



Downtown Andover Parking Study

Final Report

January 2016



This report was prepared in partnership with the Town of Andover including the Planning and Economic Development Department, the Andover Police Department, and the Economic Development Committee's Parking Subcommittee. The Parking Subcommittee is represented by the following members:

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EXECUTIVE SUMMARY

In the spring of 2015, the Town of Andover kicked off a parking study in the downtown area. The purpose of the study is to analyze existing parking supply and demand in the downtown, review existing parking management practices, and recommend economically feasible alternatives to meet future parking needs and support economic development.

Parking is an important component of every downtown's success, and as changes occur in downtown Andover, the parking system may require updates to keep pace with other growth and development. With a historic and vibrant downtown, the Town recognizes that a flexible and streamlined approach to providing parking will be necessary to support current businesses, visitors and customers, and residents alike. There are many opportunities to improve today's parking system, and changes made within the parking system must be coordinated to effectively manage supply and demand.

STUDY OBJECTIVES

The focus of this study is to improve parking in downtown Andover, and in turn create a more flexible and welcoming environment for all users of the downtown. In an effort to accomplish the goals of the Andover 2012 Master Plan, this study explores and examines the following areas:

- The sufficiency of the parking supply to allow for expansion of current businesses as well as growth and development of new and varied business ventures in the downtown core;
- The appropriateness of current pricing structure;
- The efficiency of fee collection mechanisms
- The current parking enforcement program and any changes to the system to support parking management recommendations;
- Opportunities to expand the employee parking program and recommendations for efficiencies in managing the employee parking sticker and payment systems; and
- Strategies for way-finding and parking signage location.

PROCESS

In order to accomplish the objectives identified above, the Town's Economic Development Committee Parking Subcommittee led the study process to develop a forward-thinking parking plan for the downtown area. The study included the following tasks:

- **Parking Inventory**—Creation of a detailed map and database of all regulations, time-limits, hours of operation, access, etc. of public parking, plus an inventory of privately owned parking.

- **Parking Utilization**—Conducted field surveys of all spaces in the inventory on several days and at different time periods to document their use. Mapped and analyzed data to inform strategies.
- **Parking User Survey**—More than 500 residents, visitors, and employees completed the Town’s survey on parking in downtown Andover.
- **Committee Meetings**—Meetings with the Economic Development Committee’s Parking Subcommittee on multiple occasions to understand concerns and vet ideas.
- **Data Review and Strategy Development**—Analysis of all existing data and development of several strategy ideas to address identified issues and concerns.
- **Selectmen Mid-Year Review**—Public and televised presentation, discussion, and public open comment period on study findings and strategies.

KEY FINDINGS

- **There are more than 3,000 parking spaces in the study area**
 - About 60% of parking spaces in the study area are located off-street
 - Within off-street parking areas:
 - 60% of off-street spaces are privately owned
 - 406 off-street spaces are in paid lots, including the Park Street lots, the Main Street lot, and the library lot.
 - 250 spaces around Town Hall are unregulated
 - About 1,800 parking spaces within a five minute walk of Main and Chestnut
 - There are 14 different parking regulations in the study area
- **The parking management system has not kept pace with the downtown**
 - Most downtown employees are not aware of the employee parking permit program
 - Payment technology is mismatched and some payment systems are outdated
 - Signage and wayfinding for parking exists, but is inconsistent
- **Even at peak demand, large numbers of spaces are available**
 - Parking is busiest at 2 p.m. on a weekday at 69% full.
 - Overall, parking on weekdays is 8% busier than weekends
 - The west Park Street Lot is the busiest parking lot in the study area
 - Parking on Main Street peaks at 11 a.m. at 79% full.
 - On-street parking is busier (78%) than off-street parking (62%)
 - Generally, the closer the parking facility is to the core of the downtown, the busier it is
- **People have mixed experiences parking downtown**
 - Most people find a place to park within a five minute walk of their destination
 - For most downtown users, location is the most important consideration on determining where to park
 - Despite easy access to parking, nearly half of surveyed residents report being unable to find parking downtown on at least one occasion

RECOMMENDATIONS

Andover has an opportunity to implement an improved parking management system that responds to the identified needs and concerns of its users. There are several interrelated initiatives the Town should consider to support a smart downtown parking environment. Below is a series of broad recommendations that - taken together - will foster a parking system that supports downtown's goals. The recommendations are to:

- **Provide Clear Signage and Information**—Parking in the downtown can be more user-friendly through better and clearer information on where to park and what the regulations are. Consistently marked parking areas clarify where available parking exists, opening up more supply to parkers.
- **Create Demand-Based Pricing and Alter Time Limits**—Parking spaces in high demand should be treated as such. Highest-demand parking spaces should be priced highest, and areas with lower parking demand should be inexpensive or free. Parking availability should be managed through pricing, not time limits, which arbitrarily limit customer visitors (or force employees to shuffle their cars).
- **Streamlined Employee Permit Program**—The employee permit program can be made easier to administer and more convenient for permit holders by shifting departmental management, upgrading the payment mechanism to include online purchases, and more efficiently enforcing by license plate. Designated permit parking areas should be in areas with lower customer demand within a short walk of the downtown core.
- **Customer-Friendly Parking Technology**—Paying for parking should be the least difficult aspect of visiting downtown. Parking payment technology should be consistent and user friendly in all areas wherever payment is required, including accepting credit/debit cards and pay by cell.
- **Strategic Supply Optimization**—Andover currently has enough available parking to meet demand. However, some existing lots maybe able to be restriped to be used more efficiently, adding parking spaces at a very low cost.
- **Improvements to the Downtown Environment**—Strengthening the pedestrian infrastructure makes walking from a parking space to multiple destinations less daunting. The Town can provide a better walking environment through improvements such as improved painted crosswalks, mid-block crossing islands and d bump outs, and design guidelines in the zoning code to support a walkable downtown.
- **Supportive Strategies**—Well-managed parking is only one aspect of a welcoming and robust downtown environment. Additional strategies to support the active management of downtown parking can be used to support parking policies and programs. Such strategies include, but are not limited to, encouraging shared parking partnerships, continued monitoring and evaluation of parking demand, relying on a “parking champion”, and visibly investing parking revenues into downtown parking and transportation-related improvements.

1 INTRODUCTION

BACKGROUND

Downtown Andover is a vibrant and historic town center, with a mix of land uses, transportation options, and a walkable environment. The Town's amenities, including excellent schools, shopping, and restaurants, make downtown Andover the anchor of what is a desirable place to live, work, and visit. Andover's success necessitates a balance between mobility needs and parking pressures among customers and visitors, employees and employers, residents and commuters.

In an effort to support the development of a parking management action plan, Andover's Planning Department and Economic Development Committee sought a study to review existing data and develop recommendations to more effectively manage the supply of parking that serves residents, employees, and downtown business customers. This effort was spearheaded by the EDC's Parking Subcommittee in coordination with the Town's Planning Department and the assistance of the Andover Police Department.

The Town recognizes that parking is one integral piece of the downtown's future. This Downtown Parking Study paints a comprehensive picture of parking activity and issues in downtown, with a focus on improved parking management in the downtown area. The goal of this study is to develop a parking management plan that creates a vibrant, thriving and more bike and pedestrian-friendly center for visitors and residents, while maintaining access for merchants, their employees, residents, and their customers. A parking management program should consider all user needs, while maximizing available resources, before investing in new ones. This can only be addressed through a comprehensive parking program.

STUDY PURPOSE

The Town of Andover 2012 Master Plan sets a goal to “seek solutions to local needs for downtown and commuter parking.”¹ Recognizing that parking is a transportation element that must be managed to encourage desired development patterns, the Town has sought to identify the most appropriate tools to manage parking to support the downtown. This study will accomplish the Master Plan's goal by reviewing paid and non-paid parking areas to assess and provide recommendations on the following:

- The sufficiency of the parking supply to allow for expansion of current businesses as well as growth and development of new and varied business ventures in the downtown core;
- The appropriateness of current pricing structure;
- The efficiency of fee collection mechanisms

¹ Town of Andover 2012 Master Plan, page 4

- The current parking enforcement program and any changes to the system to support parking management recommendations;
- Opportunities to expand the employee parking program and recommendations for efficiencies in managing the employee parking sticker and payment systems.
- Strategies for way-finding and parking signage location.

PARKING STUDY AREA

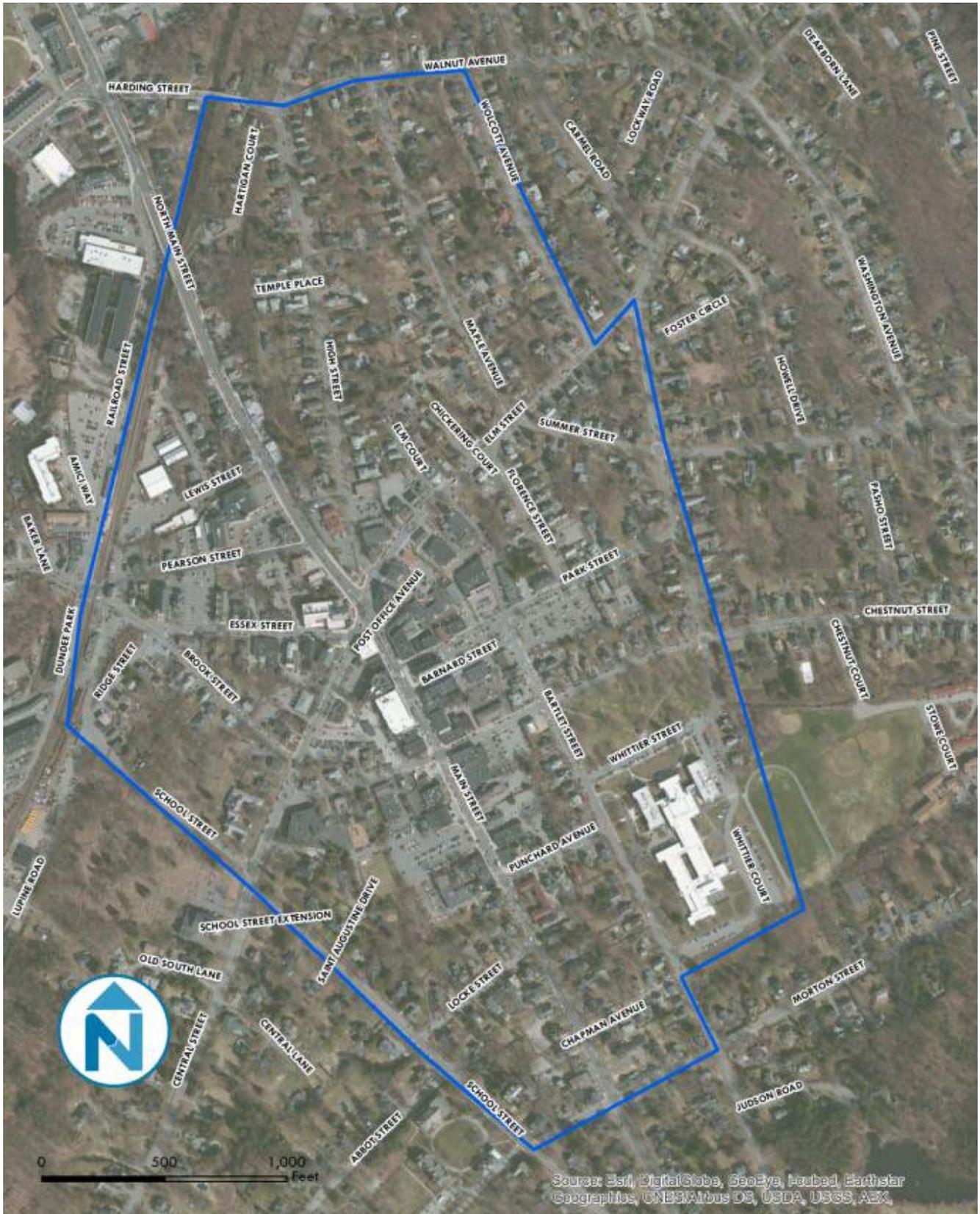
The study area boundaries were identified by the EDC Parking Subcommittee and project team to encapsulate the parking activity in the downtown. The study area also extends into side streets adjacent to the downtown activity to inventory and evaluate any spillover parking in the neighborhoods. The study area covers the majority of parking spaces within a nearly 200 acre area bounded by:

- Harding Street and Walnut Avenue to the north
- Wolcott Avenue and Whittier Street to the east
- Morton Street to the south
- School Street and the rail road tracks to the west.

The study area encompasses the entire downtown as well as various residential areas nearby, in addition to Doherty Middle School and the Andover Town Offices.

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Figure 1 Downtown Andover Parking Study Area



RELATED PLANS

2012 Andover Master Plan

The Town of Andover adopted a new master plan in 2012. The plan provides a comprehensive focus for the future of Andover and is intended to be updated every five years. The focus is on nine areas: land use and zoning; housing; economic development; open space; natural, historic and cultural resources; transportation and circulation; municipal facilities; and an implementation program. The purpose of the plan is to provide a framework for future growth decisions in Andover, and to act as a guiding document for future planning decisions. In particular the plan lays out 13 goals to guide the strategies and implementation of the plan. The plan provides the following transportation vision²:

We will monitor changing commuting patterns and side effects on air and water quality, noise, and traffic. We will work within the region to strengthen opportunities for regional transit, rail travel, commuter buses, and improved connections with mass transit hubs. We will seek solutions to local needs for downtown and commuter parking, for safe and efficient traffic flow, and for shuttle service to local facilities and services. We will encourage foot and bicycle travel as an alternative to automobiles, whenever feasible.

Five broader transportation goals were established as a part of this vision statement:

- Promote regional transportation improvements such as high speed transit systems.
- Promote local transportation improvements such as bridge repairs, congestion elimination and new sidewalks.
- Provide for safe and comfortable bicycle and pedestrian circulation throughout Andover.
- Create opportunities for emerging technologies and vehicles that reduce emissions such as electric vehicles.
- Promote environmentally friendly road construction

techniques. As technology advances, the town should promote environmentally friendly techniques in its roadway design and construction.

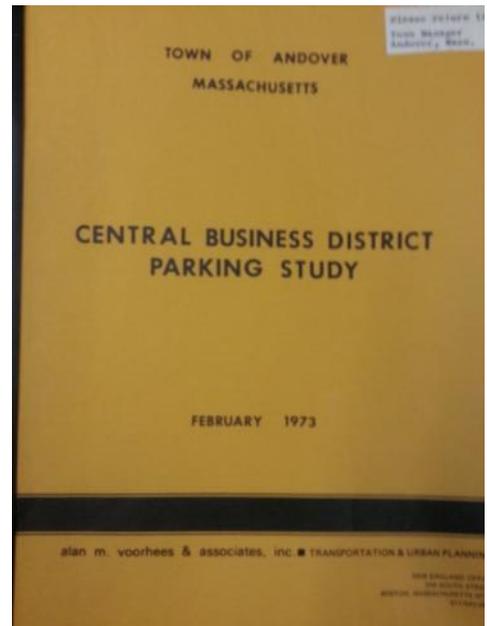
Overall the plan sets out goals and a vision to better connect the Town of Andover to the region, and to enhance accessibility in the area.

Previous Parking Studies

The Town of Andover has previously conducted a number of parking studies going back four decades.

- Central Business District Parking Study: 1973
- Downtown Andover Parking Study: 1982
- Downtown Andover Parking Study: 1987

Figure 2 Parking Study from 1973



² Town of Andover 2012 Master Plan, page 59

2 PARKING INVENTORY AND MANAGEMENT

A complete understanding of parking supply and regulation is a basic component to understanding parking patterns and behaviors. The Town documented public and private parking facilities, both on- and off-street, in the downtown study area. The totals represented in this report include all parking within the defined study area, with the exception of residential parking. This initial work serves as the presentation baseline for all information calculated and analyzed over the course of the project.

DOWNTOWN PARKING INVENTORY

KEY FINDINGS

- There are 3,035 total parking spaces in the entire study area, with 1,868 off-street spaces and 1,167 on-street spaces
- Of the off-street parking areas:
 - 60% of off-street spaces are privately owned
 - 406 off-street spaces are in paid lots
 - 250 spaces are unregulated
- On-street, there are five different parking regulations in addition to areas with no regulation
- There are 15 paid on-street spaces in the study area

Parking Supply

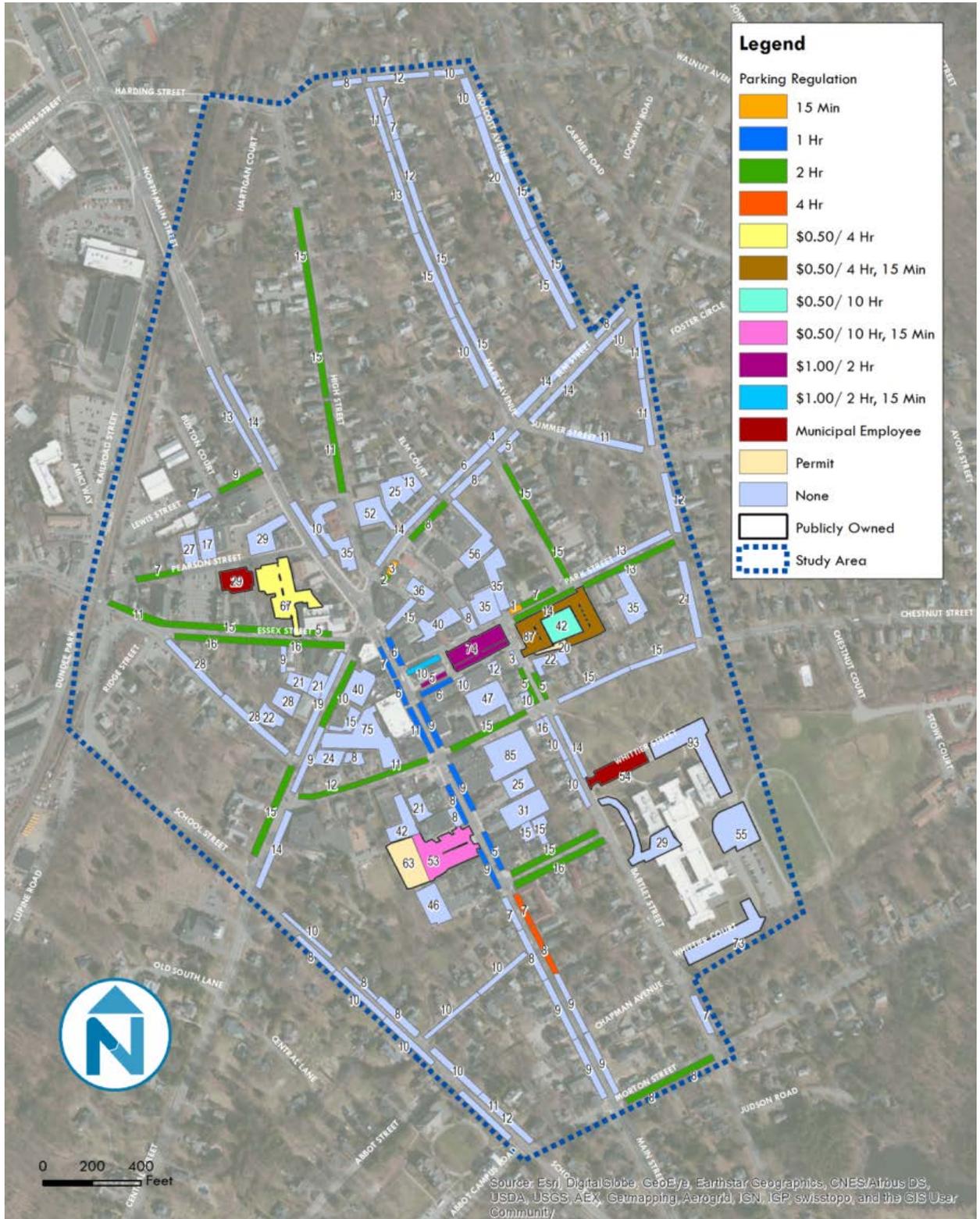
The Town of Andover has a varied and robust parking supply. Within the study area there are over 3,000 parking spaces for both public and private use. As shown in Figure 3, off-street parking makes up a majority of parking in downtown Andover. Including off-street and on-street parking, publicly owned spaces make the majority of parking in the downtown area. Meanwhile private parking makes up the majority of off-street parking.

Figure 3 Parking Inventory Summary

Parking Type		# of Spaces	% of Total
Off Street		1,868	62%
On Street		1,167	38%
TOTAL		3,035	100%
Ownership		# of Spaces	% of Total
Off-Street	<i>Private</i>	1,129	37%
	<i>Public</i>	739	24%
On Street		1,167	39%
TOTAL		3,035	100%

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Figure 4 Andover Parking Inventory and Regulations



Overall, the majority of parking spaces in Andover are either not regulated or private. Nearly 70% of all spaces in the downtown area fall into one of these two categories, meaning that there are fewer than 1,000 regulated spaces in the downtown area. In addition there are only 421 paid public spaces in the downtown area, including employee permit spaces, representing less than 14% of total supply in the broader downtown area.

Nearly all of the parking along Main Street is time regulated, with 1 hour time limits in the majority of on-street segments. There is however a mix of regulations, often within close proximity to one another. For example along Main Street south of Punchard Street, the east side of the street has a four hour parking limit, while the west side of the street does not have a parking time limit. Similar examples can be found along Central, Elm, and Park streets.

Off-Street Parking

As shown in Figure 5, there are a variety of off-street parking regulations in the study area. In total there are nine different off-street parking regulations, including privately owned and publicly owned but unregulated spaces.

The study area's total off-street parking includes 739 publicly owned and administered spaces. All public off-street spaces are contained within 10 town owned lots in the downtown area, ranging from 29 to 149 spaces. Of these 10 public parking lots, four require payment: the east and west lots along Park Street, the Main Street lot, and the library parking lot. Each of these paid lots charge \$0.50 per hour to park with different time limits according to the particular lot, with the exception of the east Park Street lot which requires payment of \$1.00 per hour. Included within the east Park Street and Main Street lots are areas for employee permit parking.

Among all off-street spaces, 60% are privately owned for a total of 1,129 private spaces in the downtown area. There are 41 private parking lots in the downtown area ranging between 3 and 85 spaces. Most of these private lots sit within one block of Main Street.

Figure 5 Off-Street Parking Regulations

Regulation	# of Spaces	% of Total
Private	1,129	60%
None	250	13%
\$0.50 per hour/ 4 hour, 15 min	87	5%
Municipal Employee	83	4%
Permit	83	4%
\$1.00 per hour/ 2 hour	74	4%
\$0.50 per hour/ 4 hour	67	4%
\$0.50 per hour/ 10 hour, 15 min	53	3%
\$0.50 per hour/ 10 hour	42	2%
TOTAL	1,868	100%

On-Street Parking

Most of the public parking in the downtown area is on-street parking. The 1,167 on-street spaces make up more than 60% of all public parking in downtown Andover, and nearly all of these spaces are unpaid. In total, 15 on-street spaces in the downtown area require payment, and all of these about the old Town Hall.

Spaces that do not require payment and do not have time regulations make up nearly 750 on-street spaces in the study area, meaning that most on-street spaces in the downtown area can be occupied all day for free. Meanwhile much of the on-street parking closer to the downtown core has time regulations ranging from 15 minutes to four hours. In addition, most of the unregulated on-street parking areas are along residential streets.

Figure 6 On-Street Parking Regulations

Regulation	# of Spaces	% of Total
None	743	64%
2 hour	314	27%
1 hour	76	7%
4 hour	15	1%
\$1.00 per hour, 15 min	10	1%
\$1.00 per hour	5	0%
15 min	4	0%
TOTAL	1,167	100%

PARKING MANAGEMENT

The Town of Andover employs various tools in the downtown that affect the parking environment. As demonstrated above, the Town has a mix of different time and pricing schedules in the downtown area. In addition to these regulations, the Town uses other strategies to encourage an efficient parking area in the downtown.

KEY FINDINGS

- The town uses a combination of 11 different on-street and off-street parking regulations in the study area, in addition to unregulated areas.
- Employee permits are available to downtown employees
- Payment technology has not kept pace with current conditions
- Parking and permit revenues have recently increased
- Signage and wayfinding for parking exists, but is inconsistent
- Parking violations have fallen most years since 2009.

Pricing and Time Limits

The Town of Andover has an assortment of different pricing and time limits for parking in the study area. Among the Town's parking lots there are seven different parking regulations that are listed below, in addition to private parking:

- **Municipal Employee**—for areas designated exclusively for Town employees during certain hours. The west Whittier Street lot uses this regulation.
- **Employee Permit**—allows downtown employees with a permit to park in specific areas of the Main Street and east Park Street lots.
- **15 minute**—allows for free parking for 15 minutes in the otherwise paid areas of the Main Street and east Park Street lots. Often used in the same areas as 4 hour and 10 hour paid parking areas.
- **\$0.50 per hour/4 hour**—time limited paid parking found in the Main Street, east Park Street lots, and library lot.
- **\$0.50 per hour/10 hour**—time limited paid parking found in the east Park Street lot.
- **\$1.00/2 hour**—time limited paid parking found in the west Park Street lot.
- **No regulation**—unlimited and un-priced parking found in four of the lots surrounding Town Hall and Doherty Middle School.

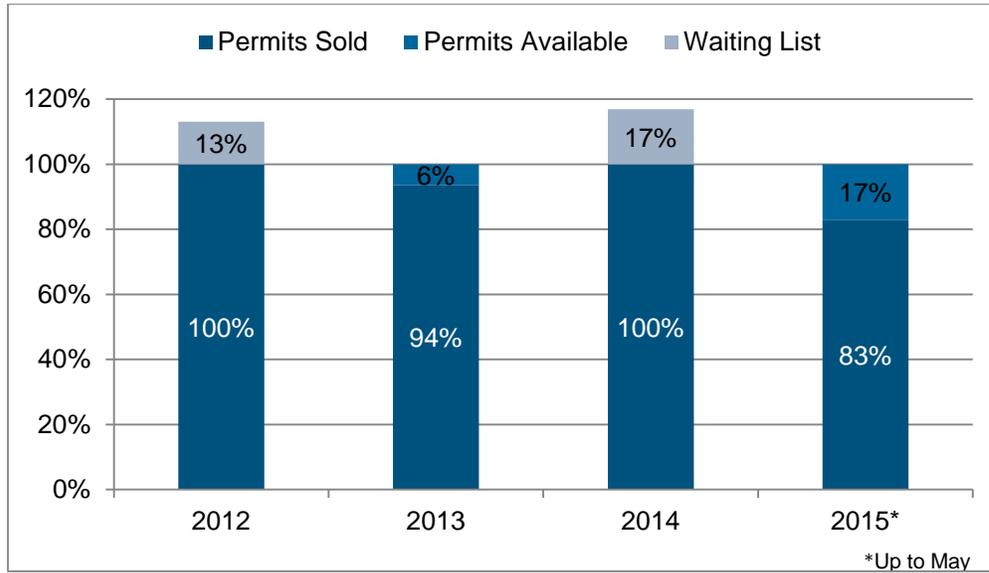
In addition to the off-street regulations listed above, the Town of Andover primarily uses on-street time limits in the downtown area instead of metered spaces. The on-street regulations are as follows:

- **15 minute**—used along street segments that also have time regulated and paid parking. Found along Park and Elm streets.
- **1 hour**—found along Main Street between Essex and Punchard streets.
- **2 hour**—found along many of the side streets off Main Street, including Central, Essex, Park, and Punchard streets.
- **4 hour**—found on Main Street south of Punchard Street.
- **\$1.00 per hour**—metered parking found next to the Old Town Hall.
- **No regulation**—unlimited on street parking found throughout the study area. The most common type of public parking in the study area.

Employee Permits

Renewed annually by the Board of Selectmen, the Town offers monthly parking permits to downtown employees. Permits must be purchased in person at the Town Hall, for either one month or for a full 12 months. At \$50 a month, these parking permits allow drivers to park their vehicle in two lots in the downtown area. 35 spaces are made available to parking permit holders in the Park Street lot, and 65 spaces are made available in the Main Street parking lot. The Town limits the number of available permits to equal the number of allocated parking spaces in each lot, currently set at 100. If no permits are available, permit applicants are placed on a wait list. As shown in Figure 7 there has been a high demand for the permits. Employee permits can only be used in certain spaces in either of these lots, yet no signage is used to publicly identify these spaces. In addition, any person who pays to park in either the east Park Street or Main Street lot may use the parking spaces allocated for permit parking. Thus a person with an employee parking permit is not guaranteed to find an available space.

Figure 7 Annual Employee Permits



Resident Permits

The Town currently neither requires nor offers parking permits for Town residents.

Payment Technology

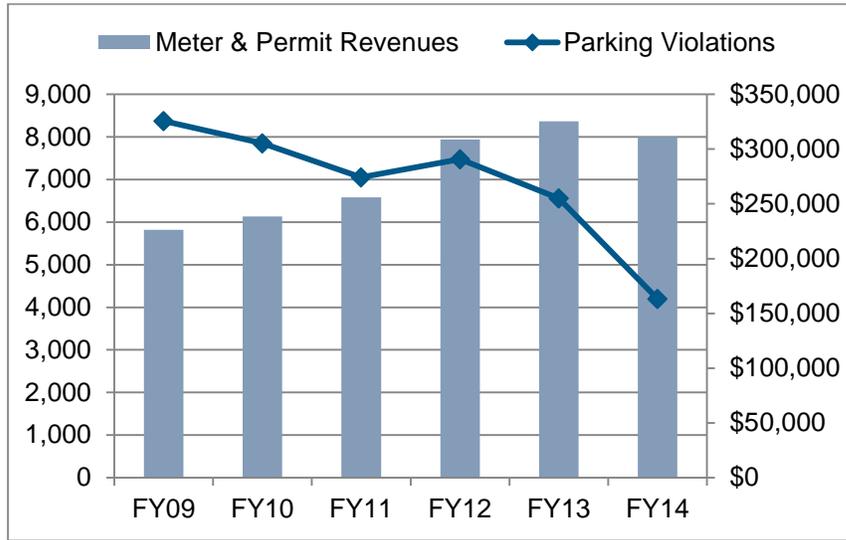
The Town employs a mix of parking payment technologies in public parking areas. The various parking technologies have different methods and capabilities:

- **Park Street and Main Street Lots**—pay and display system that accepts coins and bills, credit cards, and smart cards.
- **Memorial Hall Library Lot**—pay by space system that accepts coins and bills, credit cards, smartcards, and e-coupons.
- **Old Town Hall**—traditional, single-head, coin-operated meters.

