



City of Salem

SALEM COMPREHENSIVE PARKING PLAN

FINAL REPORT • July 2010



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Salem Comprehensive Parking Study

1. Overview

The city of Salem is a coastal community that serves as a regional destination for many purposes. The city's downtown boasts numerous tourist attractions, historical sites, and commercial and educational institutions. Over 6,000 daily workers, 41,000 year-round residents, and a million annual visitors enjoy Salem's diverse destinations. Salem is home to world class museums, Salem State College, the North Shore Medical Center, and the Essex County District Superior and Probate Courts. The downtown – comprised of fairly dense two to six story buildings – is home to a combination of historical and cultural destinations, restaurants, shops, residences, and office space. The existing Salem landmarks, including Museum Place Mall, Salem Common, the Salem Witch Museum, and Peabody Essex Museum, are now welcoming new downtown growth. The J. Michael Ruane Judicial Center will create a new anchor at one end of the downtown; over 400 housing units have been created in the downtown in the past few years; and mixed use developments are underway, including the adaptive reuse of the former Essex County jail building.

With this new growth, daily resident and employee demands, and monthly challenges such as a heavy visitor season and New England winters, Salem's parking infrastructure can often be burdened, confusing many who try to park in downtown. The City of Salem decided to conduct a comprehensive downtown parking study based on the recommendation of an Urban Land Institute technical assistance panel in the fall of 2008. The panel made two primary recommendations to the City: first, the most feasible redevelopment scenario for the Church Street lot was multi-family residential, and second, develop a downtown parking management plan. The panel found a parking management plan to be a necessary tool to help promote the vision of the City and to use resources most effectively. Recommendations included basing the plan around major parking facilities, including Riley Plaza, Museum Garage, and the Sewell Street Lot, as well as utilizing the MBTA commuter rail station. The City recognized that a comprehensive downtown parking program would allow the community to maximize the potential of the downtown for civic, residential, commercial, and tourism growth.

The City selected Nelson\Nygaard (the consultant) to conduct a detailed analysis of the existing parking facilities, including public and private surface lots, structures, and on-street parking, to help determine the sufficient supply of parking in Salem. Supplies that are – or are perceived to be – insufficient reduce accessibility for motorists. However, supplies that are overly sufficient, discourage use of alternative travel modes, promote increased traffic congestion, and frequently impose upon the walkability of historic downtowns like Salem's. The City sought an appropriate balance of well-managed parking that can greatly improve the attractiveness of a community while preventing the negatives of auto-oriented design.

Salem has great existing resources in its existing transportation network, and if efficiently managed in a coordinated and multi-modal fashion, these resources can become an untapped resource for improving mobility and convenience in downtown. The city is directly connected to Boston through commuter rail, bus service, and seasonal ferry service, and it is close Route 128 and Route 95. Investments in the infrastructure, such as the new Bridge Street bypass road leading into downtown Salem, have made for a center with great connectivity. Downtown Salem has eleven public off-street lots, two public parking garages, hundreds of on-street spaces, and thousands of off-street private parking spaces. While the multitude of parking facilities and parking operators poses a challenge, new approaches to coordinating these assets can bring much greater efficiencies while benefiting all parties.

2. Approach

To coordinate the input of various stakeholders, the City of Salem organized a working group of key stakeholders, including City of Salem staff, the Salem Redevelopment Authority, the chamber of commerce, Salem Main Streets, the Salem Partnership, and other members of the City Parking Committee. This group met six times throughout the course of the study to guide the consultant's work, review materials, and guide the outcome of the analysis. The working group confirmed the final study area and all work tasks, which are described below.

This consultant's approach focused on collecting as much existing use information as possible to come up with a profile of parking activity in Salem. Key questions the data was intended to answer included:

- How much parking is available for different user groups, including residents, employees, commuters, visitors and shoppers?
- How is existing parking being utilized in the downtown?
- How are motorists directed to parking?
- Who gets the best spaces?
- How much spillover is occurring in surrounding residential neighborhoods?
- How is the unique parking demand during events, weekends, near Halloween, and during snow storms managed?

To answer these questions, the consultant collected and reviewed all existing studies related to parking as well as all zoning code and regulatory language influencing the operation and provision of parking in the downtown. The consultant also analyzed the City's existing zoning regulations and compared them to industry standards and best practices in other similar-sized cities in the United States. (Section 3)

Several data collection tasks were conducted, including:

- **Parking Inventory.** In August and September, 2009, the consultant conducted a detailed field inventory of all public and private spaces within the downtown, creating a detailed map and database of all regulations, time-limits, hours of operation, ownership, etc. built on the City's existing Geographic Information System (GIS). (see Section 4)
- **Parking Utilization.** During the months of August and October, 2009, the consultant conducted field surveys of all spaces in the inventory to establish their peak daily parking accumulation and daily utilization. With the assistance of Salem interns, observations were conducted every two hours for 12-hour periods on average weekdays and Saturdays. (Section 4)
- **Parking Turnover.** Detailed counts of the duration of occupancy of every space in fifteen-minute increments were conducted on several key downtown block faces on Washington and Essex Streets. (Section 4)
- **Public Workshops.** In November, 2009, the consultant facilitated a community workshop to record input on problems in the downtown parking system, as well as recommended changes. Over thirty concerned citizens turned out to record their concerns through a voting exercise, on notecards, and directly on maps of the study area (Section 5). A second workshop in February, 2010, was held to discuss and revise the preliminary recommendations of the parking study.

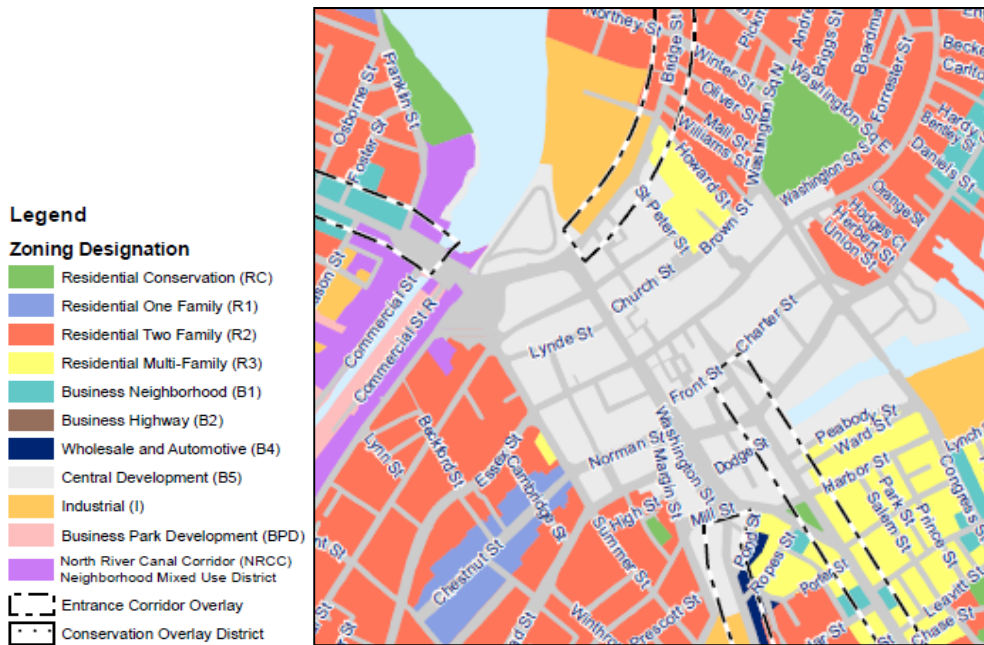
- **Parking User Surveys.** The consultant prepared a paper and on-line survey instrument that sought basic parking preference information from respondents. It was distributed and advertised among downtown stakeholders by City staff. Over 600 responses were recorded. (Section 6)
- **Interviews.** To supplement the feedback from the working group and surveys, detailed phone interviews were conducted with other downtown business owners in order to capture the perspective of major retailers and employers. (Section 6)
- **Parking Technology and Procedure Review.** This review assessed applicable advanced parking technologies, such as pay stations, electronic occupancy signs, and cell-phone enabled occupancy and payment information systems that could be operated in Salem to manage on- and off-street parking, focusing on case studies of the parking procedures in cities around the country with conditions similar to Salem. (Section 7)

Working in close coordination with the working group, the consultant summarized key findings and developed the recommended parking program that is detailed below. (Sections 8 & 9)

3. Existing Parking Standards

The primary area of focus for the Comprehensive Parking Program study is downtown Salem, which is almost entirely zoned Central Development (B5), with Residential Two Family (R2) on the edges, and pockets of Residential Multi-Family (R3) as well (see Figure 1). An Entrance Corridor Overlay covers several main roads in the study area. Just outside of the study area are the North River Canal Corridor Neighborhood Mixed Use District (NRCC) and a Business Park Development District (BPD).

Figure 1 Zoning Regulations Within Downtown



Key Findings

- General parking requirements in Salem exceed the most conservative national standards from the Institute of Transportation Engineers (ITE), which bases its standards on stand-alone buildings in areas without transit or the ability to walk to other uses. Outside downtown, Salem's codes require an excessive amount of parking.
- Within the downtown, Salem has appropriately eliminated parking requirements for all uses except residential. However, the current residential requirement exceeds even ITE standards.
- Shared parking is allowed city-wide. However, off-site parking must be within a confined 400-foot radius, which is much lower than an easy 5-minute walk distance of 1,200-feet.
- No front-yard parking is allowed in the downtown, helping to maintain a strong pedestrian and streetscape environment which facilitates vehicle trip reduction.
- The City already maintains clear curb cut guidance to reduce excessive breaks in the sidewalk. Further detailed guidance on the design of curb cuts should be included that

specifies an elevation equal to the sidewalk elevation in order to preserve a safe and level walking path across driveways

- The City has no provisions in zoning for bicycle parking, car-sharing, transportation demand management (TDM), or revealing the cost of parking (pricing, unbundling, or cash-out).

3.1 Zoning Ordinance Parking Requirements

While the general parking requirements shown in Figure 2 below apply to the B5, R2, and R3 zones, the certain types of development in the BPD and NRCC have a different set of parking requirements, as shown in Figure 3 and Figure 4.

General Parking Requirements

Based on a review of the most up-to-date Zoning Ordinance (September 2009), Salem's general parking requirements are higher than the peak parking demand rates found in **Parking Generation 3rd Edition** (Institute of Transportation Engineers, 2004), as illustrated in Figure 2. The peak parking demand rates found in the ITE guide are primarily derived from studies conducted in auto-dependent suburban settings. These rates are generally considered to be very conservative and when applied as minimum land development requirements in a dense setting – such as the current study area – they are likely to produce more parking than is required for a mix of uses where events such as lunch, running errands, and shopping can occur on foot with the use of only one parking space. The current parking requirements exceed the ITE rates for every described land use that can be compared.

Figure 2 General Parking Requirements – Salem Zoning Ordinance

Principal Use	Existing Regulation	ITE Peak Parking Demand Rates	Salem vs. ITE
One Family (R1)	1.5 spaces per dwelling unit, with a minimum of 2 spaces, plus 1 space for each home occupation.	1.83 spaces per dwelling unit	Above
Two Family (R2), Tourist Homes	1.5 spaces per dwelling unit, with a minimum of 2 spaces ¹ , plus 1 space for each home occupation.	Rental Townhouse: 1.73 spaces per dwelling unit	Above ²
Apartment Dwelling	1.5 spaces per dwelling unit, with a minimum of 2 spaces, plus 1 space for each home occupation.	1.20 spaces per dwelling unit	Above
Hotel, Motel, and Inn	1 space for each guest room, plus 1 space for each two employees.	0.91 space per room	Above

¹ Two units require 3 spaces, the 2 space minimum is unclear unless intended to apply to each unit, thus making it 2 spaces per dwelling unit

² Above the ITE if the 2 space minimum is on a per unit basis

Principal Use	Existing Regulation	ITE Peak Parking Demand Rates	Salem vs. ITE
Hospital and Sanitarium, Nursing and Convalescent Home	1 space for each doctor accredited to practice therein, plus 1 space for each two employees, plus 1 space for each four beds.	0.39 spaces per bed	N/A ³
Retail Business and Service Establishment	1 space for each 150 square feet of gross floor area of the building, excluding storage area.	Retail: 2 to 4 spaces per 1000 square feet (depending on type)	Above
Business Office	1 space for each employee.	Office: 0.83 spaces per employee	Above
Professional Office, Medical and Dental Clinic	1 space for each professional person, plus 1 space for each two other employees, plus 2 additional spaces for each professional person in the case of medical or dental clinics	Office: 0.83 spaces per employee Medical/Dental: 3.9 spaces per 1000 square feet	Prof. Office: Above Med/Dent: N/A ⁴
Townhouse and Townhouse Dev ⁵	1.5 spaces per dwelling unit, with a minimum of 2 spaces ⁶ , plus 1 space for each home occupation.	1.73 spaces per dwelling unit	Above ⁷
Restaurant	1 space for each four seats, plus 1 space for each two employees. For drive-in restaurants, 1 space for each two employees, plus 15 spaces.	0.5 spaces per seat for sit-down restaurants, 9.9 spaces per 1000 square feet of gross floor area for restaurants with a drive-through window.	N/A ⁸

Central Development District Parking Requirements

The Central Development District has different parking regulations than other zones throughout Salem. The requirements for commercial/office and retail uses are significantly below the ITE demand rates, as they are not required to provide off-street parking. Existing residential uses in the Central Development District have slightly lower regulations than other zones, while new construction residential uses are in-line with other zones, which are above the standard ITE rates.

³ Not comparable as the rates are based on unrelated factors

⁴ Not comparable as the rates are based on unrelated factors

⁵ Not explicitly in Salem parking guidelines. Requires special permit to develop and is referenced as multifamily in Use section of zoning ordinance

⁶ Two units require 3 spaces, the 2 space minimum is unclear unless intended to apply to each unit, thus making it 2 spaces per dwelling unit

⁷ Above the ITE if the 2 space minimum is on a per unit basis

⁸ Not comparable as the rates are based on unrelated factors

Figure 3 Central Development District Parking Requirements - Salem Zoning Ordinance

Principal Use	Existing Regulation	ITE Peak Parking Demand Rates	Salem vs. ITE
Residential Uses	Not less than 1 space per dwelling unit for existing buildings. 1.5 spaces per dwelling unit for new construction.	Single-family detached: 1.83 spaces per dwelling unit Low/mid rise apartment 3+ units/1-4 floors (urban): 1 space per dwelling unit Low/mid rise apartment (suburban): 1.2 spaces per dwelling unit	In-line/Above
Commercial/Office	Not required to provide off street parking since the community will accept the responsibility for the nonresidential parking in the district.	Office (urban): 2.4 spaces per 1,000 square feet Office (suburban): 2.84 spaces per 1,000 square feet Medical/dental office: 3.53 spaces per 1,000 square feet Government office: 4.15 spaces per 1,000 square feet	No off-street parking required
Retail	Not required to provide off street parking since the community will accept the responsibility for the nonresidential parking in the district.	2 to 5 spaces per 1000 square feet (depending on type of retail)	No off-street parking required

Business Park Development District Parking Requirements

The Business Park Development District generally abides by the above regulations. However, a development that is more than 10,000 square feet of gross building area will have its parking requirements determined by the Planning Board. As such, it is impossible to compare the existing regulation to the ITE Peak Parking Demand Rates in that situation.

North River Canal Corridor Neighborhood Mixed Use District Parking Requirements

As mentioned above, the North River Canal Corridor Neighborhood Mixed Use District utilizes a different set of parking requirements for residential land uses, as shown in Figure 4 below. The requirements set out in the mixed use district regulations closely mirror the rates reported in the ITE guide.

Figure 4 North River Canal Corridor Neighborhood Mixed Use District Parking Requirements

Principal Use	Existing Regulation	ITE Peak Parking Demand Rates	Salem vs. ITE
Residential Uses	2 spaces per dwelling unit, with a minimum of 2 spaces, plus 1 space for each home occupation. 1 space per dwelling unit, plus 1 space for patrons for artist space with a studio where items are sold.	Single-family detached: 1.83 spaces per dwelling unit Low/mid rise apartment 3+ units/1-4 floors (urban): 1 space per dwelling unit Low/mid rise apartment (suburban): 1.2 spaces per dwelling unit	Above

3.2 Comparison to Best Practice

Parking Minimums and Maximums

Most minimum parking requirements take into account only two variables, namely land use and the size of development. As with Figure 2, Figure 3, and Figure 4 above, they are typically expressed in terms of number of spaces required per 1,000 square feet of a particular land use, per residential unit or (for restaurants and stadiums) number of seats. However, in reality, parking demand is affected by many more variables, such as the geographic context, demographic characteristics of the community, availability of transit or other alternatives to the car, traffic demand management programs, vehicle ownership rates, housing unit size, share of affordable housing units, etc.

