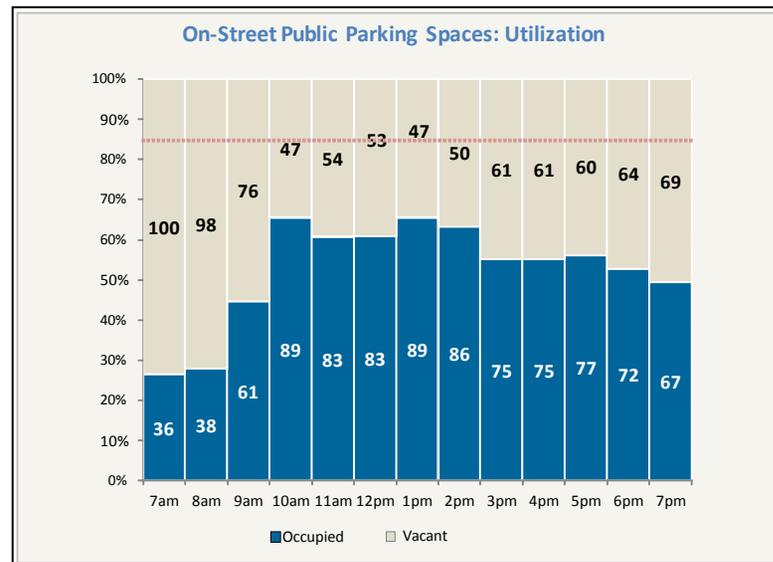
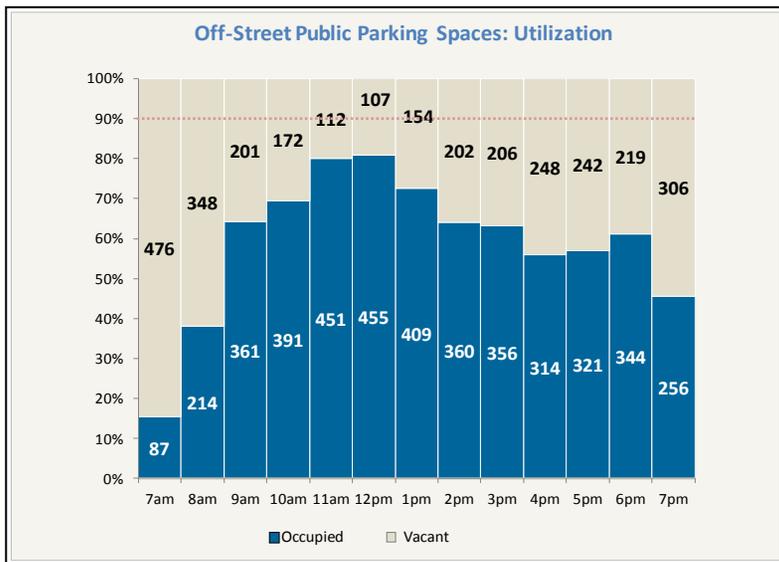
The following parking utilization profiles depict data that was collected in the parking study for the City of Woburn conducted by VHB. City staff observed the accumulation of cars in four municipally-owned off-street lots and on-street parking spaces in Woburn Square on an average weekday in August of 2011. Using VHB’s report, utilization profiles for all on-street and off-street spaces in Woburn’s downtown has been charted for each hour from 7:00am to 7:00pm (see chart on right).

With 160 spaces available at the point of highest demand on the observed weekday, it is clear that overall the Square has adequate capacity and is not facing a problem of a lack of supply for current uses. However, this summary of the overall demand is not sufficient for understanding the issues that may face those searching for parking in Woburn. To gain a better awareness, the following Parking Utilization Profiles break out the demand by different parking classifications and locations.



Utilization of Public Parking – Weekdays

In analyzing the use of public parking in downtown Woburn during the weekday, both on-street and off-street public parking is well-utilized throughout the day. The period with the highest demand is during the hours of 10am-1pm, where on-street parking spaces have an average of about 63-percent utilization and public lots have an average of 76-percent utilization – peaking briefly at 80% at noon. After this peak period, on-street parking begins to slightly decrease after 2pm and then plateaus at about 55-percent utilization into the late afternoon – finally decreasing to 49-percent at 7pm. Public parking lots exhibit a sharper decline after this peak period, decreasing to 56-percent utilization at 4pm. However there is an increase in use from 5pm-6pm to about 60-percent utilization, after which usage decreases to 46-percent at 7pm. Parking on both on-street and off-street parking spaces in the early morning hours is not an issue, where on-street and off-street parking between the hours of 7am-9am are both underutilized.

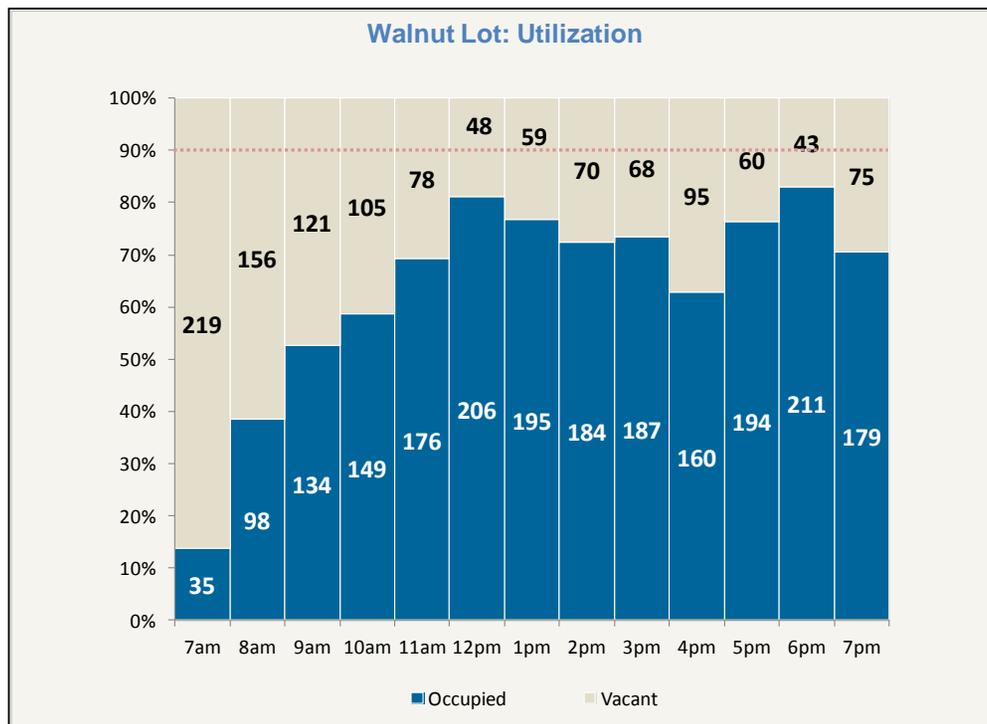


Utilization of Off-Street Parking Lots

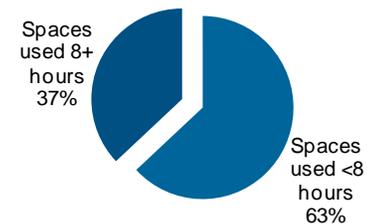
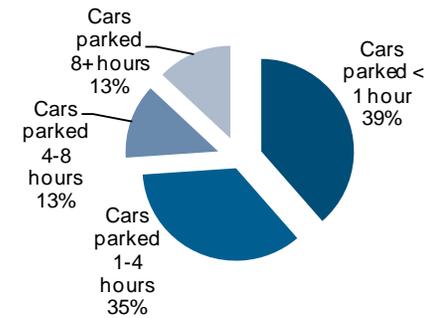
Walnut Street Parking Lot

The Walnut Street Parking Lot utilization chart demonstrates that parking is well utilized from late morning into the evening. The peak demand times for parking occur during the lunch hour, with 81-percent utilization, and later in the evening, with 83-percent utilization at 6pm. The hours before and after each of these peak demands do not approach the 90-percent ideal occupancy rate.

A closer look at the break down of the Walnut Street Lot’s parking durations helps to conclude that this is a short term (less than 8 hours) parking lot adversely impacted by long term users (more than 8 hours). While over 87-percent of cars parked for less than 8 hours in this lot, 13-percent of cars are parked more than 8 hours, consuming nearly 40-percent of the available parking supply all day.



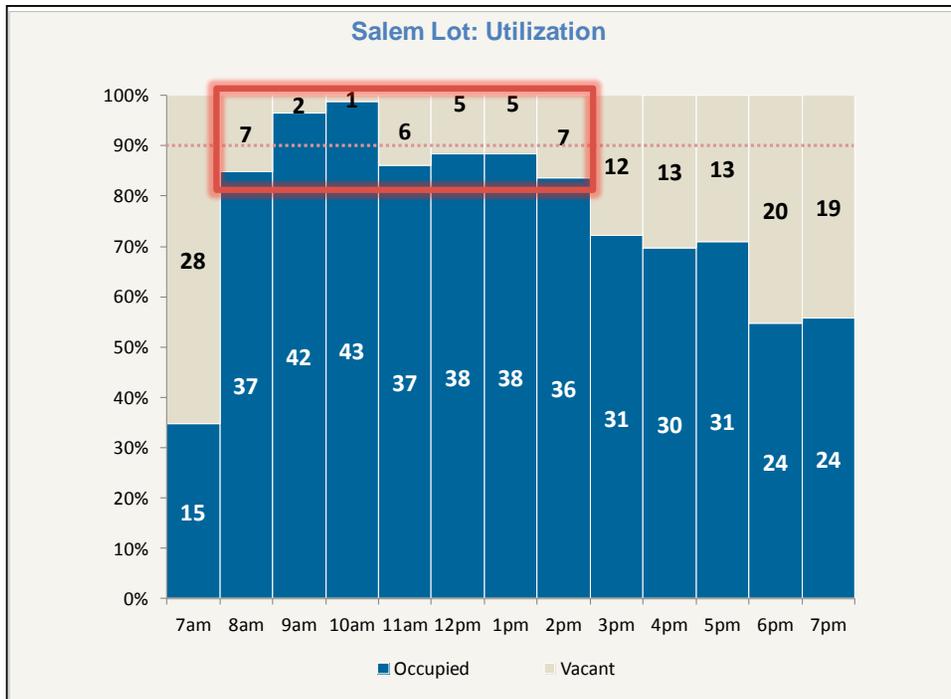
Walnut Street: Parking Duration



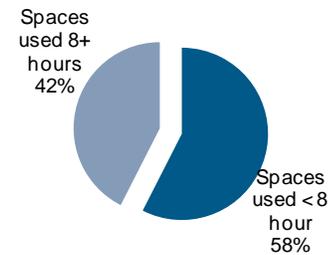
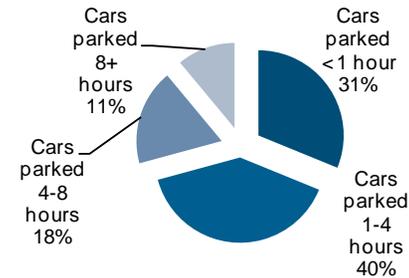
Salem Street Parking Lot

Looking specifically at the Salem Street lot reveals that there is heavy daytime utilization and spare capacity in the evening hours. During the peak demand hours of 8am-2pm, utilization reaches and at certain points exceeds the 90-percent effective capacity for a parking facility, filling almost every space within the parking lot during this peak time period. After this high-demand period, there is spare capacity as parking utilization steadily decreases through the evening.

A closer analysis of the parking durations in the Salem Street lot reveal that this is another lot being utilized by long term users at the expense of customers and visitors looking for short-term parking. While over 89-percent of cars parked in the Salem Street lot for less than 8 hours, the 11-percent of cars parking for more than 8 hours are consuming over 40-percent of the available supply on an average weekday.