Enforcement

Enforcement of parking regulations is managed by the Andover Police Department. Since 2009 parking violations townwide have decreased by 50% according to the 2014 Town Report. At the same time, meter and permit revenues have increased by 40% between FY 2009 and FY 2014. This could be due to less enforcement and/or more compliance, or an increase in the number of paid parking spaces or increase in rates.

Figure 8 Parking Revenue Compared to Violations by Year



As shown in Figure 9, the most common parking violations throughout Andover relate to not paying for parking, or exceeding the original parking time allotment.

Figure 9 Most Common Parking Violations FY 2013

Violation	No. of Violations
Meter Violation/Pay and Display Violation	3,093
Overtime Parking	2,185
Parking in Restricted Area	499
No Valid/Expired Certificate of Inspection	345
No Valid/Expired Registration Plate	252
All Night Parking (When Restricted)	158

As shown in Figure 10, throughout Andover, the most frequent violation locations are all in the downtown area. Main Street has nearly three times as many parking violations as the second most frequent location, Essex Street.

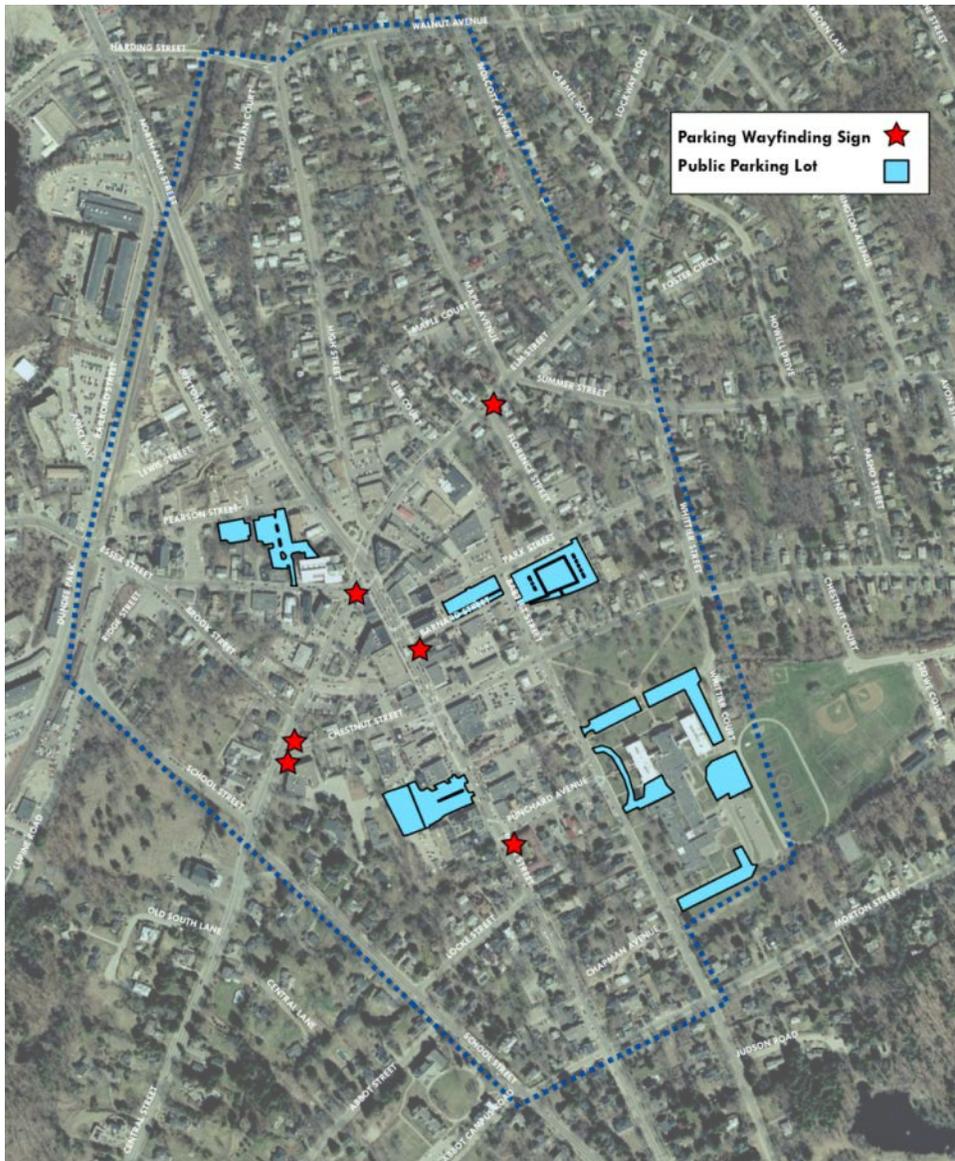
Figure 10 Most Frequent Parking Violation Locations FY 2013

Violation Location	No. of Violations
Main Street	839
Essex Street	292
Chestnut Street	270
Elm Street	236
Park Street	216
Central Street	197

Signage

Downtown Andover has several parking lots and a multitude of parking regulations on-street. Staying true to the traditional downtown aesthetic, almost all of these lots are located behind businesses off Main Street, which are harder to locate if not familiar with the area. Plus, on-street parking areas have various time limit restrictions, even on one block. Signage, in particular wayfinding, identification, and regulatory signage are key elements to Andover's parking management system.

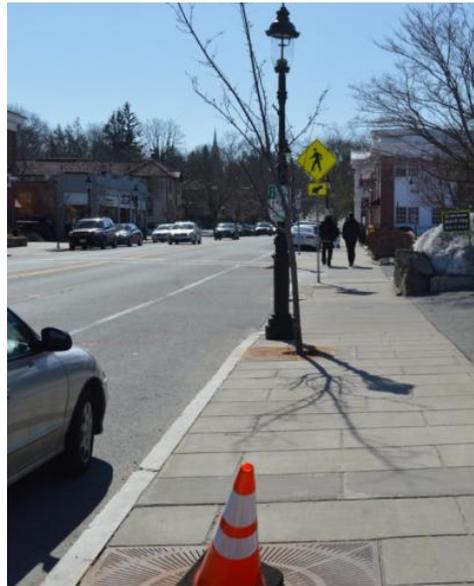
Figure 11 Public Parking Wayfinding Signs



Wayfinding

Parking wayfinding signage exists to show drivers where to turn to access parking areas. Figure 11 shows where signs exist that direct drivers to the public lots in the downtown area. There are relatively few signs, and almost none of them are in close proximity to an actual parking lot. For example, as shown in Figure 12, the Main Street lot has no signage along Main Street itself. This is true for either northbound or southbound drivers. While most Town residents and employees are aware of the lot, a visitor to the area may not be aware that the lot exists (and that it is available for public parking).

Figure 12 Signage along Main Street



Wayfinding is also a challenge for drivers on their way to downtown Andover. For example, as drivers come to downtown on Central Street, there is some signage to direct them to parking via Chestnut Street (Figure 13). However, there are no corresponding follow up signs on Chestnut to further guide drivers to parking (Figure 14). Despite that there are easily accessible lots no matter what direction a driver takes through the intersection, there are no signs at Main and Chestnut streets to alert a driver where to find public parking.

Figure 13 Central Street at Chestnut Street



Figure 14 Chestnut Street at Main Street



If instead a driver were to proceed down Central Street past Chestnut, he or she would meet with a parking wayfinding sign just before Main Street, as shown in Figure 15. Upon turning onto Main Street however there is no additional signage to inform a driver that there is parking just to the rear of the Old Town Hall, as shown in Figure 16.

Figure 15 Central Street at Main Street



Figure 16 Main Street at Park Street



The wayfinding signage that does exist is not always adequately visible for drivers to make proper use of. Figure 17 shows how some signs are obscured by trees and other, more visible signs.

Figure 17 Main Street south of Punchard Street



In addition to obscured wayfinding signs, the parking sign at Elm and Florence Streets as shown in Figure 18 is too small for many drivers to recognize and is not consistent with the other signage types.

Figure 20 Elm Street at Florence Street



Figure 19 Park Street Lot Signage

Facility-Specific

Signage for the public parking facilities in Andover is inconsistent in its design, and visibility. While the signs have been updated for the lots along Park Street, for the remaining lots there is sparse or largely non-visible signage alerting drivers to parking regulations.

- **Park Street Lots**

- Each of the parking lots accessed by Park Street use the type of sign shown in Figure 19. Figure 19 Park Street Lot Signage
- There is no sign along Park Street when traveling from Main Street designating the parking lot, making lot identification and regulatory requirements unknown.
- Within each of the lots are multiple sign posts alerting drivers where they can pay for their parking. These signs are posted well above the tops of the cars and are easily visible. An example of such signs can be seen in Figure 20.
- The East Park Street lot signs do not clearly designate the different areas for Four Hour, Ten Hour, and Permit Parking.
- There is no signage to designate employee permit parking.



Figure 18 Park Street Elevated Signs



▪ **Main Street Lot**

- The Main Street Lot has no signage alerting drivers as to the parking lot's location. The sign at the entrance to the lot, shown in Figure 21, is not sufficiently sized for drivers to properly read upon entrance to the lot.
- Within the lot the signage to alert drivers to the parking regulations are often to the sides of the lot, and do not clearly show that the regulations pertain to the entire lot.
- The payment kiosk is slightly obscured by the surrounding vehicles, as shown in Figure 22.

▪ **Library Lot**

- The signage for the library parking lot entrance is not very visible as shown in Figure 23.
- Similarly difficult to read signage is also at the rear entrance of the parking facility.
- Due to the pay by space parking technology in the library lot, the regulations are better designated to drivers as each space is uniquely identified.

Figure 21 Main Street Lot Entrance



Figure 22 Main Street Lot Signage



Figure 23 Library Lot Entrance



3 PARKING UTILIZATION

Parking utilization is a measure of how many parking spaces are used within a particular timeframe. Counts are typically conducted on weekdays other than Mondays or Fridays, and are selected to avoid major events, adverse weather, or other factors that might skew the amount parking from what would be considered a ‘typical’ amount of parking. In addition to the weekdays, weekend counts are also conducted to ascertain the level of parking demand on Saturdays or Sundays.

The Town conducted utilization counts on three days in early May 2015: Tuesday, May 5th from 8 a.m.-5 p.m., Thursday, May 7th from 8 a.m. to 7 p.m. and Saturday, May 2nd from 8 a.m. to 4 p.m. On Tuesday and Thursday the Town conducted counts for each hour, and included all paid public lots and on-street parking. Other public and private lots were counted intermittently throughout each weekday. On Saturday only some public lots, including all paid lots, were counted, in addition to all on-street parking. No private lots were counted on Saturday.

While the parking counts represent a limited data set, they are sufficient to draw conclusions about current parking patterns in Andover’s downtown area.

KEY FINDINGS

- Parking is busiest at 2 p.m. on Tuesday.
- Parking utilization is lower on the weekend than the weekday.
- The west Park Street Lot has the highest demand throughout the day.
- Parking on Main Street peaks at 11 a.m. with 79% of all spaces occupied.
- On-street parking has a higher peak demand (78%) than off-street parking (62%).
- Utilization maps demonstrate a pattern of higher parking demand the closer the parking facility is to the core of the downtown

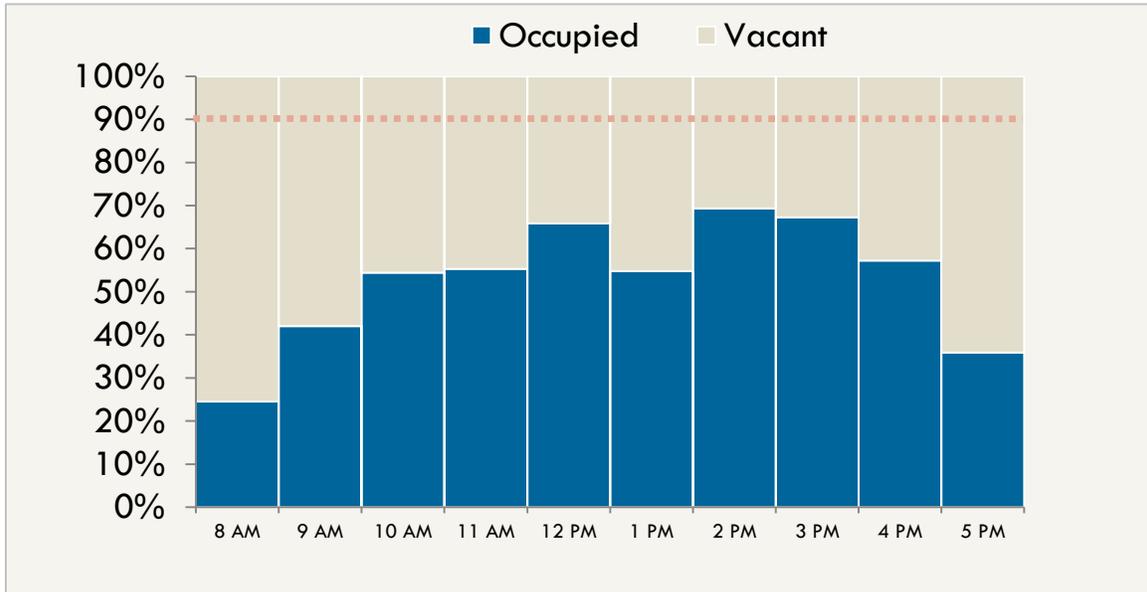
Parking utilization counts tally how many cars are parked in the various on- and off-street areas, and are used as a measure of the general parking demand in an area. National standards indicate that a parking facility that is over 90% occupied is considered functionally full, meaning that it will be difficult for a driver to find a parking space. The “ideal” parking availability per lot or

Figure 24 Parking Utilization Scale



block face is between 10-20%, meaning that the parking is well-used but there is still available spaces.

Figure 25 Study Area Parking Utilization



In downtown Andover, the highest levels of parking demand vary through the study area and through the day. Utilization maps from Tuesday's counts are shown from Figure 26 to Figure 30. This analysis will use the parking counts from Tuesday instead of Thursday, because the former had a higher parking demand peak. In addition, there were more parking lots counted on Tuesday, thus providing a fuller picture of parking trends in the study area.

The utilization maps indicate a pattern of higher parking demand the closer the parking facility is to the core of the downtown. In particular, there are noticeably high demand rates for the on- and off-street parking facilities close to the Old Town Hall. Given the concentration of restaurants and shops in this area it is not surprising that people frequently park in this area. It is worth noting that many of the spaces in this area, particularly in the west Park Street lot, are paid parking. The west Park Street lot maintains high utilization throughout the day and even into the early evening.

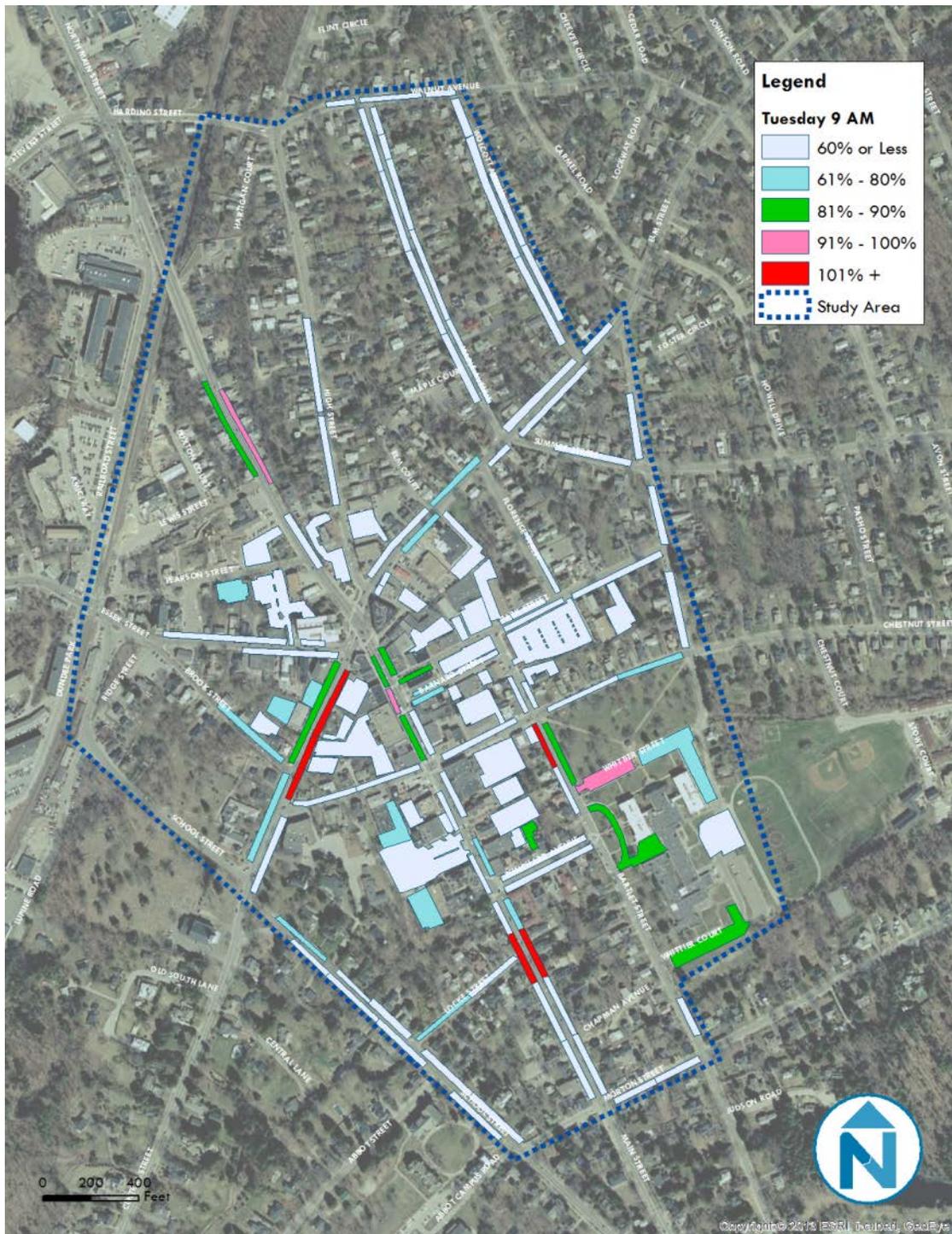
Lower utilization rates are commonly found in the parking areas on and south of Chestnut Street, and north of the intersection of Main and Central streets. These areas in particular have lower concentration of shops and restaurants, particularly the further one moves away from Main Street.

Lower utilization rates however are not limited to the above areas. The four parking lots bound in a triangle by Main, Chestnut, and Central streets show fairly low utilization rates throughout the day, suggesting that either these areas have excess parking supply, or that regulations restrict usage.

A full set of utilization maps are included in Appendix A.

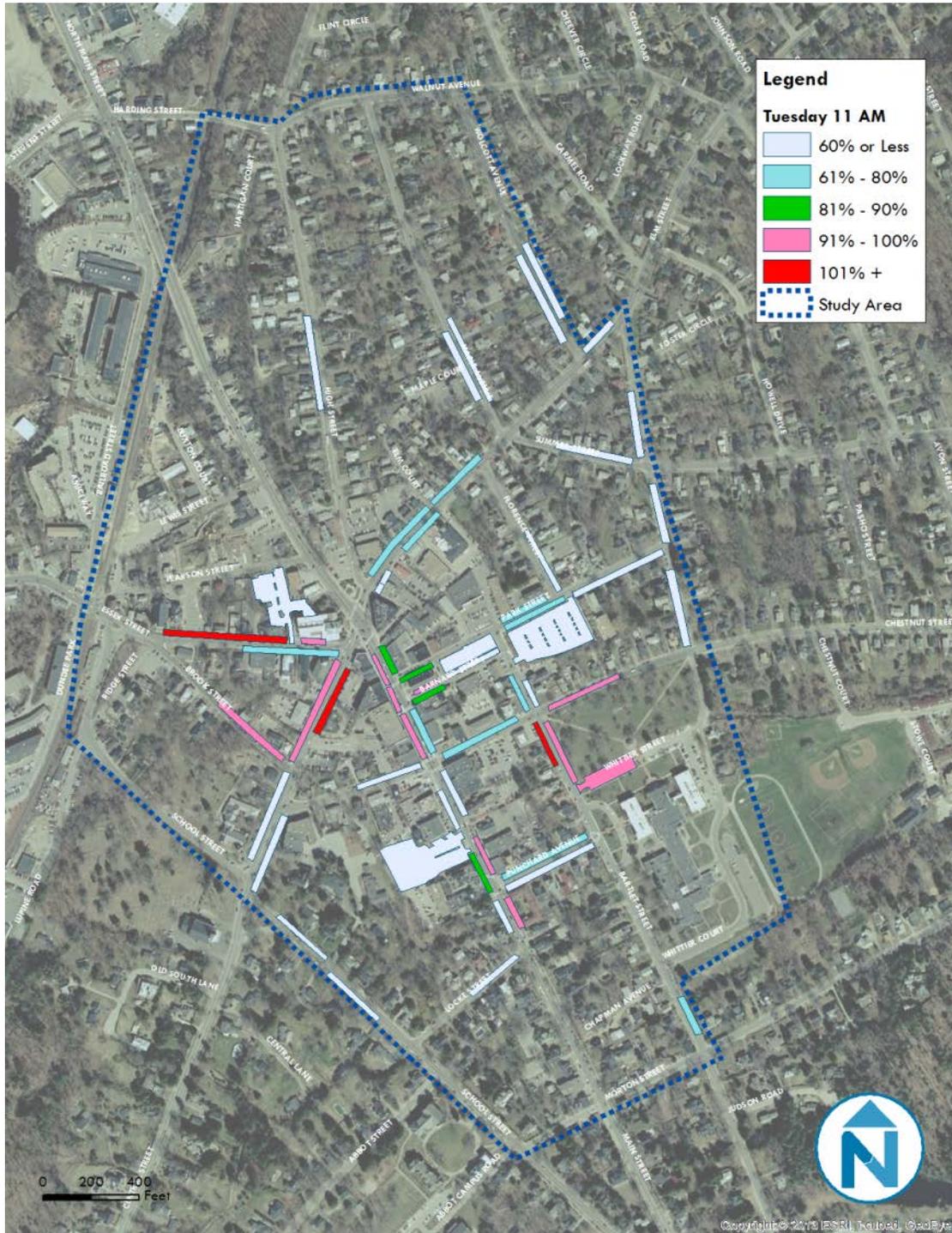
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Figure 26 Parking Utilization Tuesday 9 AM



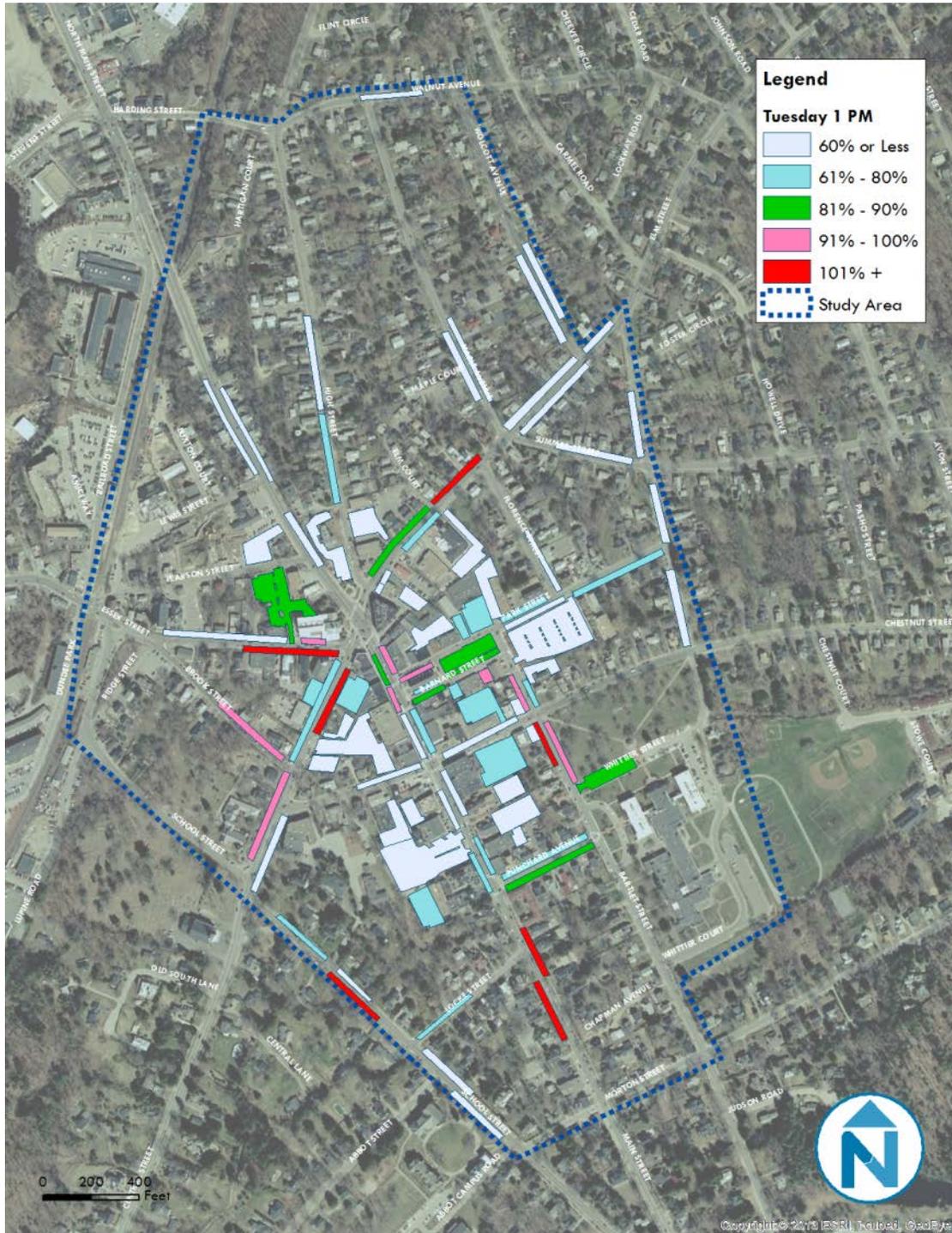
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Figure 27 Parking Utilization Tuesday 11 AM



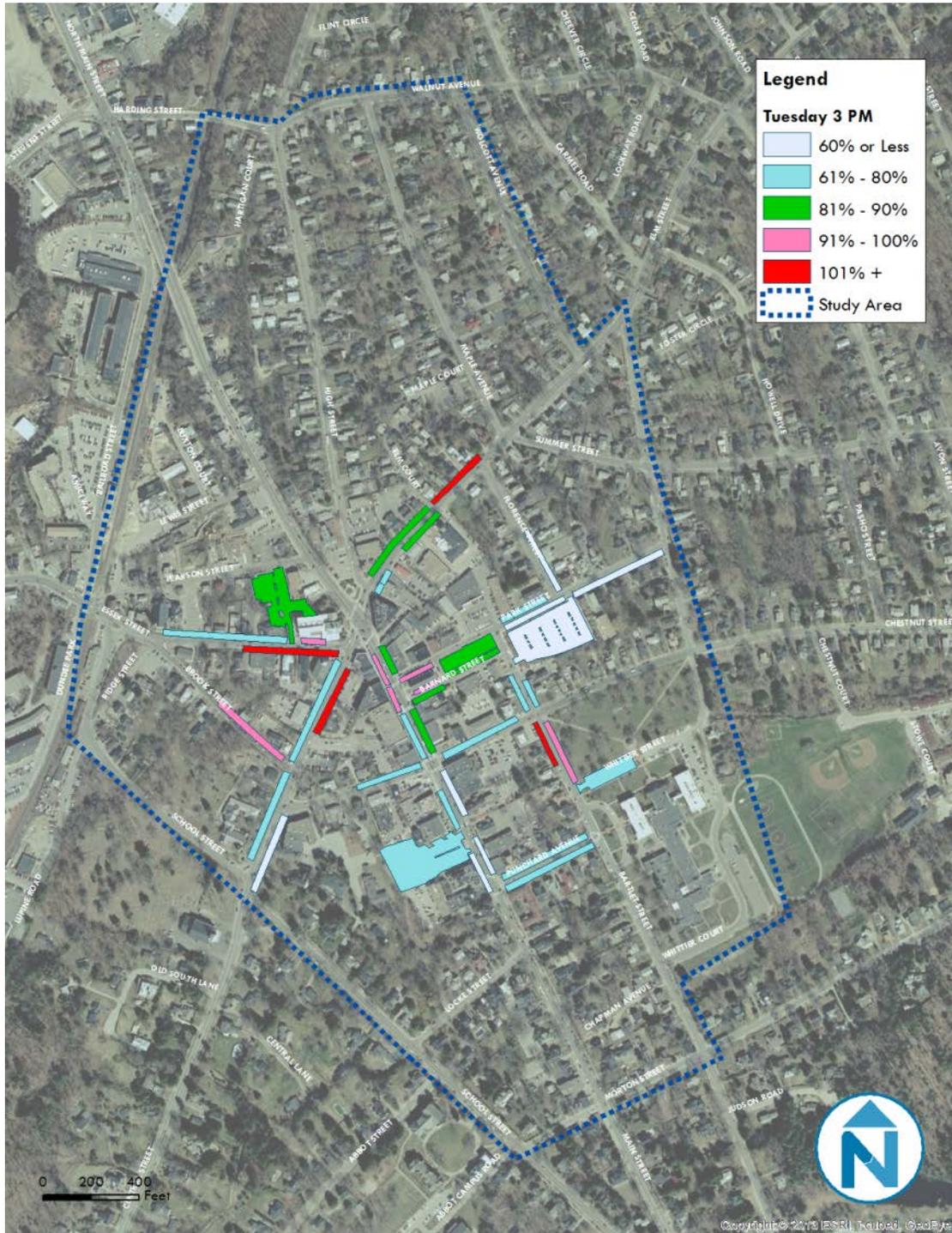
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Figure 28 Parking Utilization Tuesday 1 PM