As currently configured, the Salem Zoning Ordinance establishes minimum parking requirements for a variety of land uses but does not provide a cap or limit on the maximum number of spaces (see Figure 5). In contrast to minimum parking requirements, parking maximums restrict the total number of spaces that can be constructed. Reasons for setting maximum requirements may include a desire to restrict traffic from new development, promote alternatives to the private automobile, or limit the amount of land that is devoted to parking. Parking maximums can be introduced anywhere where there are or could be measures in place to combat excessive parking demand. While the policy is most likely to be appropriate in transit corridors, downtowns, and areas with high levels of traffic congestion, it can be useful in any district that wants to limit traffic or the amount of land devoted to parking.

**Figure 5 Parking Minimum and Maximum Requirements –
Salem Zoning Ordinance**

Existing Regulation	Best Practices
Parking Minimums	Reduced Parking Minimums: In a number of municipalities parking minimum requirements can be reduced when certain conditions are met, such as central business districts, or with a specific percentage of affordable housing. This is reflected in Salem's downtown zoning. Removed Parking Minimums: Some communities in Massachusetts and elsewhere have done away with minimum parking requirements for the entire municipality while others have targeted specific zoning districts. Parking Maximums: In a growing number of municipalities, parking minimums have been replaced with parking maximums. In some cases, the amount required as a minimum is directly converted to a maximum. In others, the current standards are rejected altogether and a new analysis is carried out based on local auto ownership rates and commuting patterns.

Shared Parking

Mixed-use developments offer the opportunity to share parking spaces between various uses, thereby reducing the total number of spaces required compared to the same uses in stand-alone developments. This is a primary benefit in mixed-use development contexts of moderate-to-high density. Shared parking operations offer many localized benefits to the surrounding community, including a more efficient use of land resources and reduced traffic congestion.

The City's parking code addresses shared parking directly in Section 5.1.7, which is included below in the Existing Regulation column (see Figure 6). Only through the granting of a special permit – and by meeting other relevant criteria – can several buildings share parking facilities. However, the parking requirements for the Central Development District, while not explicitly referencing shared parking, indicate recognition that the existing parking supply can meet diverse needs. Additionally, the City's parking code for drive-through facilities illustrates awareness of the benefits of a shared parking arrangement by encouraging shared parking.

Figure 6 Shared Parking Provision – Salem Zoning Ordinance

Existing Regulation	Best Practices
“No part of an off-street parking area required by this Ordinance for any building or use shall be included as part of an off-street parking area similarly required for another building or use unless the type of buildings or uses indicates that the usage of such parking area would not occur simultaneously, as determined by the Board of Appeals via the grant of a special permit” (5.1.7). “Except as provided herein, all parking spaced required by this Ordinance shall be on the same lot as the building or use which they are intended to serve, except that the Board of Appeals may permit the parking spaces to be provided within 400 feet of the building or use intended to be served, if the Board determines that it is impractical to provide parking on the same lot with the building. If a separate lot is used for parking, the ownership of the lot must, for all times, be held by the same ownership as the lot on which the building is erected. If the parking lot ownership is separated from the ownership of the building, this shall be deemed a violation, and the Building Commissioner shall void the certificate of occupancy” (5.1.2).	Shared parking can be provided as of right at least a 5 minute walk from the associated use (1,000 feet). Required parking spaces for all uses in all districts need not be limited to use by residents, employees, occupants, guests, visitors, or customers of such uses and may be used for general public parking. This enhances the inherent “park-once” efficiency of a downtown area.
Exception The exception is for Drive-Through Facilities, where “developments that provide service drives between properties may be permitted a 10% reduction in the required number of parking spaces. If information can be provided to show that peak demand periods of development with shared parking or a service drive connection are not simultaneous, the number of required parking spaces may be reduced by 20%” (6.7.6.6).	

Change of Use Exemptions

Situations arise where the minimum parking requirements interfere with the ability of the owner/occupant to change the use of their property. As discussed above, often the minimum parking requirements set out in the zoning code require more off street parking than is feasible within the constraints of the property. In mid- to high density downtowns where lots are small and available space is limited, this can become a serious obstruction to redevelopment.

Salem does allow for a change in use of land to dictate a change in the amount of parking that must be provided. Additionally, in the Central Development District, there are options for rehabilitated buildings to meet parking requirements in several ways, by either providing parking onsite or through the usage of municipal or other facilities, as long as the relevant parking facility is within 1,000 feet of the building and the owner purchases a parking pass (for municipal facilities).

Figure 7 Change of Use Exemptions – Salem Zoning Ordinance

Existing Regulation	Best Practices
"Required parking spaces shall not be reduced or encroached upon in any manner unless a change in use occurs which permits a change in the amount of parking area required" (5.1.4).	When buildings and parcels are converted to new uses, exemptions from parking requirements may be granted when providing the required amount of parking on-site is infeasible.

Dimensional Requirements

Requiring buildings to provide a minimum setback encourages greater dispersal of development and decreases the likelihood that one will walk between various uses. Allowing or requiring parking between the building and the street increases the incentive for drivers to use their vehicle to travel between nearby destinations.

The Zoning Ordinance has eliminated minimum setback requirements for the Central Business District, which creates a more pedestrian friendly environment. The NRCC District also encourages pedestrian oriented development practices that have connections to smart parking dimensional requirements. Buildings on the main corridors in the District should have entrances facing that road and should be located "to create a presence...on street edges." Developments in the Transitional Overlay District, which is located at the edge of the NRCC District and adjacent residential zones, must also meet a similar standard of pedestrian oriented design and must avoid creating parking lots with "large expanses that are unbroken by buildings or substantial landscaped areas" (8.4.16).

Planned Unit Developments have dimensional requirements that are somewhat different than those governing the rest of Salem. Proposed PUDs that are adjacent to or across the street from existing residential uses must provide the same minimum lot frontage of those residences, but must not exceed the minimum Ordinance requirements for that zone. Additionally, lot sizes in such a zone can be reduced below minimum Ordinance requirements.

Figure 8 Dimensional Requirements – Salem Zoning Ordinance

Existing Regulation	Best Practices
Most zones have minimum front yard setbacks.	No front yard parking in downtown area. Reduced or eliminated minimum setback requirements in downtown area.
Exceptions	
Both the Central Business District and the NCRR do not have minimum front yard setback requirements (4.1.1). In both the NRCC District and the Transitional Overlay District, which covers the boundary between the NRCC District and residential zones, developments must be oriented to the main corridors so as to create a pedestrian friendly environment and should provide parking to the side or rear of the development (8.4.2 and 8.4.16).	

Driveway Curb Cuts

Driveway curb cuts accessing off-street parking are a major source of vehicle-pedestrian-bicycle conflicts as well as introducing more congestion on busy thoroughfares due to left turns in and out of the driveway. When alternatives are available and feasible, limiting or prohibiting driveway curb cuts along key vehicle, pedestrian and bicycle routes reduces or eliminates these conflicts, providing safer, more efficient, and less congested public rights-of-way.

The Zoning Ordinance provides guidance on the location of curb cuts to reduce these conflicts, including – for instance – the proximity of the curb cut to an intersection. They also establish a general maximum of two driveways per parcel.

Figure 9 Curb Cut Guidance – Salem Zoning Ordinance

Existing Regulation	Best Practices
Motor Vehicle Light Service Stations Section (6.3.3) - The width of driveway entrances shall be not more than 24 feet and the angle of intersection of the driveway with the street shall be not more than 60 degrees. - The distance from any driveway to any side property line shall not be less than 20 feet. - The distance between curb cuts shall not be less than 40 feet. Drive-Through Facilities Section (6.7.6) - There must be a minimum of 200 feet between curb cuts, unless reduced by the SPGA in those instances when the reduction may be granted without detriment to the public good in keeping with the other standards set in this section. - The width of the curb cut shall not exceed 25 feet, unless the traffic impact study identifies the need for a larger curb cut and the requirement is increased by SPGA. - Curb cuts must be sufficiently set back from intersections and directional restrictions must be provided as required by the Board. - Joint use driveways and cross access easements are allowed and encouraged by the ordinance, and should incorporate: a service driver or cross access corridor, sufficient width to accommodate two-way travel lanes, and design features the highlight the shared nature of the facility. - Shared facilities can take advantage of a 10% reduction in minimum parking spaces, with up to a 20% reduction if peak usage for facilities sharing spaces occurs at different times. - Entrances to stacking lane(s) shall be clearly marked and a minimum of 20 feet from the curb cut measured at the property line. Entrance Corridor Overlay District (8.2.3) - Only one curb cut of no greater than 24 feet shall be permitted for all residential uses. A maximum of two curb cuts no greater than 24 feet shall be permitted for all commercial uses.	In transit-oriented zoning districts, reviews emphasize a prohibition of curb cuts and driveway openings along key transit, bicycle, and/or pedestrian routes whenever possible. Where curb cuts are present, standards expect a level crossing for pedestrians (raised driveway) and clear sightlines for exiting motorists to see pedestrians

Unbundling Parking Costs

Unbundling parking costs changes parking from a required purchase to an optional amenity, so that households and employers can freely choose how many spaces they wish to lease. Especially among households with below average vehicle ownership rates (e.g., low income people, singles and single parents, seniors on fixed incomes, and college students), allowing this choice can provide a substantial financial benefit. Unbundling parking costs means that these households no longer have to pay for parking spaces that they may not be able to use or afford.

Charging separately for parking is the single most effective strategy to encourage households to own fewer cars, and rely more on walking, cycling and transit. According to a study by Todd Litman⁹, unbundling residential parking can significantly reduce household vehicle ownership and parking demand.

The Zoning Ordinance does not explicitly address the bundling of parking cost. Owners of rehabilitated residential buildings can either provide on-site parking or can utilize municipal or other such parking facilities nearby – by buying an annual parking pass – to meet parking minimum requirements. However, the Ordinance does not identify how the parking spaces are associated with residences, i.e., whether they are offered unbundled or as a unit.

There is a reduction in the parking requirement for housing for older adults or persons with disabilities. Residences provided by the Salem Housing Authority for these populations require one-third of a parking space for each unit. Again, this requirement does not unbundle the cost of parking, but does illustrate recognition of reduced need, which is associated with unbundled parking costs.

Figure 10 Unbundling of Parking Cost Regulations – Salem Zoning Ordinance

Existing Regulation	Best Practices
None. While the unbundling of parking costs is not directly addressed in the Ordinance, reductions in parking minimums for residential units serving populations with less need and the option for rehabilitated buildings to utilize municipal and other facilities to meet the requirements indicates initial steps towards unbundling parking costs.	Any parking spaces offered to tenants of a new development must be offered as a fee-based option distinct from charges established for renting, leasing, or purchasing primary-use space within the development. These fees shall reflect market realities (i.e., the actual value of parking).

Parking In-Lieu Fees

In some communities new developments can waive their minimum parking requirements by making an annual payment (in-lieu of providing parking) to the municipality. The fee is usually utilized for transportation improvements, particularly shared public parking facilities. This allows the redevelopment of constrained sites and provides a revenue stream to support the construction/maintenance of shared public parking facilities such as a central lot or garage.

In the case of Salem's Business Park Development District, the Planning Board has discretion in setting the parking requirements for developments greater than 10,000 square feet, this flexibility could be an opportunity to explore parking in-lieu fees.

⁹ Todd Litman, *Parking Management Best Practices* (Planners Press, 2006)

Figure 11 Parking In-Lieu Fee Regulations

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

Car Sharing

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

Figure 12 Car Sharing Regulations

Existing Regulation	Best Practices
None.	A minimum number of car share spaces are required to be provided free of charge to car share services, in relation to the amount of parking provided.

Bicycle Parking

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

Figure 13 Bicycle Parking Regulations

Existing Regulation	Best Practices
None	- Minimum bike parking facilities are provided in relation to the scale of development, and minimum design standards for such parking facilities are specified, including rack design, spacing, lighting, shelter, and security provisions. - For certain sized employers, some communities require on-site showering and changing facilities to encourage bicycle commuting.

Transportation Demand Management Measures

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

Figure 14 Transportation Demand Management Measures

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

4. Parking Inventory and Utilization

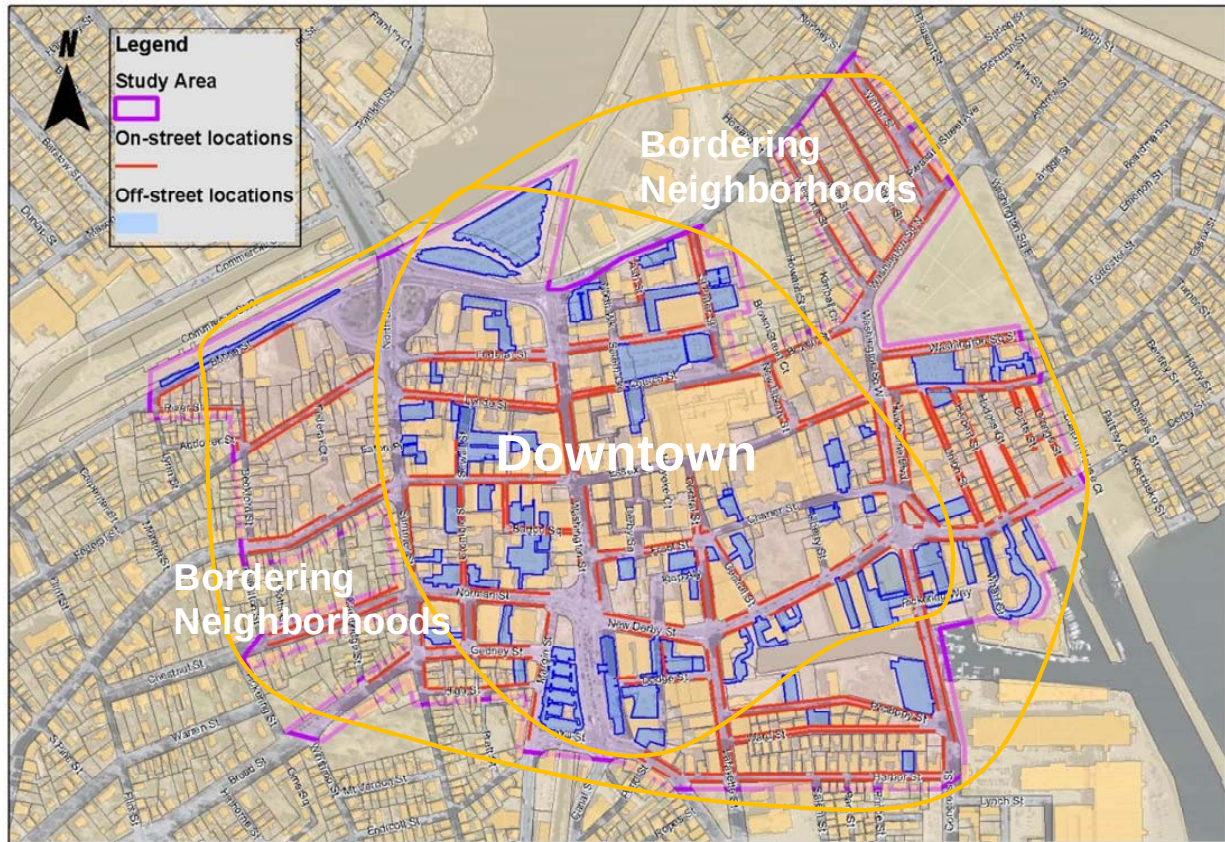
The consultant, City staff, and City of Salem interns completed a parking inventory and conducted parking utilization and turnover counts in the downtown Salem study area on three separate dates: Tuesday August 18th, Thursday October 8th, and Saturday October 17th.

Key Findings

- Of the over 5,500 parking spaces in the downtown, no more than 4,000 are utilized at the busiest time of a normal week (a utilization rate of 69-percent). This includes private spaces. For the publicly-available supply of 3,500 spaces, nearly 800 remain vacant at the busiest period (a utilization rate of 78-percent).
- Utilization of prime curbside spaces on Washington, Essex, and other streets near the courthouse often approaches available capacity.
- Turnover of prime curbside spaces on Washington and Essex is sufficient, but demand outstrips availability, as open spaces filled quickly.
- The MBTA commuter lot and spaces along Bridge Street are heavily utilized all day on weekdays.
- Many spaces south of Derby Street remain underutilized throughout the day. The Harbor Garage is poorly utilized at all hours.
- Residential streets east of the downtown are heavily utilized in the evening. Streets west of the downtown are not well utilized during the daytime and the evening.
- Overall utilization patterns are less intensive during August vacation.