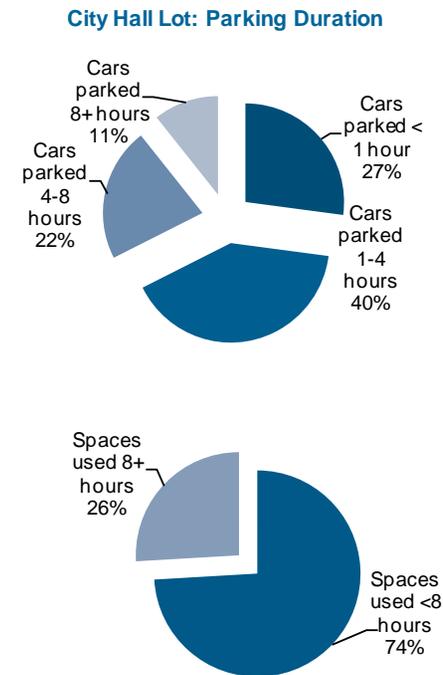
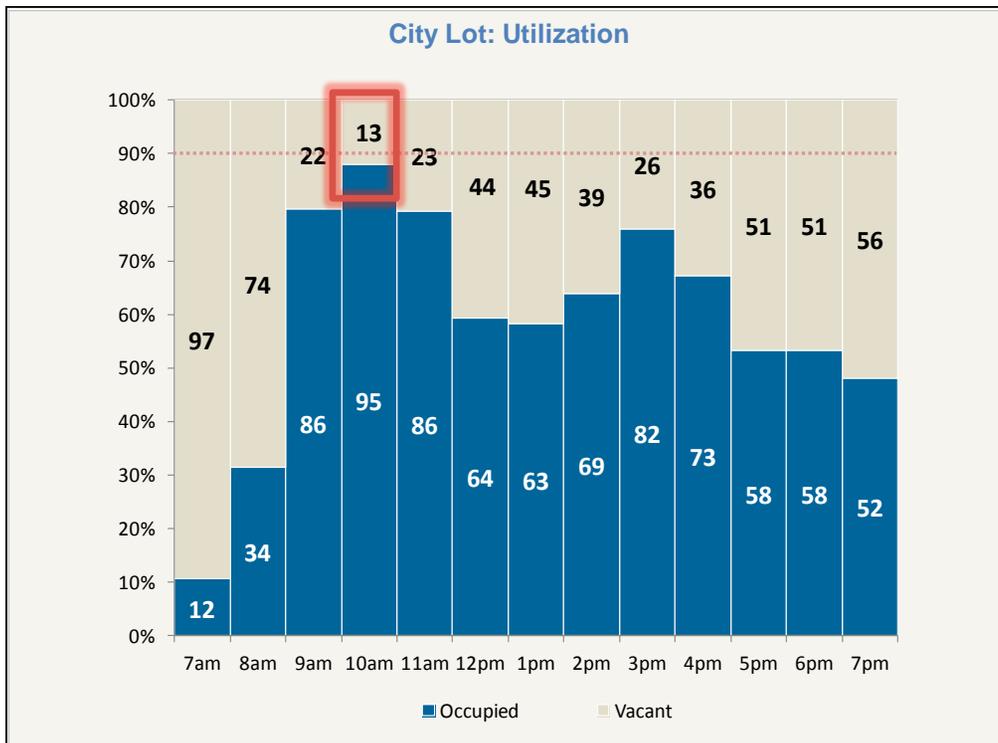
Salem Street: Parking Duration



City Hall Parking Lot

An average weekday utilization profile for the City Hall Lot shows consistent daily use with spare capacity in the evening and early morning hours. The peak demand times for this lot lie between 9am-11am, where the utilization rate at 10am reaches close to capacity at 88-percent.

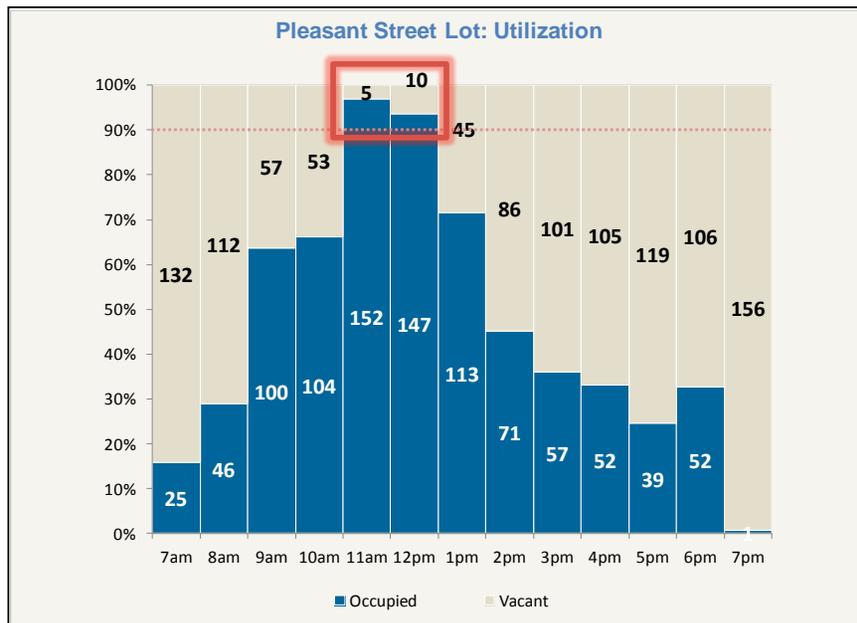
Looking at parking durations helps to conclude that about 10% of total users are consuming about 25% of the available supply all day, leaving 75-percent available for short term parking. This is an appropriate parking utilization profile for City Hall.



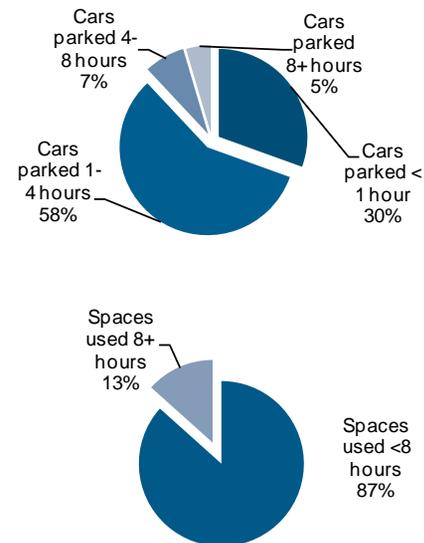
Pleasant Street Parking Lot

The utilization profile of the Pleasant Street parking lot reveals that parking is primarily utilized around the lunch hour, while the times before and after this peak period are underutilized. During the peak hour of 11am-12pm, the utilization of this lot exceeds the 90-percent effective capacity, while off-peak hours do not even reach the 90-percent ideal occupancy rate, varying from 72-percent at 1pm to less than 1-percent utilization at 7pm.

An analysis of the parking duration sheds light on the underutilization of this lot. Unlike the utilization profiles of other off-street public lots, Pleasant Street lot has only 5-percent of long-term users utilizing fewer than 15-percent of available supply all day. A large majority of the supply, more than 85-percent, is utilized by customers and visitor parking 8 hours or less. Reviewing the comments from the needs and opportunities map exercise helps to provide insight on the underutilization of this lot, where a participant noted that Pleasant Street lot is: "...too off site. [and] Isolated." Currently, this lot serves as last resort for customers because of its location. However, this may be an ideal location to encourage employees to park, who currently occupy prime parking spaces in more central lots that are better suited for use by customers.



Pleasant Street Lot: Parking Duration



SPATIAL ANALYSIS OF UTILIZATION PROFILES

An important part of understanding how parking is managed in any downtown is being able to describe how various parking facilities and segments of on-street parking interact with each other throughout the course of a day. 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.

Using the City's data prepared by VHB, a series of maps was developed based on the parking inventory map above. Colors have been assigned for the percentage of spaces utilized at each location based on notable breaks used to evaluate the adequacy of a parking facility:

- “Cool” light blue/blue refers to 0-80% utilization, a point at which parking is considered underutilized
- “Ideal” green refers to 81-90% utilization when parking is available but well used
- “Warning” pink refers to over 91% utilization when parking seems full
- “Critical” red denotes parking beyond the marked capacity

Below are the key findings for weekday utilization, followed by the spatial analysis map that shows the peak utilization for 12 pm to 1 pm in Woburn Square. Refer to the Appendix for the remainder of the spatial analysis maps.



Weekday Utilization Key Findings

- On street parking on southern Main Street had its highest parking utilization at 7am. During this time the area was showing ideal “green” and warning “pink”. However, throughout a majority of the day, this area continues to be extremely underutilized.
- At 8am in the morning, on street parking in front of the City Hall indicates a full utilization and similarly the Salem Street lot is already at its ideal capacity. At 10am, both locations are at full utilization and activity begins spilling over into the City Hall Lot, Pleasant Street Lot, and on street parking on Main Street in front of the Salem Street lot. Both of these locations are the centers of parking activity during this period.
- The time period from 11am-1pm during a weekday has the highest utilization. During this peak period, the Salem Street lot almost reaches the 90-percent capacity point, while the Pleasant Street lot exceeds the ideal capacity. However, during this period, the City Hall and Walnut Street lots barely reach the 80-percent ideal capacity range. Similarly, during this time period, on-street parking is underutilized with barely 60-percent utilization.
- In the afternoon from 1pm-4pm, there continues to be heavy on street utilization in most prime spaces, however public lots continue to be underutilized.
- In the evening hours between 5pm-7pm, prime locations for activity are located in the Walnut Street lot as well as the on street parking locations on Winn Street and Main Street near the lot. Other public lots and on street spaces are underutilized during this time frame.

KEY FINDINGS

- **Customer difficulty finding parking spaces.** Many reported frustration and simply leaving when they could not find a space. On-street spaces near restaurants are very full in the evenings. Convenient public lots (Walnut and Salem) have nearly half of their capacity taken up by a small number of long-term parkers, forcing many customers to use the more remote Pleasant Street lot.
- **Employees parking in core commercial core.** There is no incentive for employees to park in more remote locations, and they are observed taking up nearly half of the public parking capacity in the Walnut Street and Salem Street lots, closest to Woburn Square's customer-oriented businesses, resulting in limited parking availability for customers. Meanwhile, the larger but more remote Pleasant Street lot sees high turnover and few employees willing to park there.
- **Lack of visibility of remote parking.** Without a clear signing system, most City lots may not be known to many visitors. Limited off-street parking signing exists in the Square today, reducing the ability to attract customers if on-street parking is full.
- **Inconsistent enforcement policy.** Parking enforcement is the responsibility of the police department which must also conduct normal public safety operations. Time-limit enforcement is very difficult without dedicated staff, and there is no ability for current enforcement to be targeted to prime parking demand peaks which may be in conflict with normal police operations and operating shifts.
- **Difficulty walking to/from remote spaces.** A combination of long or unprotected crosswalks, missing pedestrian walkways, no pedestrian wayfinding, and threatening vehicle speeds and volume in a number of places in Woburn Square compromise the ability to get to or from remote parking resources easily and quickly. Pedestrians returning to their car across the street were observed running to avoid traffic, even though they were in a crosswalk.

RECOMMENDATIONS

The following recommendations are intended to serve as guidance for the implementation of changes to the downtown parking management system. These recommendations reflect the conclusions of the consulting team, observations of the downtown, review and analysis of various City data and the parking study by VHB, stakeholder discussions, and input from the participants of the public open house. These suggestions are informed by parking management best practices as evidenced in a number of communities across America that recognize one important point: *poorly managed parking spaces constrain economic opportunity for local merchants and business owners*. Full implementation of these recommendations will not be possible without continued stakeholder coordination and conversation and a common interest and commitment in resolving parking problems in Woburn.

The following principles were adhered to when developing strategies for Woburn:

- Provide convenient parking for customers/clients
- Establish clear City and private employee parking areas
- Accommodate commuter parking appropriately
- Protect residential neighborhoods from spillover