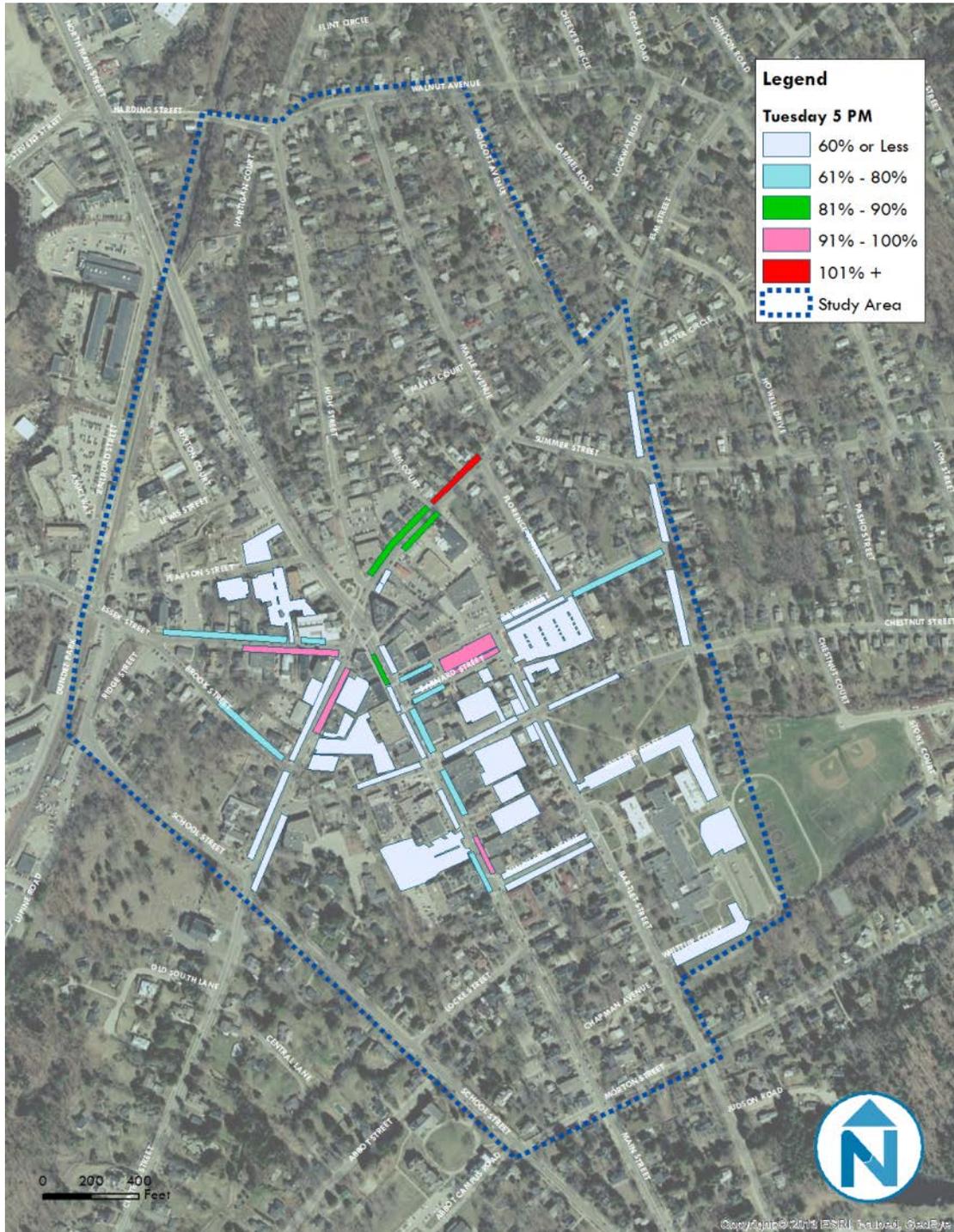
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Figure 29 Parking Utilization Tuesday 3 PM



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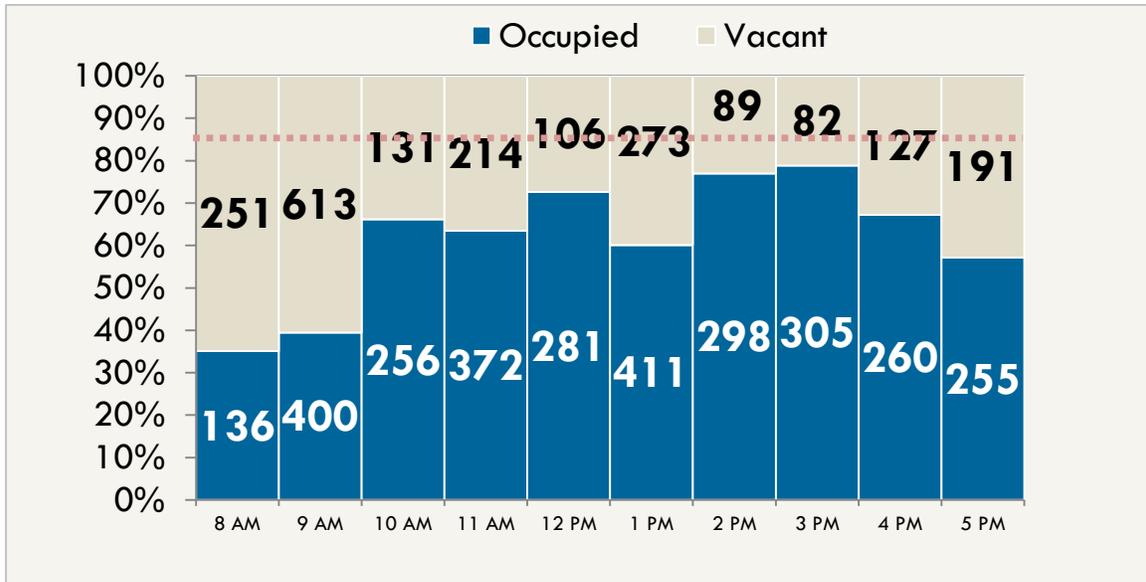
Figure 30 Parking Utilization Tuesday 5 PM



ON-STREET PARKING

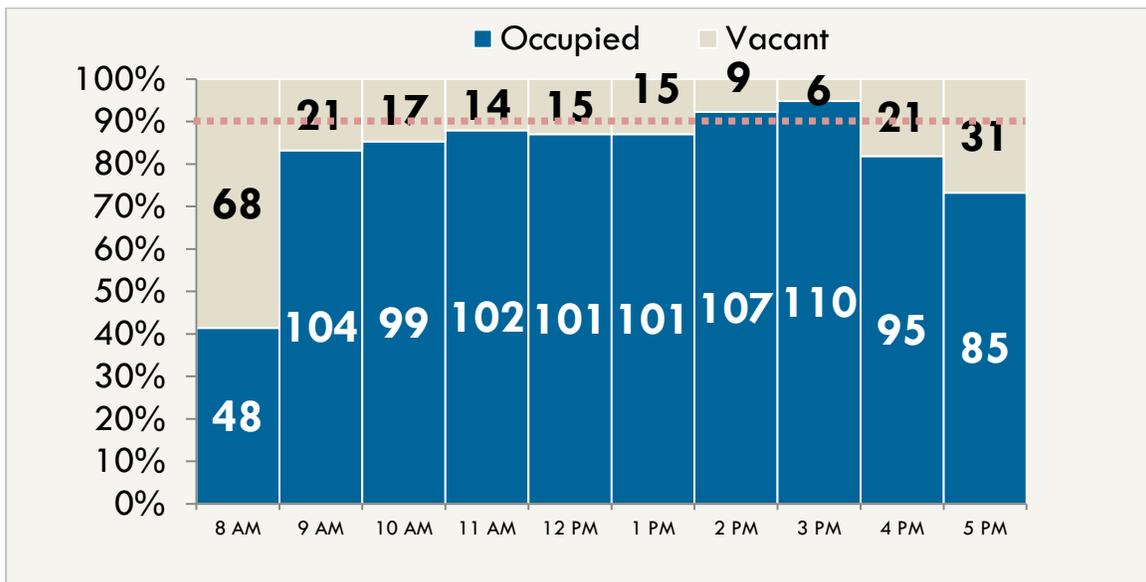
Though overall parking utilization reveals considerable parking capacity in the downtown area, this is less true for on-street parking areas. As shown in Figure 31 on-street parking demand is considerably higher in the downtown area, with occupancy approaching 80% in the afternoon (off-street parking peaks at 65% at the busiest time of day).

Figure 31 On-Street Parking Utilization



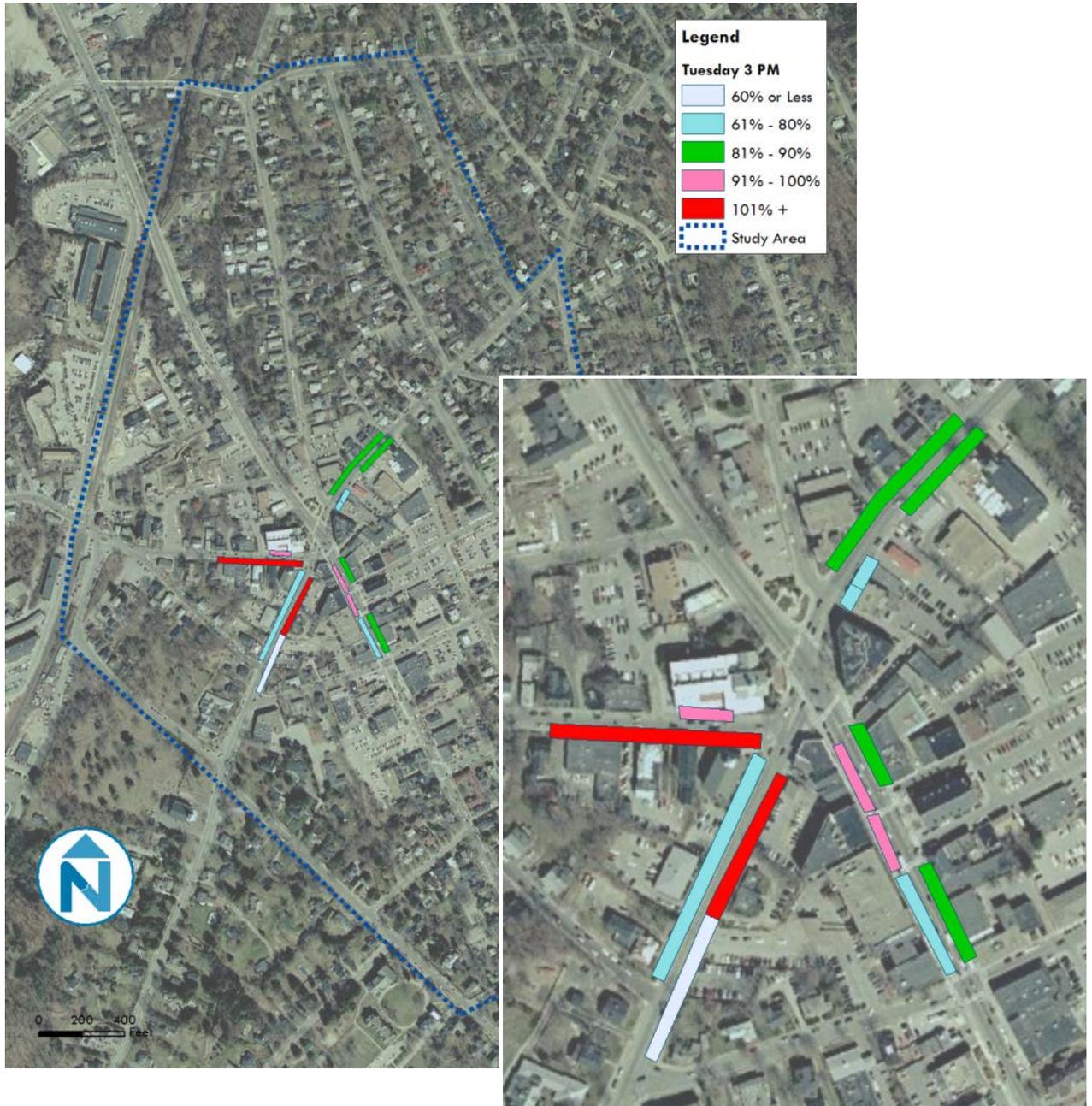
High levels of on-street parking utilization are particularly common in the core of the downtown. Figure 32 shows the on-street parking utilization for the downtown area along Central, Elm, Essex, and Main streets. These areas are consistently above 80% utilization, and peak above 90%. A map of these on-street parking areas is in Figure 33.

Figure 32 Core Area On-Street Parking Utilization



Parking along these streets peaks at 95% at 3 p.m. Throughout the day on-street parking along individual sections of these streets is fairly high in the 70%-90% range, with an average hourly parking demand rate of 81%. Parking utilization along Main Street between Elm Street and Chestnut Street is particularly high, never falling below 75% between 9 a.m. and 4 p.m. and peaking at 87%.

Figure 33 Core On-Street Parking Segments Peak Utilization



CORE AREA PARKING

Demand patterns vary throughout the downtown, with the highest demand in the “core” of downtown, defined here as within about a five minute walk of Main and Chestnut Streets (a map of this area can be seen in Figure 35). Figure 34 shows that the utilization of this core area reaches 60% overall, which suggests that there are many unused parking spaces just a few minutes’ walk from the heart of downtown.

Figure 34 Core Area Parking Utilization

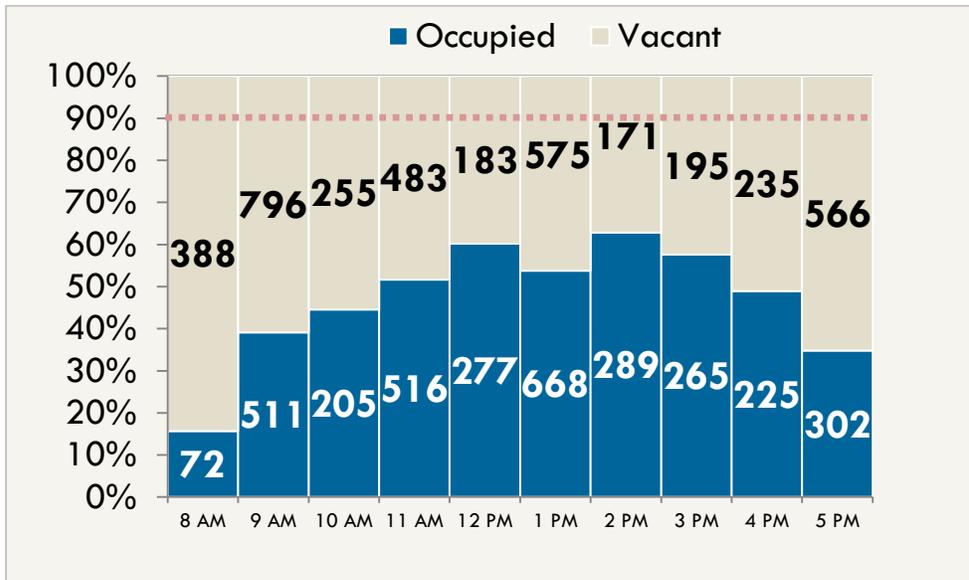
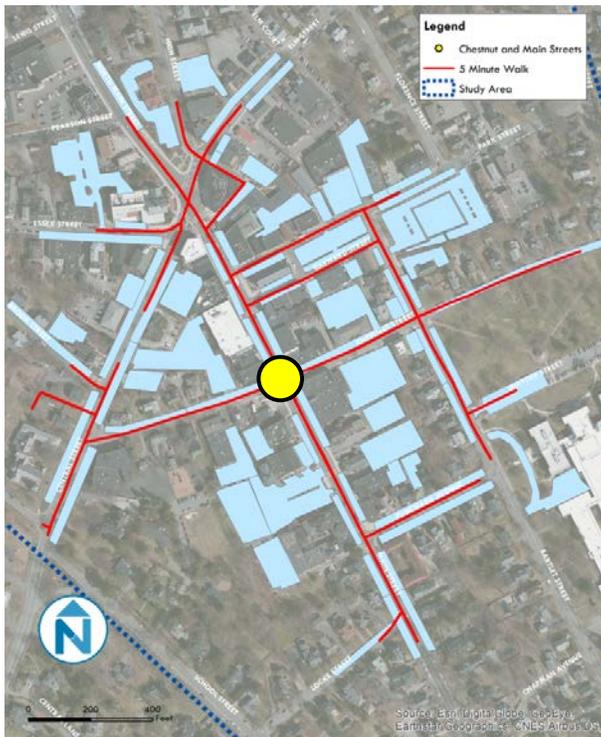


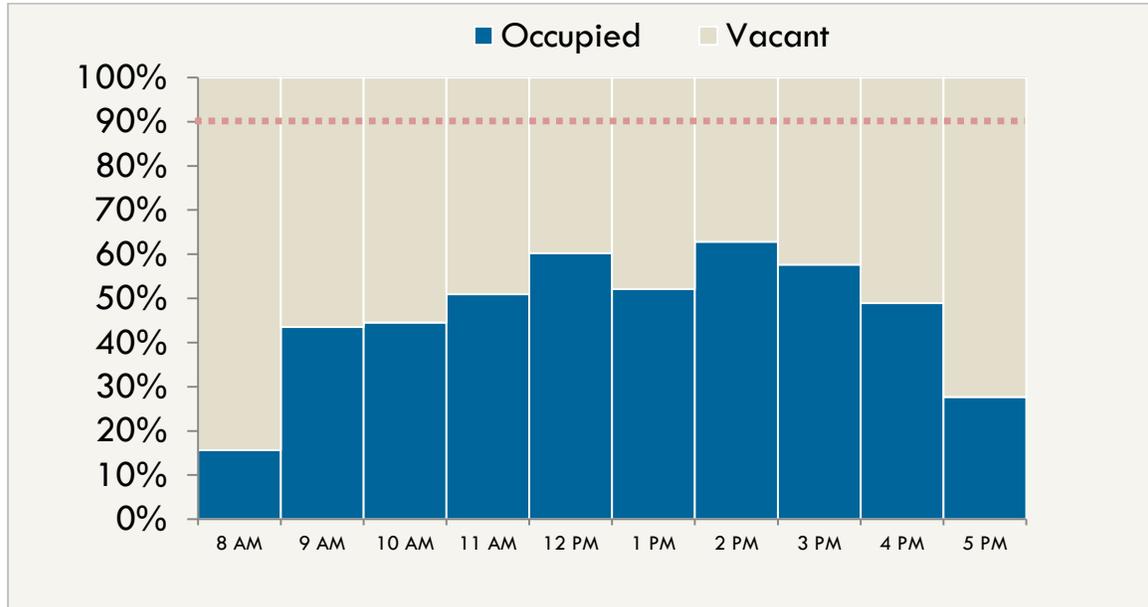
Figure 35 Core Area Map



OFF-STREET PARKING

Overall off-street parking in the downtown area shows excess capacity throughout the day, as demonstrated in Figure 36. Though individual lots may exhibit high levels of demand, most public and private lots are underused across all surveyed time periods. Further discussion of different parking types and specific lots can be found below.

Figure 36 Off-Street Parking Utilization

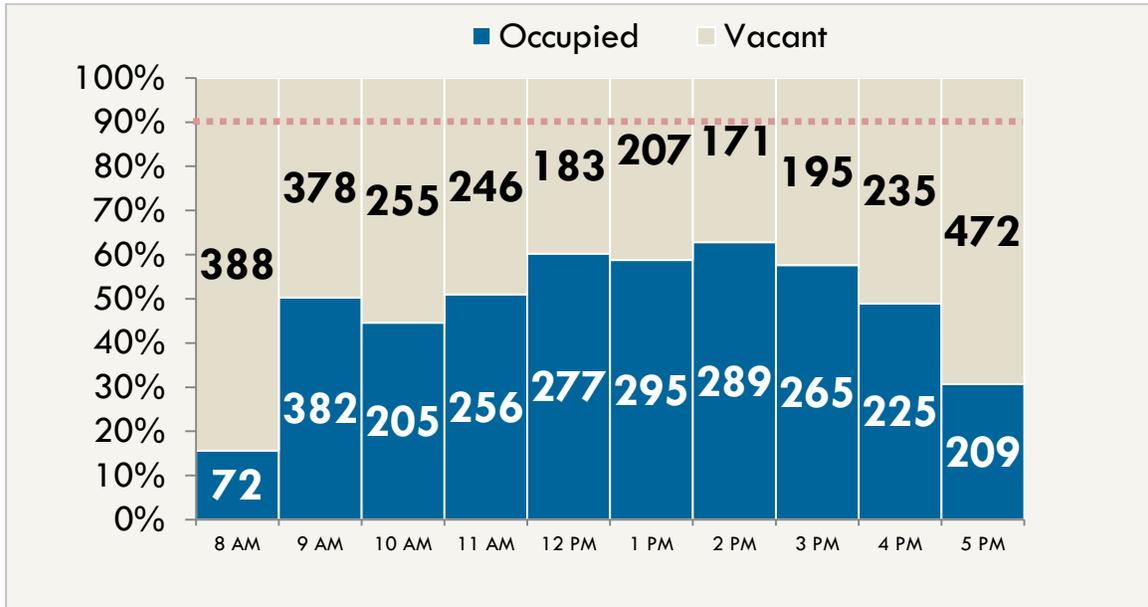


Public and Private Parking

As shown in Figure 37 and Figure 38, overall, neither parking type demonstrates high usage rates. For each of the parking counts available, the public parking lots have greater demand than the private parking lots.

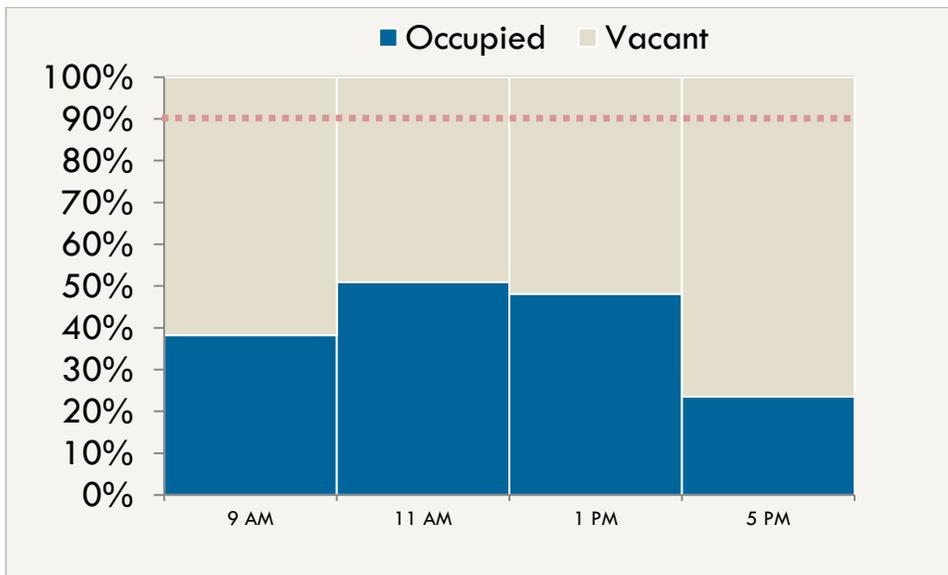
Though there are more private parking spaces in the downtown area overall, the public parking lots are more closely in line with the overall parking demand trend in the downtown, with a peak parking utilization of 62%.

Figure 37 Public Parking Utilization



Private parking in the downtown area has low utilization across all surveyed time periods. Observed rates consistently below 50% suggest there are hundreds of unused privately owned parking spaces throughout the day in the downtown.

Figure 38 Private Parking Utilization*

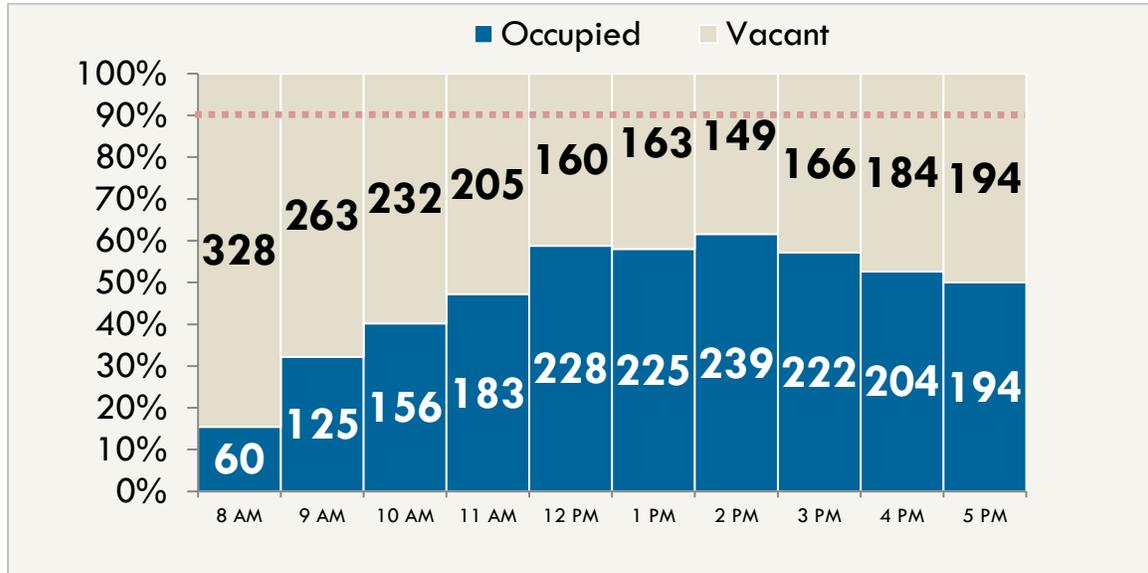


*Parking counts for private lots were only performed during the four time periods shown

Public Paid Parking Lots

The demand for paid public parking mirrors that of public parking in general. The parking demand for the two parking lots along Park Street, the Main Street lot, and the library lot are shown below in Figure 39. The demand for paid parking is only slightly less than for public parking overall, suggesting that the current price, in of itself, is not a barrier for parking in Andover.

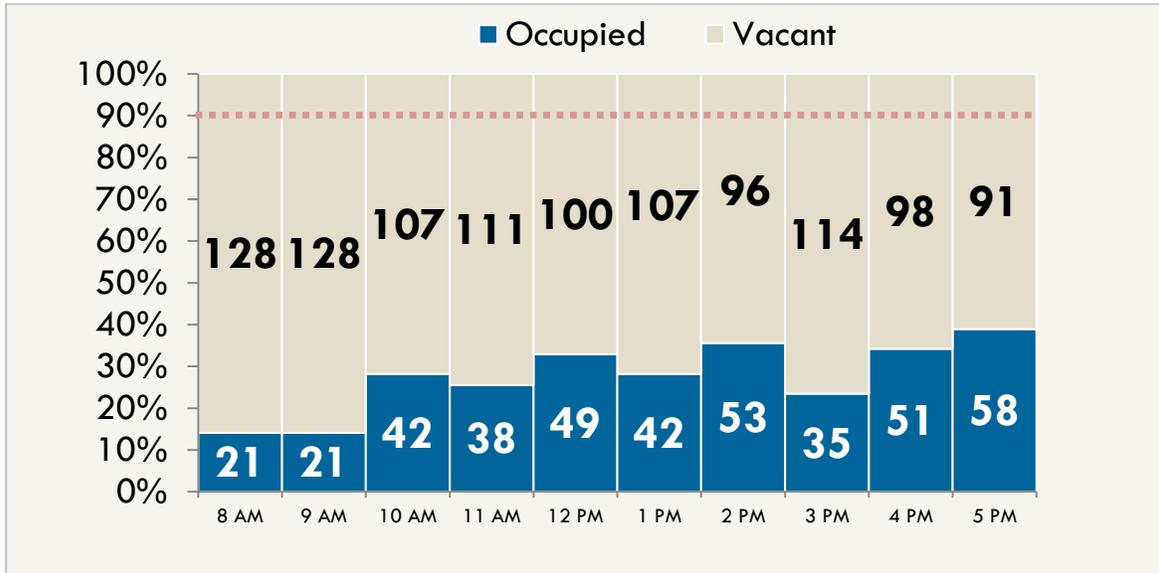
Figure 39 Paid Parking Lots Utilization



Park Street Lots

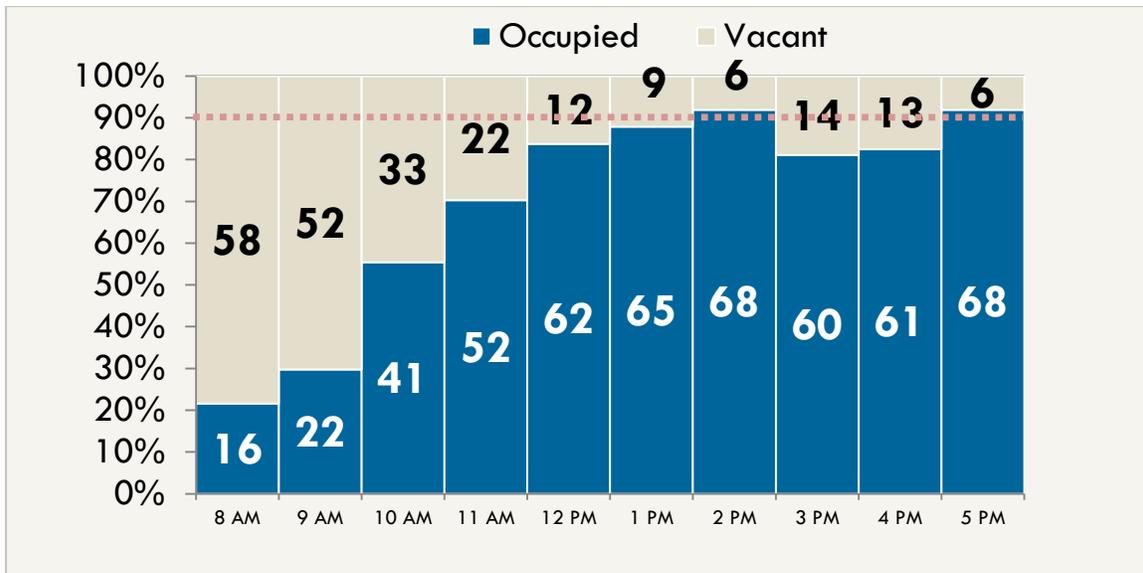
Demand varies significantly between the two public parking lots on Park Street. For example, Figure 40 shows the parking demand for the east parking lot on Park Street. This lot contains nearly 150 spaces, with a mix of time regulations and permit parking, and does not exceed 40% utilization, despite close proximity to Main Street, as well as a ten-hour time limit and a \$0.50/hour rate.