4.1 Methodology

A baseline existing conditions parking inventory and map was provided to the consultant by the Town's GIS coordinator. The consultant added block faces and private parking lots to capture all parking within the downtown study area. As part of the August data collection effort, staff from the consulting team and the City of Salem conducted an in-field inventory to ensure the data was an accurate record of Salem's parking. The consultant also elected to expand the scope of the inventory beyond the downtown core to accommodate abutting residential areas where parking utilization counts could assess spillover parking impacts (see Figure 15). The baseline parking inventory is displayed in Figure 16.

Figure 15 Map of Expanded Study Area

Parking utilization data was collected on three separate days in dry fair weather conditions in order to capture snapshots of three different typical parking use patterns, a summer vacation/tourism weekday, a normal work weekday, and a normal Saturday. Beginning in the morning, staff counted the number of parked cars and vacant spaces in all on-street parking areas and in all off-street parking lots with a capacity of greater than 5 cars. On a Tuesday in mid-August the inventory and utilization counts were conducted between the hours of 8AM and 6PM, in three distinct intervals: morning (8am to 11:30am), midday (11:30am to 2:30pm), and afternoon (2:30pm to 6:00pm).

Following the August count, the study area was expanded to cover some surrounding residential streets in order to incorporate areas of potential spillover. On a typical Thursday in early October a twelve hour utilization count was conducted between the hours of 8am and 8pm in five time periods: morning (8am to 11am), midday (11am to 1pm), early afternoon (1pm to 3 pm), late afternoon (4pm to 6pm), and evening (6pm to 8pm). Downtown Salem was divided into three general data collection areas: the western downtown area bound approximately by Washington, Bridge, Summer and Mill Streets; the Museum Place area bound the river, the Salem Common, Front, and Washington Streets; and the Pickering Wharf area bound approximately by Washington, Front, Orange, Congress and Harbor Streets. These are depicted in Figure 17.

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Figure 16 Existing Parking Inventory

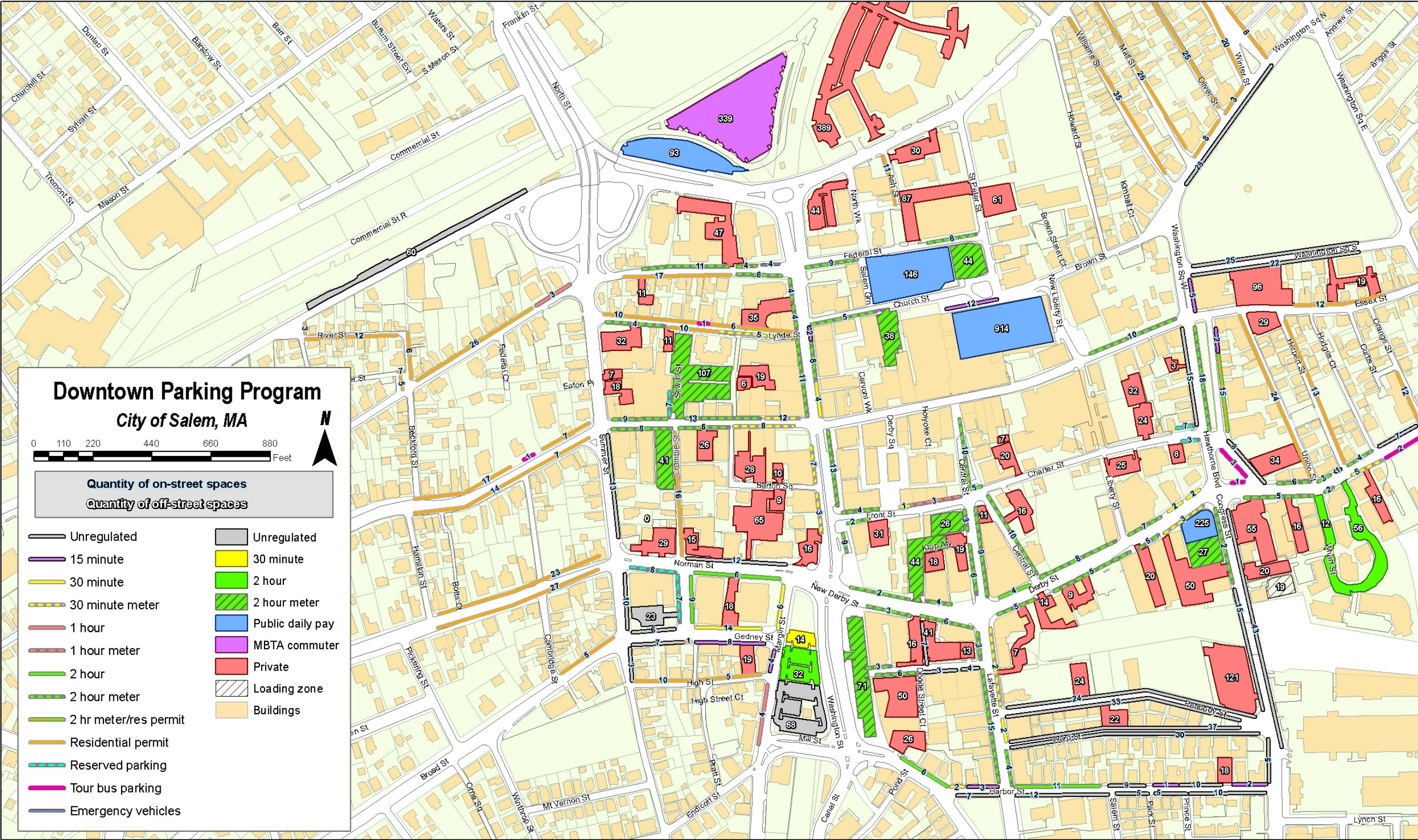
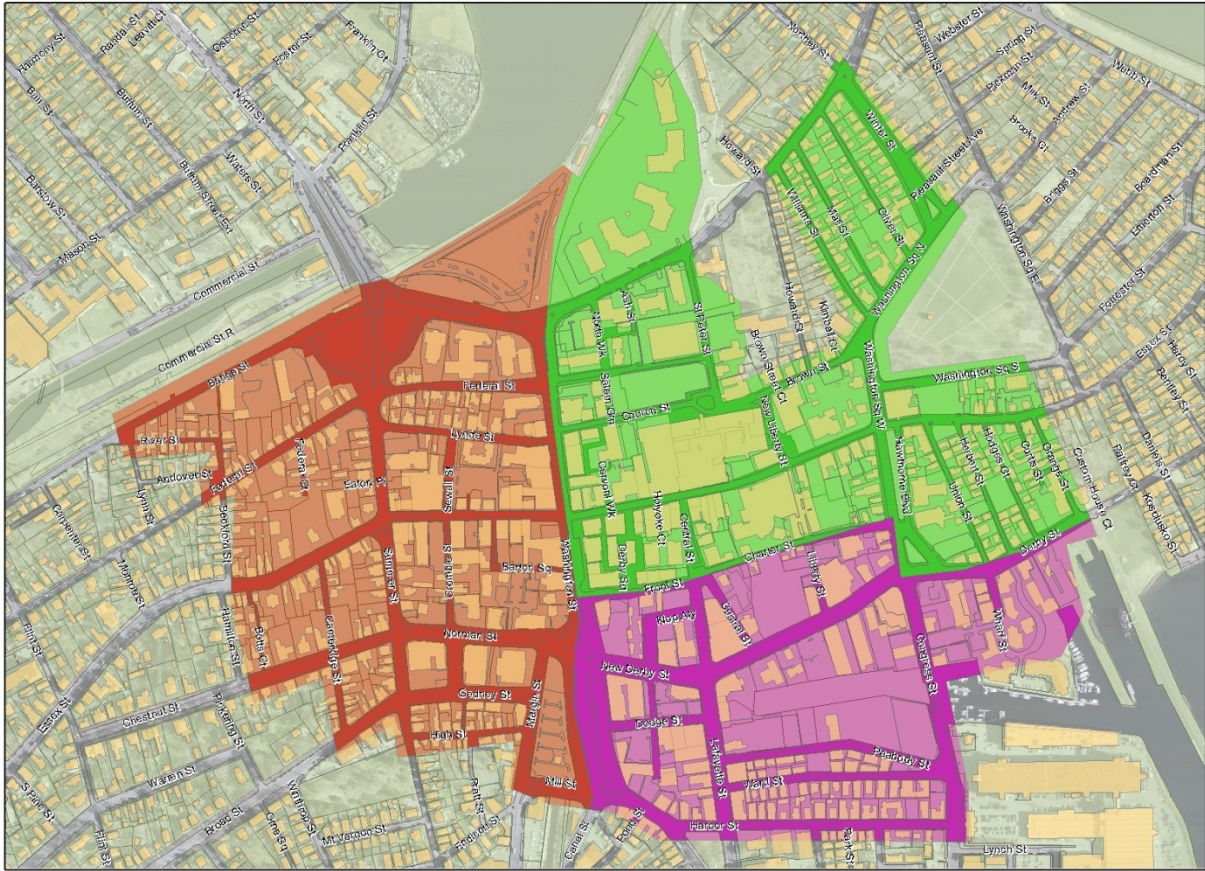


Figure 17 Data Collection Zones

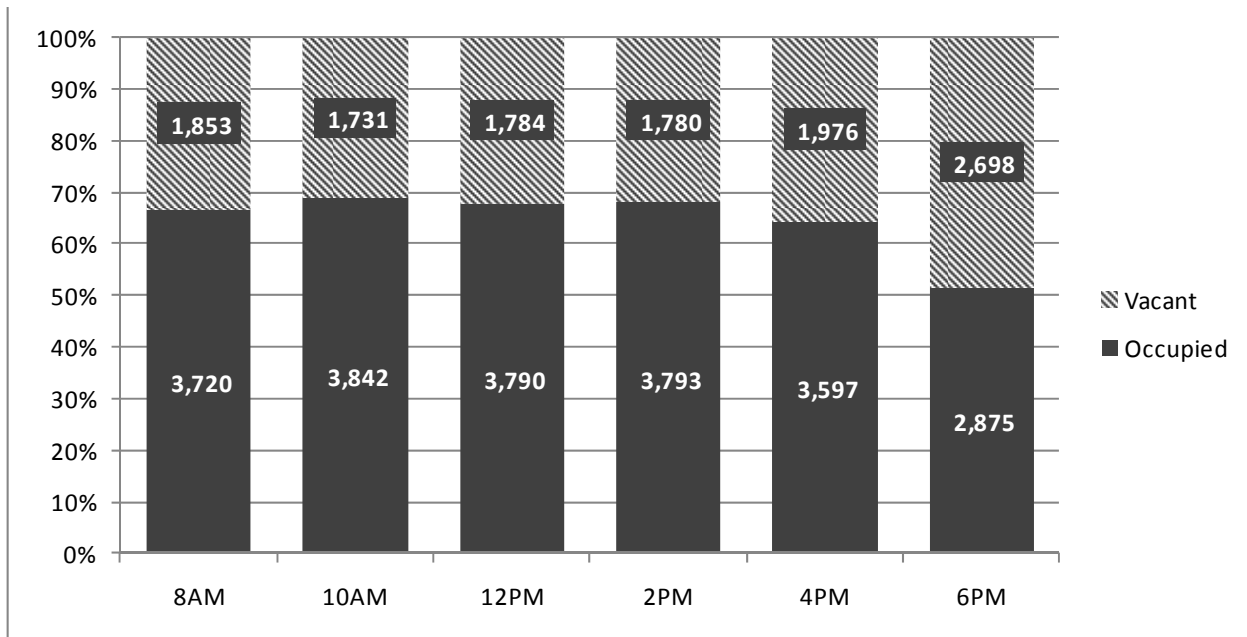
4.2 Summary Findings

Within Salem's downtown there are approximately 5,500 combined on- and off-street parking spaces under private and municipal control (see Figure 18). Nearly 1,400 on-street public spaces are conveniently located in front of most retail destinations. Several municipal lots, two municipal garages, and the MBTA lot within the downtown provide an additional 1,933 spaces of public parking. The remaining spaces are under private control for use by employees, customers and residents.

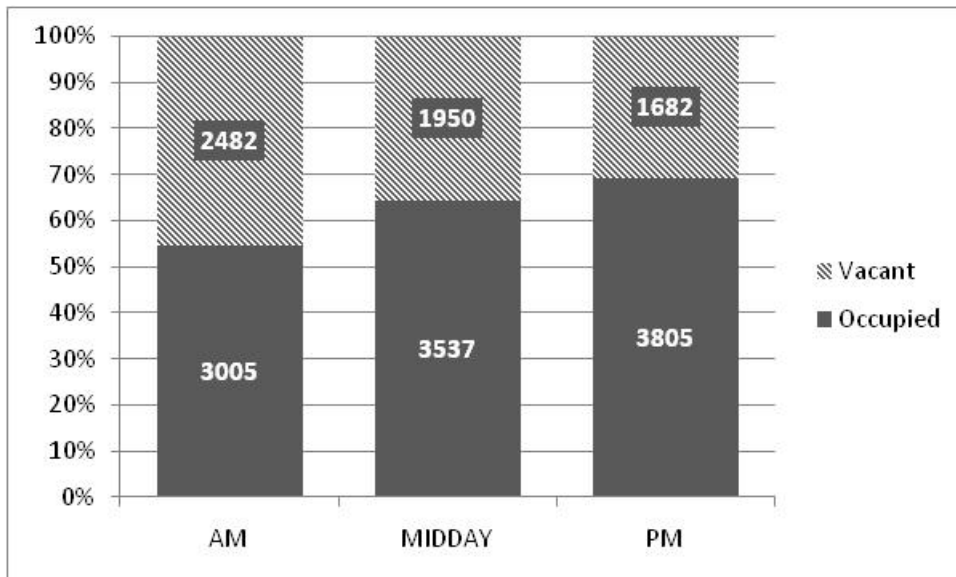
Figure 18 Summary of Parking Supply

	Public	Private	Total
On-street	1,393	18	1,411
Off-street	1,933	2,143	4,076
Total	3,326	2,161	5,487

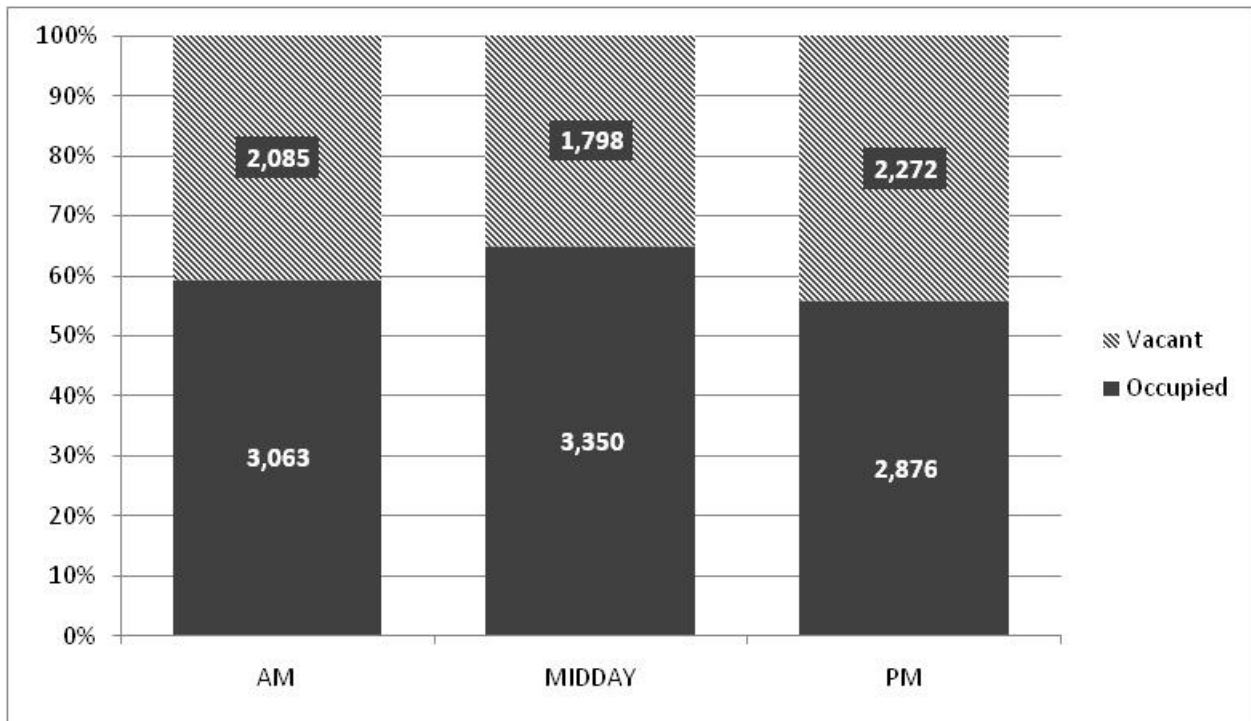
Figure 19 summarizes the combined utilization of these spaces throughout the course of an average weekday. As shown, no more than 69-percent of these spaces are utilized at the busiest period of the day.