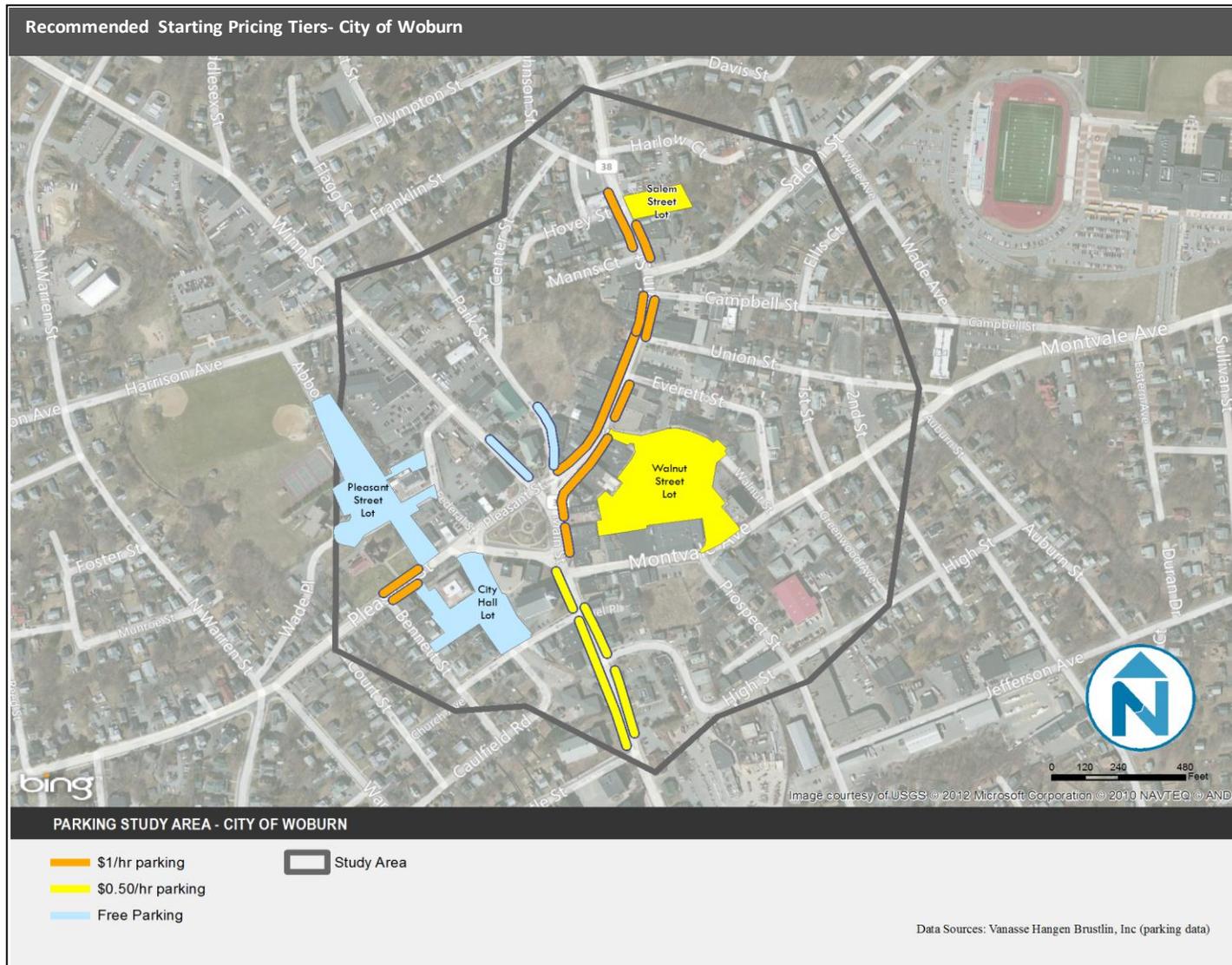
A.) Begin Pricing Parking

One of the key findings in this study was that it was difficult for customers to find parking in prime spaces. Within the core public parking area, strategies to ensure availability for short-term visitors should be instituted, including introducing on-street pricing as a means to maintain vacancy and extending time-limits. Demand-responsive pricing helps to put customers first by creating vacancies and turnover in the most convenient “front door” curb parking spaces, ensuring availability for customers and visitors. In order to eliminate the perception that parking is not available on-street, parking rates should be introduced to create a 15% vacancy rate on each block face, rather than relying on arbitrary time-limits. This typically equates to about 1 out of every 8 spaces free. The appropriate price to achieve 15% may be different for different sections of the downtown. Rates in some places may be zero, while other areas may have a high rate that discourages long-term parking. A likely first set of pricing tiers for Woburn is suggested below and mapped on the next page, but it should be noted that these will need to be raised or lowered based on future occupancy counts to ensure the 15% target is maintained.

Parking Pricing to Encourage Turn-Over

- On-street smart meters at \$1/hr. in prime spaces (\$0.50/hr. outside core)
 - Span of pricing: 10am-7pm, Monday-Saturday
 - Lengthen time-limit to at least 4-hours (or eliminate)
 - First 30-minutes are free period
- Off-street pay-on-foot lot & garage at \$0.50/hr., \$4 daily max. (Walnut St. lot/garage & Salem St. lot only)
 - Span of pricing: 10am-5pm, Monday-Friday
 - No time limit





B.) Establish Commuter and Employee Permits

A significant amount of employee parking occurs today in the “public parking” downtown core. As a testament to this, one of the major findings this report unveils is that two of the central off-street parking lots (Salem and Walnut Street lots) should be short-term parking lots, however the utilization of these spaces are adversely impacted by long-term users. The current system allows downtown employees and commuters to occupy these prime parking spots for long periods, and as a result, customers are forced to search for parking further away from their destinations.

One approach to this problem is the implementation of a permit program for those who work and commute in Woburn in designated areas, such as portions of the Walnut, Salem, and City Hall lots. Employee and commuter permits should be priced at a rate of \$60/month and enforced Monday-Friday. The number of permits issued should be determined by demand and the potential supply that can be made available to permit holders. In addition, other regulatory changes are recommended to help create higher turnover in public lots and consistency for parking in the downtown.

Other regulatory changes:

- Strictly enforce a 3-hour time-limit in non-permit City Hall spaces from 8am-4pm
- Install no-parking signs on side streets where visibility and sidewalks are obstructed
- Possibly offer a lower cost resident-only permit for side streets to discourage employee spill-over



C.) Implement a Parking Signing Program

While regulatory signing for parking regulations is prominent and plentiful in Woburn, signing that helps direct parkers to available parking areas is very limited. With very few signs leading to off-street parking reserves, such as the Pleasant Street lot, there is no indication to visitors that these convenient parking spaces exist. As Woburn seeks to attract businesses and customers, greater ease of finding a parking space is important. The City of Woburn should employ a clear and consistent signing system that helps visitors find spaces with ease. This would include creating:

- Parking wayfinding signs (directions to off-street lots)
- Pricing zone signs (include information on cheaper parking in downtown)
- Parking payment rules (for metered spaces)
- Permit parking zones (including MBTA spaces in the Walnut Street lot/garage)



The only parking sign in Woburn Square today



There is also a lack of signing for pedestrians. Once a visitor has parked in one of the downtown parking lots, the pedestrian experience that follows can be a challenge. Many of the parking lots lack clear pedestrian-oriented signing and pathways to direct and funnel pedestrians to the wide variety of Main Street attractions, restaurants, shops, and services. Creating this signage program is a short-term recommendation that is an extremely low-cost and effective way to increase and improve the downtown parking experience.



D.) Establish Clear Enforcement Policy

Woburn Square is lacking a consistent and clear parking enforcement policy. Enforcement is mostly in response to complaints, as opposed to being conducted on regular intervals to ensure compliance with time-limits. Not only is the City forgoing easy revenues through more parking tickets, but the lack of more routine coverage compounds the parking problem by allowing regular parkers to disregard parking restrictions, often making parking more difficult for those drivers who do follow the rules. Furthermore, in order to effectively regulate the parking pricing recommendations, a long-term enforcement plan for the City should be created. The details of this policy implementation should be developed in consultation with the Woburn Police Department. The policy should focus on the following:

- Enforcement should be emphasized on paid parking and less on time-limit enforcement
- Enforcement should be focused during prime time hours in the downtown only
- Enforcement should utilize new Parking Control Officers, or “PCOs,” as ambassadors for visitors and regulars in downtown Woburn, focused more on encouraging appropriate parking behavior through friendly assistance and providing directions, as opposed to writing tickets.

Woburn is in a fortunate position for the implementation of parking pricing. Since enforcement has not been creating a great amount of revenues for the City to date, there is no expectation for PCO’s to maximize their ticket writing to create revenues. A well-priced parking system with long or no time-limits does not need intensive time-limit enforcement. Instead, PCO’s can first focus on providing information and helping parkers through this ambassador approach, writing tickets when there are clear unpaid meter violations.



E.) Implement Pedestrian and Parking Access Improvements

Street widths in Woburn Square act as barriers to accessing surplus parking and create an uninviting experience when walking from parking spaces across the street. Simple pavement marking and street improvements would significantly enhance the experience of both pedestrians and drivers in the downtown. These may include advanced yield markings and signs at unsignalized crosswalks (like the crosswalk between the library and courthouse, pictured below), curb extensions to narrow crossings, and crossing islands, which also help to slow traffic.

As part of any planned connectivity improvements, the City should prioritize those that improve the safety of accessing more remote spaces, which will help to reduce the perception that they are far away and relief pressure on prime spaces. There should also be an emphasis on creating a more pedestrian-friendly environment throughout the Square, through crosswalk and visibility improvements. Vehicular safety improvements at entrances to the various public parking lots are encouraged as well.



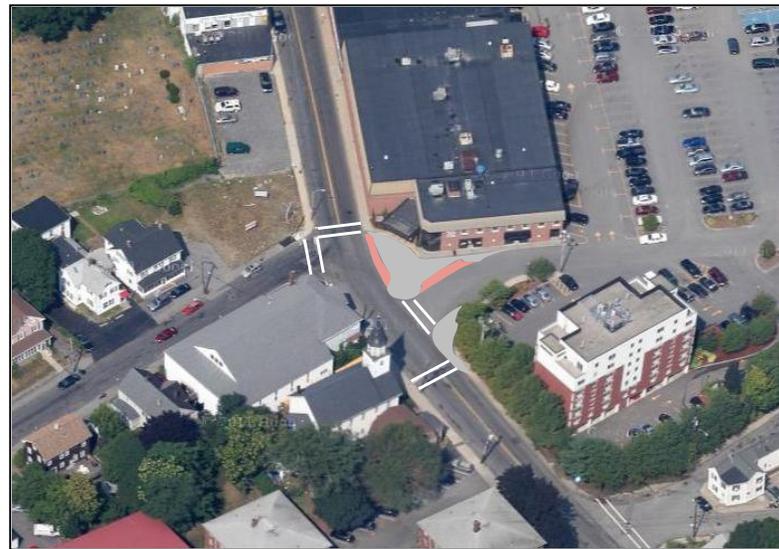
Walnut Street Parking Lot – West Entrance

Entrances to off-street parking locations should be designed with the safety of both motorists and pedestrians. The intersection at the west entrance of the Walnut Street parking lot is unwelcoming and can pose as a hazard for pedestrians entering the parking lot to get to their cars. There are no clear markings for pedestrian crossings and little refuge space with poor visibility for those waiting to cross the intersection. The current design of this area also invites high-speed vehicular entry into the parking lot.

The suggested redesign of this intersection helps to address some of the concerns and issues with the current design. Creating a more clearly defined space for pedestrians and motorists through crosswalk striping and curb extensions helps to improve visibility and reduce conflicts, while enhancing the entry of parking lot, as well as the event space.



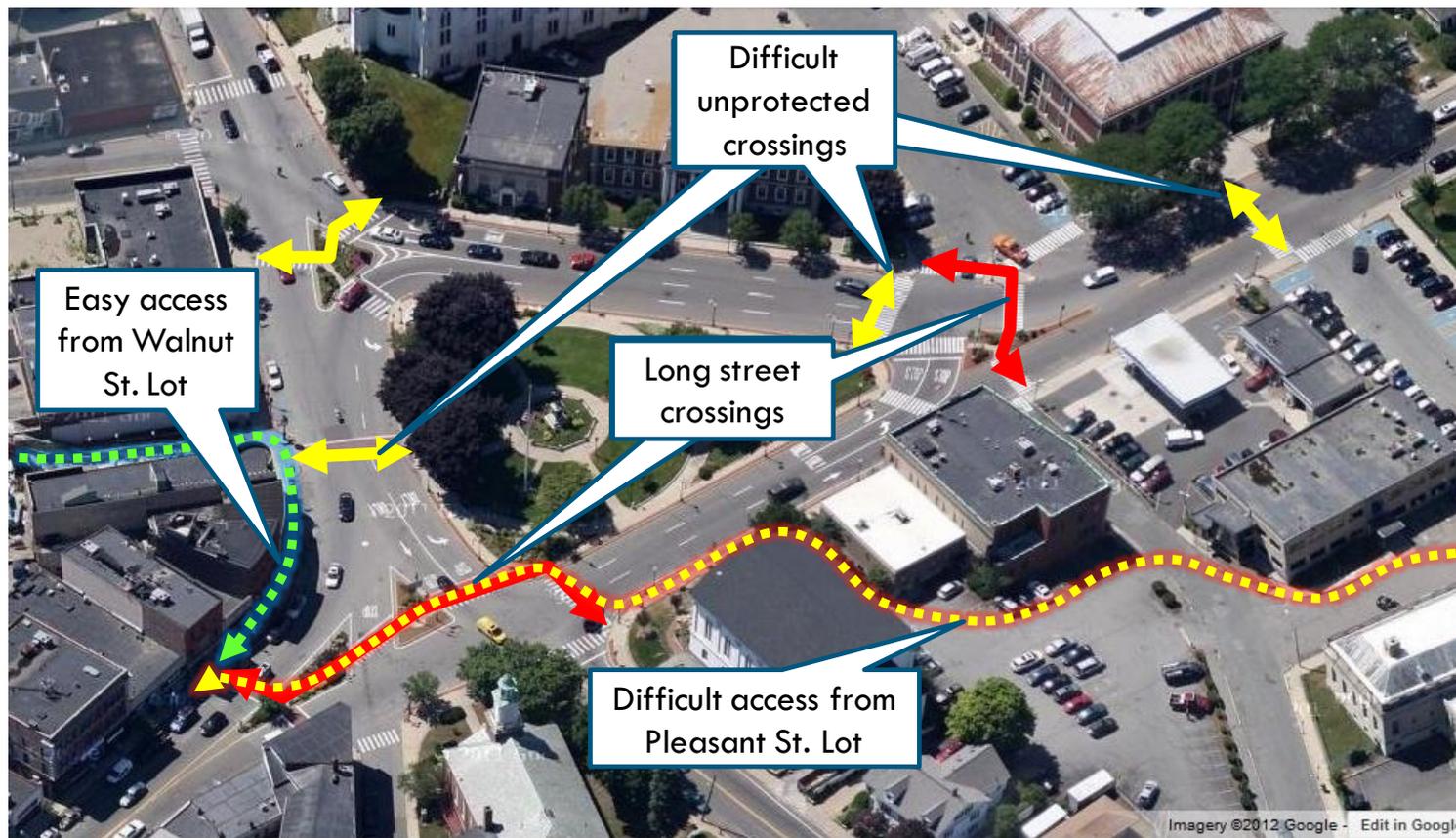
Before



After

Pleasant Street Parking Lot

Currently the Pleasant Street lot serves as an underutilized area after peak lunch hours. Although not a far walking distance from the downtown business core, both residents and visitors perceive that this is a very secluded area to park. Identifying barriers and making access and connectivity improvements for pedestrians to reach downtown retail and commercial destinations easily could dramatically increase the appeal of this lot for patrons looking for parking.