Figure 40 Park Street East Lot Parking Utilization



Despite the low demand for the east Park Street lot, the west Park Street lot shows considerably higher demand despite a higher parking price and a shorter parking window. As shown in Figure 41, the west Park Street lot is operating near or past functional capacity for the entire afternoon. Throughout the day this parking lot sees an overall utilization rate of 69%. Given that this lot's parking price is twice that of the neighboring lot (\$1.00/hour), and the time limits are half as long, it is clear that people looking to park in Andover are not necessarily averse to paying to park. In addition, this lot's utilization exceeds the parking demand of the core on-street segments, furthering the notion that price alone does not determine a person's willingness to use a particular facility.

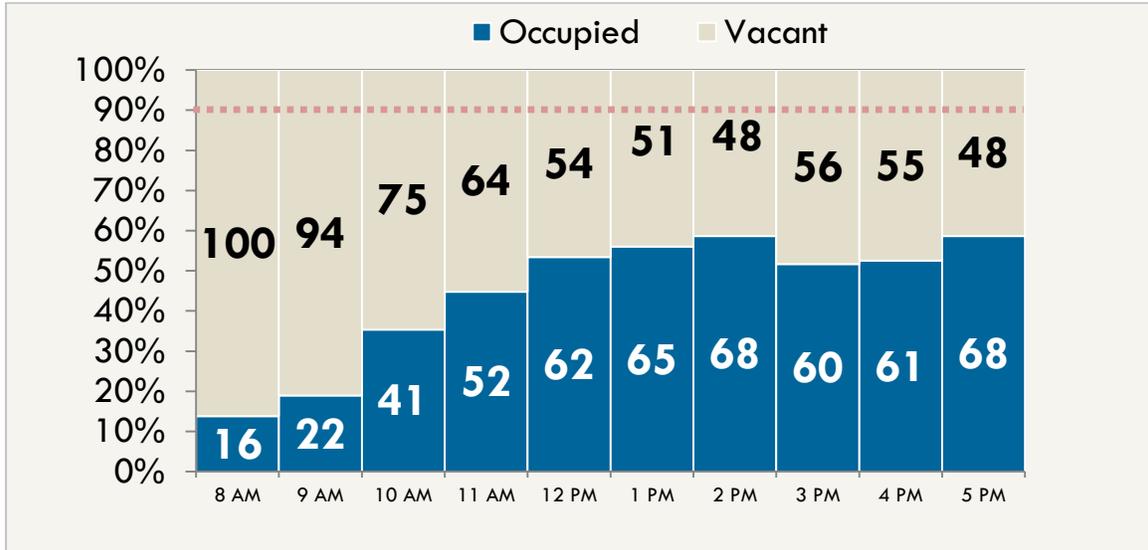
Figure 41 Park Street West Lot Parking Utilization



Main Street Lot

Similar to the east Park Street lot, the Main Street lot never approaches the functional limits of the parking limit. As shown in Figure 42 the parking demand for the Main Street lot never exceeds 60%. With a mix of employee permit and paid parking, this lot is only a short walk from almost all downtown activities, yet has availability throughout the day.

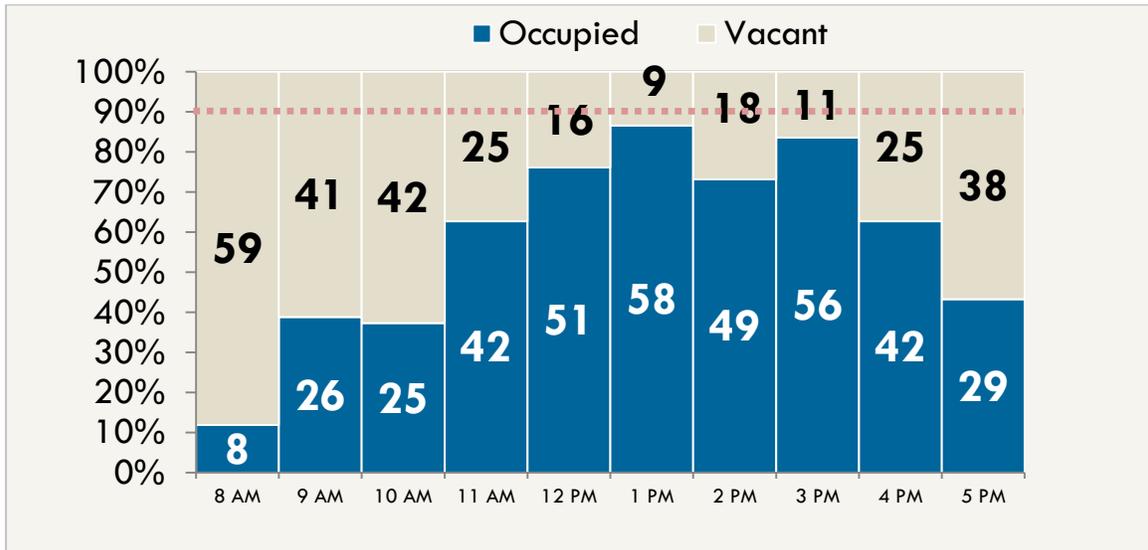
Figure 42 Main Street Lot Parking Utilization



Memorial Hall Library Lot

The west Park Street lot is not the only highly used public parking lot in the downtown. Figure 43 shows the demand for library lot just northeast of Main and Central streets. The library lot is a paid parking lot, and at certain parts of the day approaches functional capacity. This is the only public lot north of Essex Street, which may explain in part the comparatively high demand for this lot.

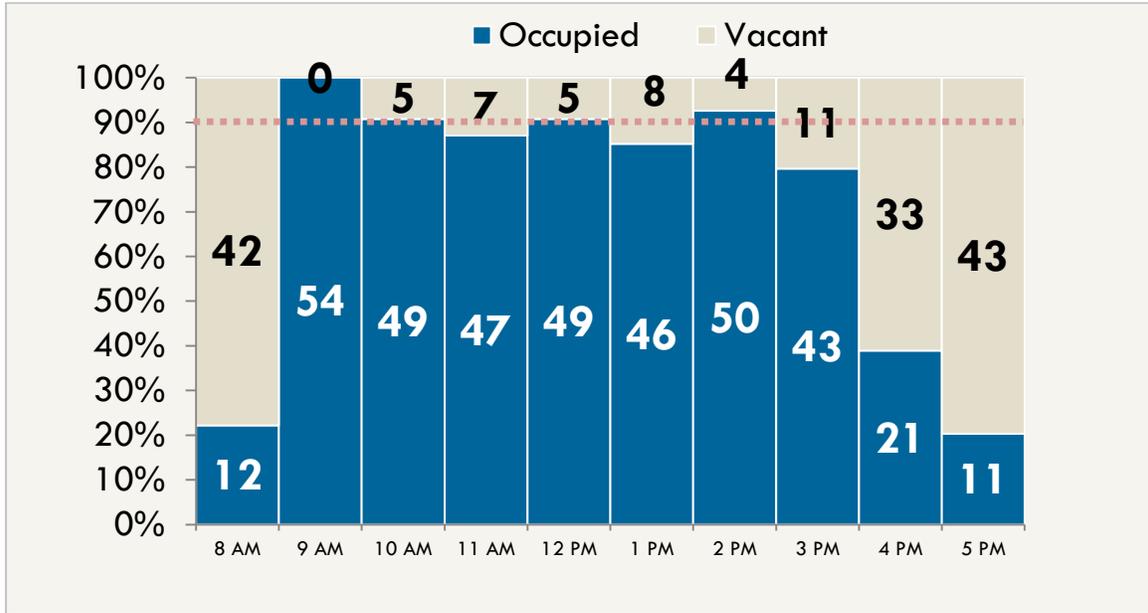
Figure 43 Library Lot Parking Utilization



Whittier Street Lot

Figure 44 shows the utilization for the west lot on Whittier Street. Used by Town educators and employees, this lot has some of the highest usage rates in the downtown area prior to 4 p.m. when demand for the lot tails off considerably. This lot is available to permit holders only between the hours of 8 a.m. and 6 p.m. Monday through Friday.

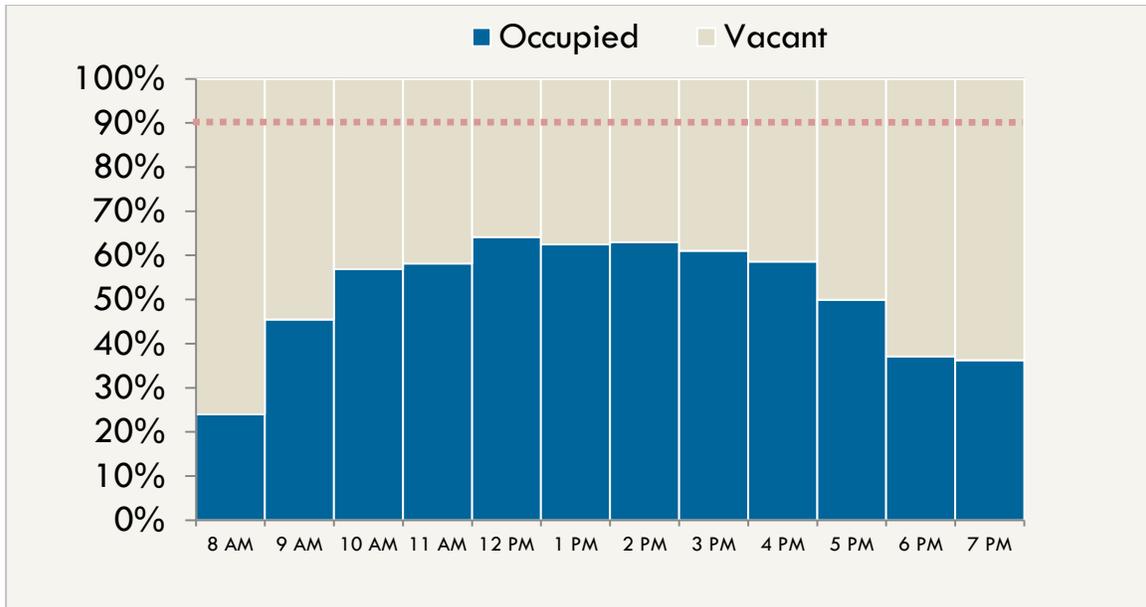
Figure 44 West Whittier Street Lot



THURSDAY PARKING UTILIZATION

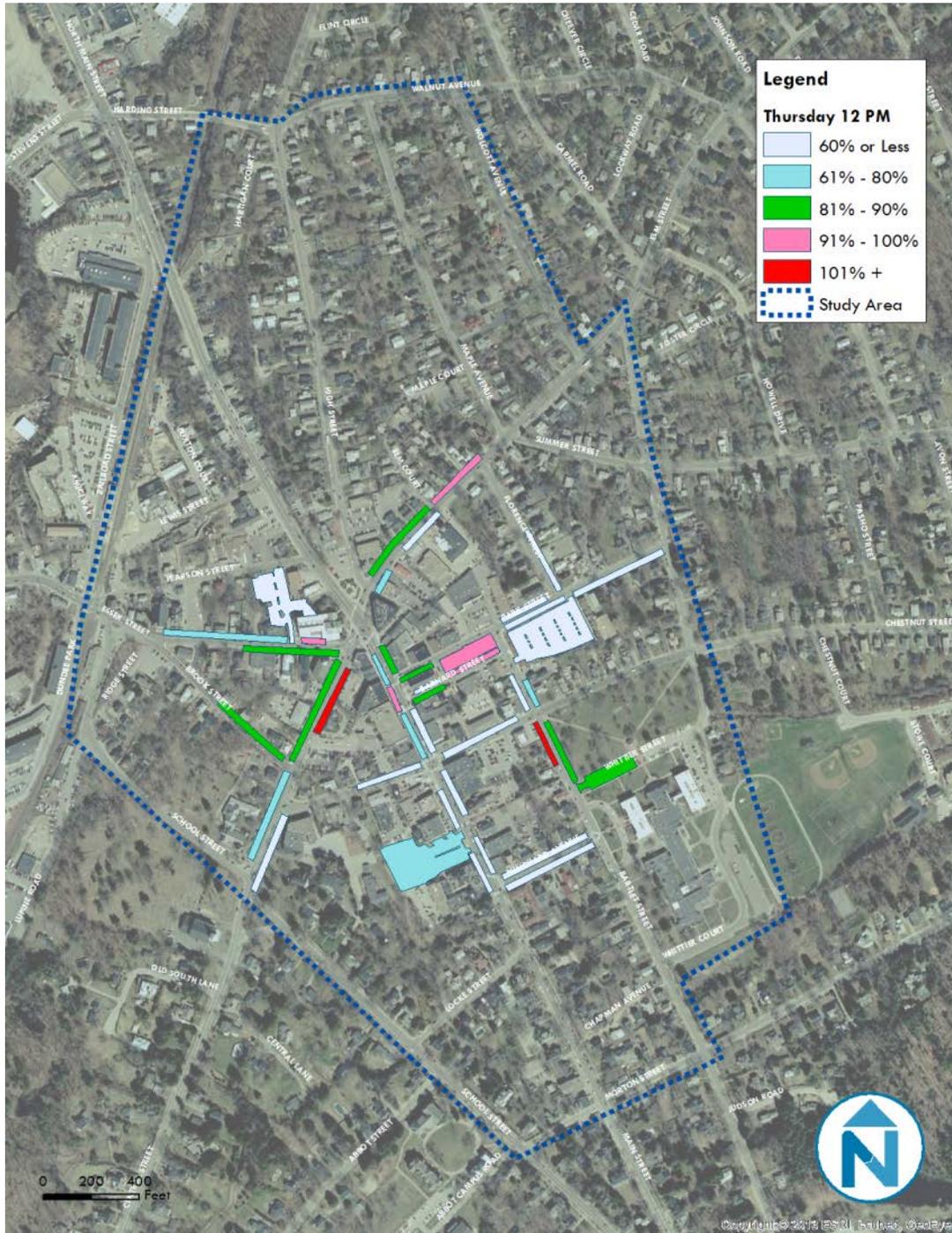
The parking counts for Thursday demonstrate similar patterns to the counts from Tuesday, with the peak demand occurring in the early afternoon and a steep drop in demand come 4 p.m. As shown in Figure 45, Thursday's demand does not deviate strongly from Tuesday demand. A map of peak utilization is shown in Figure 45. Across all survey periods in Thursday there was a 52% demand rate, with a peak utilization of 64% at noon. Thursday's parking utilization is largely consistent across the afternoon with rates holding between 50 and 60% between 10 a.m. and 4 p.m.

Figure 45 Thursday Parking Utilization



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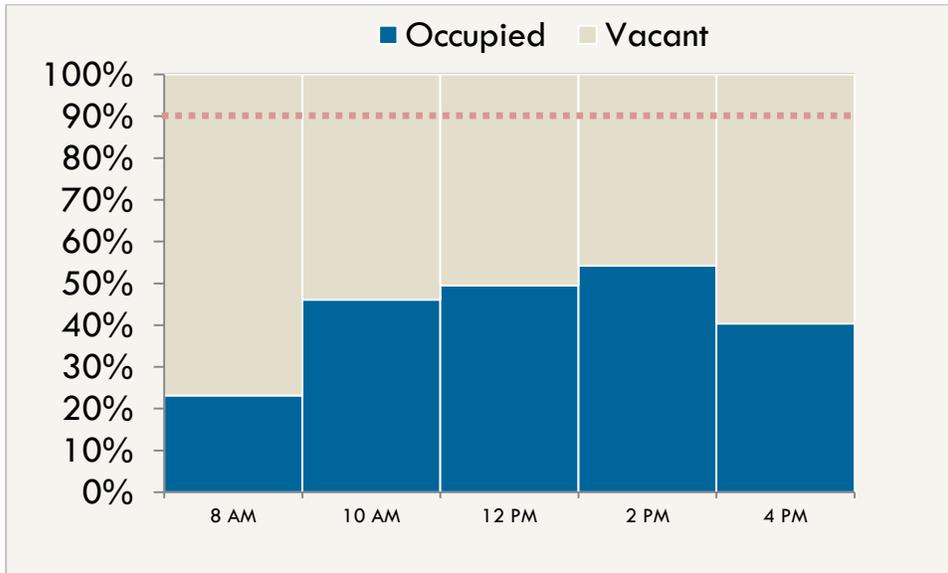
Figure 46 Thursday Peak Utilization



SATURDAY PARKING UTILIZATION

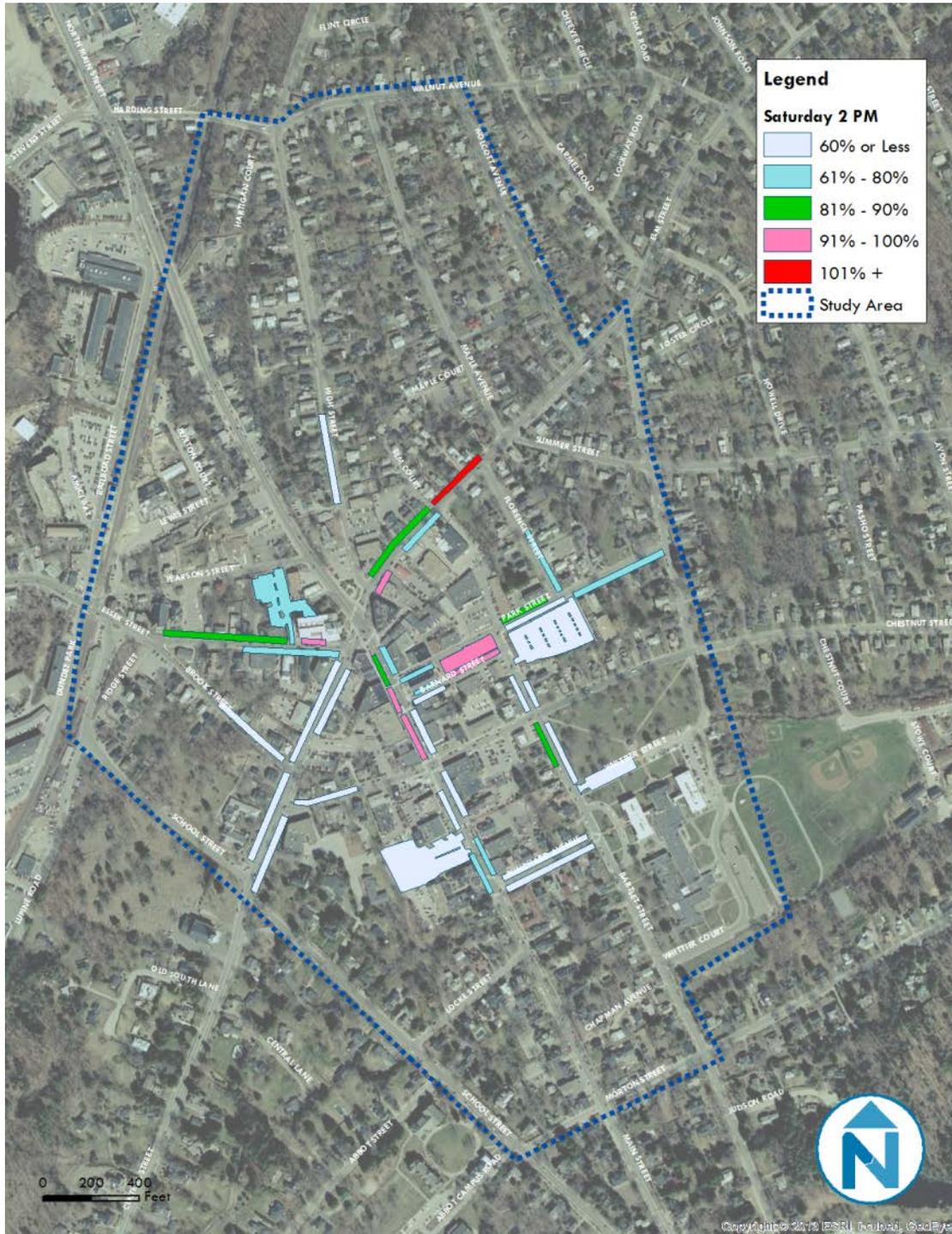
Parking counts on Saturday were limited to five periods across the day. Saturday in total, as shown in Figure 47, had a lower utilization rate than the weekdays, with only 42% of all parking spaces used across all time periods. Similar to the earlier weekday periods, Saturday's peak demand period was also in the early afternoon, with 54% utilization at 2 p.m.

Figure 47 Saturday Utilization



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Figure 48 Saturday Peak Utilization



4 PARKING USER SURVEY

In 2013, the Town of Andover conducted a parking user survey to better understand how and why people park in the downtown area. The survey asked questions regarding why and how often people visit downtown Andover, and further provide information about their general experience parking in area. The ten question survey was used to determine how the downtown parking situation is perceived. Participants could either fill out a physical survey to be returned to the Town, or use an online version to submit their responses. Overall, the survey had 540 responses from Andover residents, employees, and visitors.

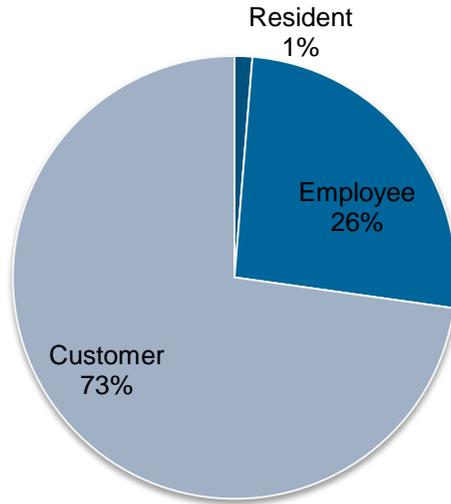
PARKING SURVEY: KEY FINDINGS

- The average reported time required to find a parking spot in downtown Andover is less than five minutes.
- Location is the most important consideration on determining where to park.
- Nearly half of all respondents report having an experience where they were unable to find parking in downtown.
- Few have heard of the employee parking program, and even fewer actually participate.
- Only one third of residents are willing to pay for annual downtown parking permits.

Reason to Visit Downtown

Nearly three quarters (73%) of all survey respondents responded they had traveled to downtown as a customer. As shown in Figure 49, 26% of respondents reported that they work downtown, while the remaining respondents reported that they live in the downtown area.

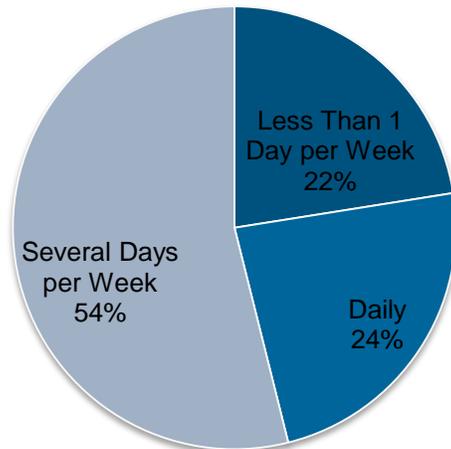
Figure 49 Survey respondent types



Frequency of Trips to Downtown

As shown in Figure 50, 78% of survey respondents said they visit downtown Andover several days a week or more, while less than a quarter responded that they visit downtown one day a week or less.

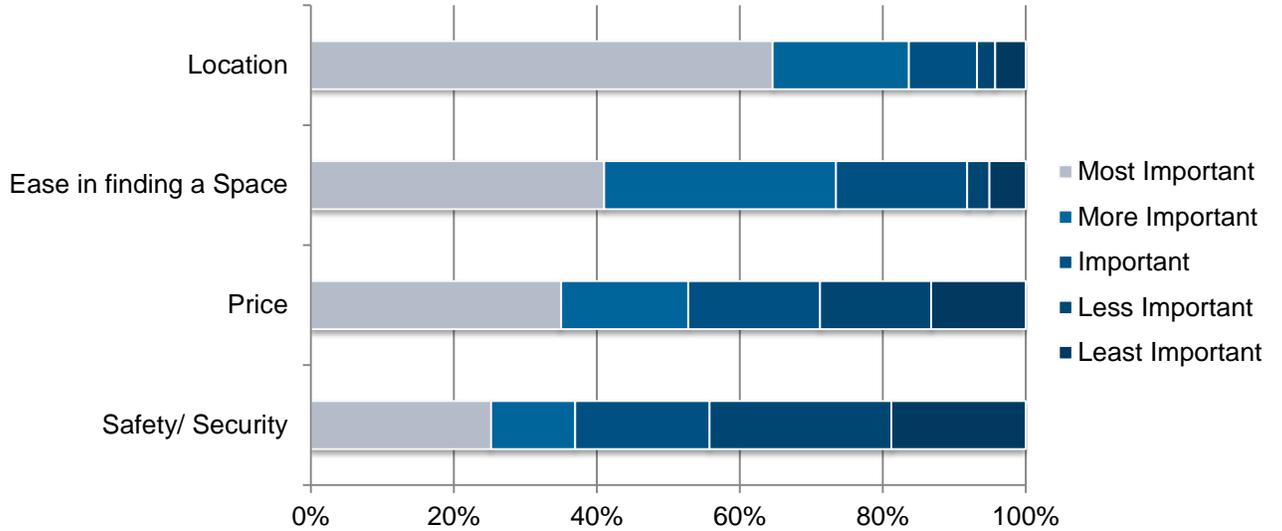
Figure 50 Trip Frequency to Downtown



Parking Factors by Level of Importance

Survey respondents overwhelmingly believed that location was the most important factor in determining where to park in Downtown Andover, followed by a similar interest in the ease of finding a space.

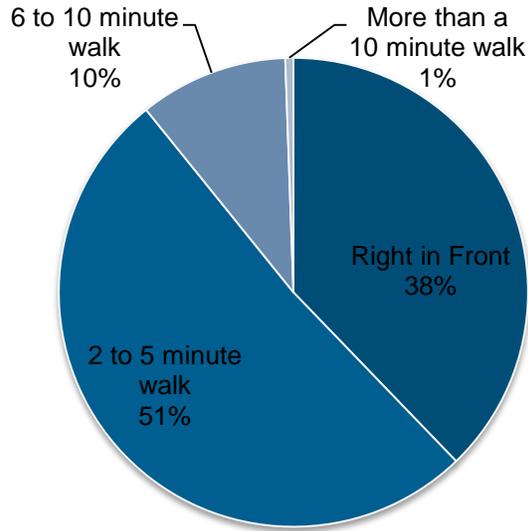
Figure 51 Most Important Aspects for Determining Where to Park



Proximity to Destination

When asked “How close to your primary destination did you park?” nearly 90% of all respondents report parking within a 5-minute walk of their destination.

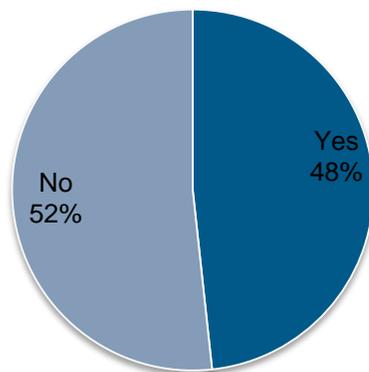
Figure 52 Parking Proximity to Destination



Inability to Find Parking

As shown in Figure 53, when asked “Have you ever failed to find parking and just left?” nearly half of the survey participants responded that they had left the downtown after failing to find a place to park. This could mean that a driver could not find a place to park directly in front of or in close proximity to their destination, or could not find a space overall.

Figure 53 Failure to Find Parking

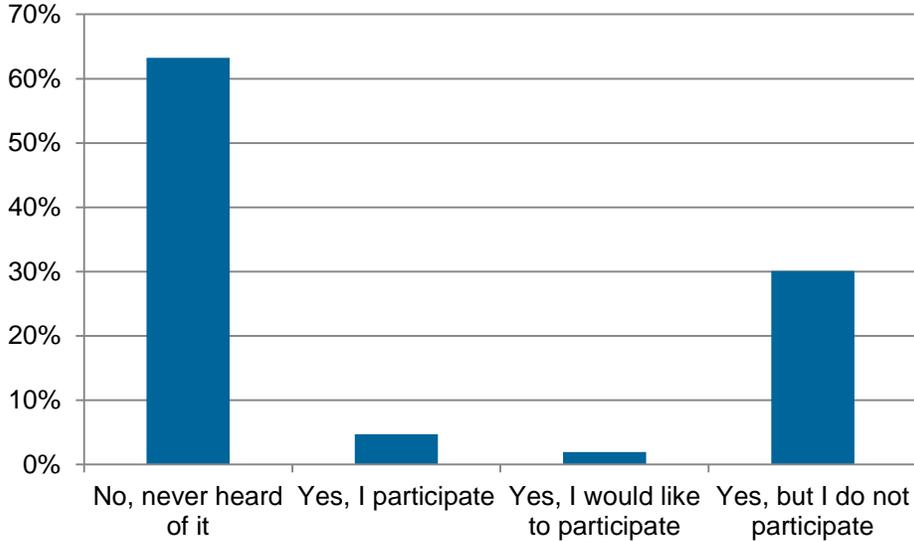


Employee Parking Program

When asked about the existing employee parking program in downtown, nearly two thirds of respondents that work in the downtown area reported that they had not heard of the employee

parking sticker program. As shown in Figure 54, only 5% of respondents reported participation in the program.

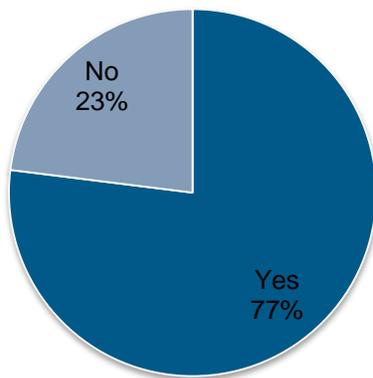
Figure 54 Downtown Employees' Familiarity with the Parking Sticker Program



Resident Parking Program

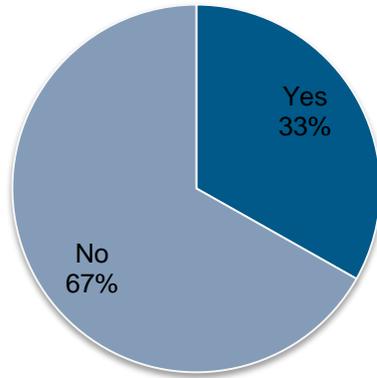
Residents were asked whether they would be interested in using a parking permit that allowed them to park for free in the Town's parking lots. As shown in Figure 55, a majority of participants expressed interest in such a program.