Figure 19 Weekday Parking Utilization Profile

The peak utilization on Saturday is roughly 69-percent occupied. This is roughly the same as the weekday utilization but rather than occurring in the morning, it occurs in the afternoon, as shown in Figure 20.

Figure 20 Weekend Parking Utilization Profile

During late August the peak parking utilization is quite a bit lower than during other times of year, even compared to the normal Saturday. Around the lunch hour, utilization is only 65-percent in the downtown, as seen in Figure 21 below.

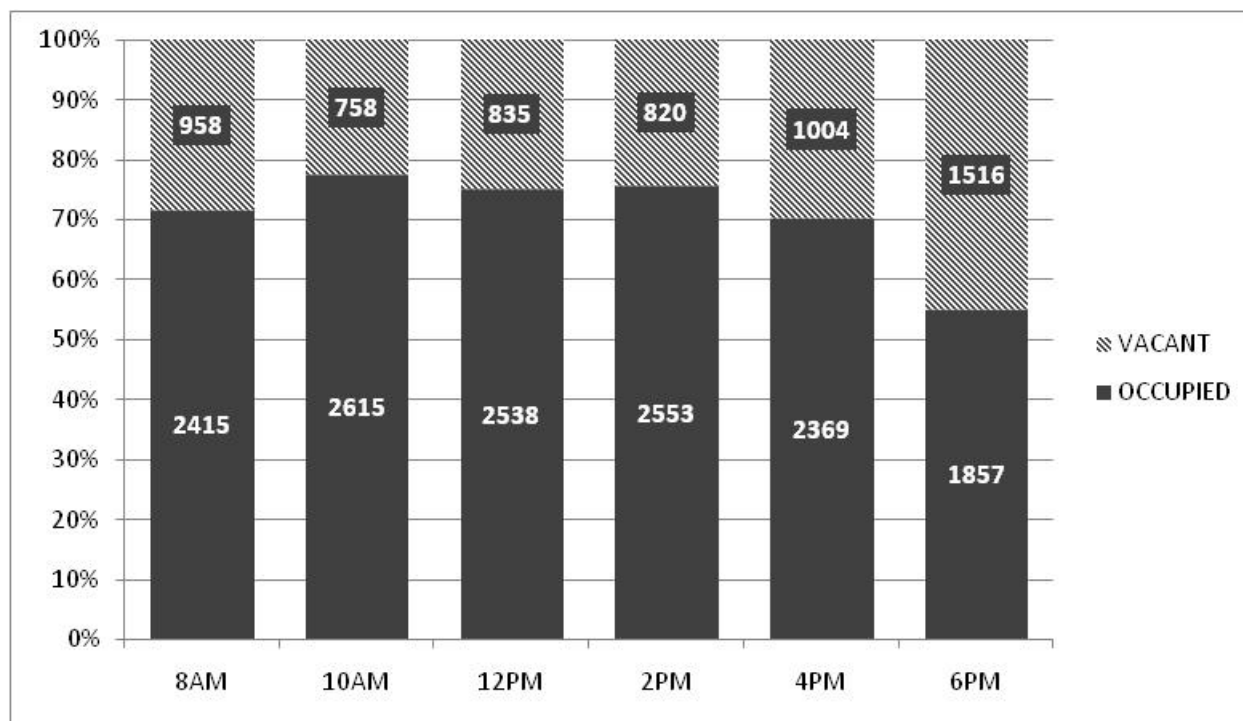
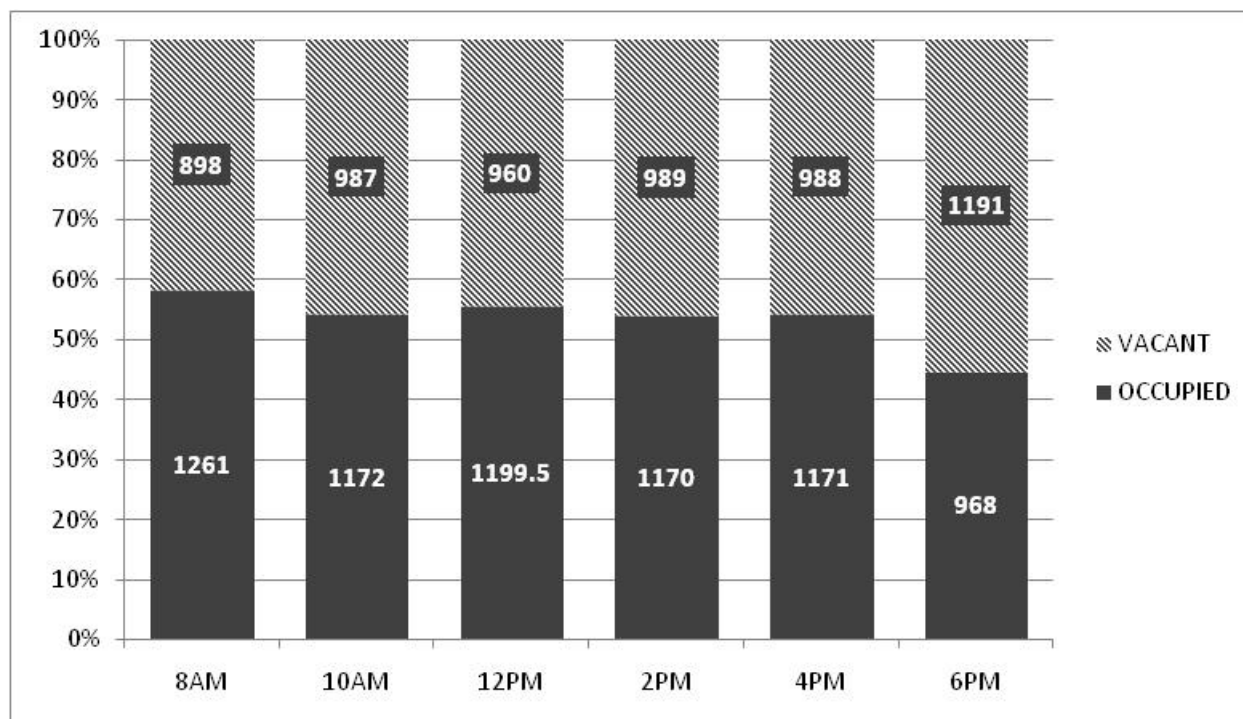
Figure 21 Summer Weekday Parking Utilization Profile

4.3 Detailed Findings

Figure 22 and Figure 23 break-out the overall parking utilization results (Figure 19) into all public and all private parking. Figure 24 and Figure 28 split the overall parking utilization results into all on-street and all off-street spaces. Figure 25, Figure 26, and Figure 27 break out the on-street parking (Figure 24) into several sub-categories. Figure 29 splits the off-street parking into public and private. Figure 30, Figure 31, Figure 32, Figure 33, Figure 34, and Figure 35 focus on sub-categories of off-street parking (Figure 28).

Public and Private Spaces

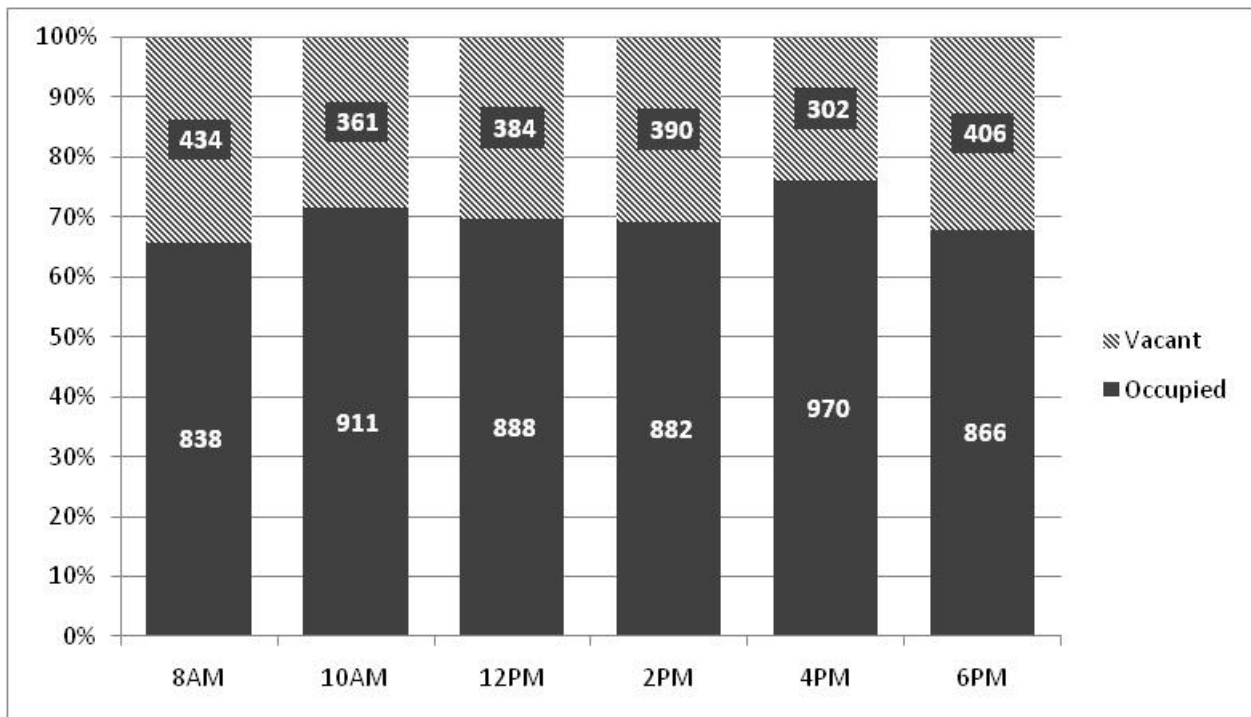
While the peak utilization for all of Salem's parking downtown doesn't exceed 70-percent, the public supply (consisting of on-street spaces, surface lots, and garages) experiences a peak utilization just under 80-percent, as seen in below. Taken as a whole, the private parking supply is under 60-percent utilized throughout the day, as seen in Figure 23 below.

Figure 22 Weekday Parking Utilization Profile – Public Spaces**Figure 23 Weekday Parking Utilization Profile – Private Spaces**

On-Street Spaces

Virtually all of the on-street spaces fall under the public domain, with the exception of fewer than 20 spaces reserved for a few business customers. As can be seen in Figure 24 below, the on-street spaces in downtown Salem experience a consistent utilization of just about 70-percent occupancy throughout the day with the exception of just before and after work hours. Before work the utilization of on-street spaces is at its lowest with around 430 spaces available. After work on-street parking experiences its peak with roughly 75-percent occupancy.

Figure 24 Weekday Parking Utilization Profile – On-Street Spaces¹⁰



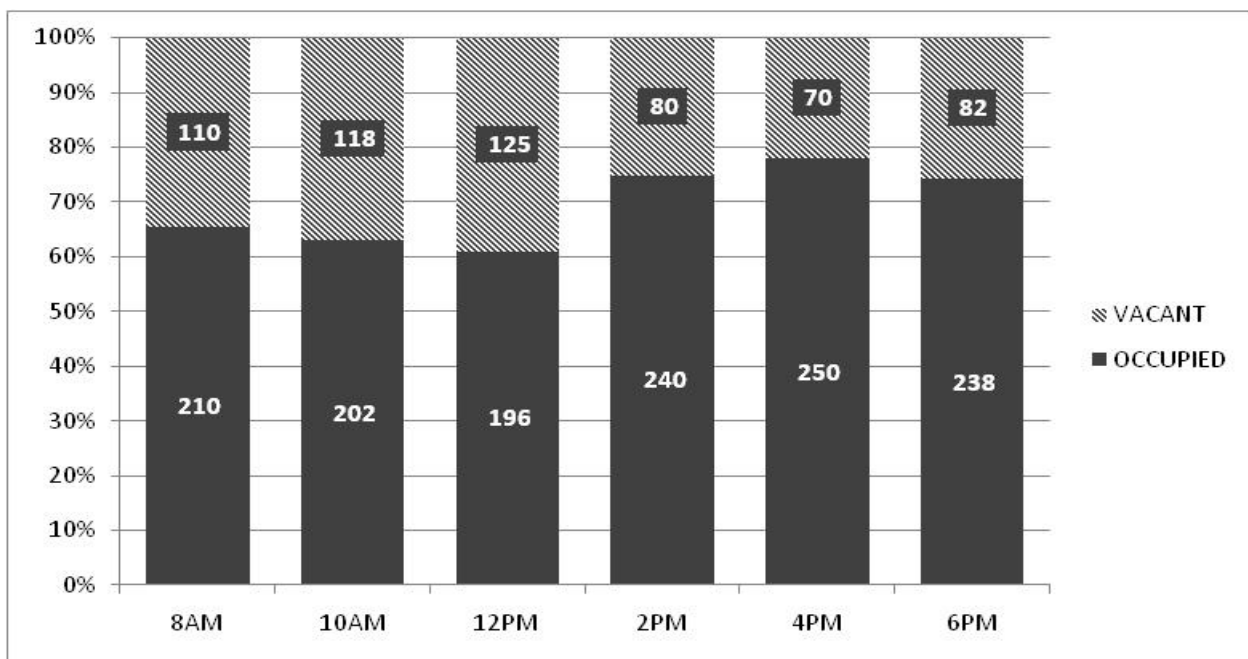
Select On-Street Spaces

As can be seen on the existing parking inventory map in Figure 16 above, the 320 two-hour metered spaces are found primarily along the main streets, generally called front-door parking, where customers and clients prefer to park. The nearly 50 two-hour unmetered spaces are found just beyond the most convenient parking but still within reasonable walking distance for customers wishing to save money by avoiding the meters. The nearly 450 unregulated on-street spaces included in the study area are found outside the most convenient locations, not necessarily places where visitors to downtown are likely to park.

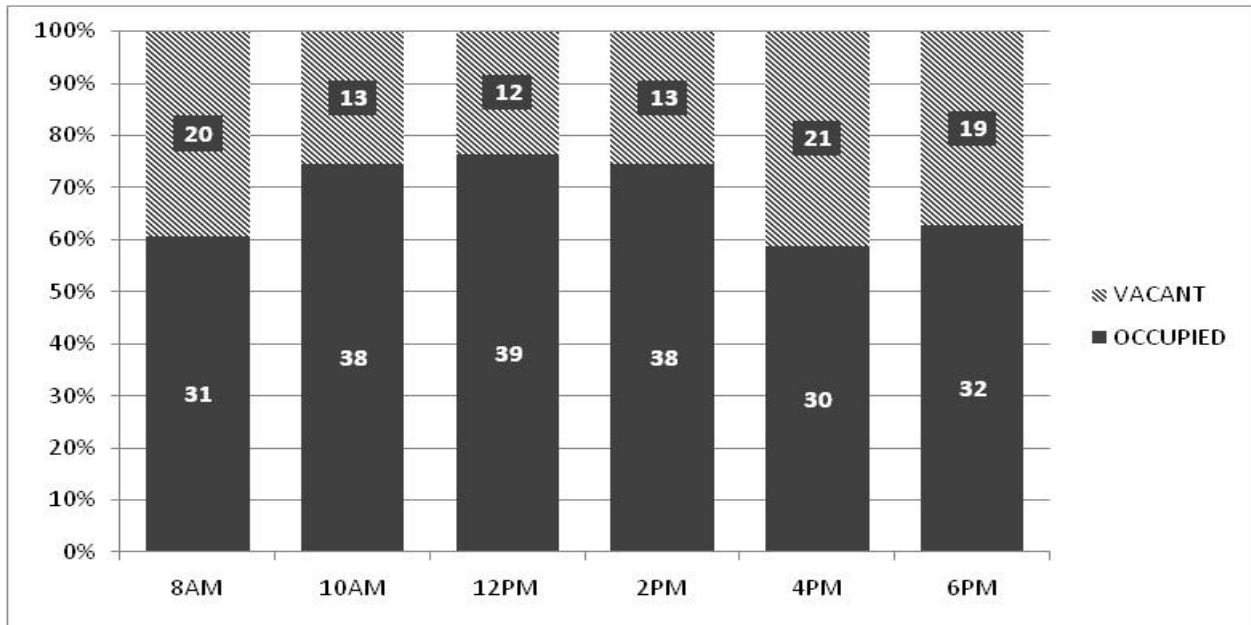
¹⁰ Virtually all of the on-street spaces fall under the public domain, with the exception of fewer than 20 spaces reserved for a few business customers. These on-street customer spaces are included in this Figure.