Imagery ©2012 Google - Edit in Google

IMPLEMENTATION

This section addresses the identified parking challenges, issues, and needs for all users groups in downtown Woburn, as discussed in previous chapters. Strategies for managing parking in the Center go beyond just parking. Policies and approaches that help maintain Woburn’s downtown feel, promote the thriving retail corridor, and attract new visitors and businesses are all important for building a successful downtown. The following implementation plan outlines many of the details needed to initiate the recommended parking management strategies in Woburn Square. These pages describe in detail the implementation costs and timeframes, the parking pricing plan, the supporting signing program, and the associated capital and operating budgets.

Overall Costs and Timeframes for Implementing Parking Recommendations

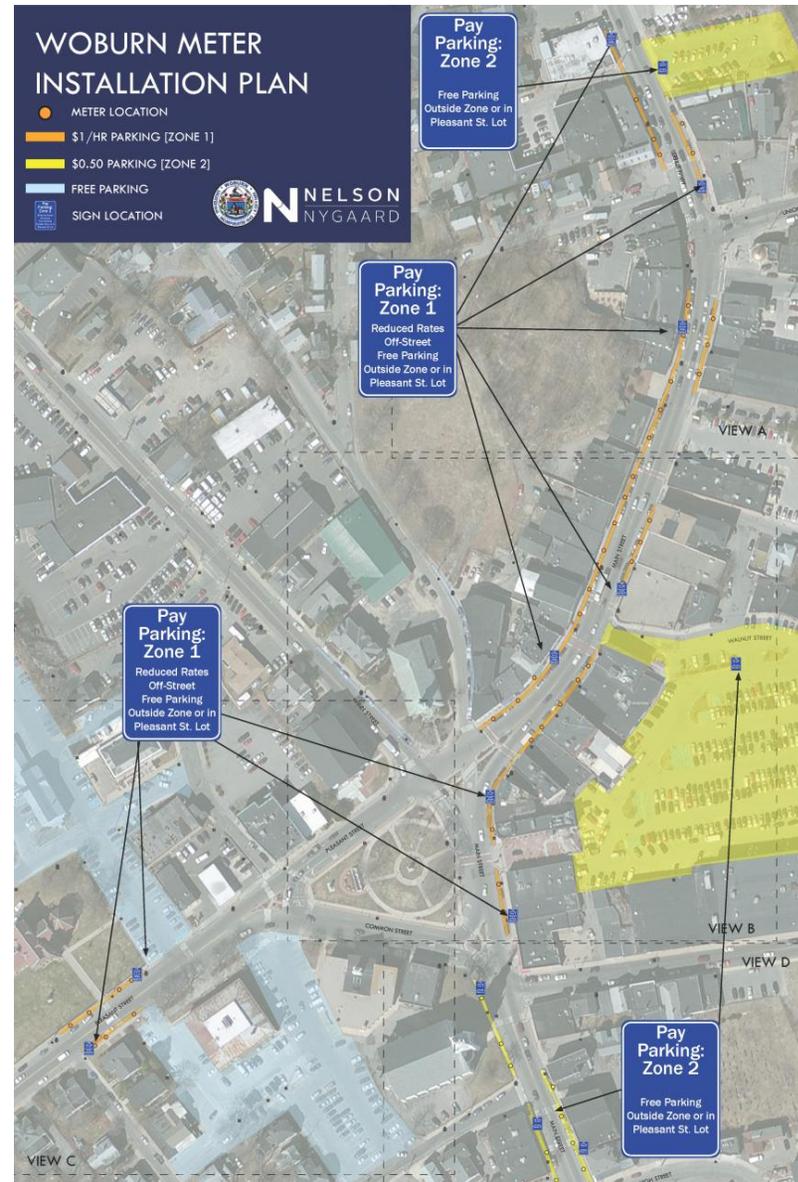
The following recommendation matrix outlines short-term actions that are recommended to support the parking management program. The costs are estimated, with parking pricing details outlined in the pro forma included in the following pages. Although listed separately, the strategies are not independent of one another; in fact, success of one is directly linked to the success of another. The management strategies comprehensively address parking issues in town, and a piecemeal approach will not be as effective as a complete package. As stated previously the implementation of these recommendations should be consulted with key stakeholders, such as components of the enforcement plan with the Woburn Police Department.

Recommendation	Notes	Cost	Winter Actions	Spring Actions	Summer Actions
On-street pricing (140 core spaces)	Pricing to create availability (15% vacant per block on-street; 10% in lots)	\$250k+/yr. surplus (see pro-forma)	Solicit bids	Contracting	Installation
\$1.00/hr prime parking \$0.50/hr secondary spaces	Price tier: A) removes perception of a tax; B) incentivizes remote parking				
Days: Monday-Saturday	Lots free on Saturdays				
Span: 10am-7pm on-street;	Matches period of greatest demand on-street; incentivizes lot use during restaurant peaks				
Four-hour time-limit	Could eliminate limits entirely				
First minutes free period	30 minutes				

Recommendation	Notes	Cost	Winter Actions	Spring Actions	Summer Actions
Off-street pricing (Walnut St. & Salem St.)	City Hall to remain free but retain permit spaces; Pleasant St. Lot to remain free	(included in pro-forma)	Solicit bids	Contracting	Installation
\$0.50/hr, \$4 daily max.	Cheaper than streets to incentivize use		(Note that equipment should be planned for reinstallation during/after garage construction.)		
Monday-Friday					
Span: 10am-5pm	Shorter span incentivizes evening lot use by employees				
No time-limit					
Commuter & employee permits	Walnut St. lot/garage	(included in pro-forma)	Obtain permits or in-car meters	Sign lot	(complete)
\$60/mo. (25% discount)					
Monday-Friday, 24 hrs/day	Consider a storage limit (72 hrs.; 23-hr span; etc.)				
Parking signing plan	Custom design for Woburn	\$40,000	Solicit bids	Contracting & Design	Purchase & Installation
Parking wayfinding signs	Directions to off-street lots				
Pricing zone signs	Include info on cheaper parking				
Permit parking zones	To include MBTA spaces in garage				
Enforcement plan		\$70k/yr.			Training & Implementation
Hours/area of enforcement	Focus on prime hours in downtown only				
“Ambassador” approach	Assign new PCOs as ambassadors				
Access improvements		\$60,000		Design	Installation
Pedestrian access	Crosswalk & visibility improvements				
Vehicular access	Safety improvements at lot entrances				

Woburn Meter Installation & Signing Zone Map

To complement the recommendations for pricing tiers in downtown on-street and off-streets areas, a comprehensive meter installation plan as well as signing zone map is necessary. Good pricing signing will convey the new parking management strategies to employees, commuters, and residents visiting the downtown and help parkers find lower-priced and free spaces. The map at right outlines the two zone areas as well as meter and sign locations associated with these zones in Woburn Square. More detailed maps are provided in the Appendix.



Downtown Woburn Parking Pricing Pro Forma

To facilitate Woburn’s ability to move forward in planning for and financing a comprehensive parking management program, the consulting team has reviewed and evaluated possible program scenarios and their associated revenue, cost, and financing implications. A comprehensive pricing pro forma is included below, including the assumptions used for all calculations. This scenario represents a conservative estimate with parking demand reduced from current levels by 15-percent to ensure program success.

ASSUMPTIONS	Spaces	Free Period	Hourly Rate	Monthly Rate	Start Time	End Time	Hours	Average Daily Utilization (Reduced 15% for any demand reduction)	Smart Meters	Pay On Foot Stations	In-car Meters	Stickers	Citation Average	Spaces in Violation
											50% extra	25% extra		
<i>Paid Parking</i>														
Prime On-Street	86	0.50	\$1.00		10:00 AM	7:00 PM	9	50%	86					4
Secondary On-Street	34	0.50	\$0.50		10:00 AM	7:00 PM	9	50%	34					2
Walnut St Garage/Lot - hourly	281	0.50	\$0.50		10:00 AM	5:00 PM	7	55%		6				10
Salem Street Lot - hourly	40	0.50	\$0.50		10:00 AM	5:00 PM	7	66%		3				1
Walnut St Garage/Lot - permits	281			\$60	24 hrs/day		24	110%			309			
<i>Citations</i>														
Total	722							0.5%	120	9	309	0	\$ 15	17

Estimated Capital Expenses	Total	Notes
Smart Meters	\$60,000	\$500 each
Pay on Foot Stations	\$315,000	\$35k each
Signs	\$40,000	Design, fabrication and installation
Enforcement Equipment	\$18,000	LPR handheld
In-Car Meters	\$10,819	\$35 each
EXPENSE		\$443,819
Annual Capital Expenses	Total	Notes
Smart Meters	\$13,858	Financed with a 5-year bond at 5%
Pay on Foot Stations	\$72,757	Financed with a 5-year bond at 5%
Signs	\$9,239	Financed with a 5-year bond at 5%
Enforcement Equipment	\$4,158	Financed with a 5-year bond at 5%
Maintenance	\$11,250	3% of capital cost
Wireless Fees	\$30,960	\$20/mo. Per unit
Bank Fees	\$30,960	Varies. Assume equal to wireless
Enforcement Staff (2)	\$70,000	Assumes part-time (19 hrs.) dedicated PCOs
Office Staff (1)	\$50,000	Assumes full-time customer service staff
EXPENSE		\$293,182
Estimated Annual Revenues	Total	Notes
Pay Parking, On-Street	\$109,438	
Walnut St Garage/Lot - hourly	\$125,572	
Salem Street Lot - hourly	\$21,450	
Walnut St Garage/Lot - permits	\$222,552	
Citation Revenue	\$62,381	Assumes M-F enforcement
REVENUE		\$541,393
NET SURPLUS		\$248,211

APPENDIX

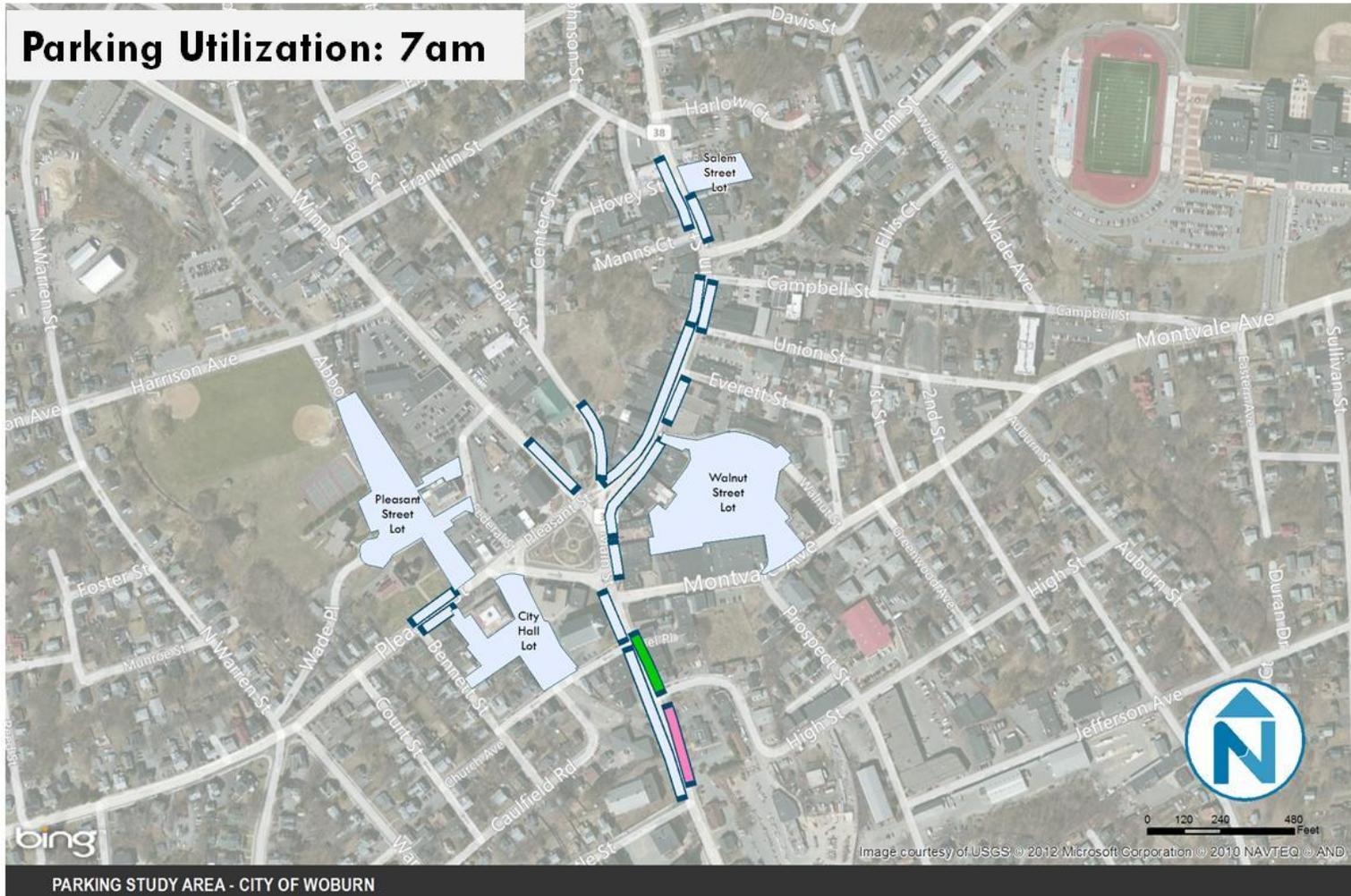
Parking Survey – Woburn Parking Management Plan 2012