Figure 55 Interest in Resident Parking Permit



Despite the interest in the residential parking permit, only a third of survey participants reported that they would be willing to pay \$30 to \$50 annually for such a permit. As demonstrated by Figure 56 two thirds of survey respondents said they would not be willing to pay for a parking permit.

Figure 56 Willingness to Pay for an Annual Downtown Parking Sticker



5 RECOMMENDATIONS

Andover understands there are many opportunities to improve today's parking system and that every change in the system must work together to comprehensively manage supply and demand. There is a great opportunity to make parking more user friendly and flexible and thus maximize the use of existing resources.

The following recommendations are intended to serve as overarching themes and guidance for parking management. These recommendations were developed based on observations of the downtown, review and analysis of parking data, and stakeholder discussions, including several working sessions with the EDC, and public comments from the Selectmen's Mid-Year Review presentation.

This set of recommendations is intended to lay the foundation of sound parking management practices appropriate for the downtown Andover context. The recommendations set the stage for a changing, growing, and thriving downtown Andover and can serve as a model for other parts of the town. All of these recommendations are interrelated and were developed to be used in coordination with one another. They include items not clearly parking-specific—such as walking environment improvements – but can have a big impact on parking behavior. As a whole, these recommendations are about more than just parking: they provide opportunity for a strong transportation backbone to support wide community goals in Andover.

The following areas of recommendation are intended to create a more efficient and friendly parking environment in Andover:

- Clear Signage and Information
- Demand-Based Pricing and Time limits
- Streamlined Employee Permit Program
- Customer-Friendly Parking Technology
- Strategic Supply Optimization
- Improvements to the Downtown Environment
- Supportive Strategies

CLEAR SIGNAGE AND INFORMATION

Parking information is key to maximizing the use of resources. This includes information before, during and after arrival in downtown Andover, particularly during special events. Signage is a key element to help drivers choose the parking location appropriate to their needs. The following signage issues in downtown Andover prevent the easy use of public parking facilities:

- A lack of wayfinding signage directing drivers to public parking areas
- Insufficiently sized parking wayfinding signs that are difficult to see
- Inconsistent parking signs, with different colors, fonts, and wording
- No signage directly outside of some existing public parking areas

Distinct and obvious signage will provide a customer-friendly environment, encourage the use of currently underutilized parking, 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.

Figure 57 Park Street Signage



Recommendations

Brand Signage

Signage should be clearly visible and designed consistently so it is recognizable and readable. Off-street assets should have easy-to-read entrance signs and exit signs, including rate information. Andover already has a good starting place for a parking brand, with the Park Street lots as shown in Figure 57. The Town should carry this look and feel to all parking related signage and information, even information located on the web.

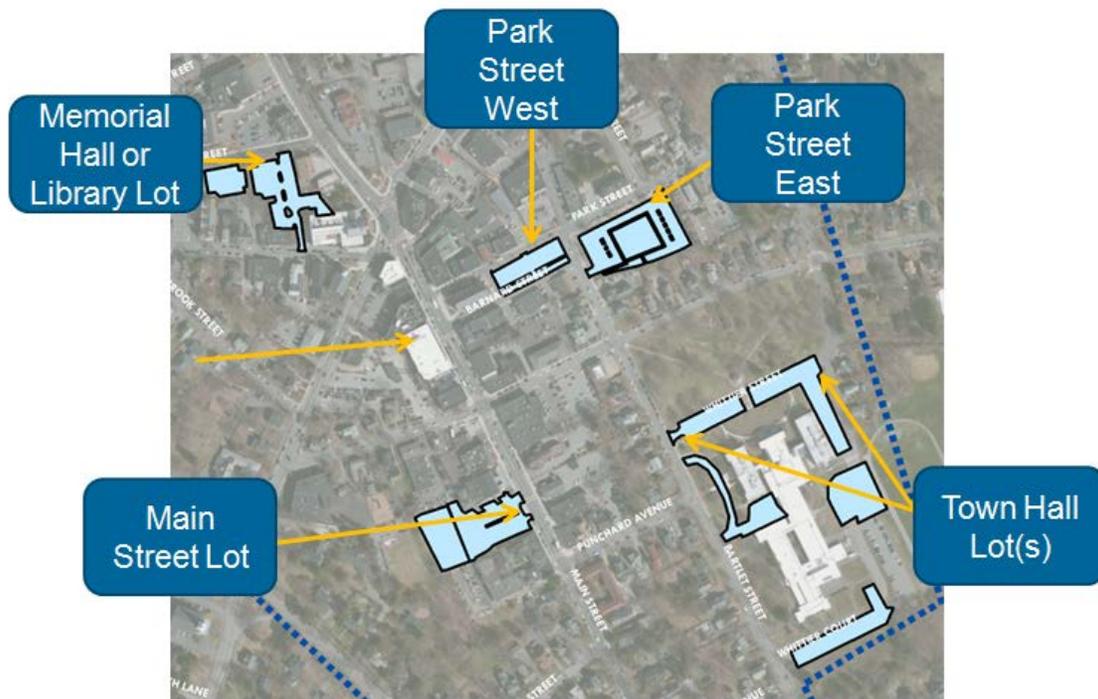
Enhance Wayfinding to Parking

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. Andover should provide wayfinding signage that consistently directs drivers to the closest parking facility in the downtown area. These signs should be available as a person first enters the larger downtown area, at key intersections, and continue to appear up to the entrance of the parking lot. Parking wayfinding signage can be combined with other downtown wayfinding signage (e.g. major destination signage for the Library, Town Hall, etc.).

Name and Sign Each Lot

Each public parking lot should display information at the entrance to the lot that alerts the driver that the lot is publicly accessible parking, and the name of the lot. The latter point will assist drivers in returning to the lot. In addition, each lot's sign should clearly display parking regulations. An example of sign locations and names can be seen in Figure 58.

Figure 58 Public Parking Lot Signage



Update Regulatory Signs

On-street regulatory signs are inconsistently posted, and similarly do not have consistent branding. The Town should update existing signs to be consistent in look and feel throughout the downtown area. These signs should clearly reflect the regulations, and be similar to other signs throughout the Town.

Post Branded Parking Information on Town and Business Websites

Making parking information available for visitors and customers before arriving to downtown will allow parkers to plan their trips ahead of time and find parking with ease. Having a single, simple map posted on the Town's website, downtown 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.

Update Lot Locations and Names on Google and Navigational Sites

Syncing existing lot names, locations, and information on Google Maps and other navigational sites will assist visitors reach the downtown and know where to go upon arrival. Each lot should have a unique name and address that is easy to search on navigational devices and sites.

Time Frame

Immediate (within 6 months). Signage and Information recommendations should be further refined and developed immediately. With the exception of regulatory signs, these recommendations can be implemented independently of all other recommendations.

Costs

Low-Medium. Signage and Information costs vary, particularly with factors of sign quality, customization, and installation costs (in-house or contracted). Generally, the sample approximate costs include:

- Signage brand: in-house to \$1,000
- Regulatory signs: \$20 each
- Lot identification signs: \$500 each
- Parking map: in-house to \$2,500

DEMAND BASED PRICING AND TIME LIMITS

The Town's pricing and time limits do not meet today's needs for visiting and working in downtown:

- Demand is highest on streets in the core, yet parking is free; demand is lower off-street, yet parking costs a minimum of \$0.50/hour
- Some off-street lots have much higher parking demand than others, yet the regulations are flat
- A mix of time limits (between 15 minutes and 10 hours) limit maximization of parking usage as well as hamper customer visits

Parking price rates and time limits should be set to effectively manage parking demand. This means that Andover's most valuable and desirable parking spaces should be treated as the most valuable. Pricing and time limit regulations should be set to focus on creating parking availability, relying on price (not arbitrary time limits) to incentivize appropriate parking behavior. This also 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. Andover should establish parking rates based on today's parking demand to achieve a goal set by the Town and amend existing parking regulations to encourage more efficient use of parking in the downtown area.

Pricing should be used to influence parking behavior, meaning that the price is appropriate to open up a space or two per block face, with the price high enough to detract most long-term parkers from parking on-street, yet low enough to not deter customers.

Recommendations

Remove/Extend Time Limits and Use Price to Manage Availability

The Town should price on-street and off-street parking in the busiest, most desirable areas only. The pricing should be moderate, so as to alter employee behavior, but not to drive customers away. Price should be set to maintain availability goals and allow parkers to self select on where they are going to park, based on their own price sensitivity and willingness to walk further.

All priced spaces should have no time limit; price alone should regulate how long people stay. If a customer would like to stay in downtown Andover for more than two hours, then they should be able to park (and pay the meter) and spend as much time as they'd like. This strategy uses price, rather than an arbitrary time limit, to manage availability.

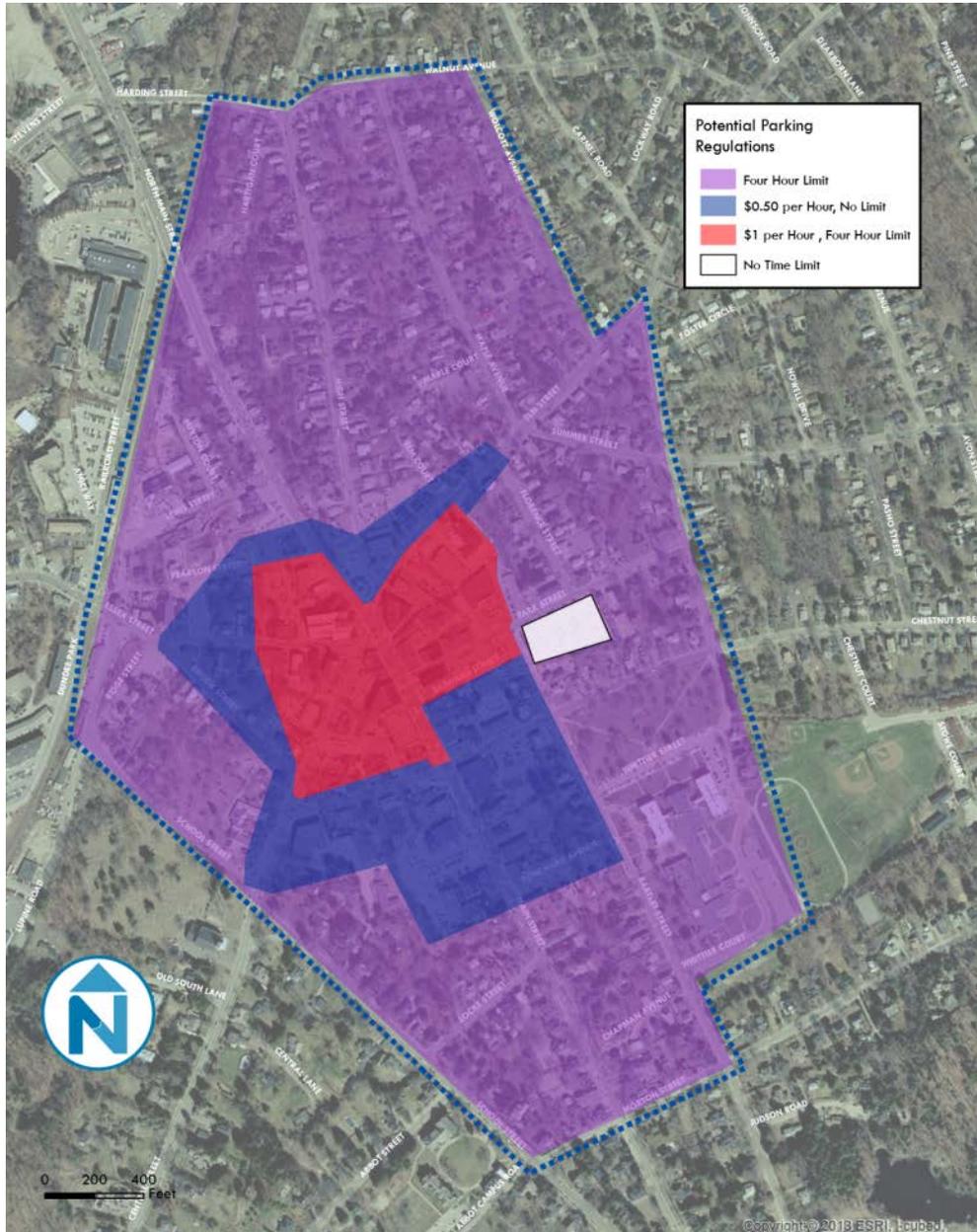
Set Availability Goal

As opposed to parking rates being set arbitrarily, rates should be set to effectively manage parking demand using an adaptive system. This means that parking policies should be structured to be dynamic to respond to changes in parking supply and demand. Rates will likely not be static; they should respond to changes in land use and the community. Andover should establish parking rates based on a goal set by the Town. If the Town adopts an "Availability Goal" for the downtown, 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 in the west Park Street lot, today's high demand would warrant an increase in price. Likewise, some blocks where the demand is low would warrant a decrease in price.

Price Based On Demand

Priced parking should only be implemented in areas that have high demand: core on-street areas, the west Park Street lot, the west Whittier Street lot, and the library lot. These areas and adjacent blocks and lots should be monitored regularly to evaluate availability, particularly with regard to spillover. Areas such as the east Park Street lot, or the Main Street lot, should have their pricing either removed or reduced. A possible example of a simple pricing structure may be seen in below.

Figure 59 Initial Parking Regulations Example



Extend Time Limits along Side Streets

The Town should continue to allow for on-street parking on the side streets with longer time limits (e.g. four hours) and fewer restrictions the farther one parks away from the downtown. Parking demand should be regularly evaluated to determine spillover impact on residential streets.

Time Frame

Medium Term (1-3 years). Changing pricing and time limits depend on updating of the Town ordinance and acquisition of payment technology.

In the short term, the Town could pilot a rate change with extension of time limits in the parking lots, where payment technology already exists, to monitor before-and-after length of stay, number of citations, revenue impact, and a survey of user preference. A short term pilot would require reprogramming of kiosks and temporary signage installation.

Costs

No-Low. Although no direct out-of-pocket costs, Town staff would need capacity to monitor and manage changes to pricing and time limits.

STREAMLINED EMPLOYEE PERMIT PROGRAM

Today's downtown employee permit program offers a deeply discounted rate to downtown employees; however, the program is underutilized and difficult to manage. The Town's existing employee permit program is in need of an update due to:

- Most employees in downtown are unfamiliar with the program; only 5% of surveyed employees participate in the program
- The Board of Selectmen must annually approve the program
- Permits must be purchased in-person
- An administrative burden to administer the program
- A waitlist, although parking demand counts indicate that there is availability

Employee permit programs are designed to designate consistent and reliable parking areas for downtown employees and to ensure that front-door parking spaces remain available to visitors and customers. The program should be an incentive for regular downtown employees to park within a reasonable distance of their place of employment and easily find a place to park. The program should also be streamlined, both from the user perspective (e.g. employee permit purchase, regulations, etc.) and for the Town (e.g. administration, enforcement, etc.).

Recommendations

Consider Shifting Departmental Management

The employee parking program should be managed by a Town department that can easily and efficiently sell permits and manage the program. As indicated below, with a more streamlined system of payment and enforcement, the program's administrative burden should be reduced and consolidated into other similar Town programs.

Create More Streamlined Parking Areas

Permit holders should have a reference map that clearly indicates where a permit may be used to park. This should include underutilized on- and off-street parking areas, including the east Park Street lot, back of the Main Street lot, and some underutilized peripheral on-street blocks. Instead of being assigned to a particular lot, a permit holder would be able to park anywhere within the designated permit parking areas. The Town should evaluate and monitor permit parking demand regularly during enforcement to adjust the system where needed.

Upgrade Payment Technology

The Town already allows for parking citations to be paid for online. A similar system should be used to allow employees to purchase a permit online, without having to visit Town Hall.

Enforce By License Plate

Instead of using a sticker system, the Town should explore implementation enforcement by license plate. This would mean that in-lieu of a sticker, an employee permit would be tied to particular license plates, eliminating the need for intensive manual enforcement. This type of system would require enforcement personnel to use vehicle-mounted or handheld devices using

license plate recognition software that would automatically verify whether cars have an employee permit.

Better Advertise Permit Program

The Town, in partnership with downtown Andover businesses, should develop materials that explain the permit program to current and potential future Andover business owners and employees. A dedicated supply of employee parking in a downtown is a great asset and should be documented and advertised.

Evaluate Oversell Ratio

Recent Town permit sales data indicates that some years, there is a waiting list for permits, and other years, the Town does not sell the number of permits made available. Assuming the program becomes more popular in the future, the Town should regularly evaluate permit demand and its oversell ratios to ensure that the utilization is no more than 95%. A typical oversell ratio is 20%, although ratios vary by type of permit and place; Andover should use data to determine its local oversell ratio.

Time Frame

Short-Medium Term (6 months – 18 months). Requires internal coordination and administration to potentially shift departmental management and identify and contract with online vendor.

Costs

Low. Online permit vendor: minimal set up costs, if any (depends on vendor); fees are typically low, if any (and could be included in permit rate). If license plate recognition enabled enforcement is used, LPR handhelds can cost \$250/month to rent or \$12,000 to purchase, plus software fees.

CUSTOMER FRIENDLY PARKING TECHNOLOGY

Paying for parking should be as customer-friendly as possible. Today, the Town uses three different payment types: pay and display kiosks, pay by space kiosks, and single-head coin operated meters. These varied technologies are confusing, as they vary lot to lot. The kiosks, with some exceptions accept coins and bills, credit cards, smart cards, and e-coupons. However, streamlining the type of payment technology used is helpful to the user.

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.

Recommendations

Use One Payment System

It is important for the Town to select a system that is consistent and seamless across the downtown area. Possible payment 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 Town to nimbly change prices and determine availability. Single-head meters work best on-street.
- **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. These are more streamlined than today's pay and display (where the user receives a receipt and must walk back to their car to put it on the dashboard) and pay by space, which requires each space to be numbered (and the parker to remember the space number).
- **Pay by phone**, where a parker can pay to park (or add time) via a cell phone text and app.
- **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.

Use Technology That Accepts Credit/Debit Cards and Allows For Merchant Validation

Many people no longer carry cash or coins with them at all times. For these drivers, it is essential that a parking payment system accept credit or debit cards. For many the inability to use the latter method of payment means that they have no way to pay for parking.

Merchants often do not want their customers to pay for parking, believing that it discourages customers from visiting their business. The ability to validate parking for their customers will alleviate the concerns that some merchants have.

Integrate Pay by Cell

Many customers would prefer to forego using kiosks or meters, and would instead prefer to use their mobile device. The Town should introduce a mobile payment system that would allow customers to additionally add to their parking time without needing to return to their vehicle.

Choose a System That Works Well on the “Back End” and the “Front End”

One area of key importance is to find a parking system that is both manageable and profitable from the Town’s perspective, and also one that is easily used by residents and visitors.

Time Frame

Short-Medium Term (6 months – 18 months). Implementation of pay by cell could be implemented first; lease or purchase of smart meters or kiosks may take more than one year, depending on financing and RFP process.

Costs

Low-High. Parking technology costs vary, particularly in terms of hardware (e.g. hardwired or solar), software, installation, and maintenance. Generally, the sample approximate costs include:

- Pay by cell: transaction/ credit card processing fees: \$0.05 - \$0.35 per transaction or 2-3% of payment
- Single-head solar powered smart meters that accept coins and cards: \$450-\$500 each
- Multi-space kiosks that accept coins and cards: \$5,000 - \$10,000
- Monthly software fees: \$5 - \$10 per meter or \$25 - \$75 per month
- Installation: included to \$200 per meter
- Maintenance: varies

STRATEGIC SUPPLY OPTIMIZATION

Building, operating, and maintaining parking is expensive. It requires the use of valuable land that cannot be used for other more active uses, such as green space or development. Rather than build new parking, it may be possible to add to the existing inventory with just some signs and paint.

Recommendation

Restripe the East Park Street Lot

As it currently exists and is shown in Figure 60, the east Park Street lot contains 149 spaces, with a variety of different regulations through the lot.

Figure 60 Existing East Park Street Lot



This lot could be reoriented and restriped to create a more efficient use of space as shown in Figure 61. The reconfigured lot could hold around 180 spaces, or a net increase of 20% more parking spaces.

Figure 61 Reconfigured East Park Street Lot



The Town could consider similar restriping scenarios in some of its other public parking lots. In addition to restriping lots, further improvements should be implemented including landscaping, electric vehicle charging stations, pedestrian-scale lighting, and improved pedestrian facilities.

Time Frame

Medium Term (1-3 years). May choose to wait to restripe on-street parking spaces or lots to maximize supply when resurfacing work is needed.

Costs

Low-High. Varies depending on in-house or contracted, and if part of a larger restriping project.

IMPROVEMENTS TO THE DOWNTOWN ENVIRONMENT

Downtown Andover is endowed with a friendly Main Street that connects mixed-use retail, offices, and restaurants to nearby residential streets and neighborhoods. Downtown has an inviting historic, small-town appeal that attracts employees, residents, and customers. However, there are several unfriendly walking areas downtown, including areas on Bartlet Street, Central Street, and on Main Street. Some imposing intersections, unprotected crossings, and curb cuts and wide driveways limit where people feel comfortable walking and crossing, thus limiting the “park once” environment that many downtowns strive for. These barriers and others impact the perception of parking proximity, and if left unaddressed, will not incentivize changes in parking behaviors, thus leaving spaces unused. The Town can improve its downtown environment while opening up underutilized parking areas through a variety of efforts.

Recommendations

Update Zoning

Andover Zoning By-Law § 5.1.1 describes its purpose as to “reduce hazards to pedestrians upon public sidewalks,” while § 6.8.2 states that the town should promote bicycle and pedestrian paths whenever possible in the development process. However, an important tool of improving safety on sidewalks is the reduction of curb cuts – or driveways – where drivers are crossing pedestrian areas. The zoning code should be updated to address downtown design challenges, including curb cuts and other supportive designs, including:

- Desirable connections to parking facilities
- Walking and biking around downtown
- Landscaped and welcoming environment
- Parking to the side or rear of buildings
- Minimized and narrow driveways and curb cuts
- A “branded” look and feel
- Safe access
- Screened and landscaped parking facilities
- Pedestrian accommodations through lots
- Electric vehicle charging stations

Install Pedestrian-Friendly Elements in Downtown

The Town should improve some key walking areas that connect the downtown. Some improvements can be made with paint; others would require design and construction. The facilities as shown in Figure 62 and Figure 63 should be created and installed in the key pedestrian areas throughout the downtown, particularly along Main Street.

Figure 62 Main Street Existing Conditions



Figure 63 Suggested Pedestrian Improvements along Main Street



Time Frame

Medium-Long Term (1 year – 5 years). Implementation of downtown environment improvements with paint and striping may be able to occur quickly (e.g. crosswalks, traffic calming elements); construction, including closing of curb cuts, bump outs, will need design and construction documents.

Costs

Low-High. Restriping crosswalks, outlining parking areas, narrowing streets or intersections with paint is low cost; construction of bump outs, streetscape materials, landscaping, and more can be more costly. Costs vary.

SUPPORTIVE STRATEGIES

As the Town embarks on actively managing its downtown parking resources, it should consider other strategies to support its policies and programs.

Shared Parking

For this context, shared parking is defined as when a parking facility is used for more than one purpose. Mixed-use areas, like downtown Andover, offer complementary synergies to share parking supply. For example, a driver may use one parking space and run multiple errands, or a bank parking lot may be used by a restaurant in the evenings. This reduces the total number of spaces which would be required by the same land-uses in stand-alone developments. Downtown Andover acts like other mixed-use environments, where each land use may not need its own dedicated supply of parking, yet traditional analysis and zoning are typically based on such assumptions.

There are already cooperative parking agreements in the downtown area. By promoting further shared parking systems in the downtown Andover can encourage a more efficient parking system without having to invest in a parking expansion. There are multiple ways that the Town can offer incentives to make more parking supply available to the general public:

- Promote shared parking agreements between private landowners
- Directly engage in agreements with property owners
- Encourage efficient use of underutilized parking facilities by incentivizing employees to park in shared lots

The Town may choose to implement such programs slowly, beginning with special and regularly occurring events, as well as leasing spaces during off-peak hours. Pursuing a shared parking in downtown Andover can be a long-term strategy, particularly in conjunction with new downtown development.

Monitoring/Evaluation

The Town should be prepared to adjust its parking management plan according to changes in parking behavior over time. Parking demand counts should be conducted as needed, and at least once per season as parking changes are implemented and if the downtown land uses change.

Understanding spatially and temporally where parking demand is (and isn't) in Town is important for adjusting rates and regulations, seeking shared parking agreements, and regulating spillover parking. In particular, residential areas should be monitored for possible spillover, and consideration of changing these parking regulations, in context with downtown goals, should be evaluated when needed.

Parking Champion

No recommendation in this report will proceed successfully without a clear champion guiding the various stakeholders needed to make it succeed. Many recommendations take time, effort, or money that will only be realized with leadership that keeps the coalition of concerned parties together and focused on the goals of improving access and economic opportunity. Furthermore, few recommendations can stand alone and be successful without implementation of the entire package of recommendations. Parking in any downtown is just one part of a complex multi-modal

economy where every parking motorist becomes a pedestrian, every pedestrian must confront cars, and every parked car occupies a valuable piece of land. Addressing only one aspect of this system may adversely impact other interdependent parts, potentially worsening access – or worse yet – economic opportunity.

The Town should identify an individual that leads and champions the implementation of the parking management plan. That person can coordinate multiple Town departments and be a contact person for businesses and the public as questions arise.

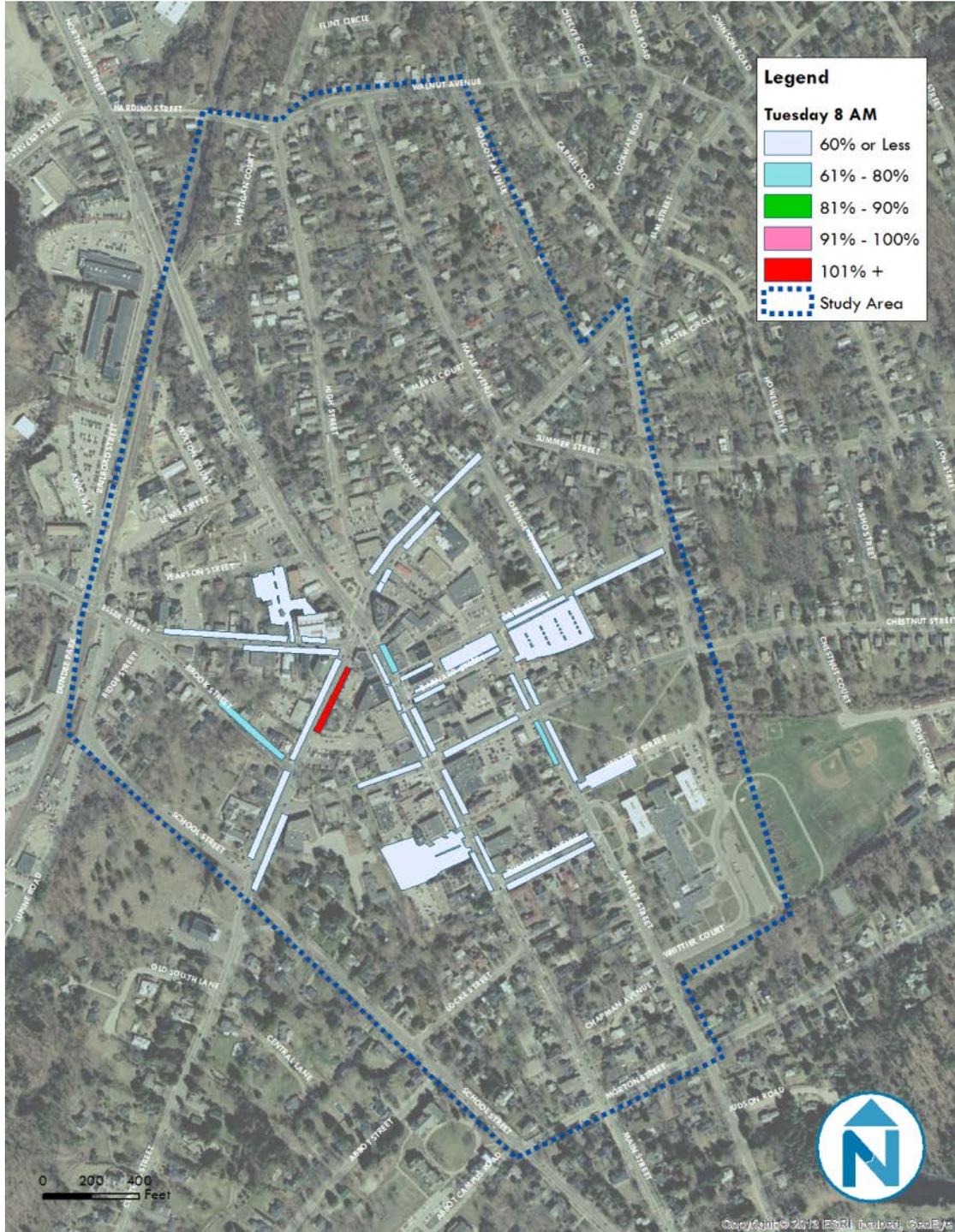
Parking Benefit District

Net revenue from parking-related fees, including meter and permit revenues, plus parking citations, should be dedicated to a Parking Fund via a Parking Benefit District. The Fund should be transparent to the public, so when a patron pays at a meter, that person knows that their payment not just pays for the parking infrastructure, but also is invested directly towards downtown improvements. If parking revenues "disappear" into the General Fund, patrons - and downtown businesses - will be less likely to support a paid parking system. When Andover's business community, customers, and residents can clearly see that the revenues collected are invested physical downtown improvements - plantings, sidewalk and crosswalk improvements, enforcement personnel, bicycle racks, and more, many are willing to support parking policies that generate tangible benefits for the downtown. If experience from other communities is any guide, many will actually become advocates for the parking management program.