As Figure 25 shows, more than 30-percent of the two hour metered on-street spaces are available for the first half of the day. The second half of the day utilization is above 70-percent occupied with a peak at the end of the work day. The two-hour unmetered spaces show a different profile across the day with the peak utilization in the middle of the day and falling off after work with more than 40-percent of the spaces available at 4pm, as seen in Figure 26 below. The unregulated on-street parking demonstrates a profile that appears to be a hybrid of the two different two-hour parking types with demand peaks in the middle of the day and at the end of the work day, as seen in Figure 27.

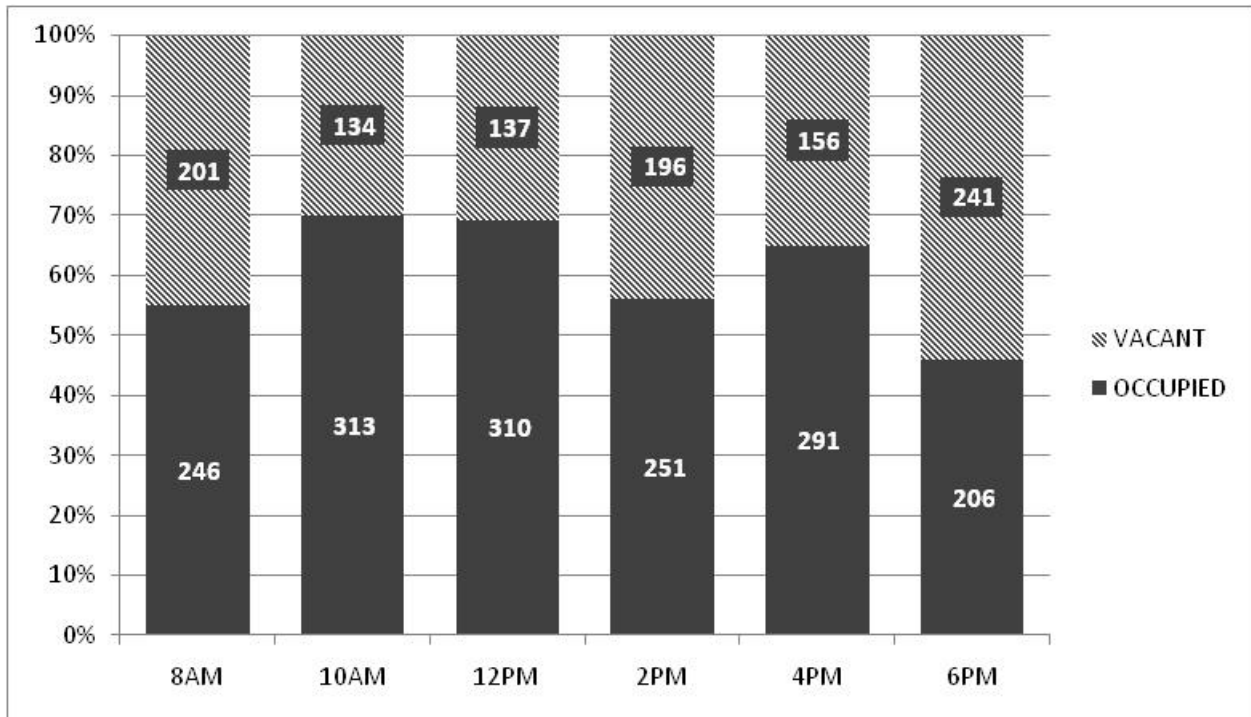
**Figure 25 Weekday Parking Utilization Profile –
2 Hour Metered On-Street Spaces**



**Figure 26 Weekday Parking Utilization Profile –
2 Hour Unmetered On-Street Spaces**



**Figure 27 Weekday Parking Utilization Profile –
Unregulated On-Street Spaces**

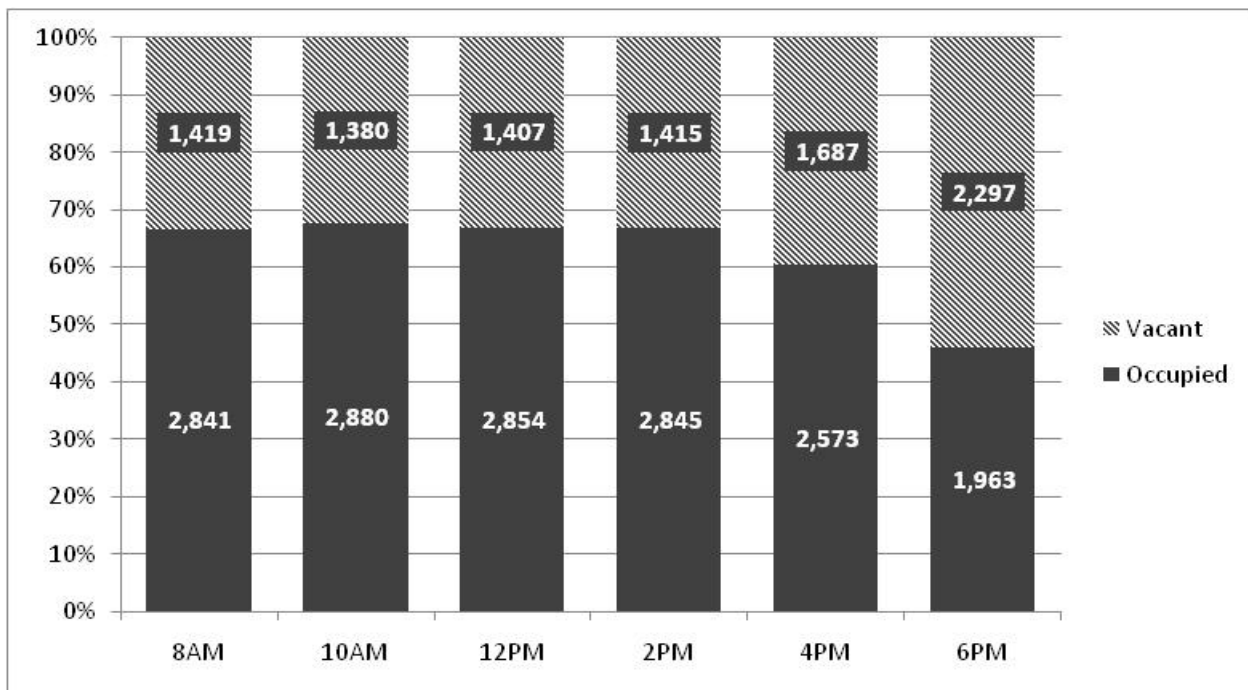


Off-Street Spaces

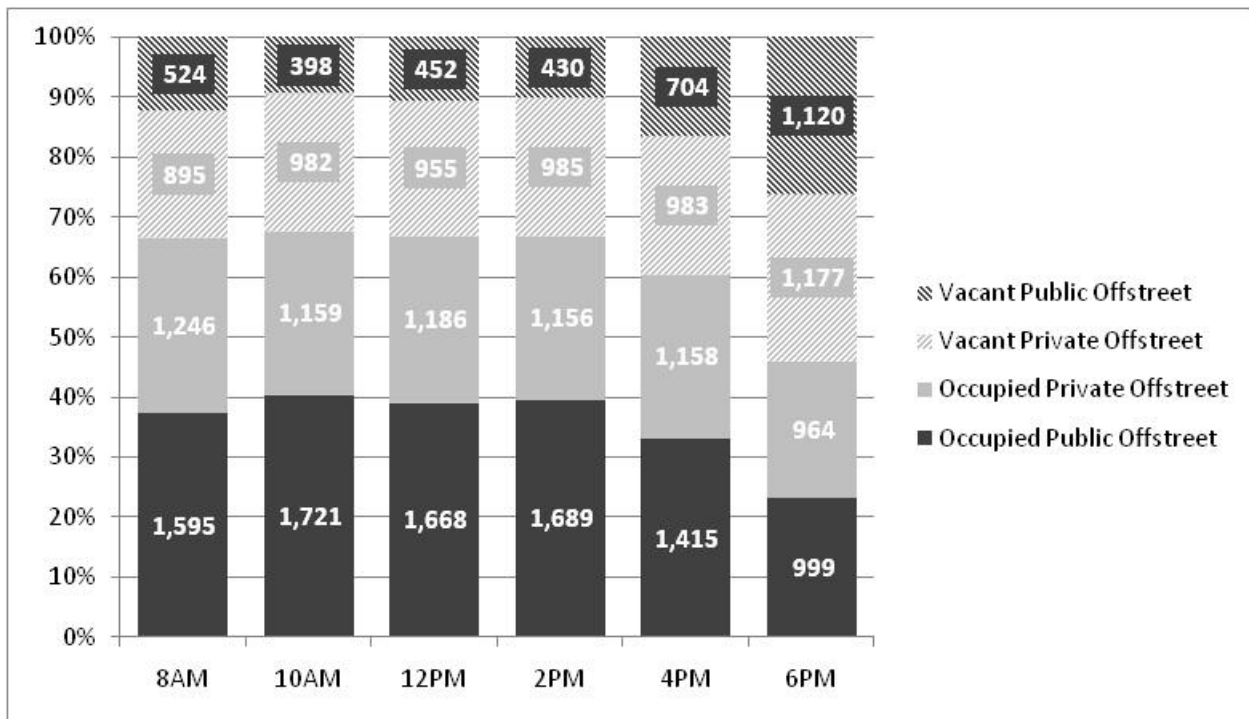
Daytime off-street parking is virtually steady beginning before and continuing throughout the workday, with under 70-percent of the potential parking supply utilized. At peak utilization, 1,380 spaces remain available, as seen in Figure 28. At the end of the workday the utilization falls off with roughly 60-percent of the parking utilized. By dinner time the off-street utilization is below 50-percent.

Figure 29 below splits the off-street spaces out by ownership showing that throughout the work day both the public and private parking utilization remain virtually flat. The drop off after work occurs entirely within the public off-street parking as the private parking utilization remains the same until dinner time.

Figure 28 Weekday Parking Utilization Profile – Off-Street Spaces



**Figure 29 Weekday Parking Utilization Profile –
Off-Street by Ownership**



Public Off-Street

Figure 30 and Figure 31 summarize the weekday parking utilization profile for public surface lots and public garages. As can be seen below, the surface lots are functionally full with over 90-percent of the parking occupied after the work day begins, while at the same time, the public garages' peak utilization never exceeds 75-percent. At the peak hour of utilization for public spaces, there remain nearly 400 spaces available, the majority of which are within the public garages.

Figure 30 Weekday Parking Utilization Profile - Public Surface Lots

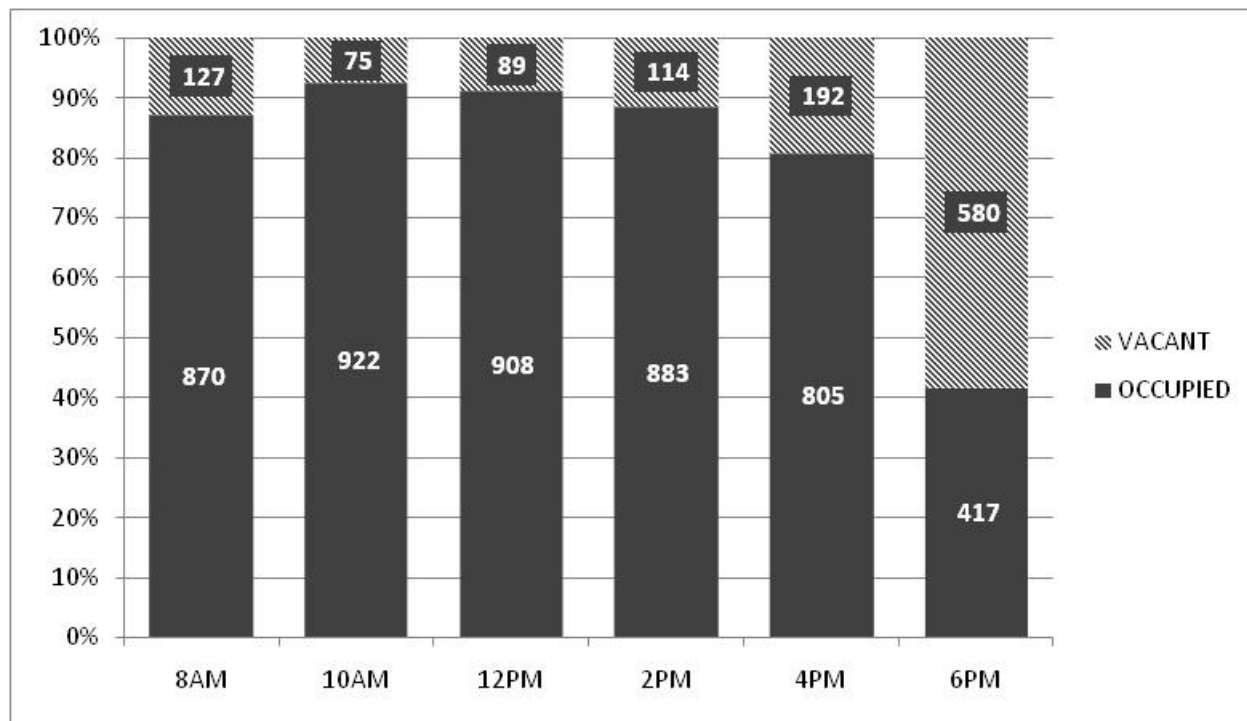
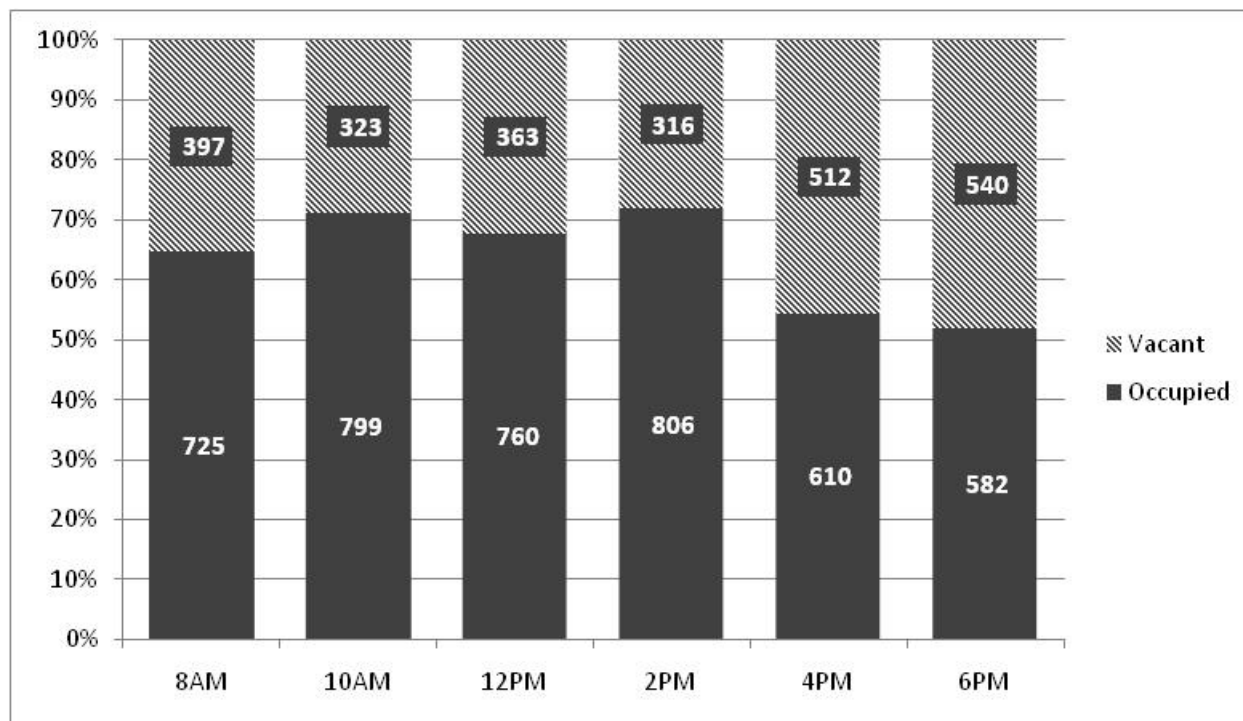