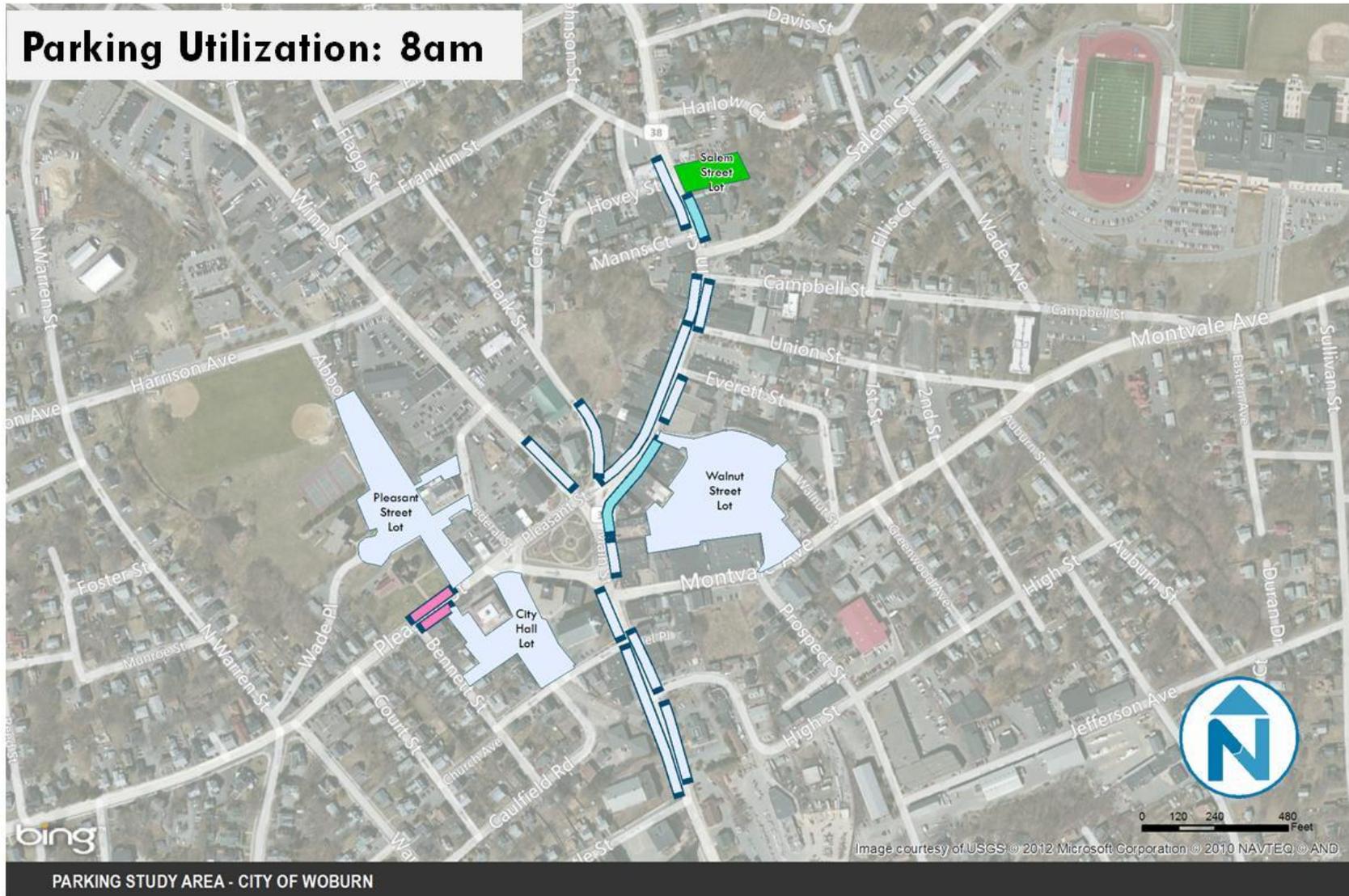
On behalf of the City of Woburn, we are conducting a survey of parking activity and preferences. Your accurate responses will help to guide our recommendations to the City. IT IS ONLY 12 QUESTIONS AND YOUR RESPONSE IS VERY IMPORTANT.

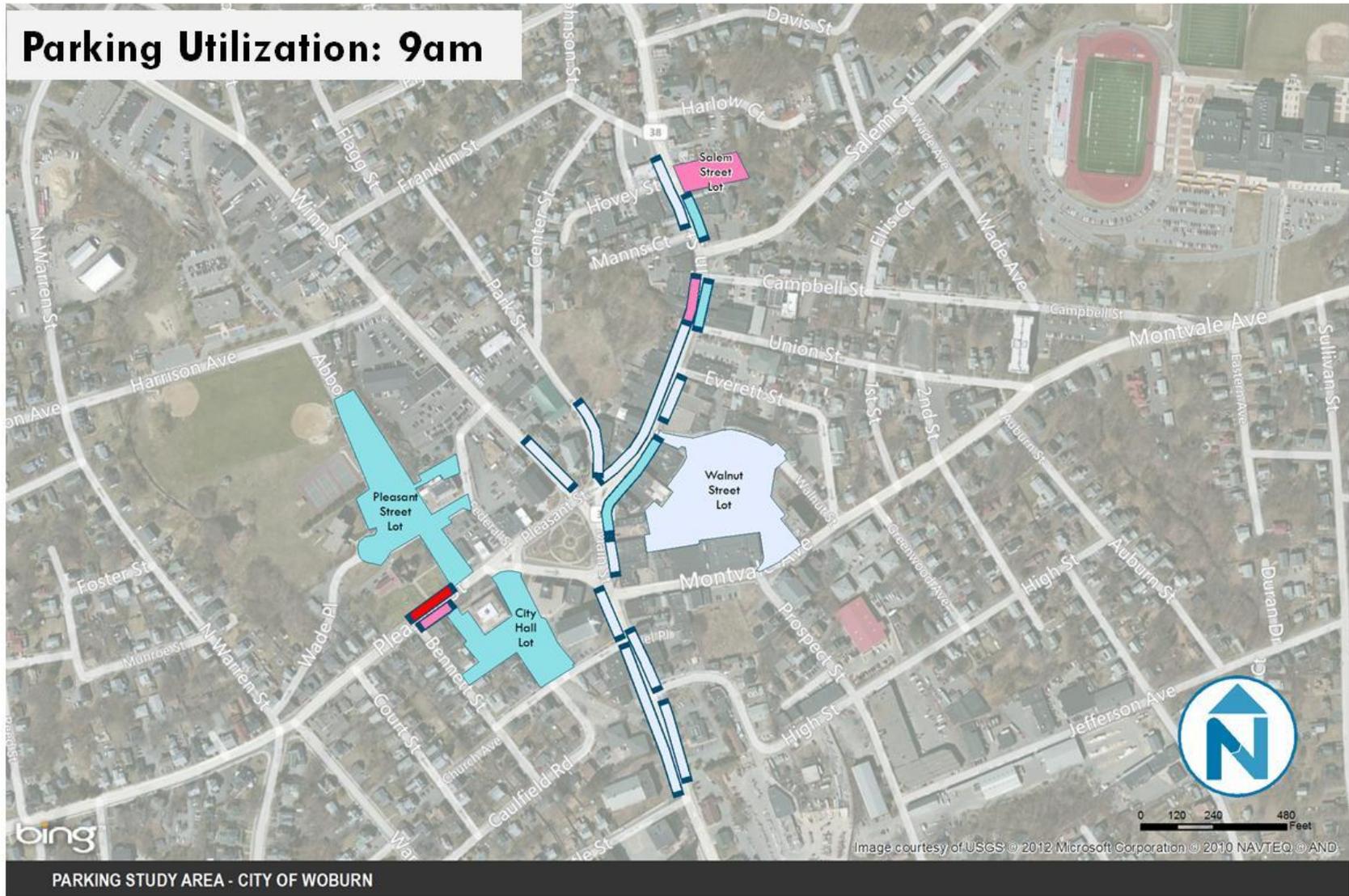
1. How many times PER WEEK do you travel downtown?
 - a. 1 to 2 days per month or less
 - b. 2 to 4 days per week
 - c. About 1 day per week
 - d. Nearly every day
 - e. Several times a day
2. What was your PRIMARY purpose for going downtown TODAY?
 - a. Work
 - b. Dining
 - c. Shopping
 - d. Errands/ appointments
 - e. I live here
 - f. Commuter bus
 - g. Other (please describe)
3. How many times PER WEEK do you travel downtown for this purpose?
 - a. 1 to 2 days per month
 - b. 2 to 4 days per week
 - c. About 1 day per week
 - d. Nearly every day
 - e. Several times a day
4. If you ever use different means of travel for downtown trips, what OTHER MODES do you use? How many times PER WEEK? Use this mode (Yes/ No) Number of times per week
 - a. Personal car only
 - b. Carpool
 - c. Bus
 - d. Bike
 - e. Walking
5. If you drove, where did you park
 - a. On- street time-limited public parking
 - b. On-street parking- no regulation
 - c. Off-street public parking
 - d. Off-street private parking
6. How long did/ does it take you to find a spot...
 - a. ... today?
 - b. ... on average?
 - c. ... on the worst day?
7. In the last three months, have you ever failed to find parking and just left?
 - a. Yes
 - b. No
8. Approximately HOW LONG did you stay in downtown Woburn TODAY?
 - a. Hours
 - b. Minutes
9. How close to your destination did you park?
 - a. Right in front/ 1 minute walk
 - b. 2 to 4 minute walk
 - c. 5 to 9 minute walk
 - d. 10 to 14 minute walk
 - e. 15+ minute walk

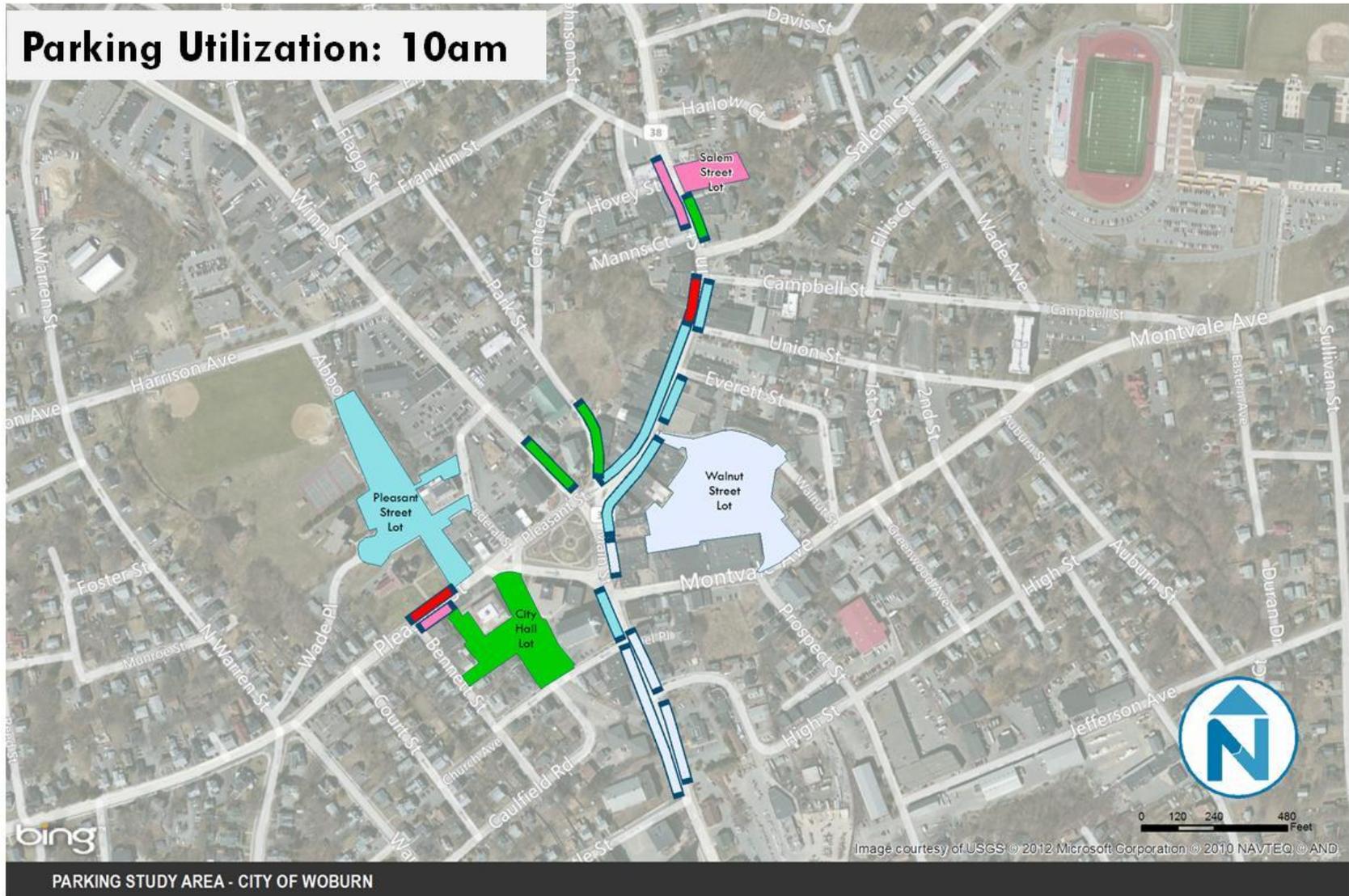
What was the name or address of your destination(s)?
10. Do you always park in the same place or do you search?
 - a. Same space
 - b. I search
11. Are you ever in a rush and forced to park or stand illegally?
 - a. Yes - If yes, where does this occur most frequently?
 - b. No
12. If you have a private parking space in Downtown Woburn, do you pay for it?
 - a. Yes - If yes, how much and how often?
 - b. No
13. If you have any other thoughts on parking or parking related experiences in downtown, please feel free to share them.