APPENDIX A PARKING UTILIZATION MAPS

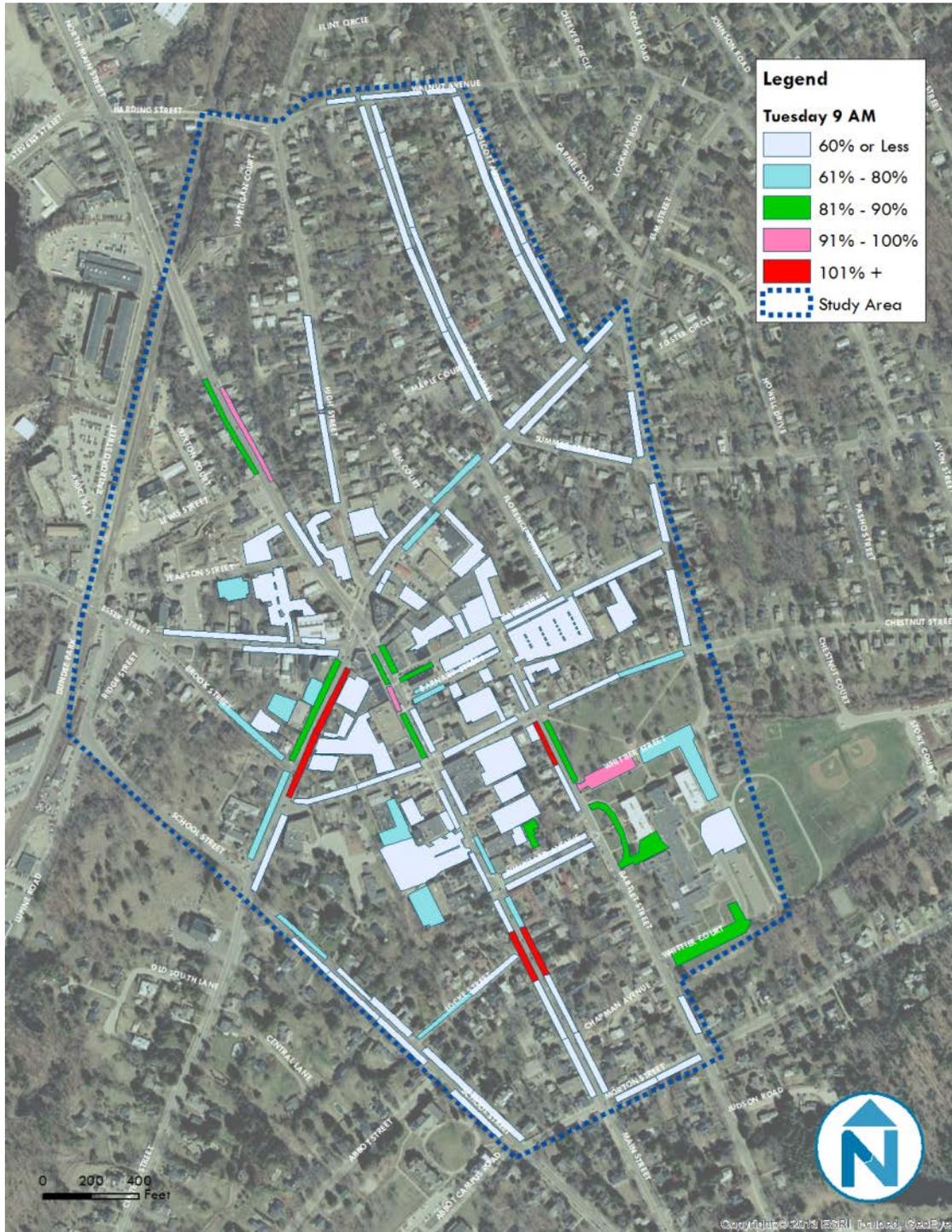
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Figure 64 Parking Utilization Tuesday 8 AM



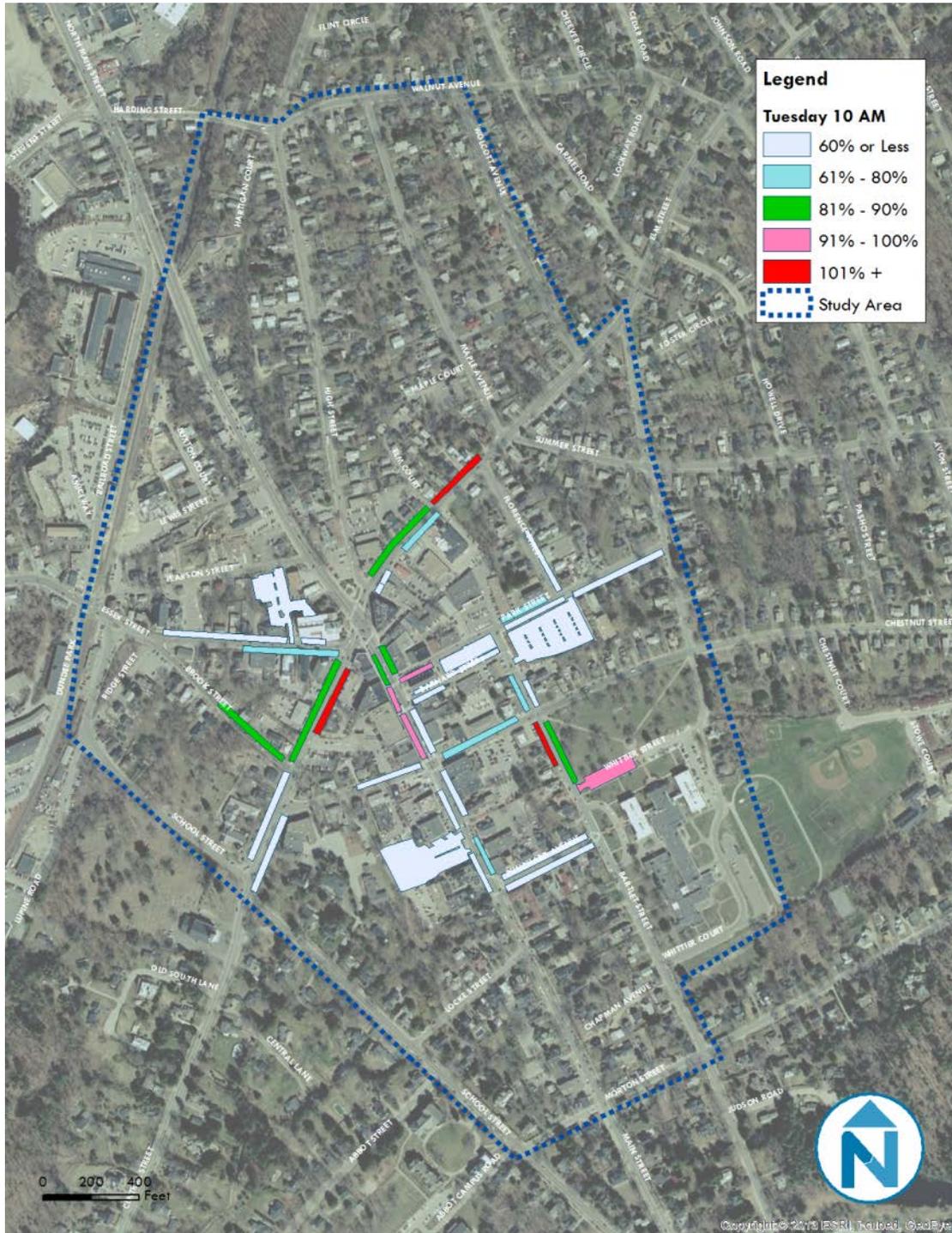
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Figure 65 Parking Utilization Tuesday 9 AM



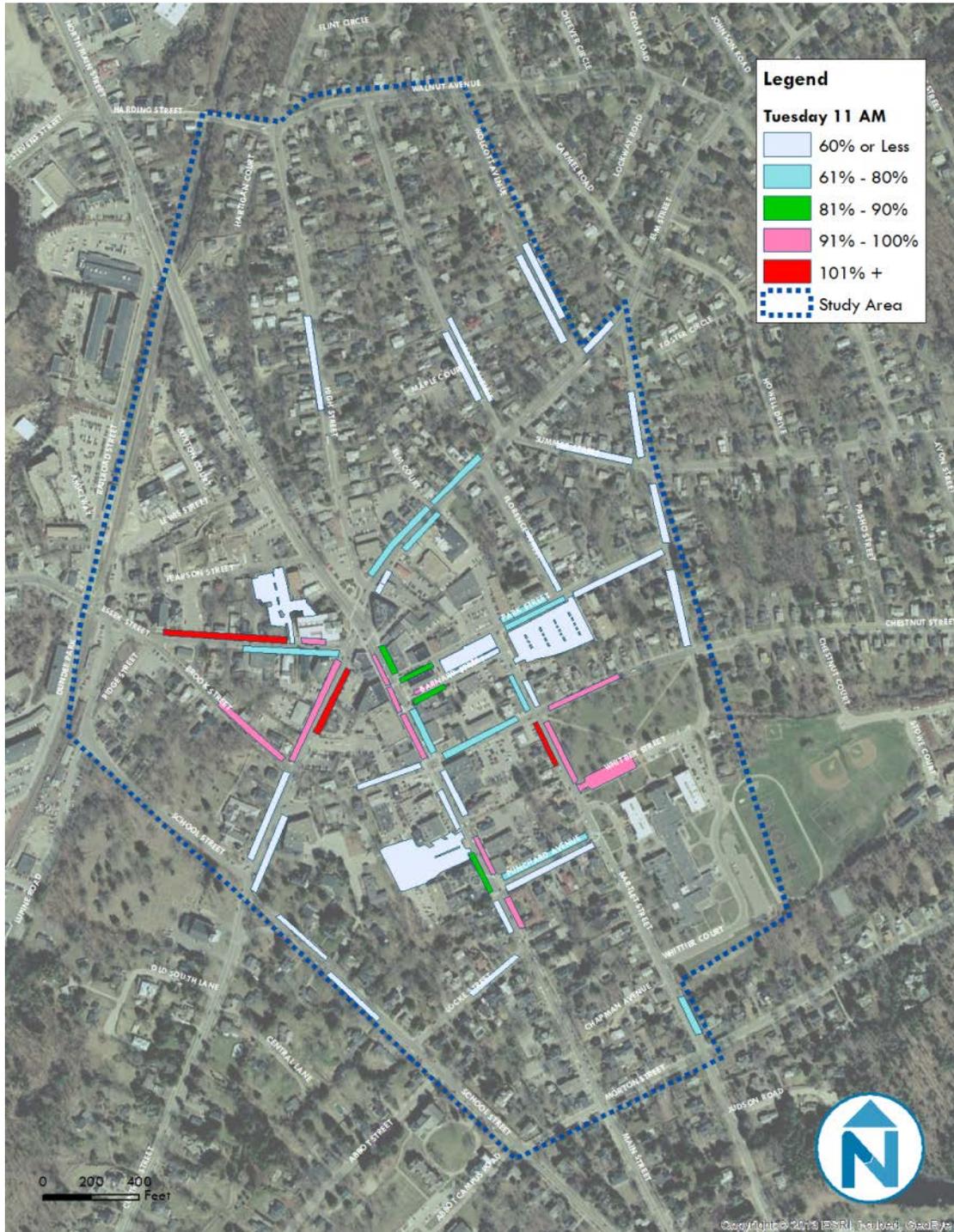
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Figure 66 Parking Utilization Tuesday 10 AM



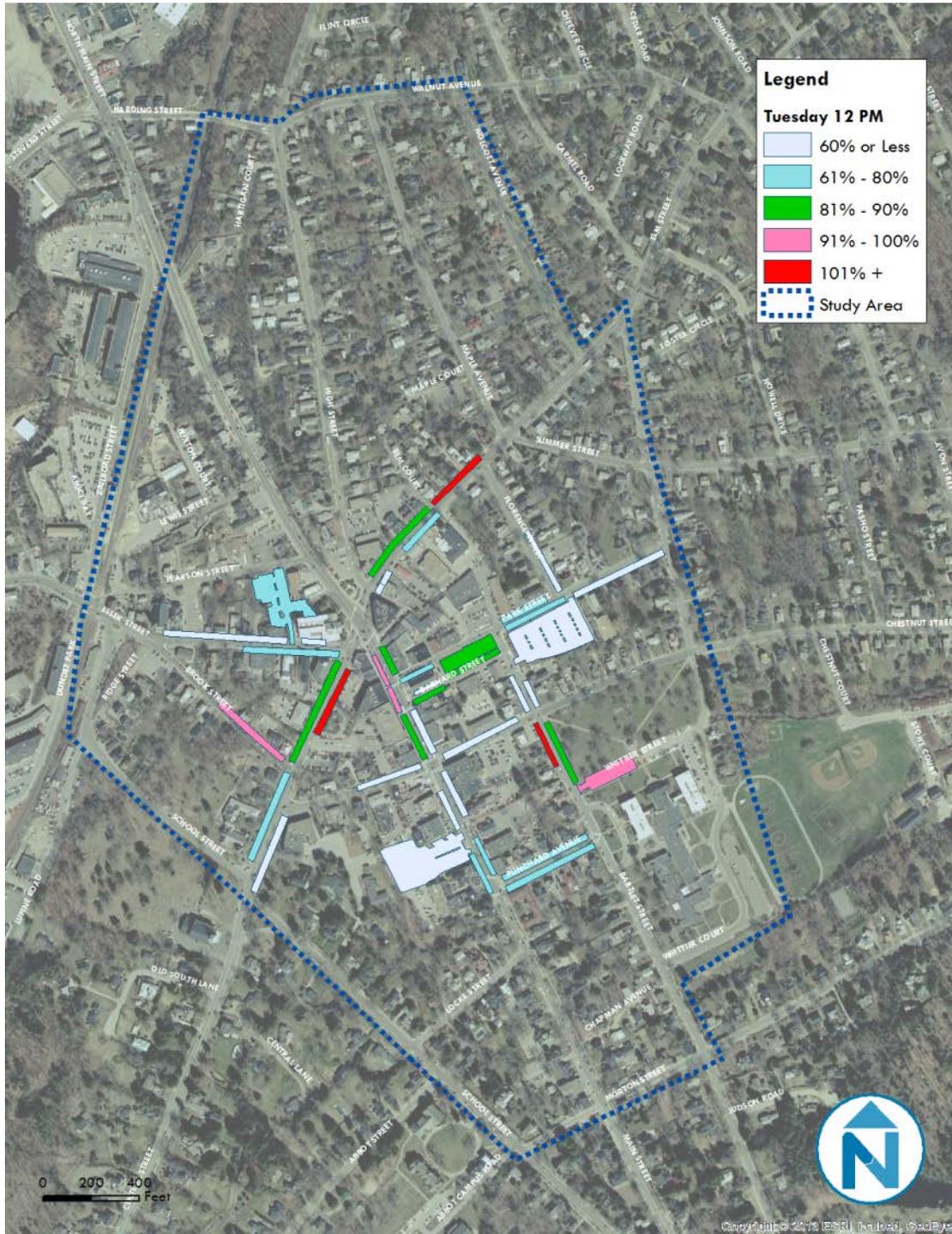
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Figure 67 Parking Utilization Tuesday 11 AM



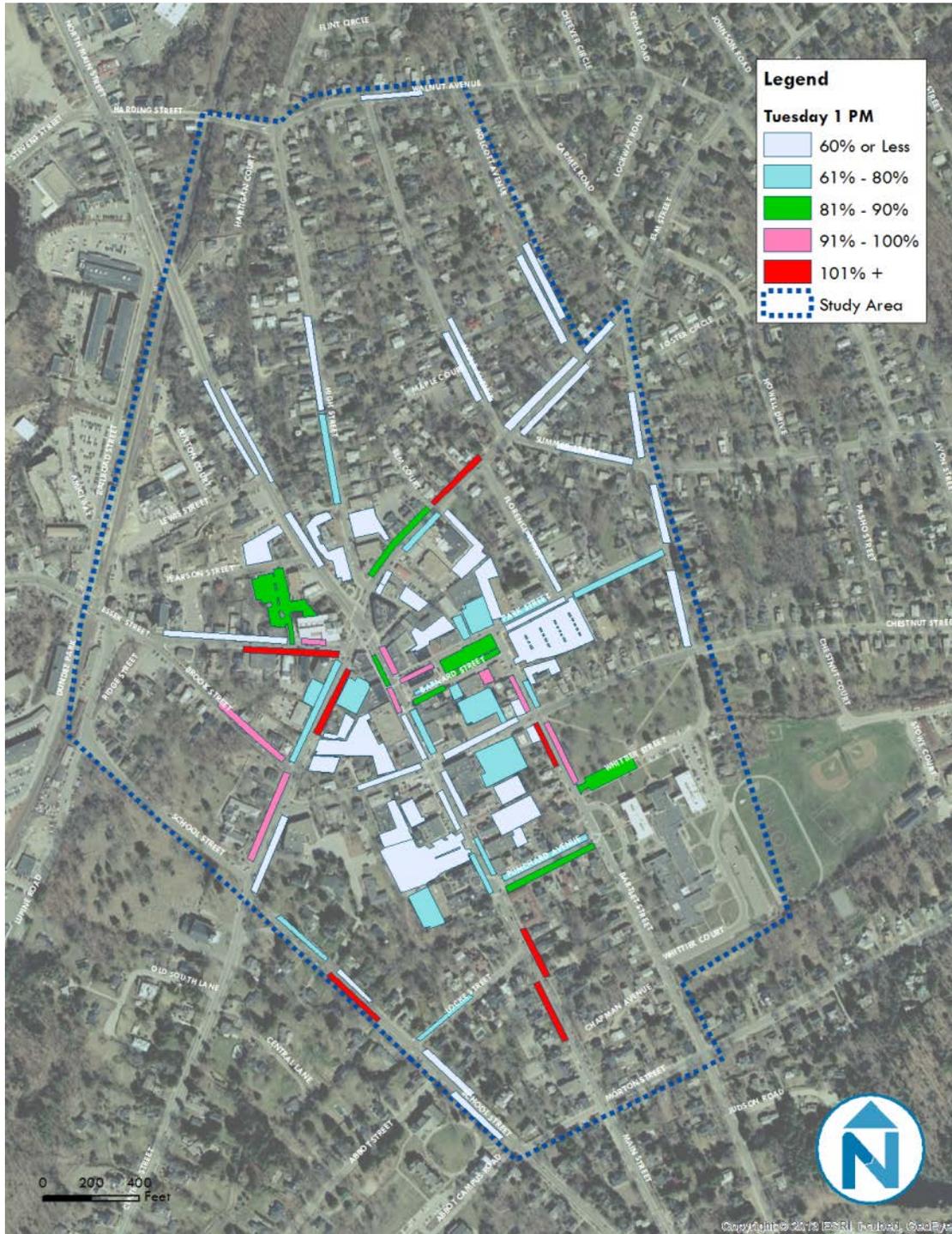
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Figure 68 Parking Utilization Tuesday 12 PM



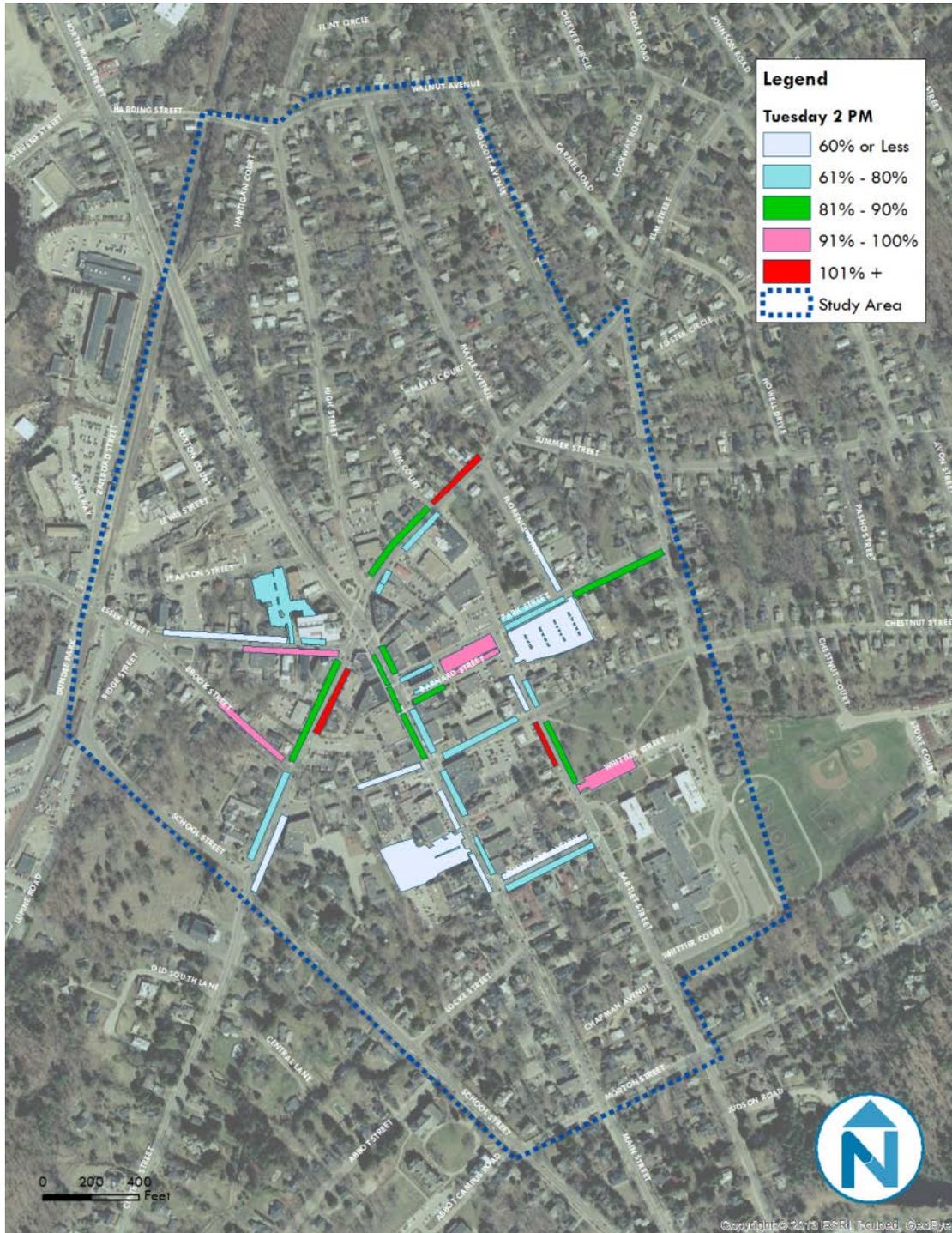
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Figure 69 Parking Utilization Tuesday 1 PM



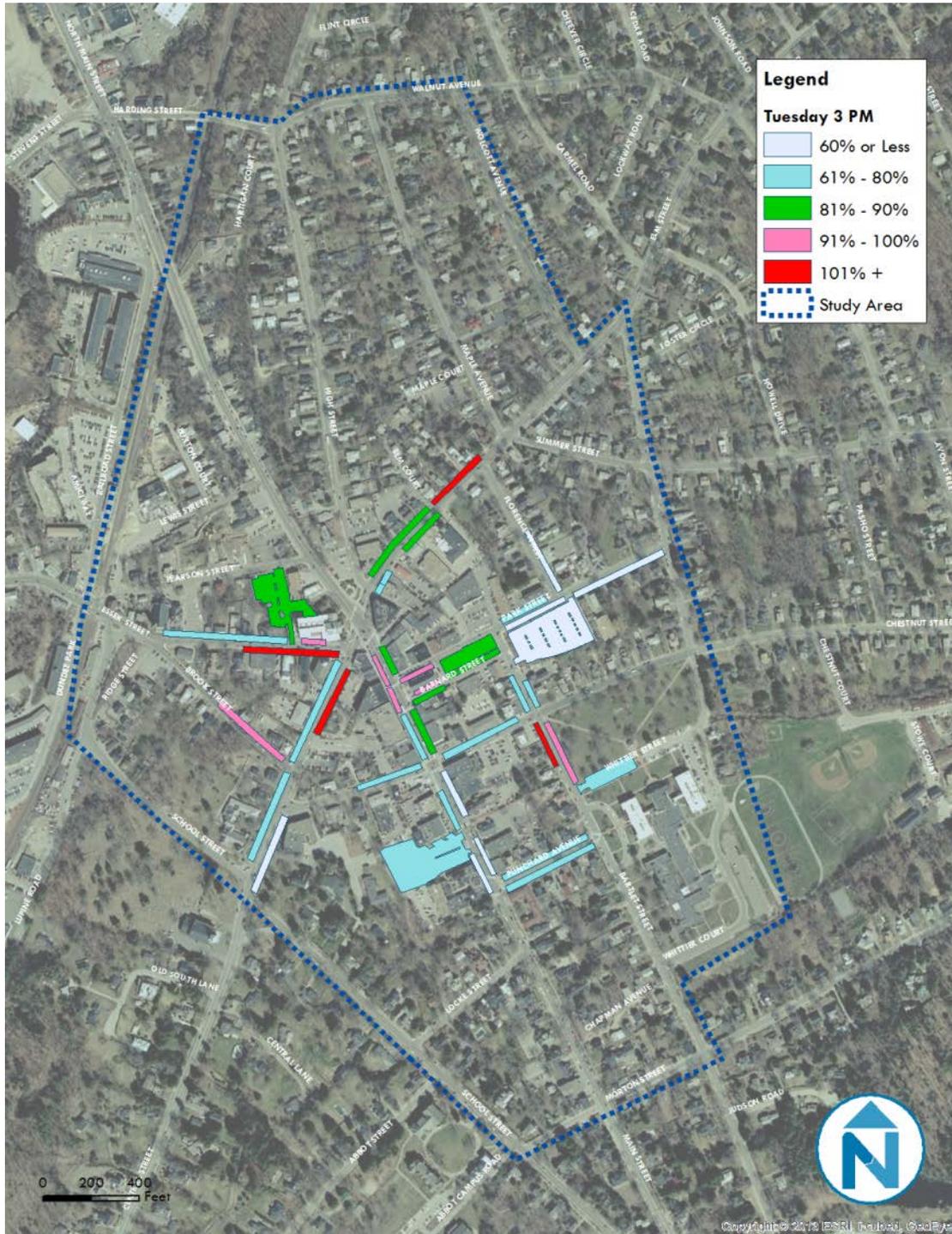
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Figure 70 Parking Utilization Tuesday 2 PM



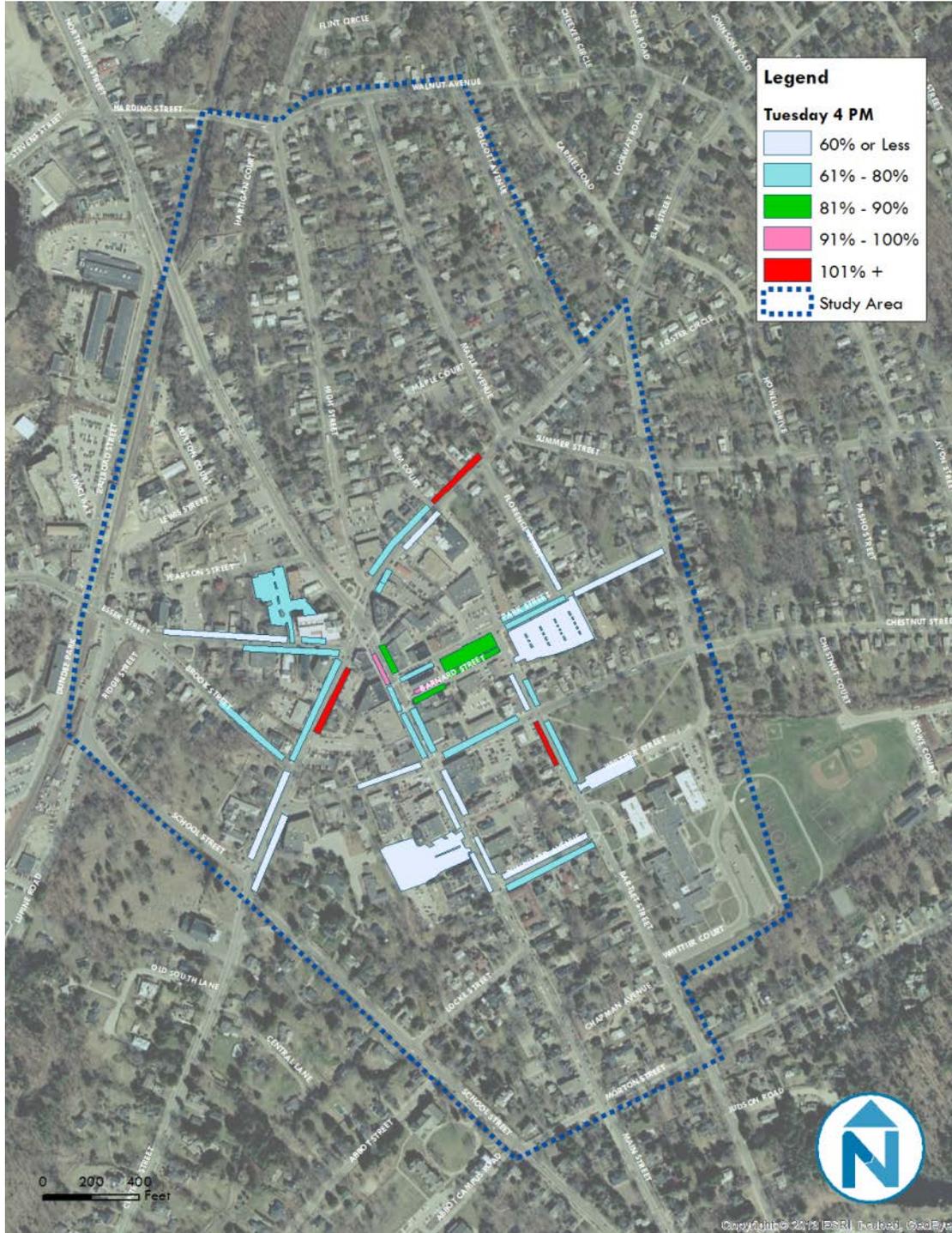
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Figure 71 Parking Utilization Tuesday 3 PM