Figure 31 Weekday Parking Utilization Profile - Public Garages

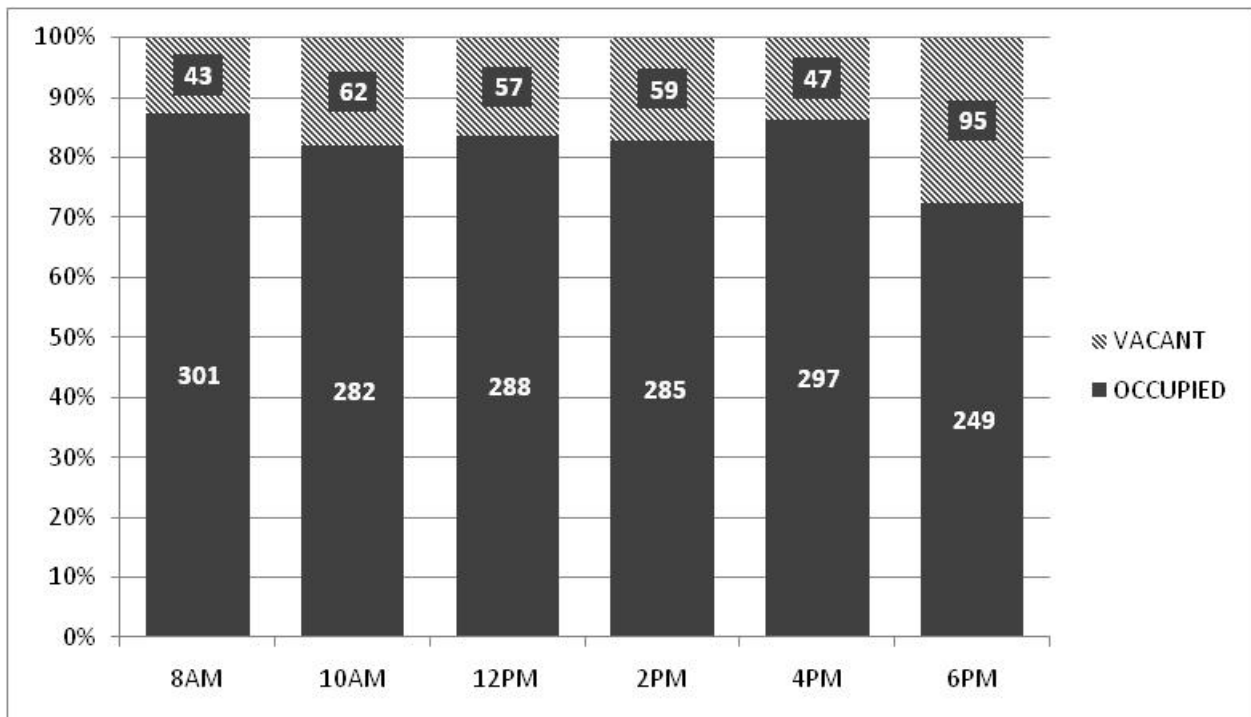


Select Off-Street Spaces

As can be seen in the existing parking inventory map in Figure 16 above, the nearly 350 two-hour metered off-street spaces in Salem are found in Klopp Alley, Sewall Street, Crombie Street, East Riley Plaza, and Church Street lots. The nearly 60 two-hour unmetered spaces are found in lots at the Pickering Wharf shops and the West Riley Plaza. The 150 unregulated surface lot spaces are primarily located in the West Riley Plaza and along Bridge Street. The roughly 800 customer only spaces are located in lots across the entire downtown. Customer parking is not specifically isolated on the regulations map, instead it is grouped with a number of other private parking categories such as employee only parking, reserved parking, etc.

While the two-hour metered on-street spaces showed relatively low utilization (Figure 25), two-hour metered off-street spaces are highly utilized throughout the entire day. As Figure 32 illustrates, aside from the dinner hour, two-hour metered off-street parking is over 80-percent occupied throughout the day. This parking experiences two peaks, both before and after work. Two-hour unmetered off-street parking sees a very high utilization during the work day with a peak of 100-percent occupancy, as seen in Figure 33. The unregulated off-street parking is parked beyond capacity, more cars than spaces, during the work day. At the peak hour for unregulated parking, there are nearly 10 more cars than there are spaces as shown in Figure 34. Customer only parking is largely available across the entire data collection period. As seen in Figure 35, customer parking utilization never exceeds 50-percent occupancy. Even at the peak hour there are just over 430 spaces available.

**Figure 32 Weekday Parking Utilization Profile –
2 Hour Metered Surface Lots**



**Figure 33 Weekday Parking Utilization Profile –
2 Hour Unmetered Surface Lots**

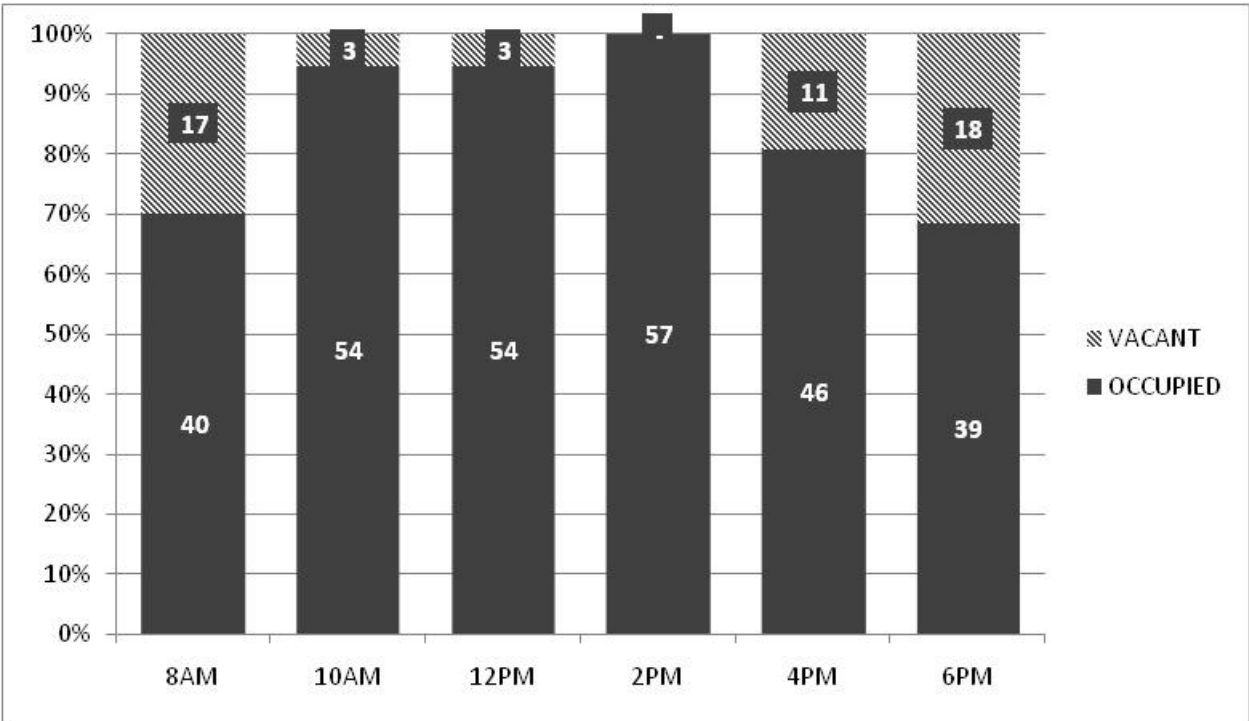


Figure 34 Weekday Parking Utilization Profile – Unregulated Surface Lots

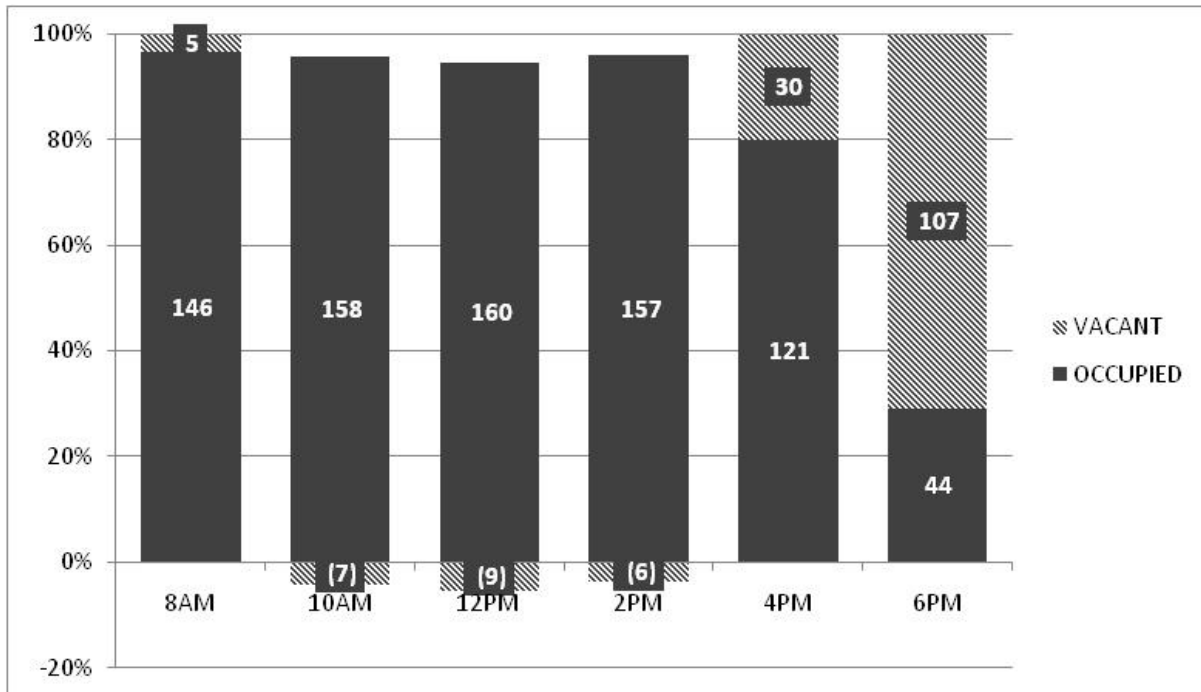
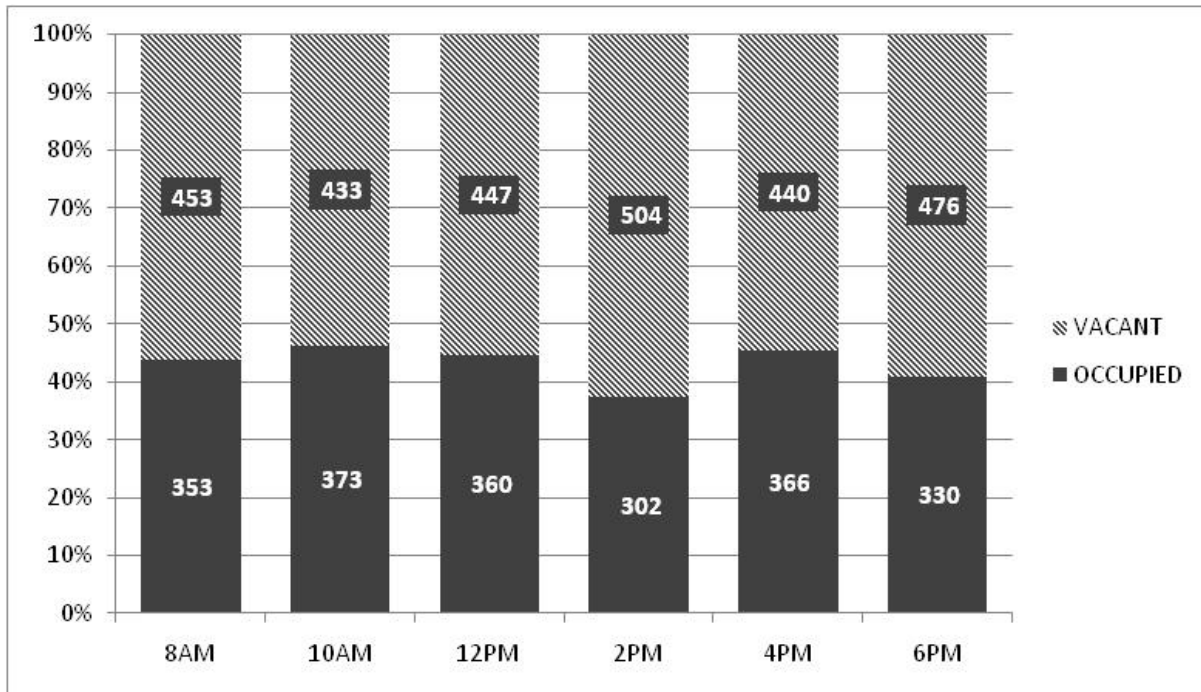


Figure 35 Weekday Parking Utilization Profile – Customer Only Surface Lots



Geographic Utilization

Figure 36 through Figure 44 graphically summarize the average weekday, average Saturday, and August vacation weekday parking utilization for the entire study area. It should be noted that utilization in several specific locations occasionally hits 100-percent or even surpasses it during the day. However, nearby locations remain under-utilized.