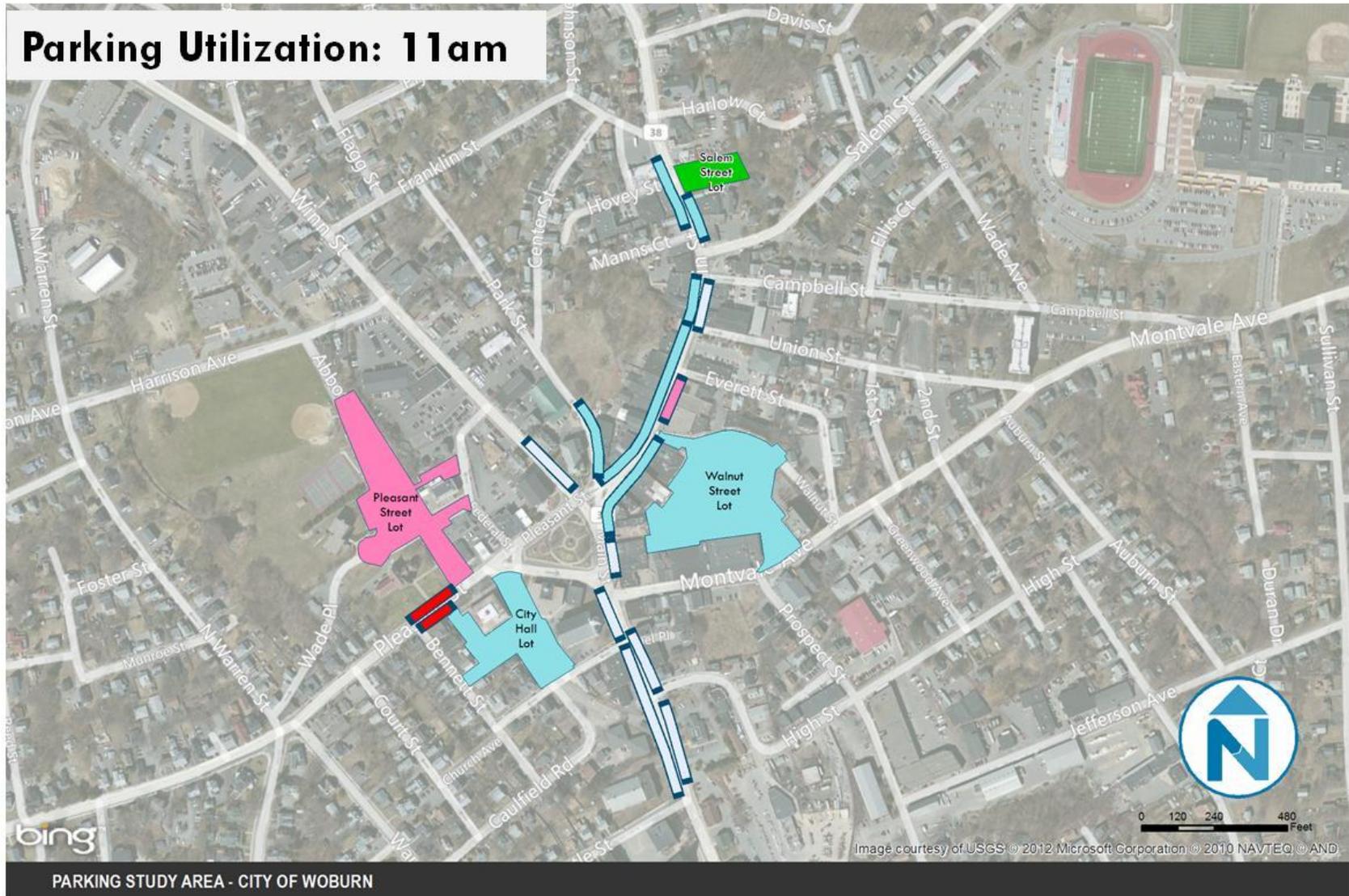
Spatial Analysis Maps

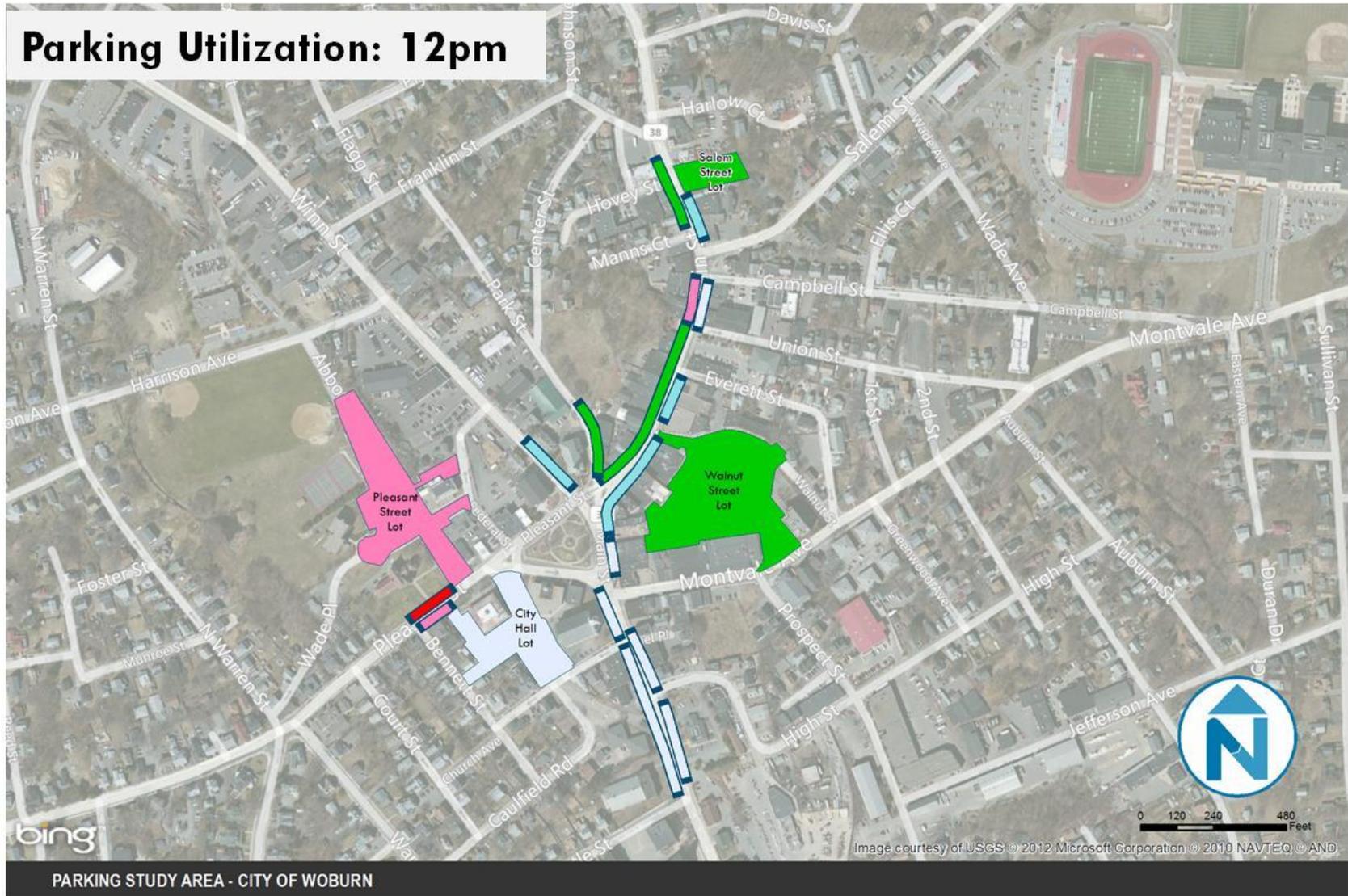


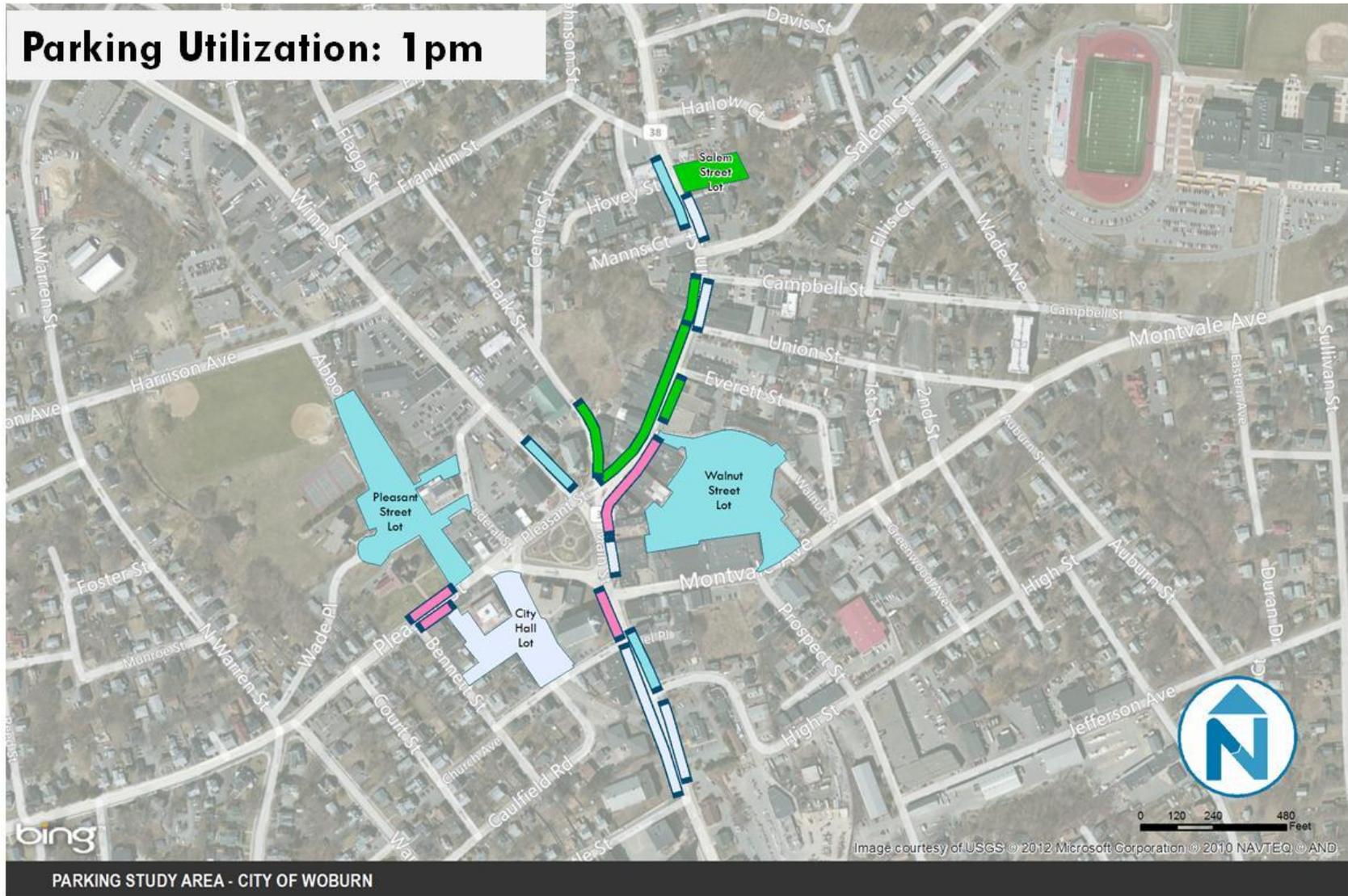


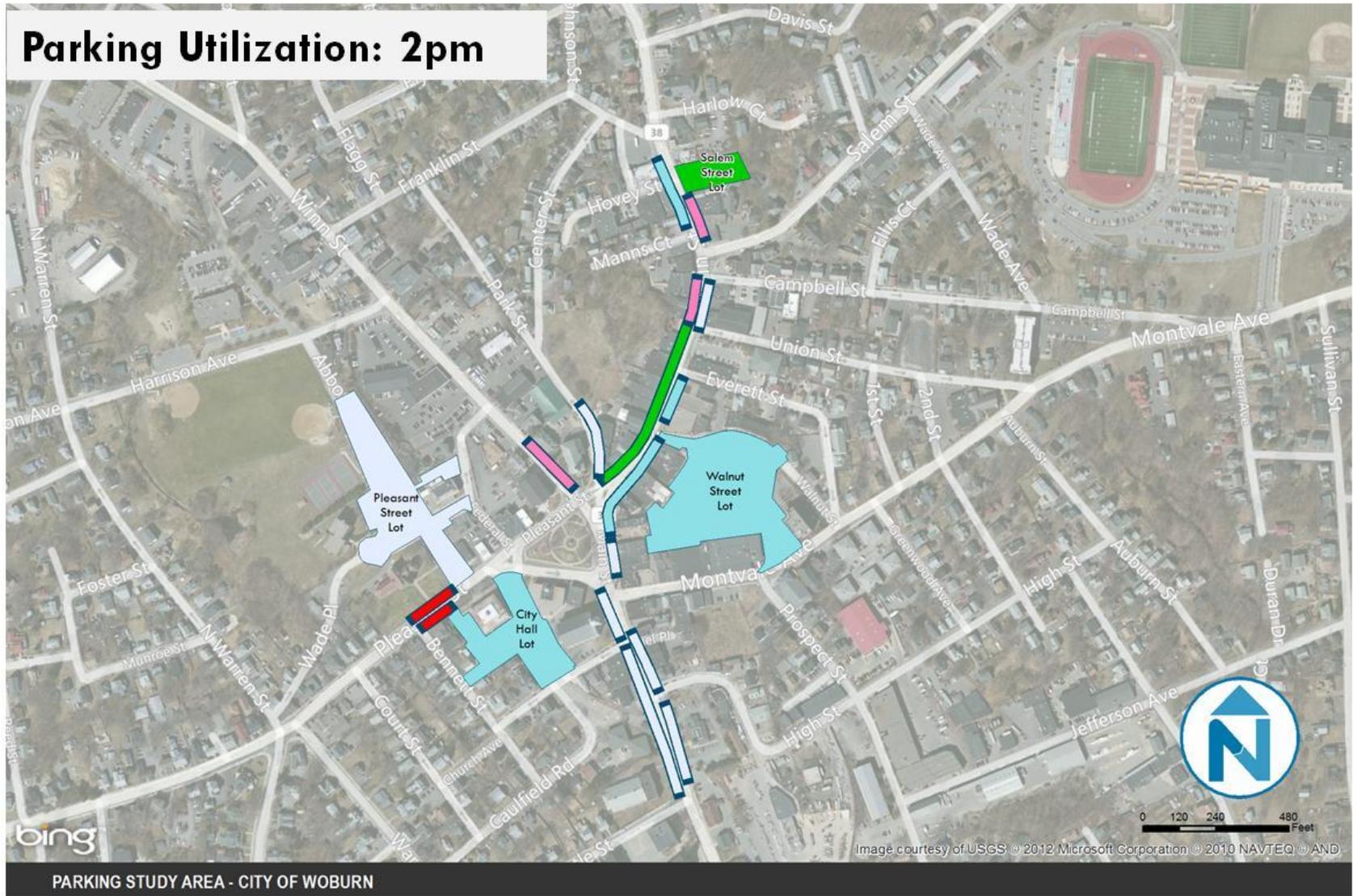


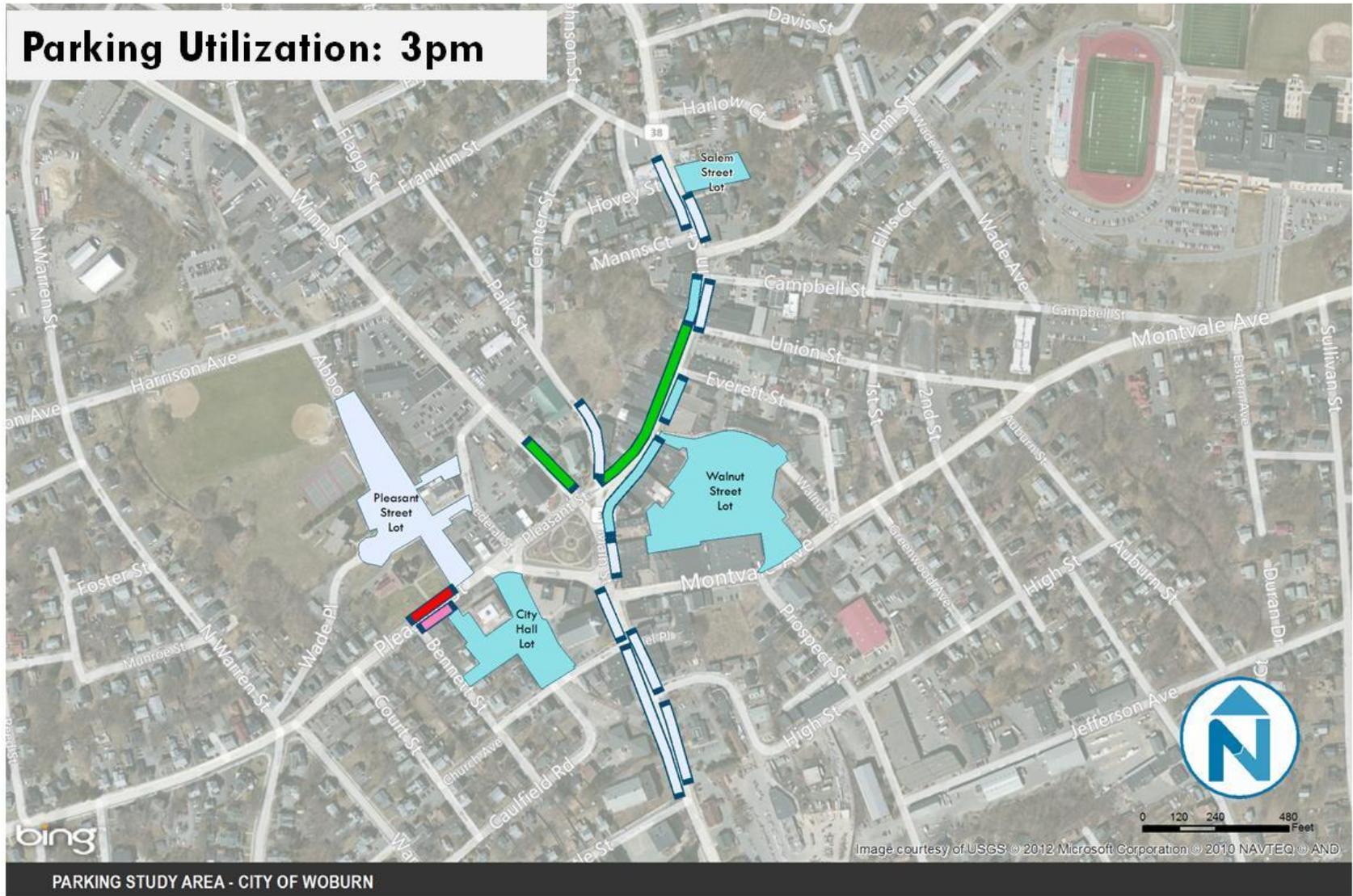


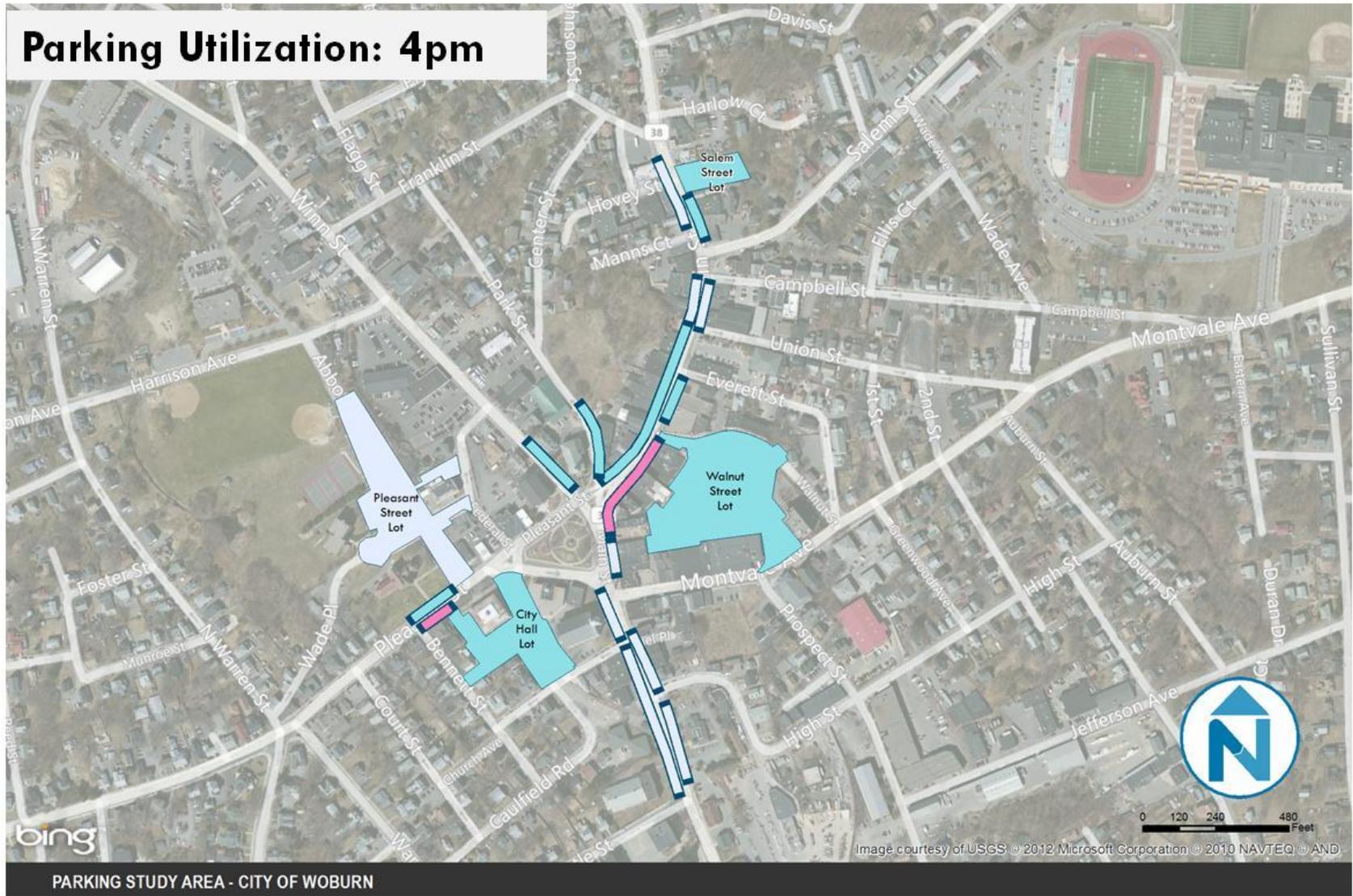


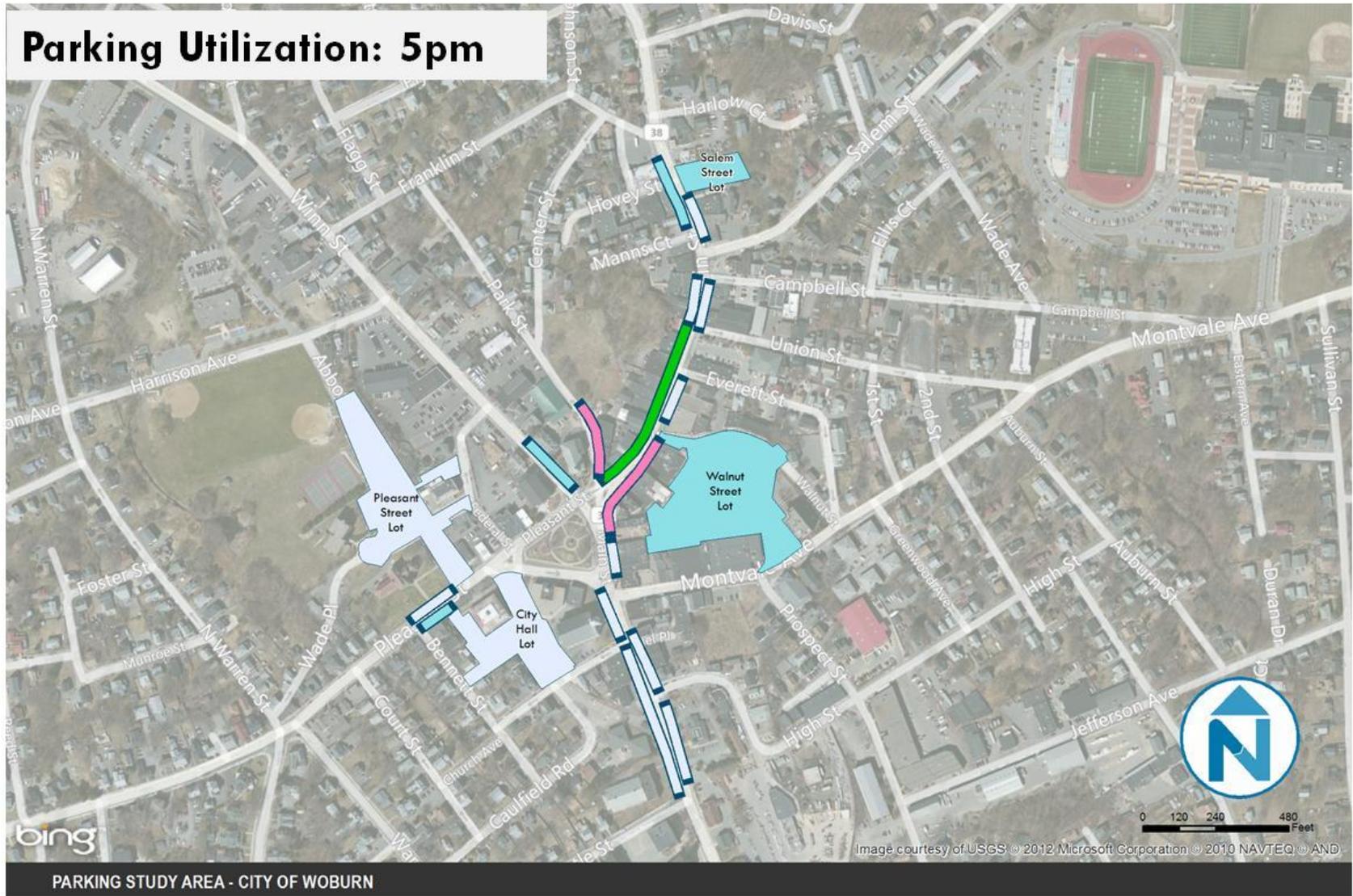