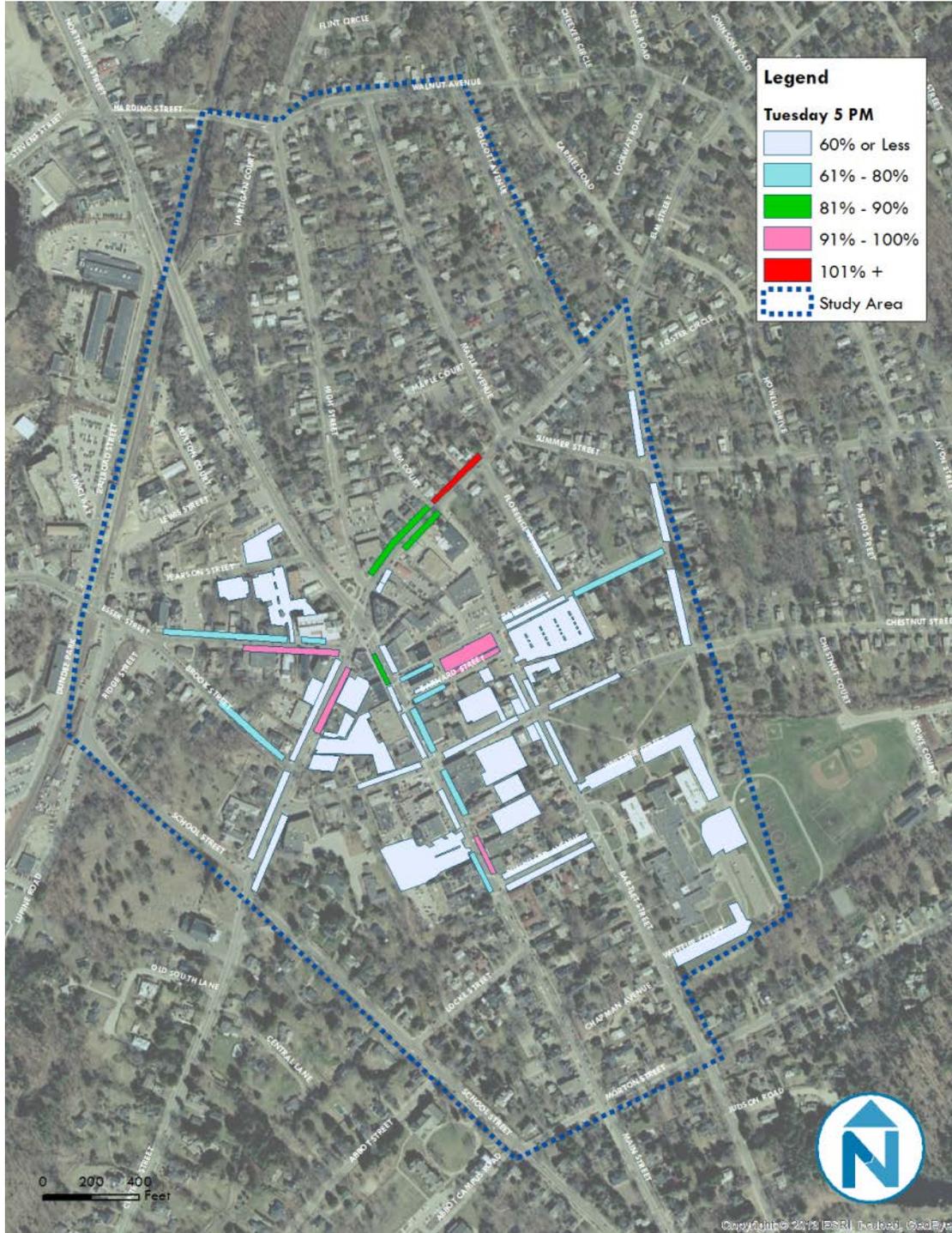
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Figure 72 Parking Utilization Tuesday 4 PM



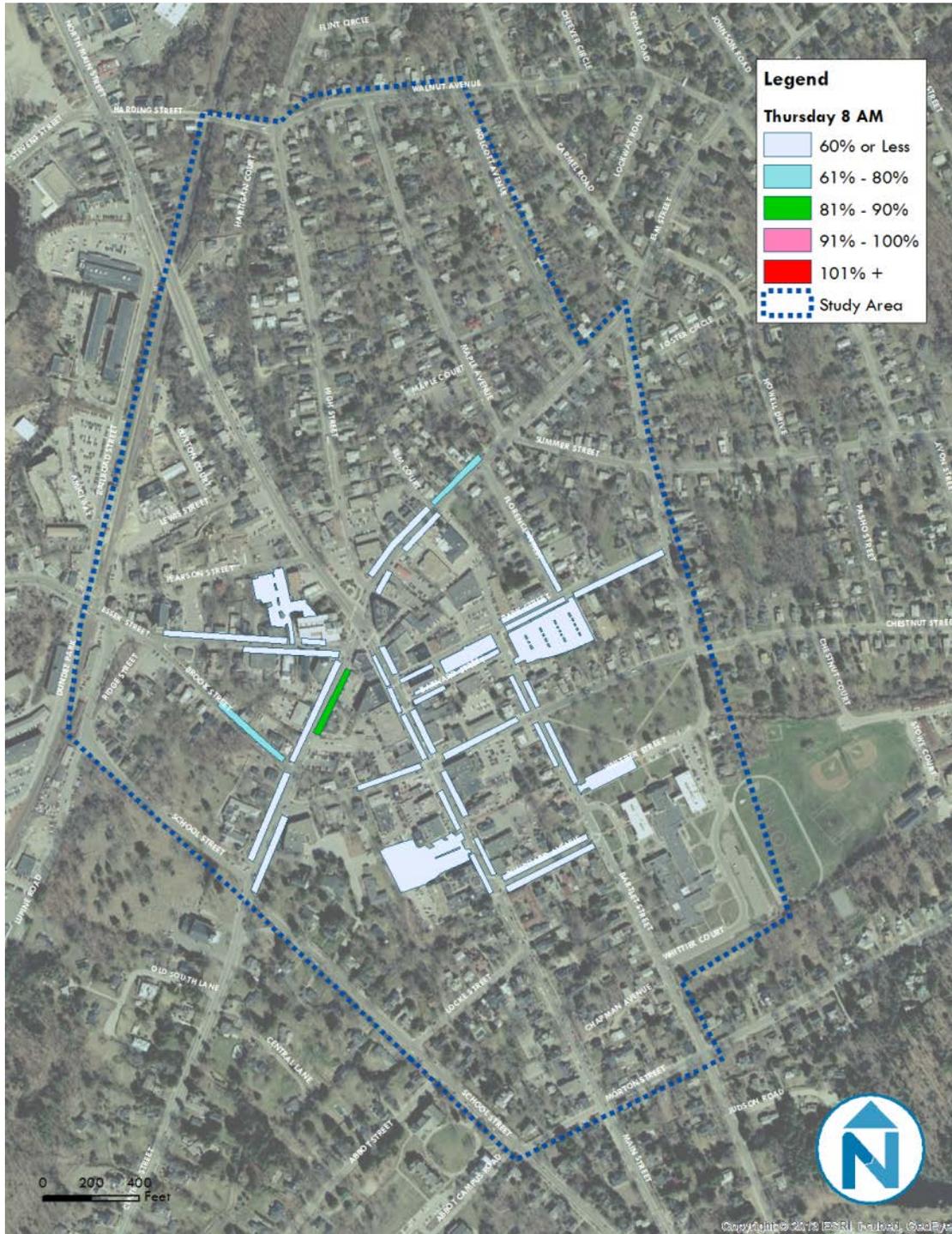
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Figure 73 Parking Utilization Tuesday 5 PM



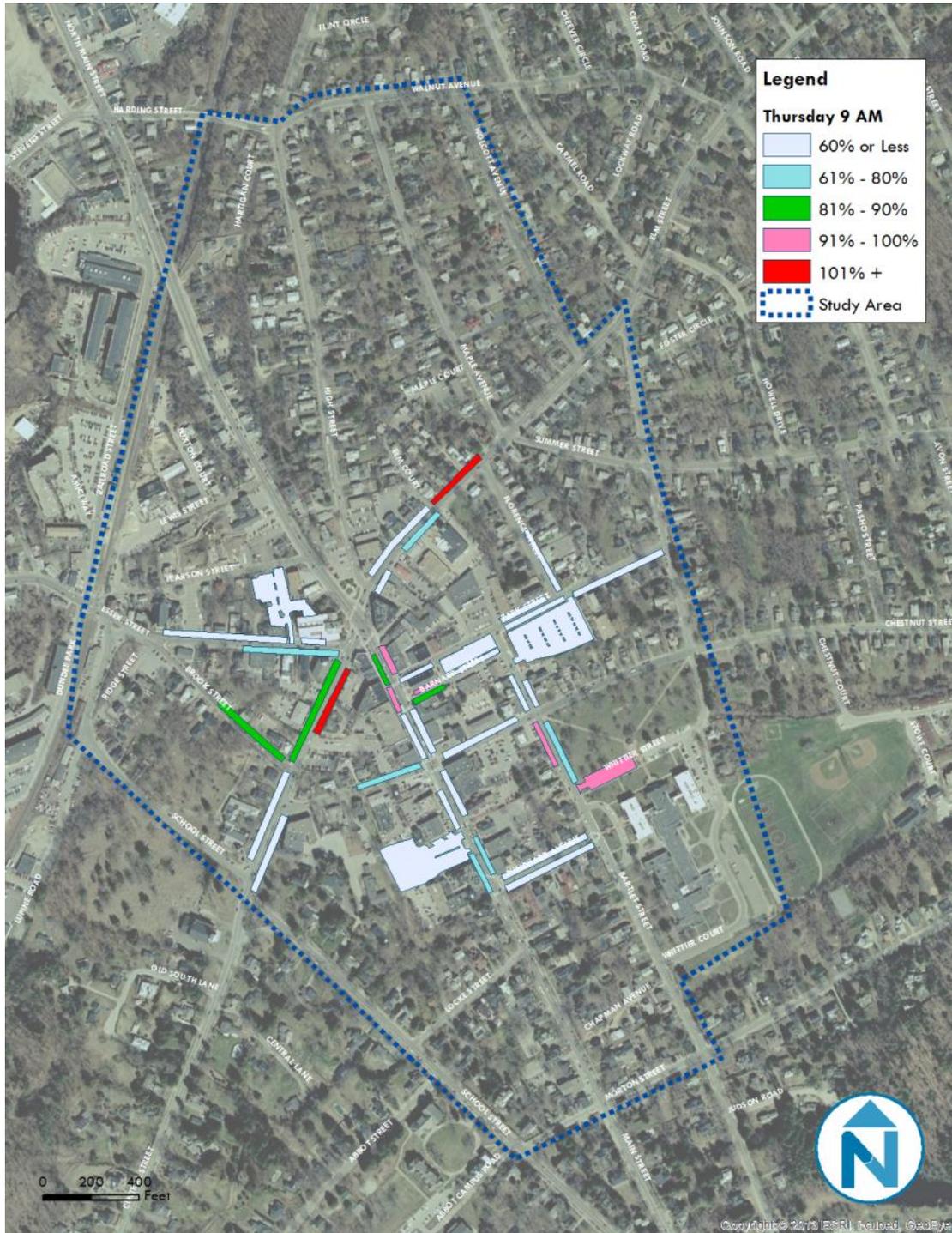
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Figure 74 Parking Utilization Thursday 8 AM



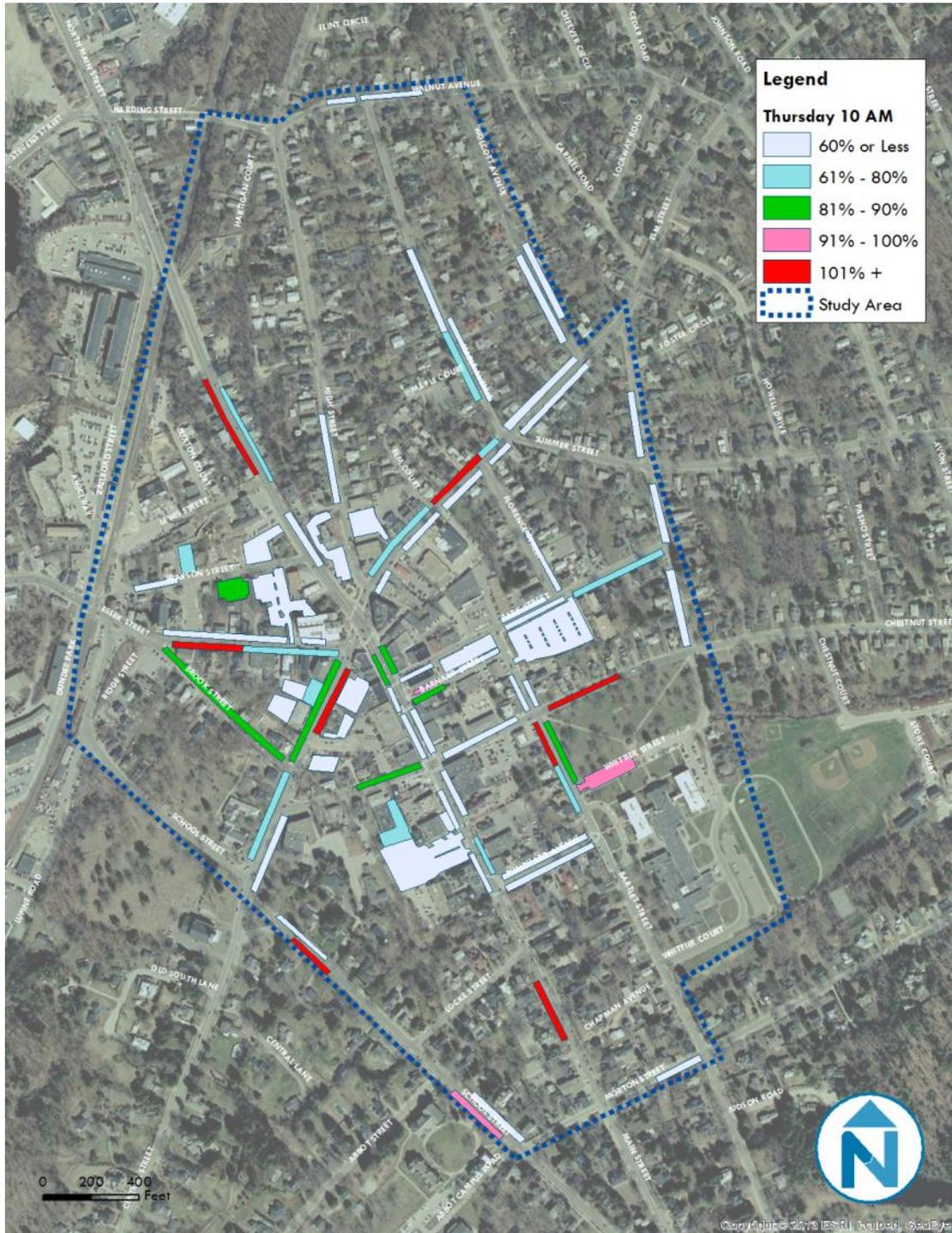
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Figure 75 Parking Utilization Thursday 9 AM



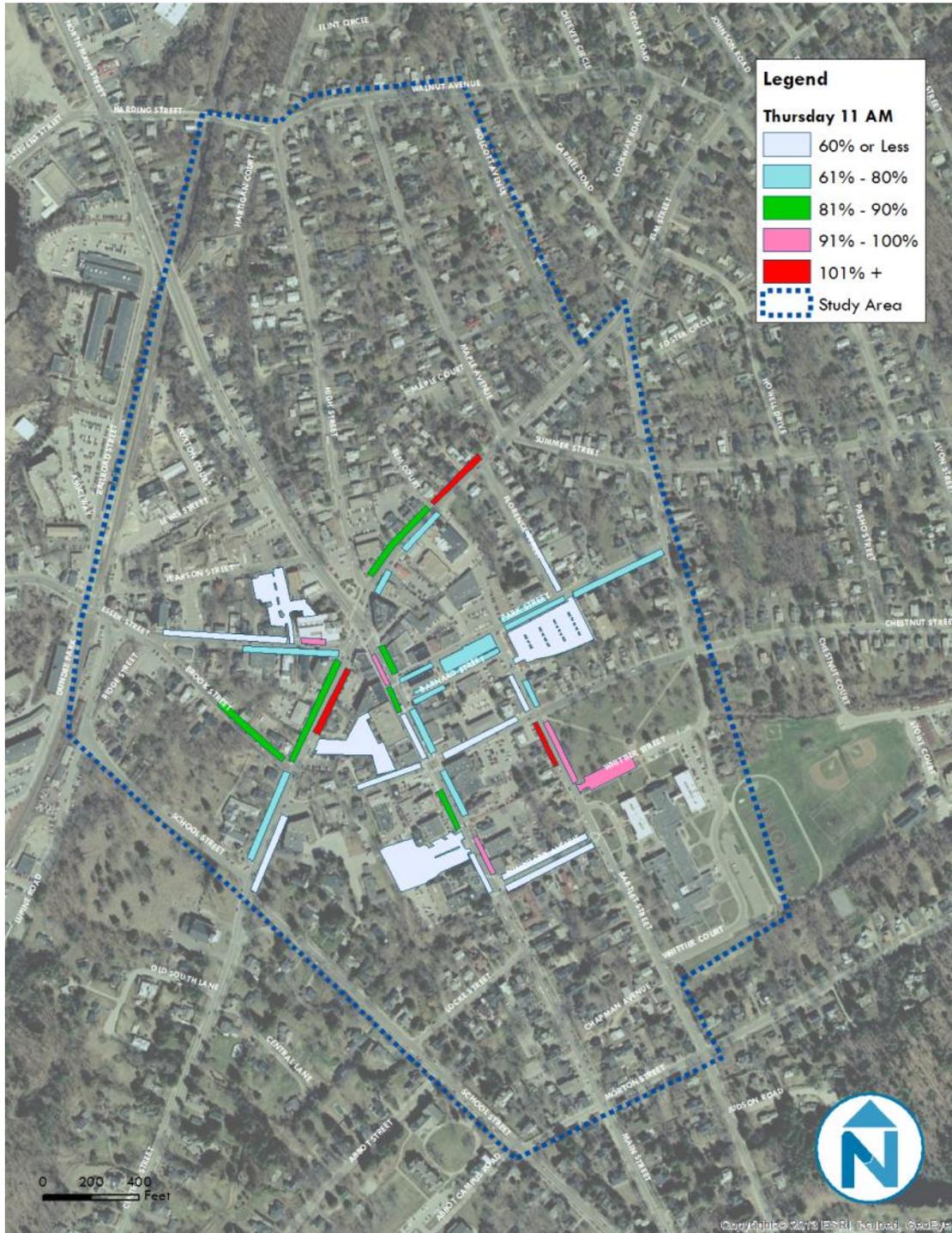
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Figure 76 Parking Utilization Thursday 10 AM



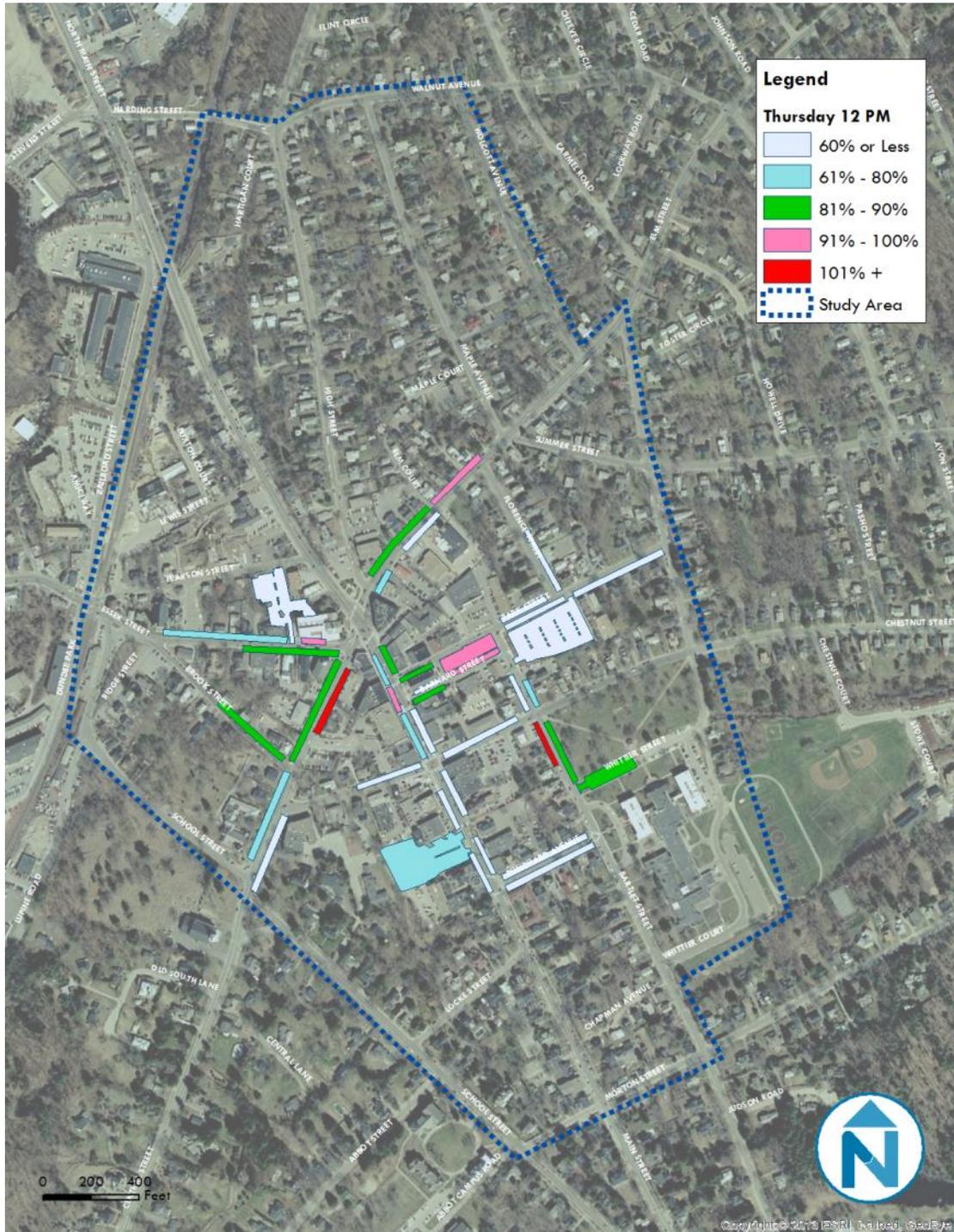
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Figure 77 Parking Utilization Thursday 11 AM



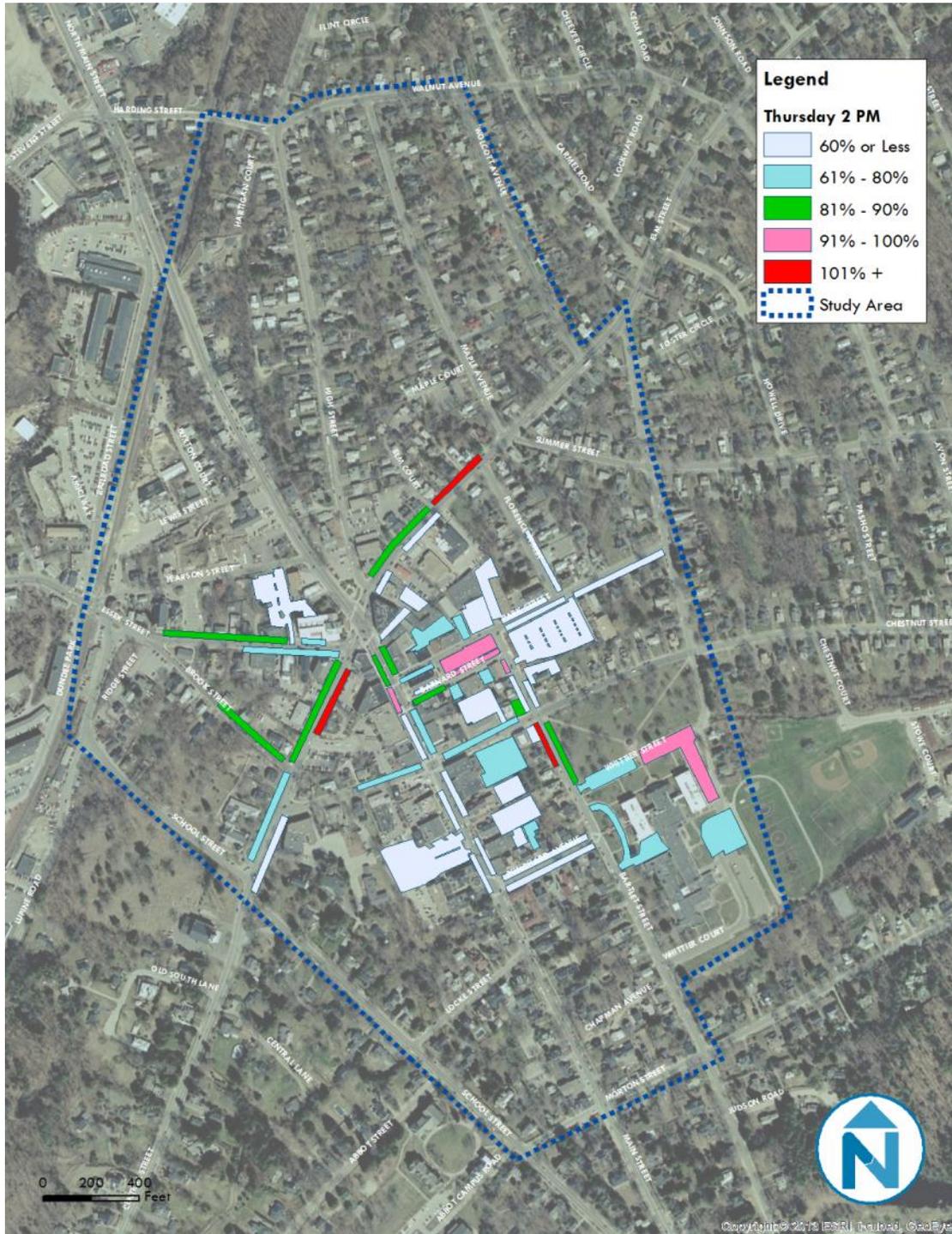
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Figure 78 Parking Utilization Thursday 12 PM



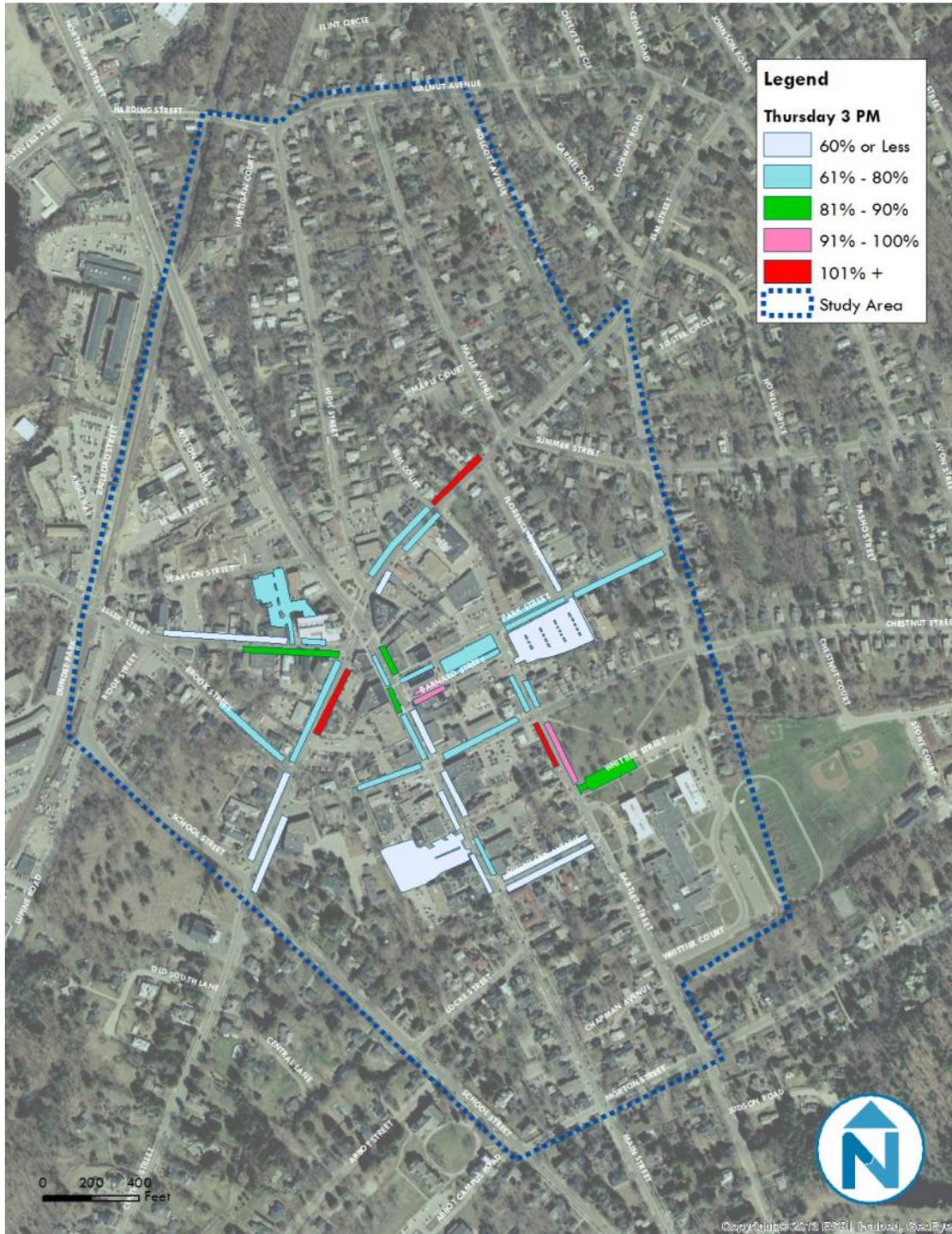
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Figure 80 Parking Utilization Thursday 2 PM