Figure 36 **Weekday Morning Parking Utilization**

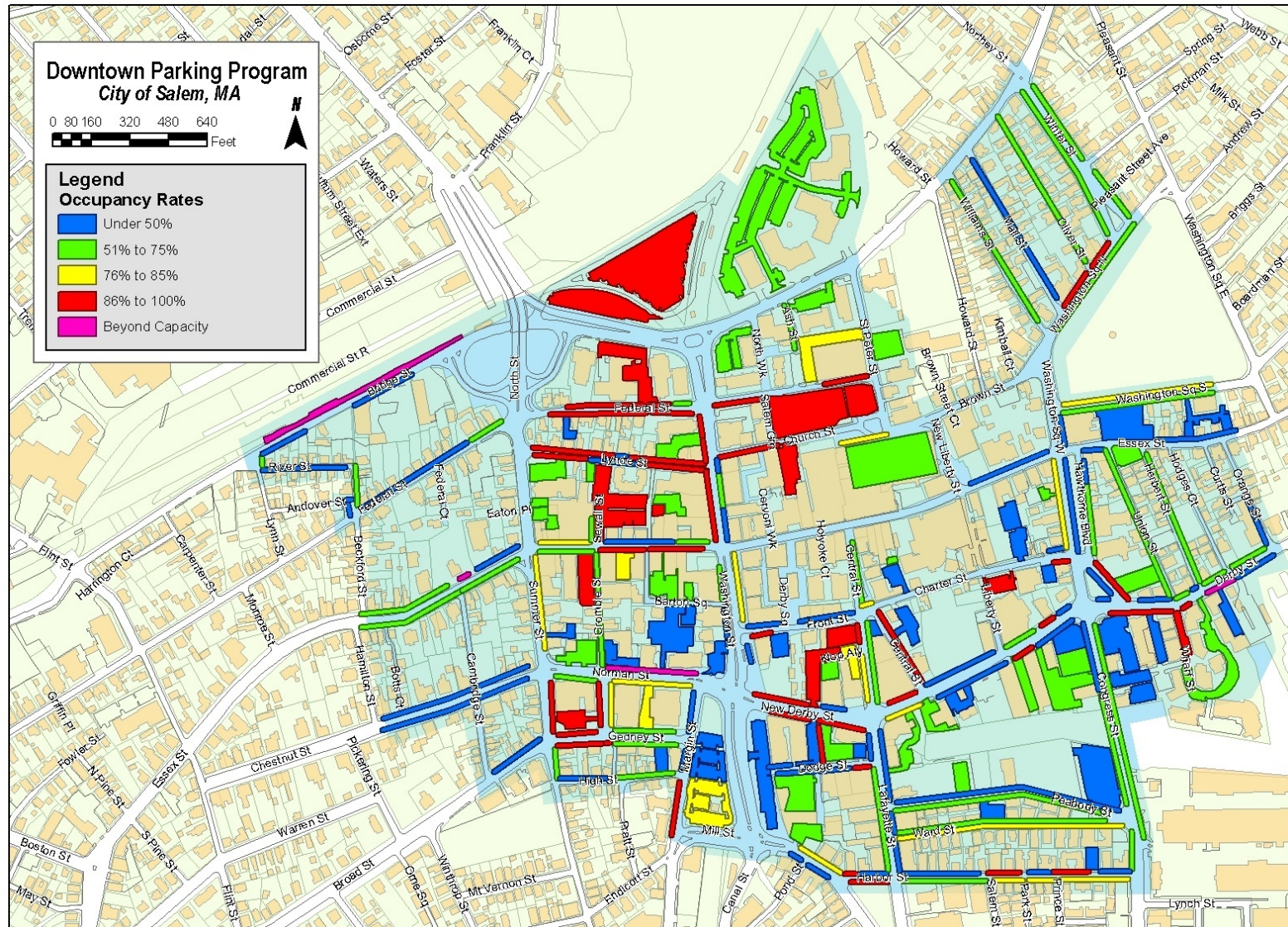


Figure 37 **Weekday Midday Parking Utilization**

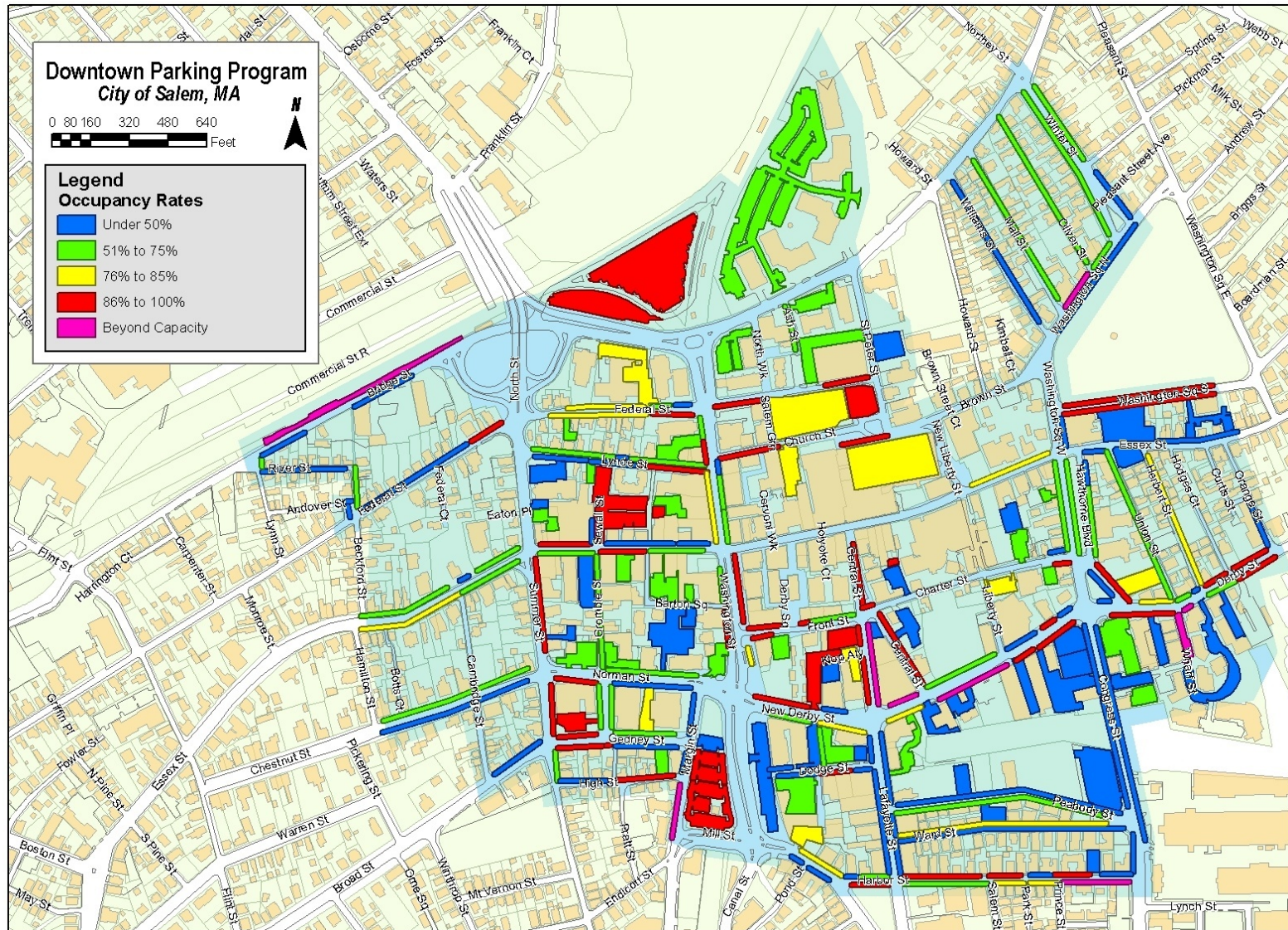


Figure 38 **Weekday Evening Parking Utilization**

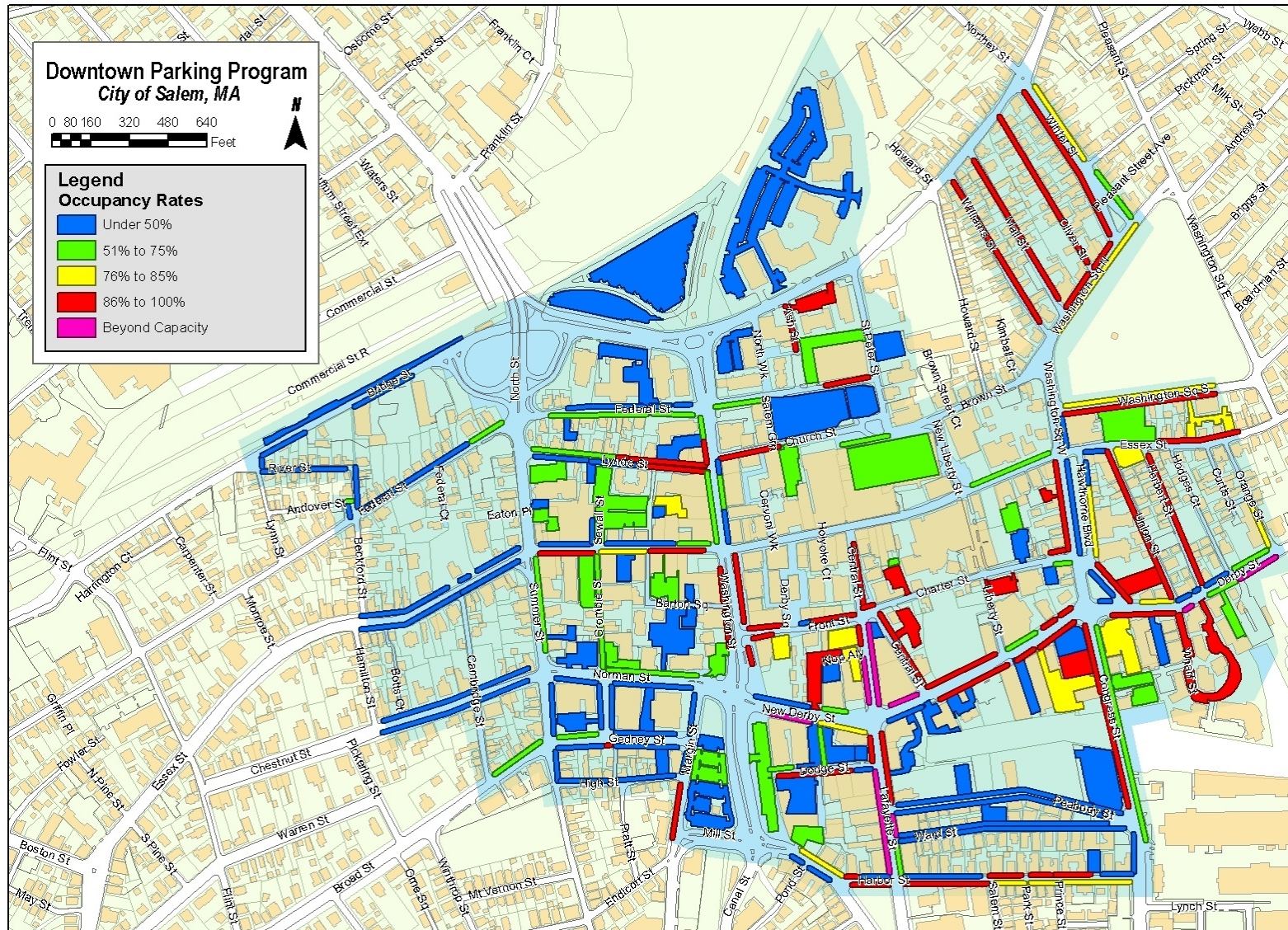


Figure 39 **Saturday Morning Parking Utilization**

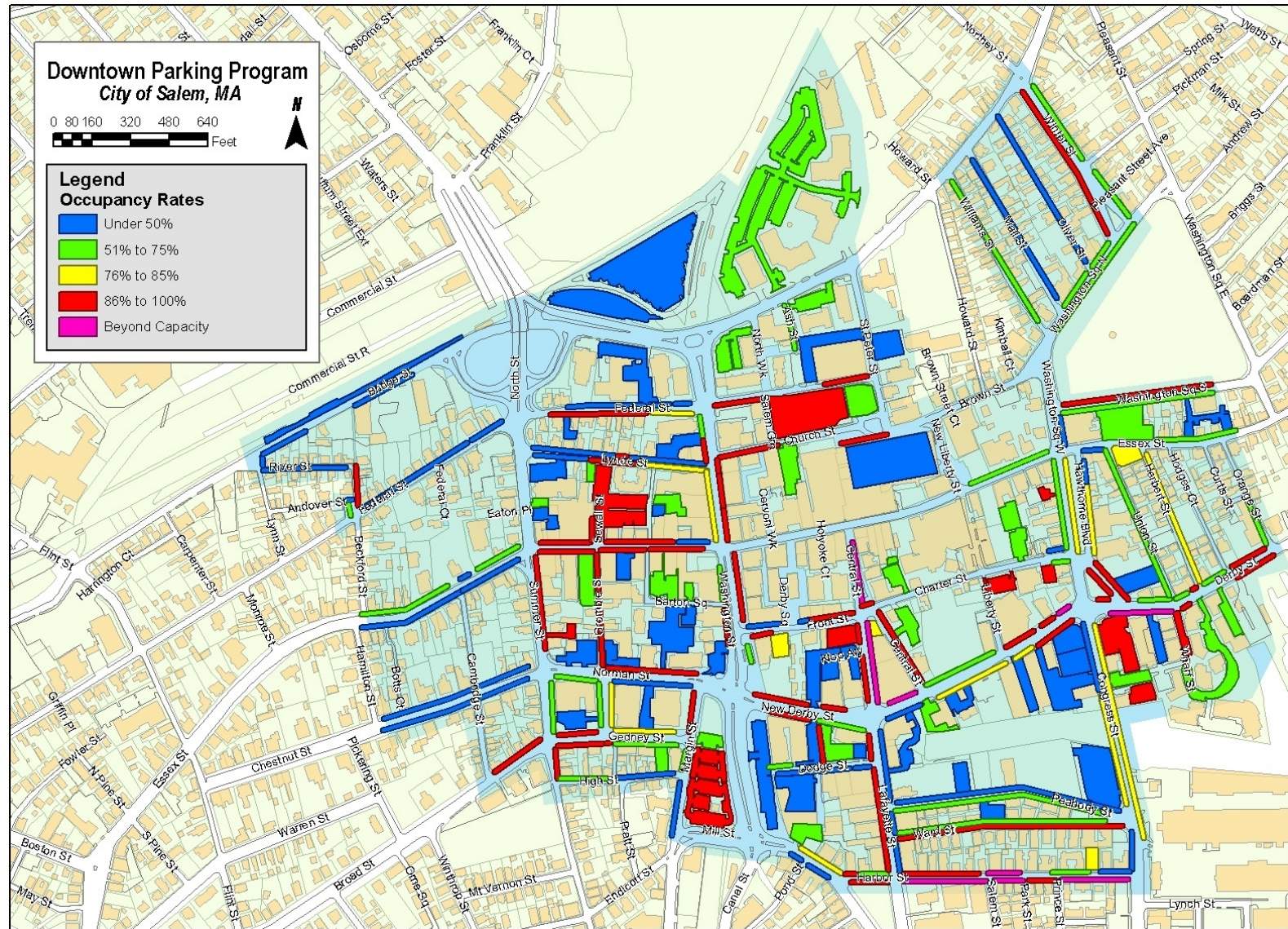
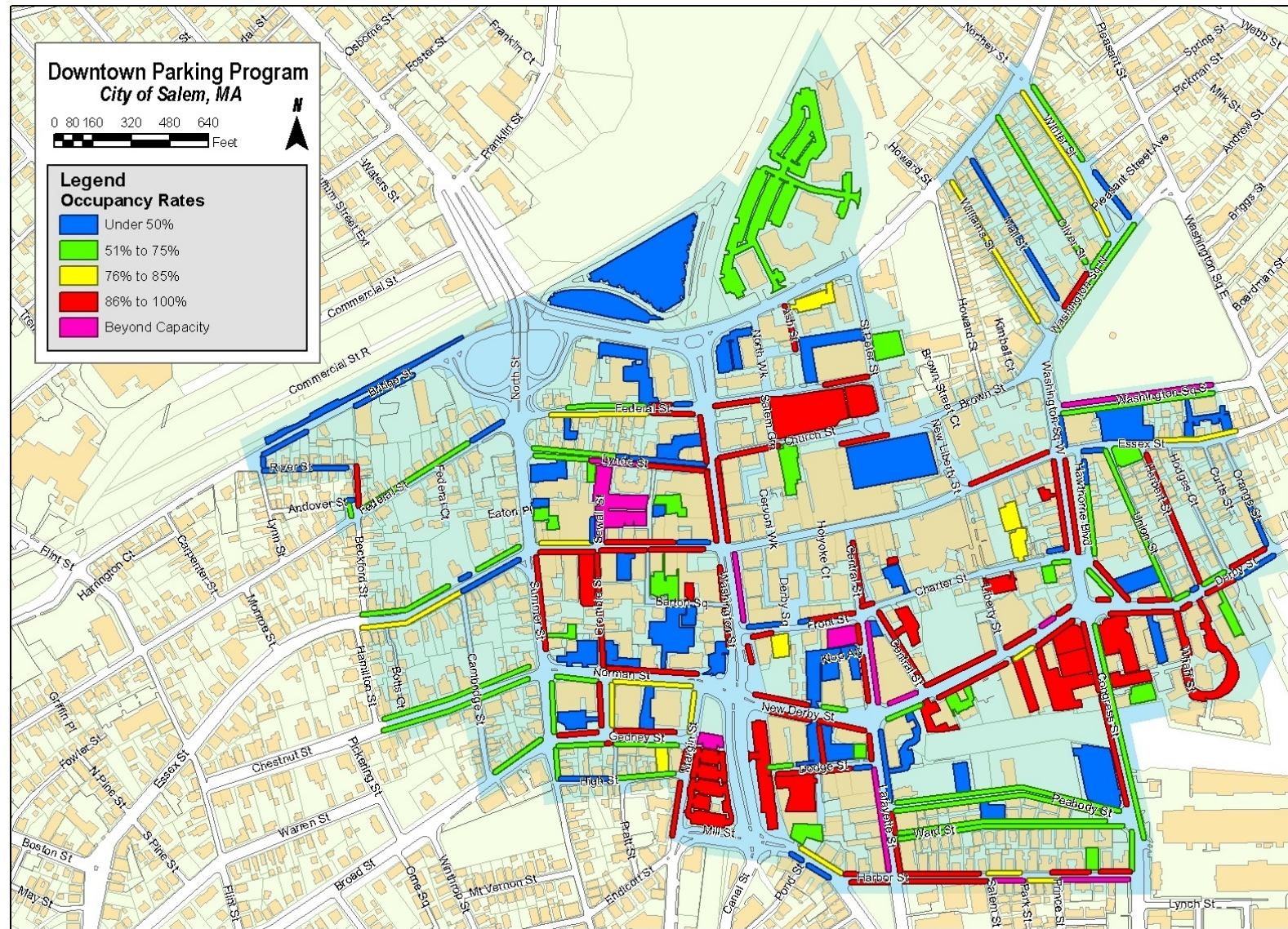
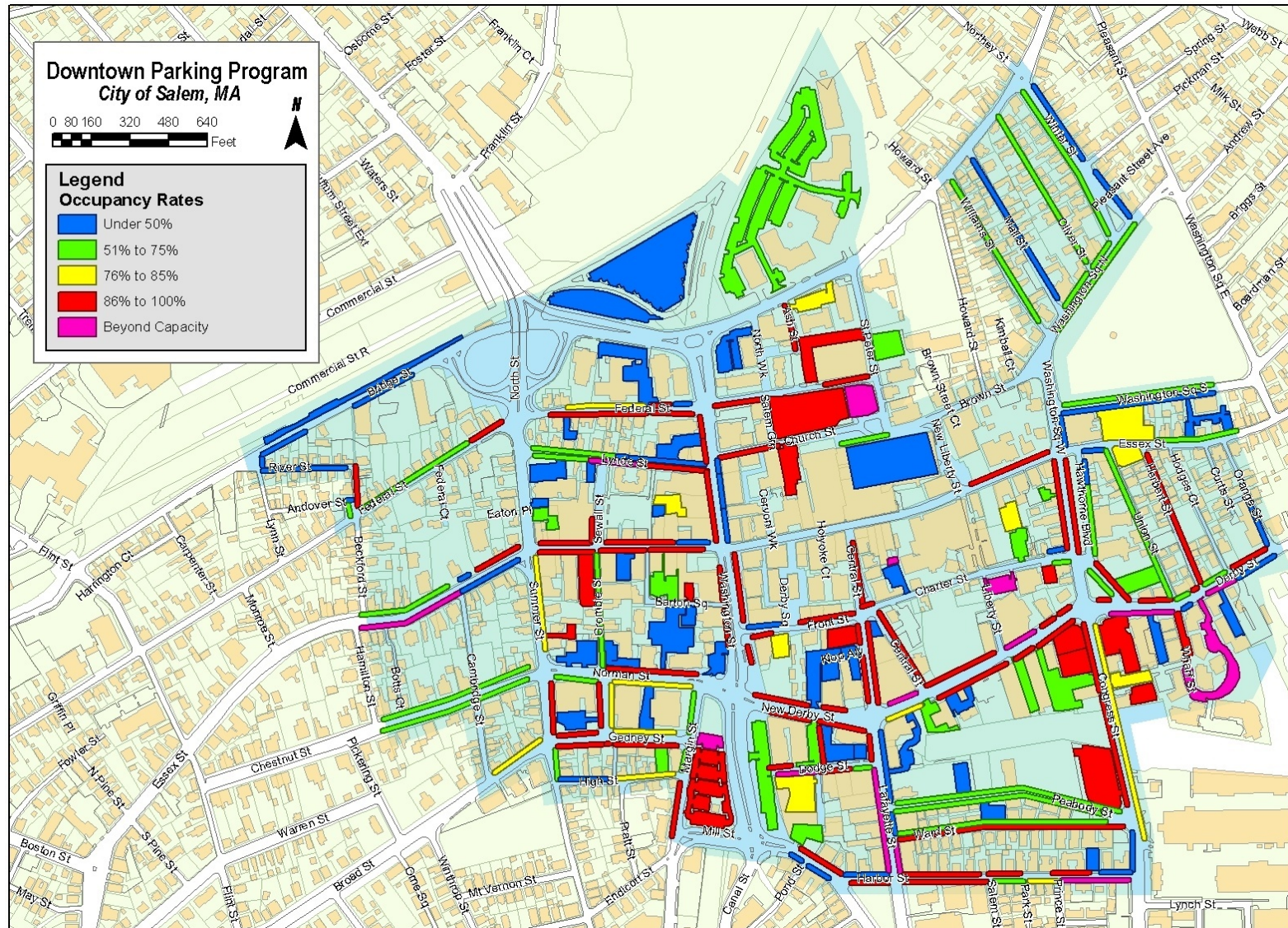