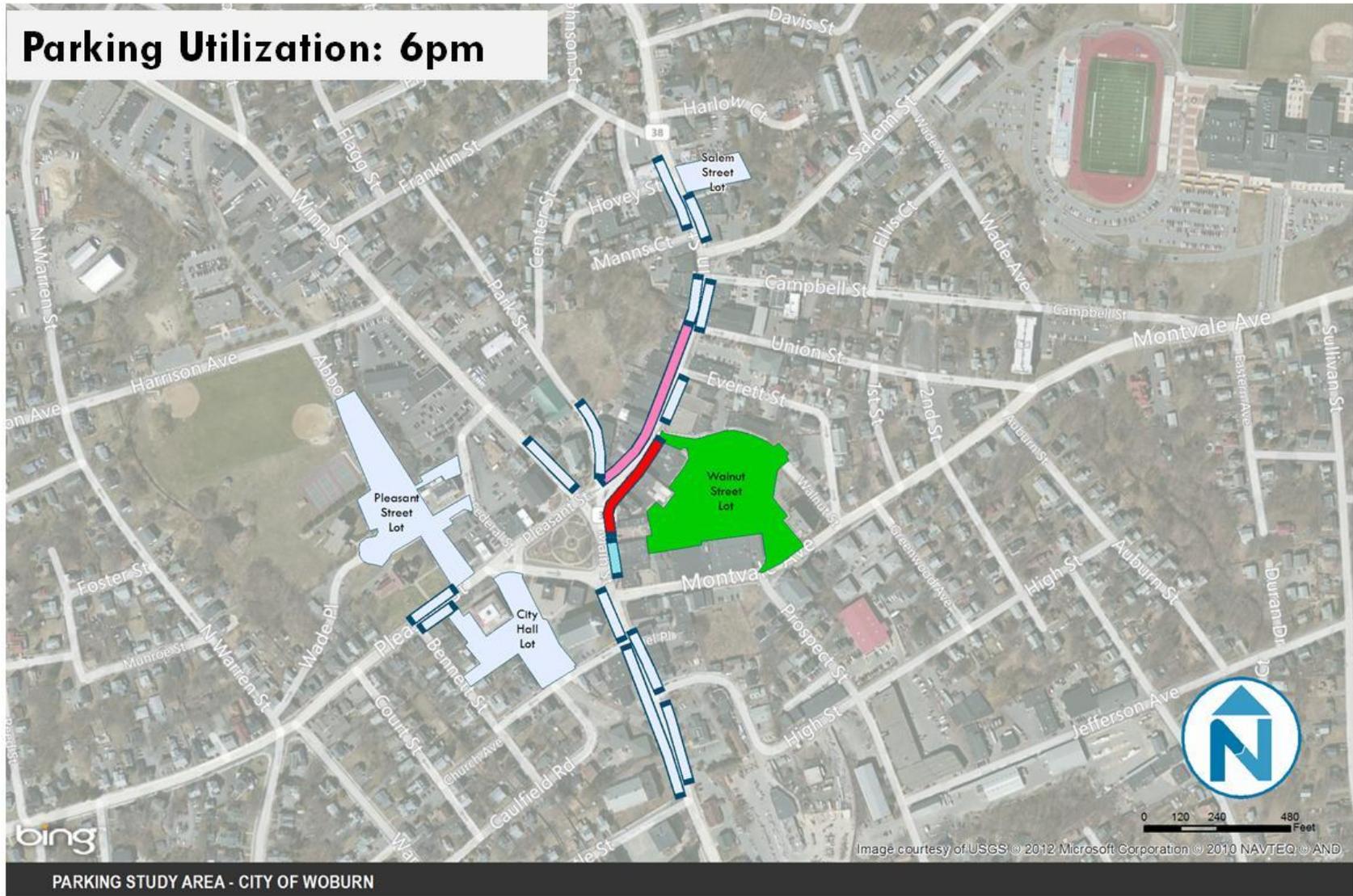


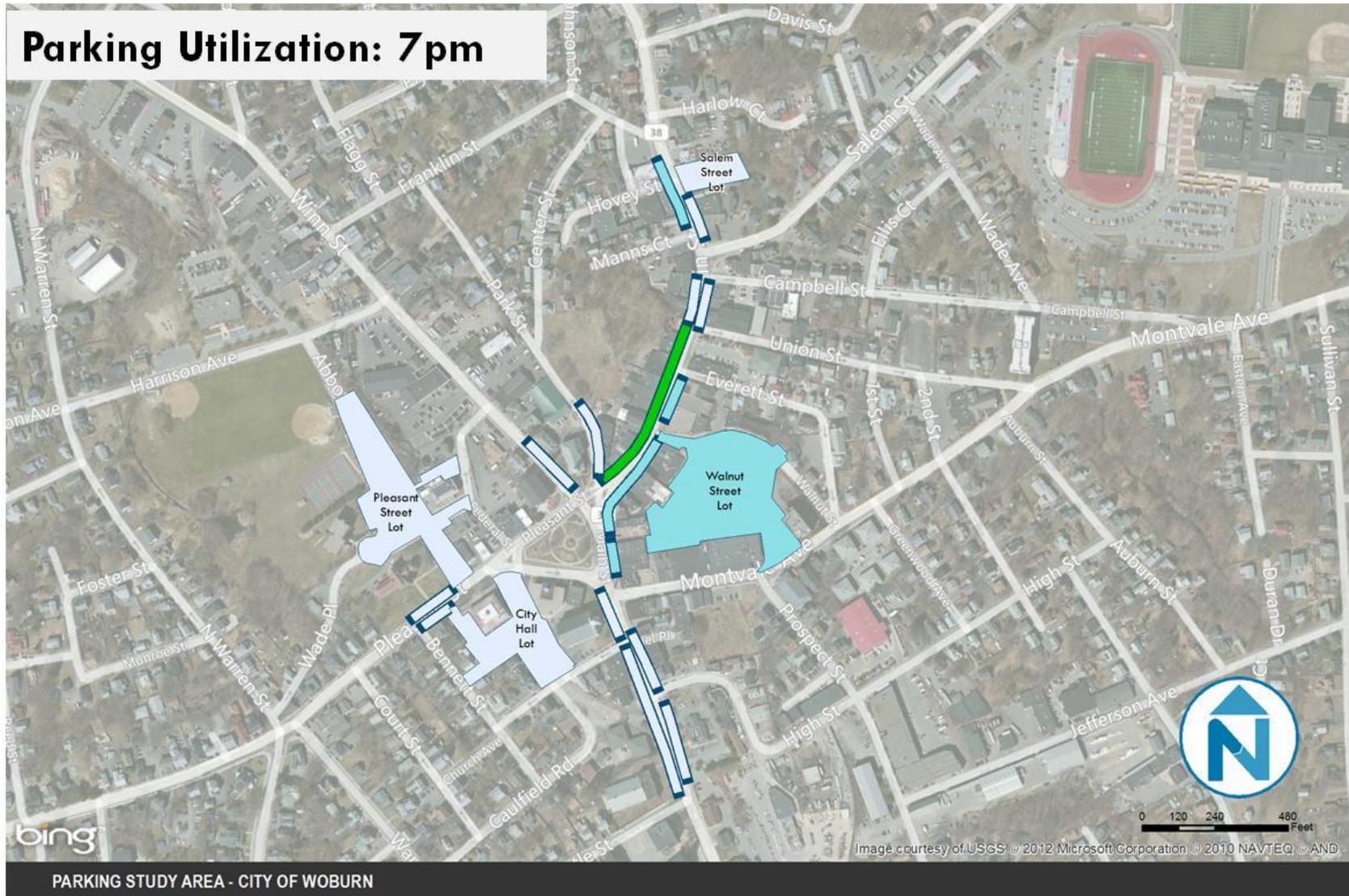












METER & SIGN INSTALLATION PLAN



WOBURN PARKING MANAGEMENT ASSISTANCE • Final Report
MASSACHUSETTS DOWNTOWN INITIATIVE

● METER LOCATION ■ \$1/HR PARKING [ZONE 1] ■ \$0.50 PARKING [ZONE 2] ■ FREE PARKING ■ SIGN LOCATION

PAY
PARKING
ZONE 1