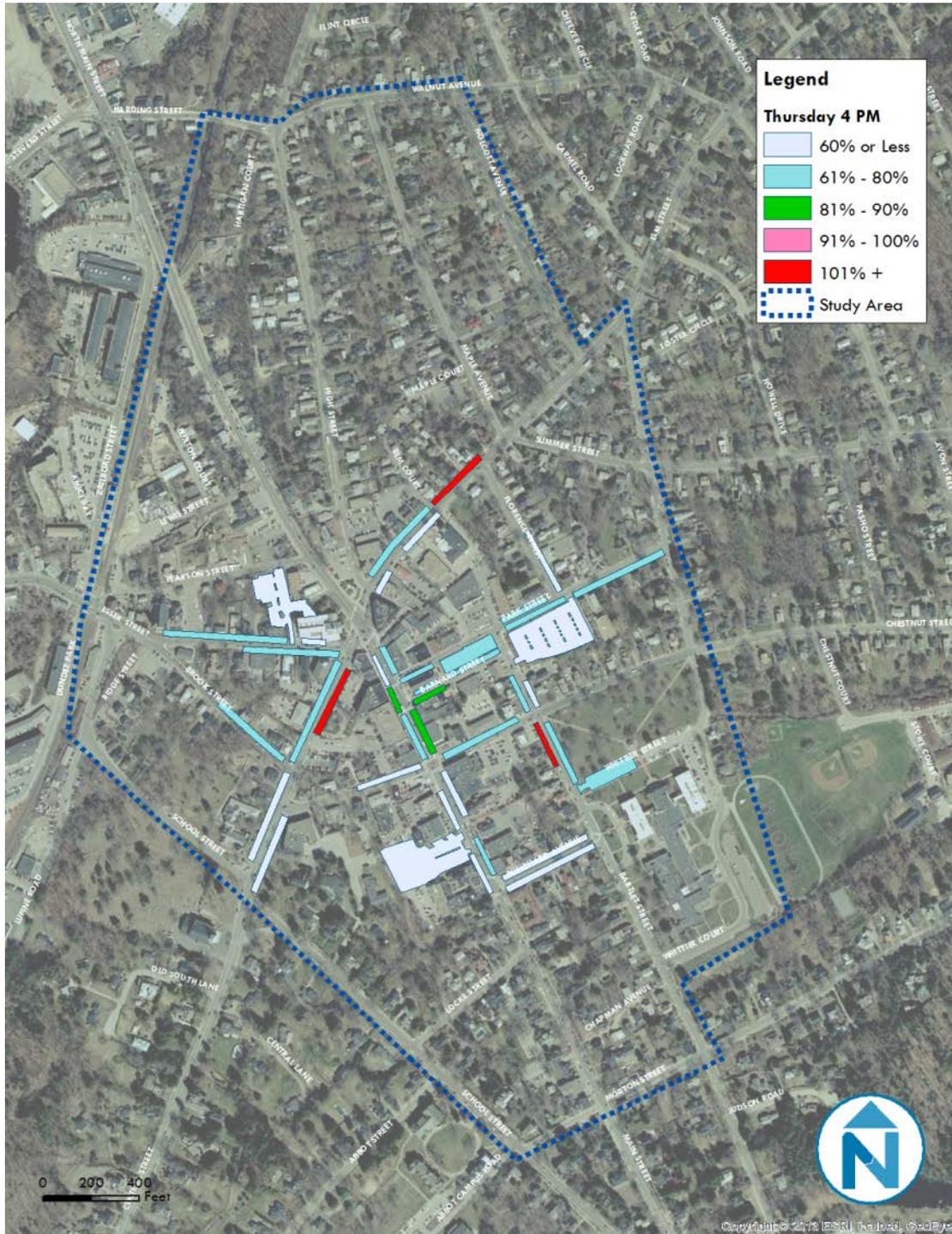
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Figure 81 Parking Utilization Thursday 3 PM



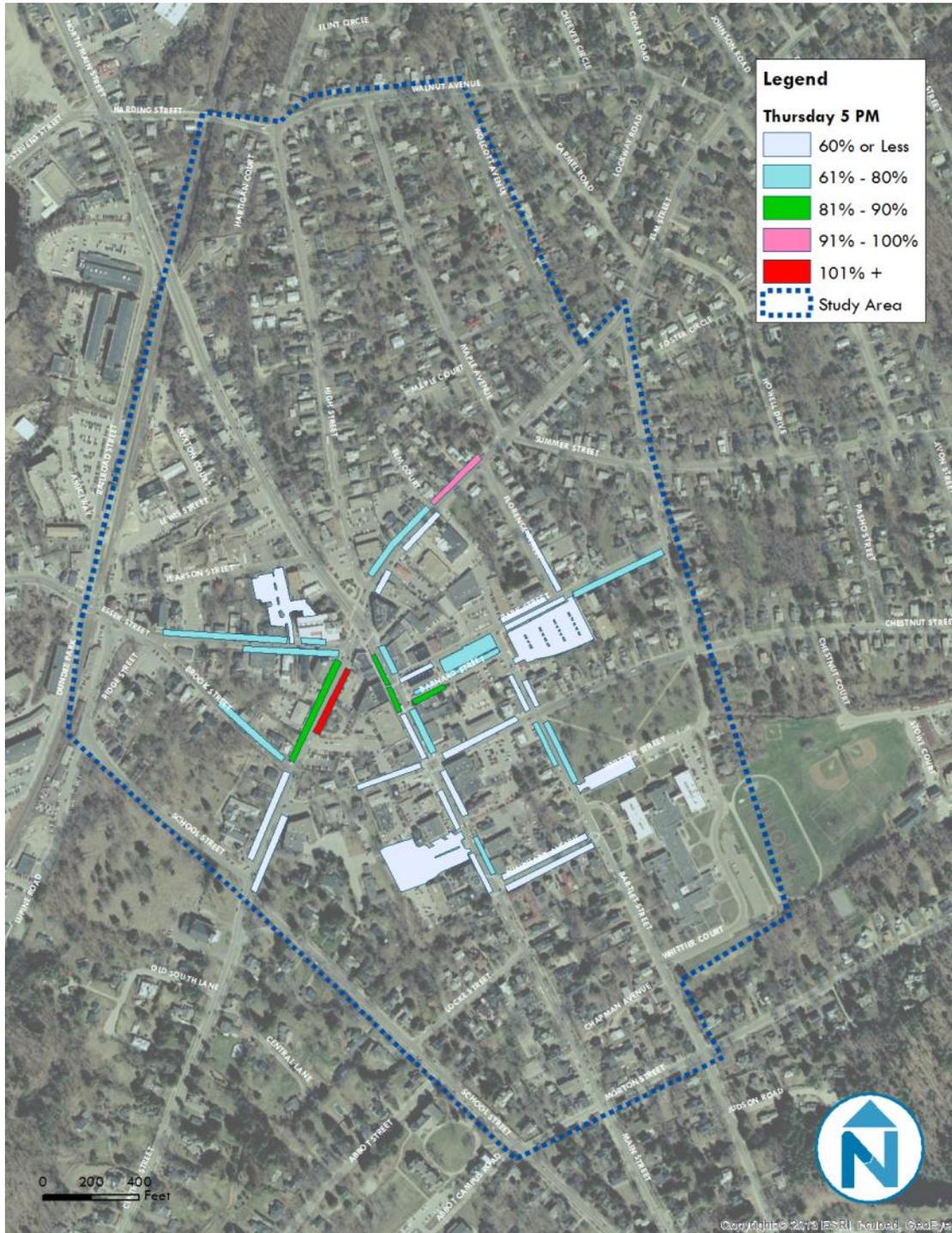
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Figure 82 Parking Utilization Thursday 4 PM



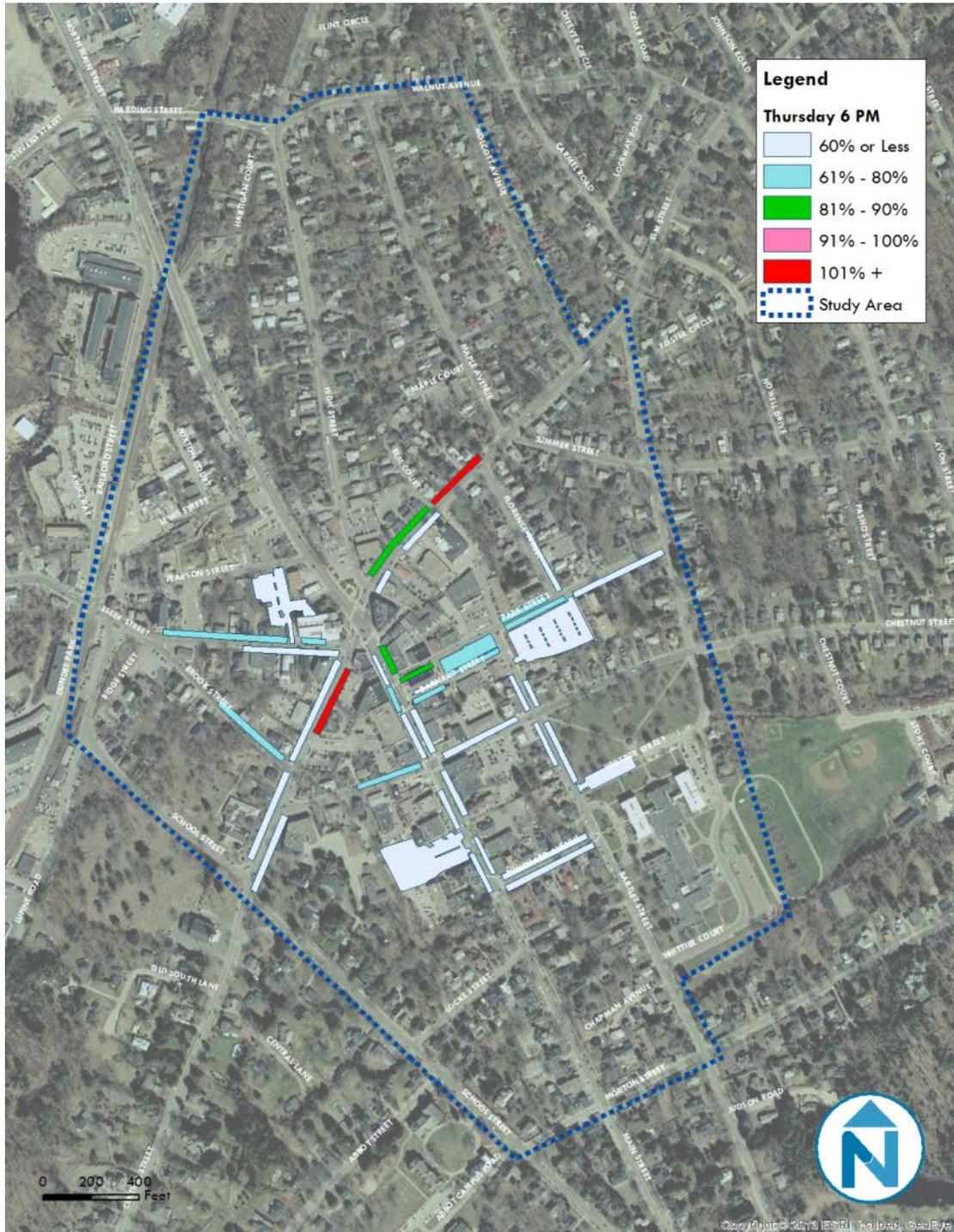
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Figure 83 Parking Utilization Thursday 5 PM



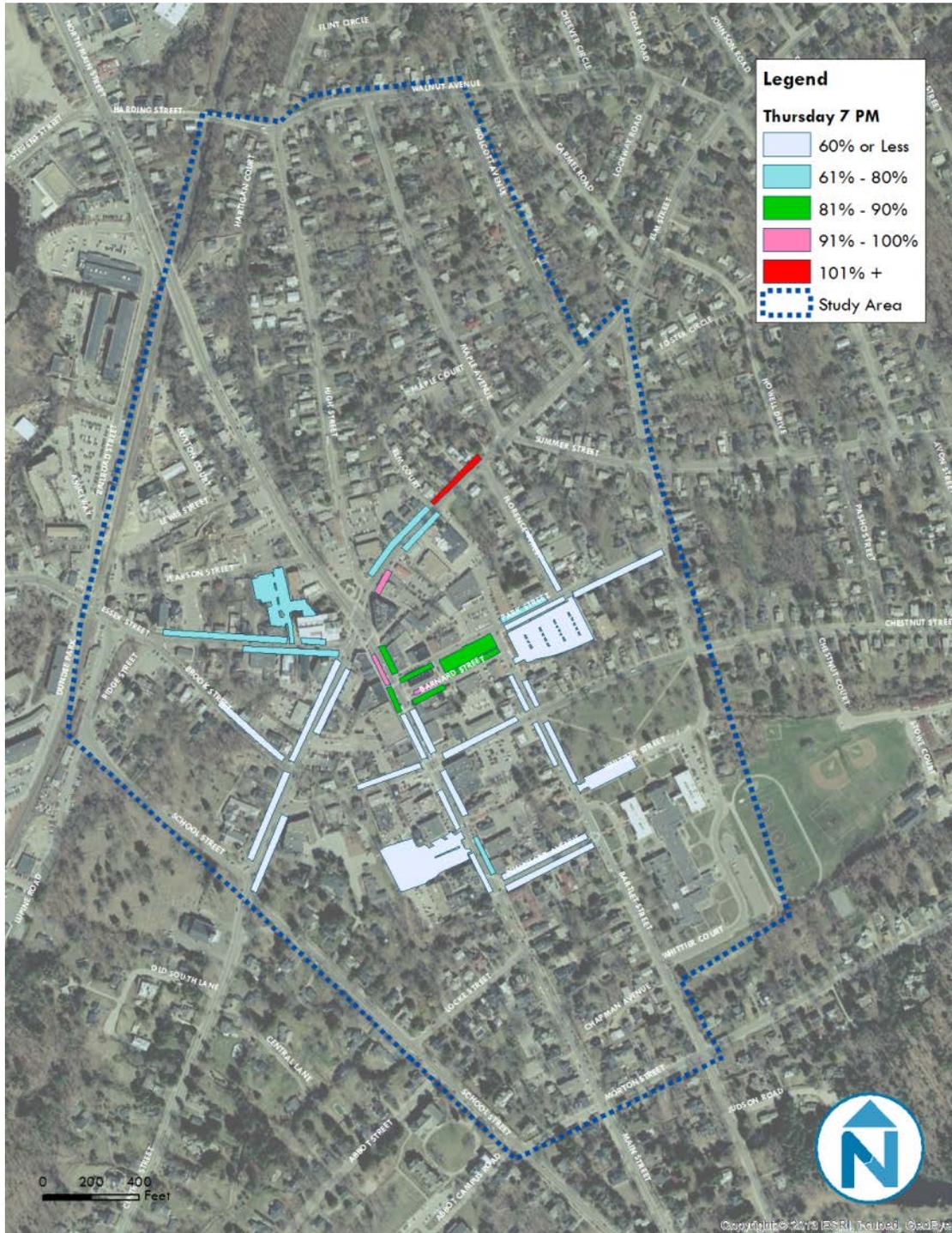
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Figure 84 Parking Utilization Thursday 6 PM



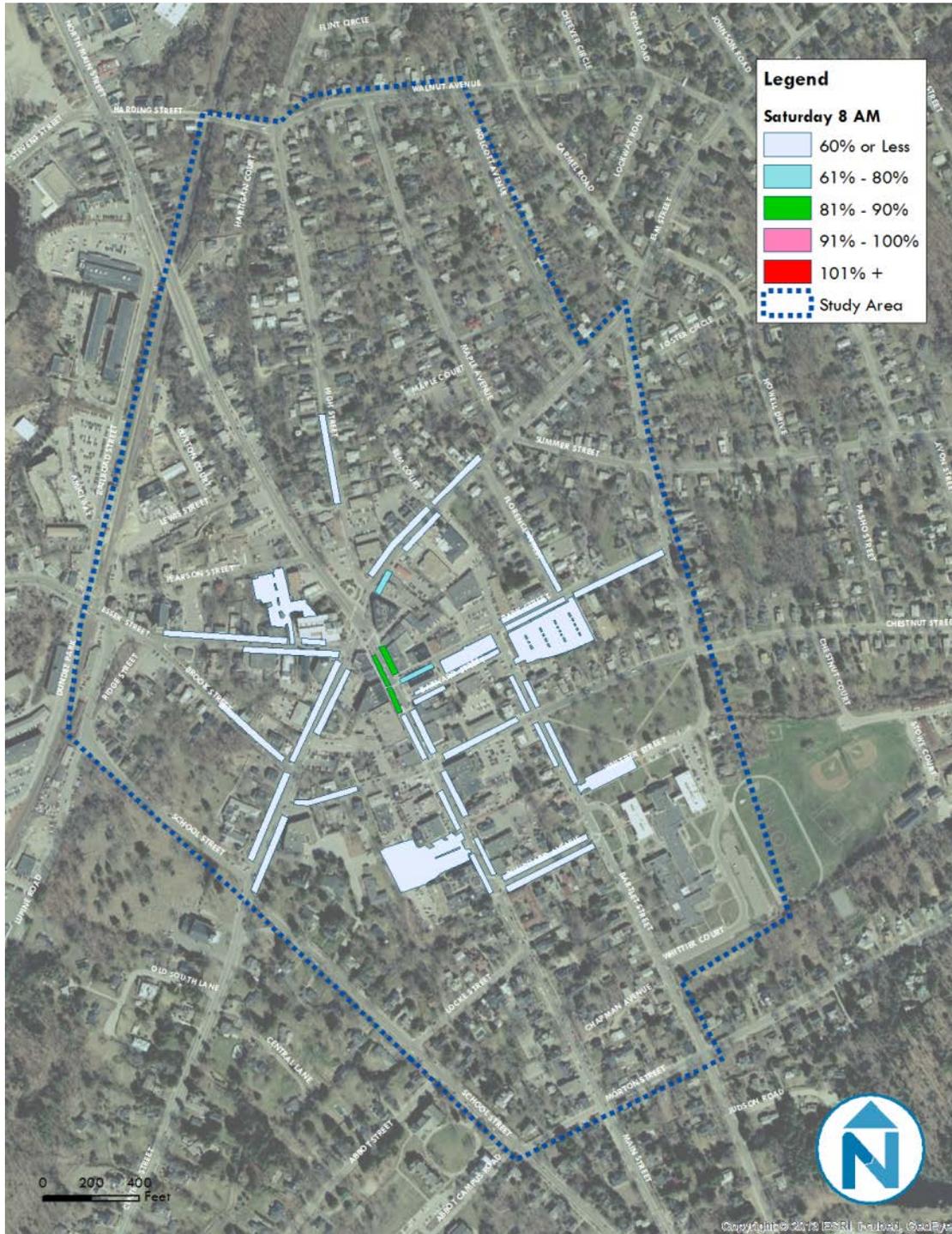
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Figure 85 Parking Utilization Thursday 7 PM



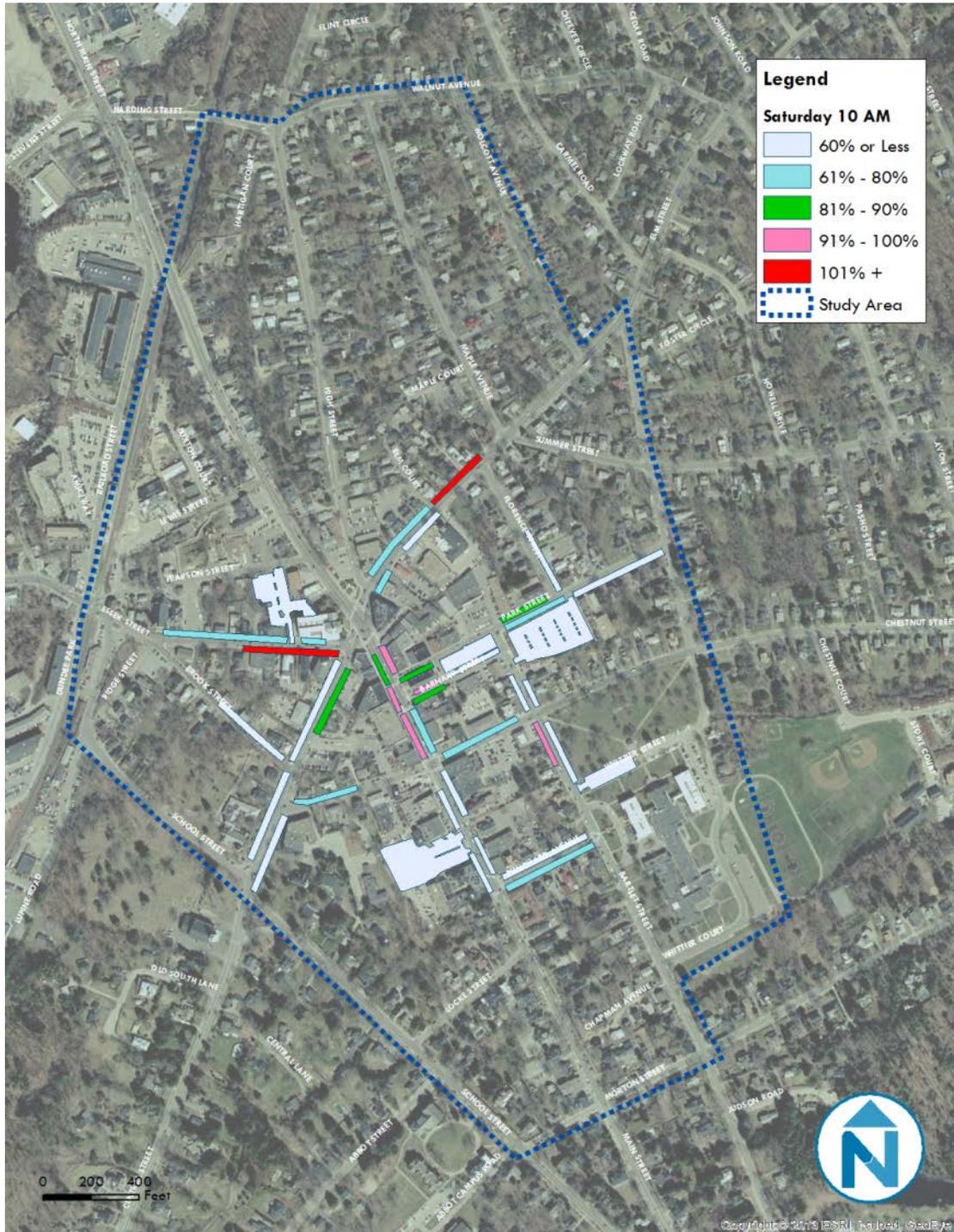
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Figure 86 Parking Utilization Saturday 8 AM



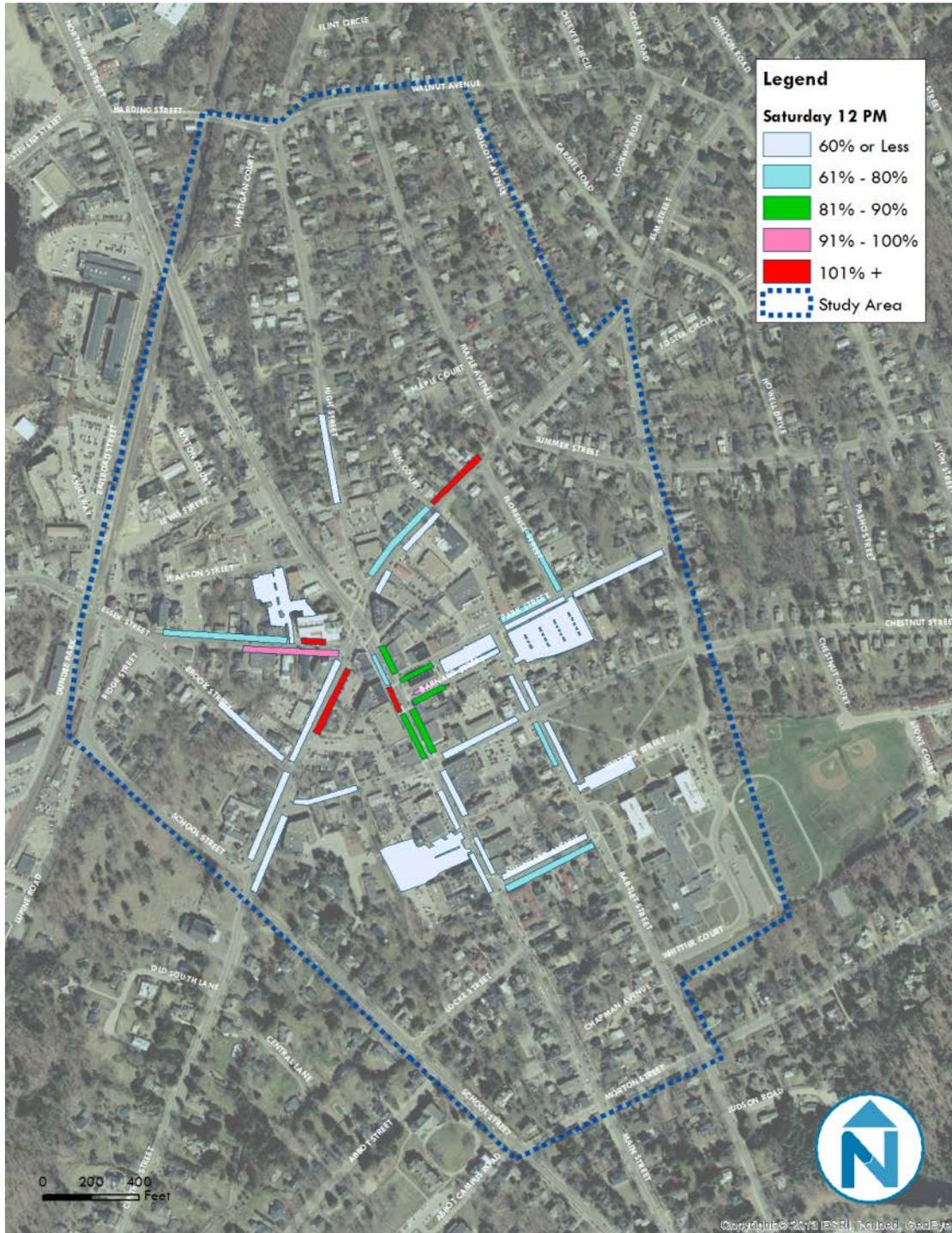
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Figure 87 Parking Utilization Saturday 10 AM



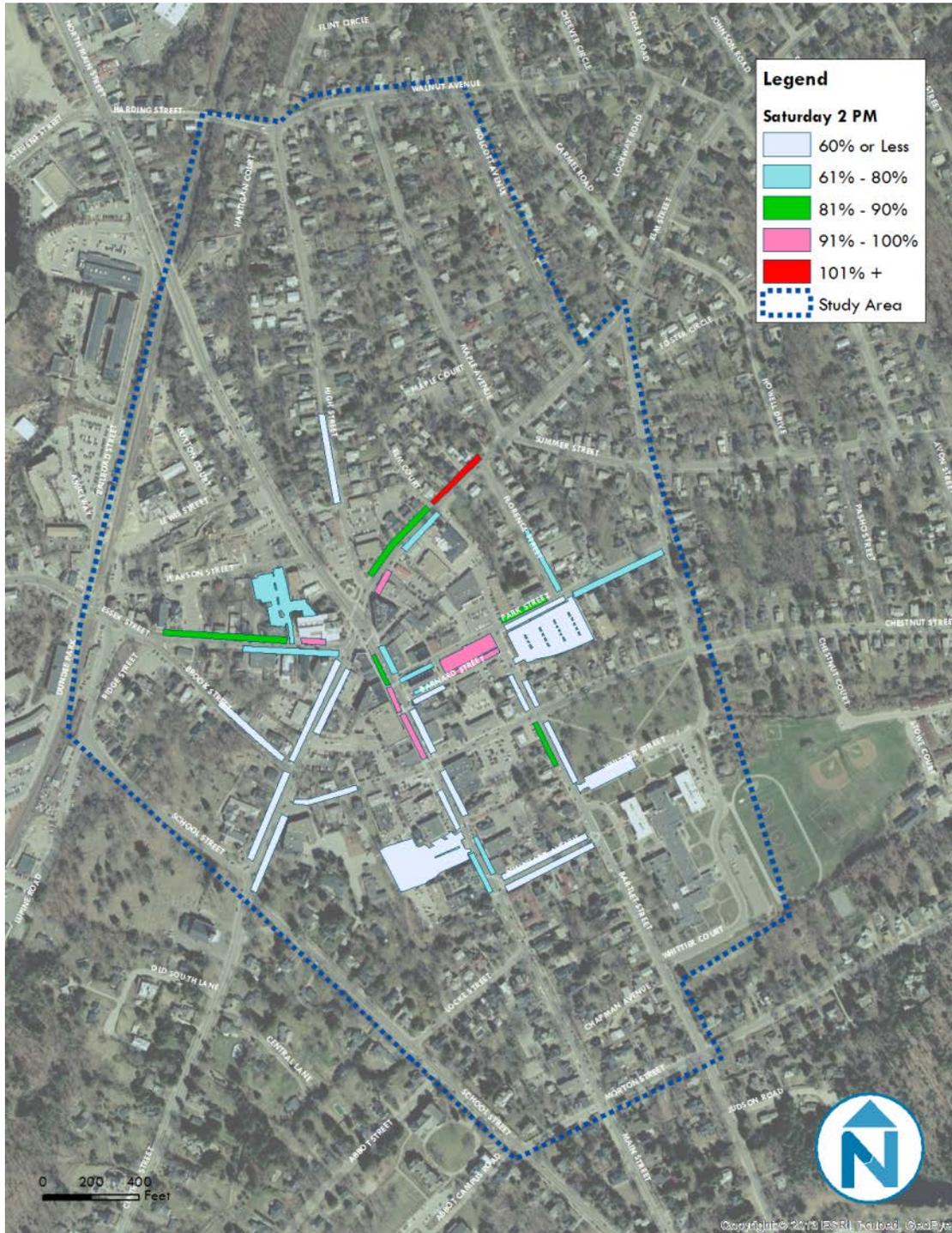
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Figure 88 Parking Utilization Saturday 12 PM



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Figure 89 Parking Utilization Saturday 2 PM



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Figure 90 Parking Utilization Saturday 4 PM