[VIEW A]



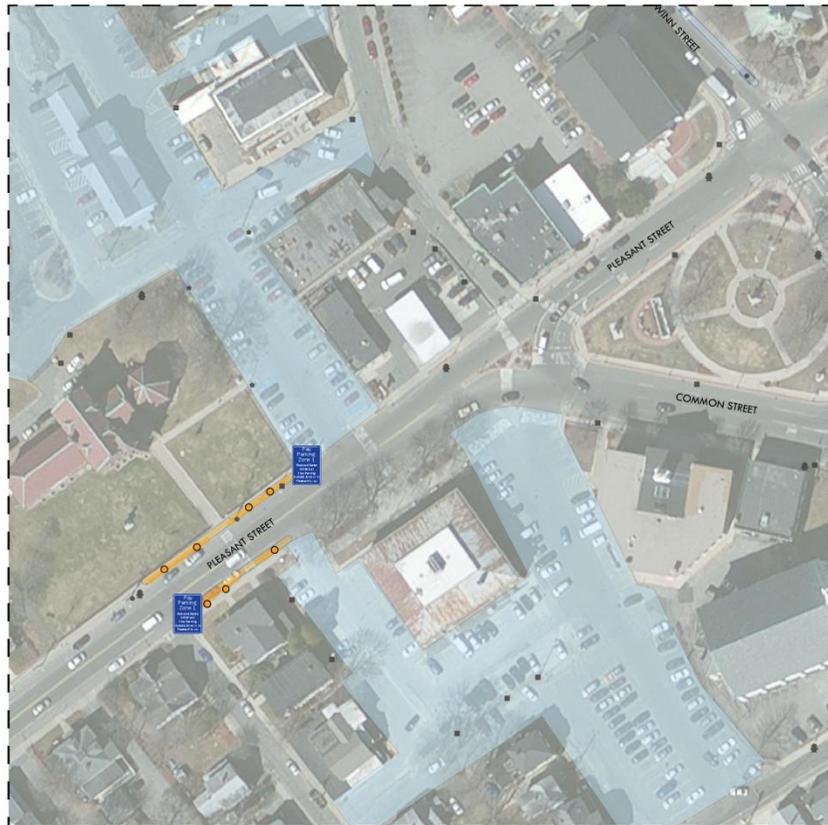
PAY
PARKING
ZONE 1
[VIEW B]



WOBURN PARKING MANAGEMENT ASSISTANCE • Final Report
MASSACHUSETTS DOWNTOWN INITIATIVE

● METER LOCATION ■ \$1/HR PARKING [ZONE 1] ■ \$0.50 PARKING [ZONE 2] ■ FREE PARKING ■ SIGN LOCATION

PAY
PARKING
ZONE 1
[VIEW C]



PAY
PARKING
ZONE 2
[VIEW D]