Figure 40 Saturday Midday Parking Utilization





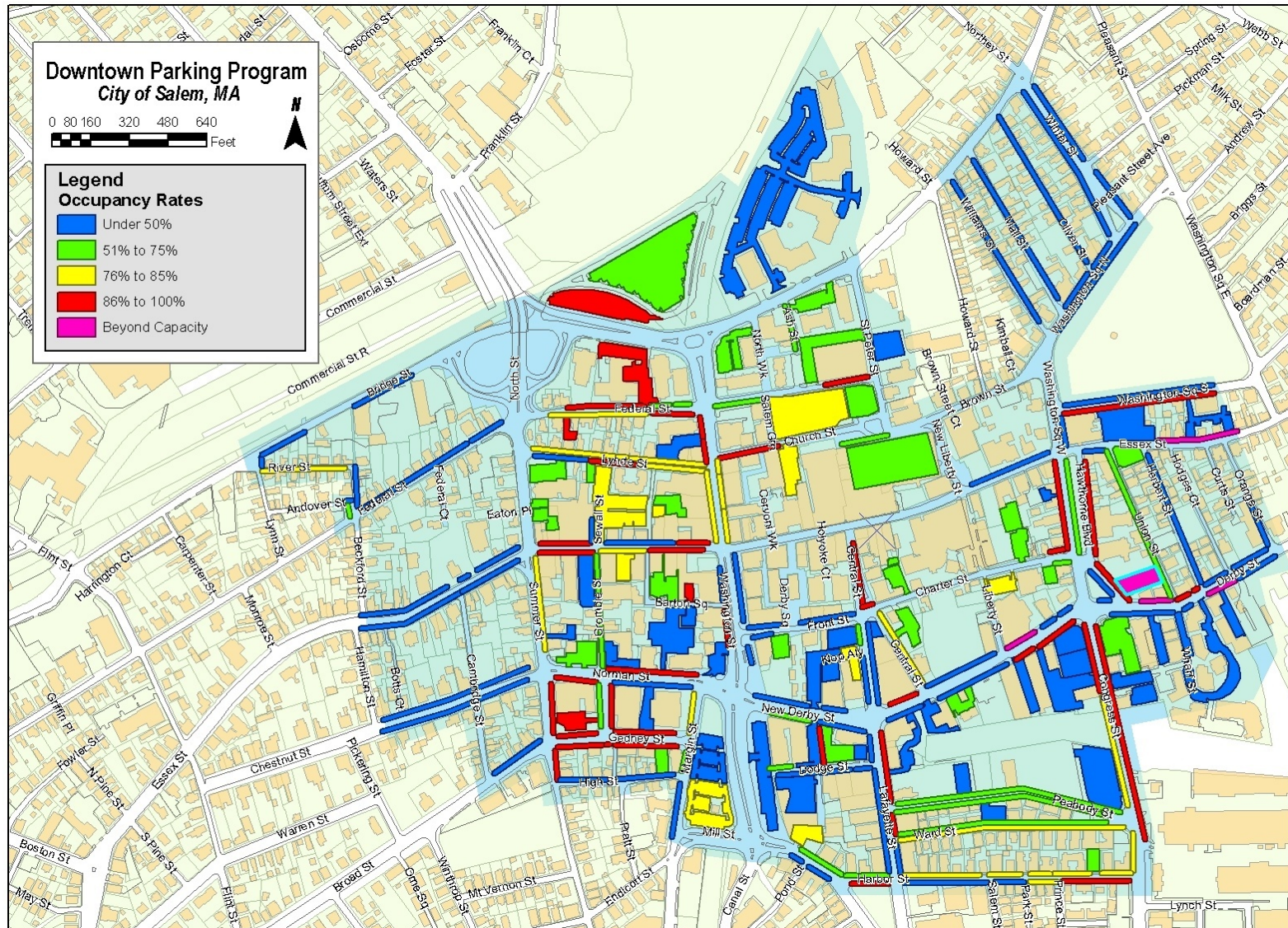
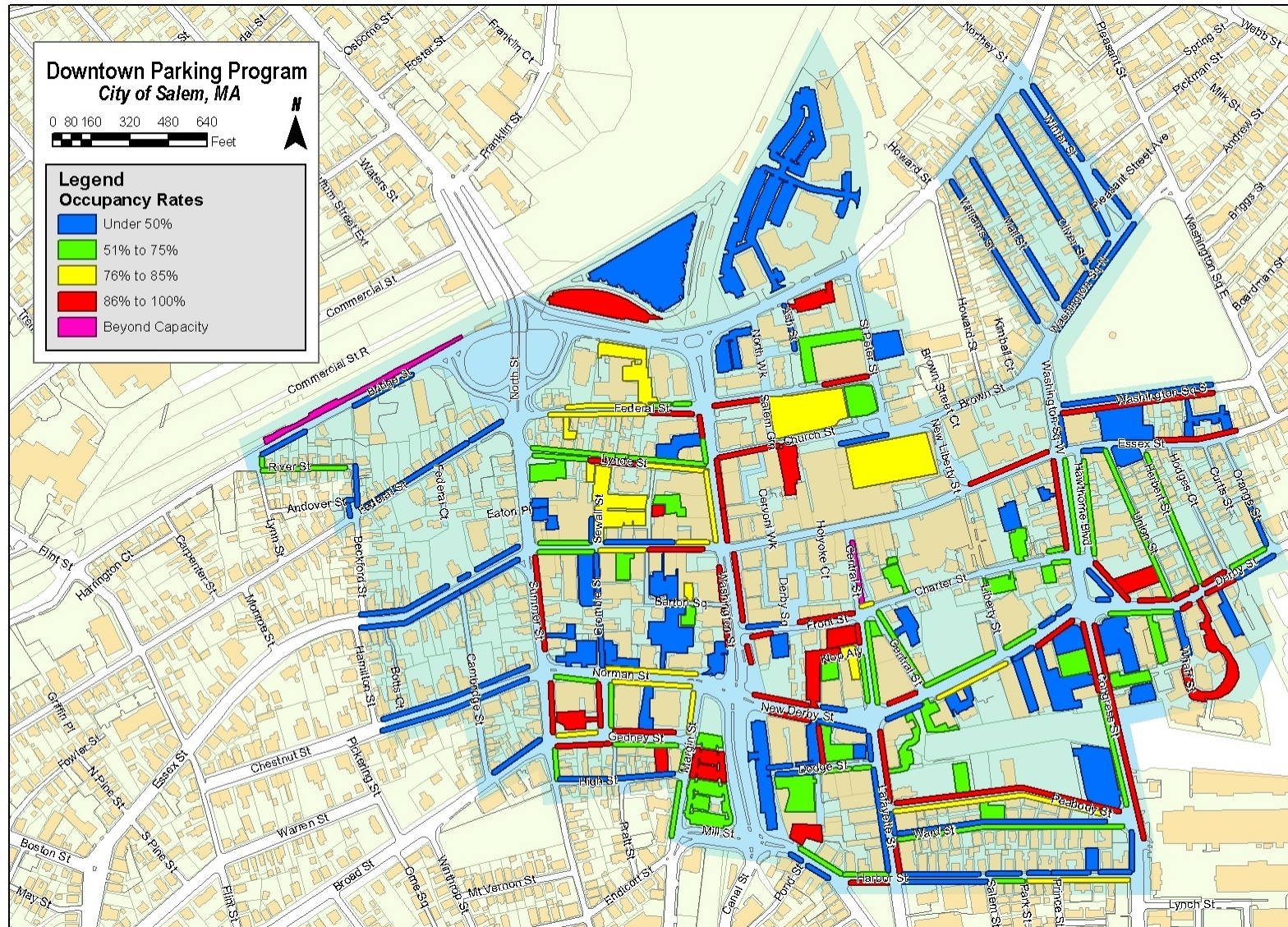
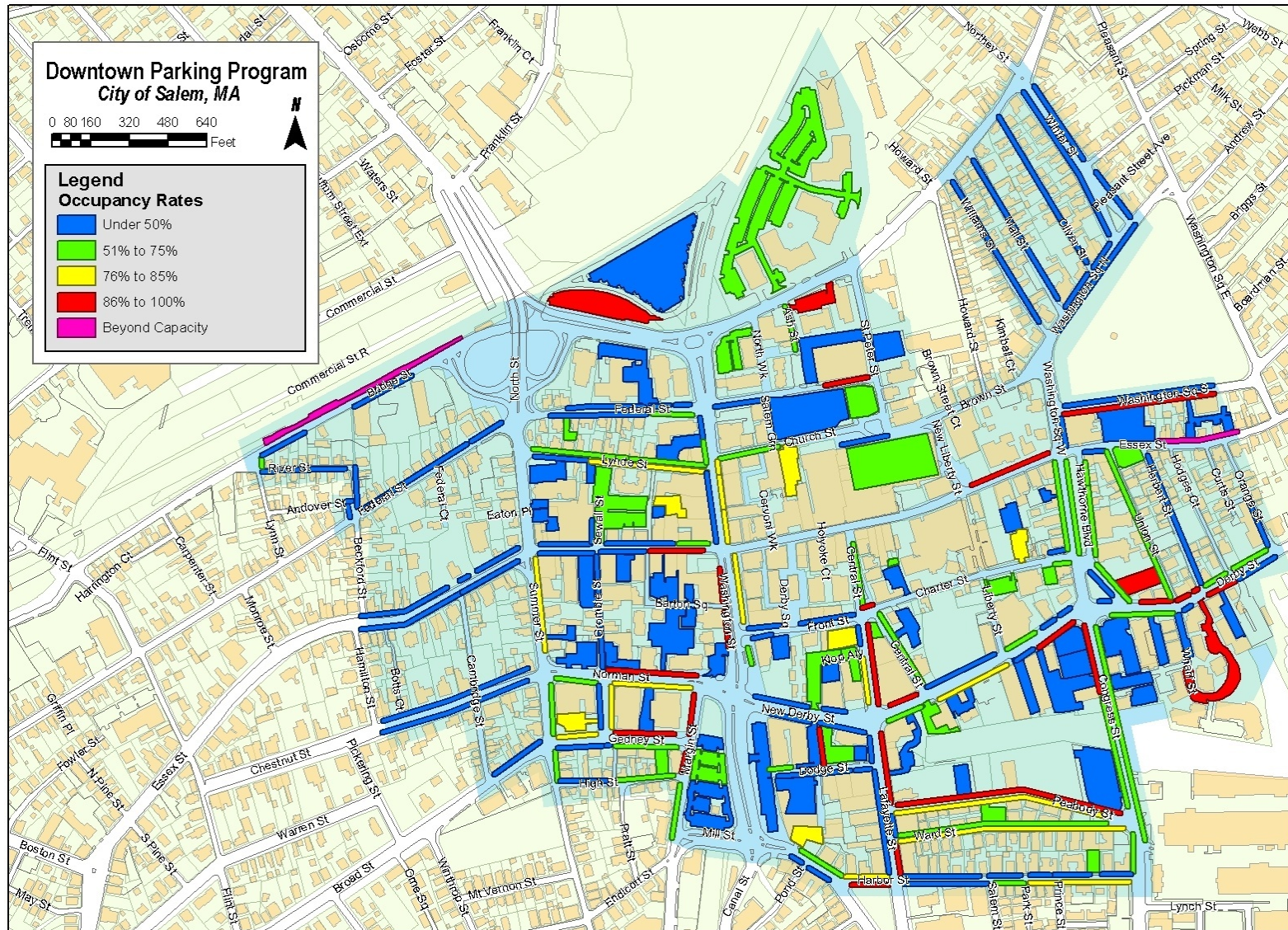


Figure 43 August Vacation Weekday Midday Parking Utilization





4.4 Key Observations

Based on a review of the detailed utilization information, the following observation highlights can be made.

Average Weekday:

Full-Day Public Pay Lots – Commuters & Employees

- The city owned commuter pay lot at the train station is full by 8 AM; and the MBTA owned lot is full or nearly full shortly after 8 AM and they remain at that level until the end of the workday.
- The Church Street lot is full or nearly full shortly after 8 AM but the occupancy changes throughout the day.

Full-Day Public Garages – Employees, Customers, & Visitors

- The Museum Garage is never more than 85-percent occupied.
- The South Harbor Garage is never more than 26-percent occupied.

Two-Hour Metered Public Lots – Customers, Visitors, & Some Employees

- Two-hour metered spaces in public lots are largely occupied, above 80-percent, throughout the day with the exception of dinner time.
- The public lots at Klopp Alley, Crombie Street, and Sewall Street are near full shortly after 8 AM but present varying availability over the day.
- The Sewall Street lot is full or nearly full throughout the workday.
- Less than half of the parking in the East Riley Plaza lot is used during the day and less than three-quarters full after the workday.

Unregulated Public Lots – Everyone

- The free parking along Bridge Street is over capacity by 8 AM and remains full until after work.
- The unregulated public parking in West Riley Plaza is 76-percent full at 8 AM and full until after work.

Two-Hour Metered On-Street – Customers, Visitors, & Some Employees

- Two-hour metered on-street parking as a whole is nearly 40-percent vacant during the day and then drops to only 25-percent vacancy through late afternoon and evening.
- The spaces closest to the courthouse, on Federal Street, Lynde Street and northern Washington Street, are full or nearly full by 8 AM.
- The spaces along southern Washington become full or nearly full by 10 AM and remain so into the evening.
- Parking in the south east quadrant, specifically on Derby Street and Lafayette Street is very highly utilized in the evenings with some stretches of road over capacity.

Average Saturday:

- Commuter parking (city pay lot, MBTA lot, and Bridge Street) is less than half full throughout Saturday.
- All public parking is well utilized, specifically the two-hour metered parking (both on-street and in surface lots) is highly utilized throughout Saturday.
- The public surface lots (Church Street, Sewall Street, West Riley Plaza, Pickering Wharf, and Klopp Alley) are especially favored throughout the day.
- The Museum Garage is less than half-full throughout the day while the South Harbor Garage sees relatively high utilization.

August Vacation Weekday:

- Parking utilization is generally lower throughout Salem during the August vacation.
- The city commuter pay lot and Bridge Street parking are highly utilized throughout the summer weekday while the MBTA lot remains less than three-quarters full.
- The Church Street lots, Sewall Street lot, East Riley Plaza lot, Museum Garage, and South Harbor Garage do not see utilization above 85-percent occupied throughout the day.
- The Klopp Alley, Pickering Wharf, and West Riley Plaza lots see points throughout the day where they are full or nearly full.

5. Public Workshop

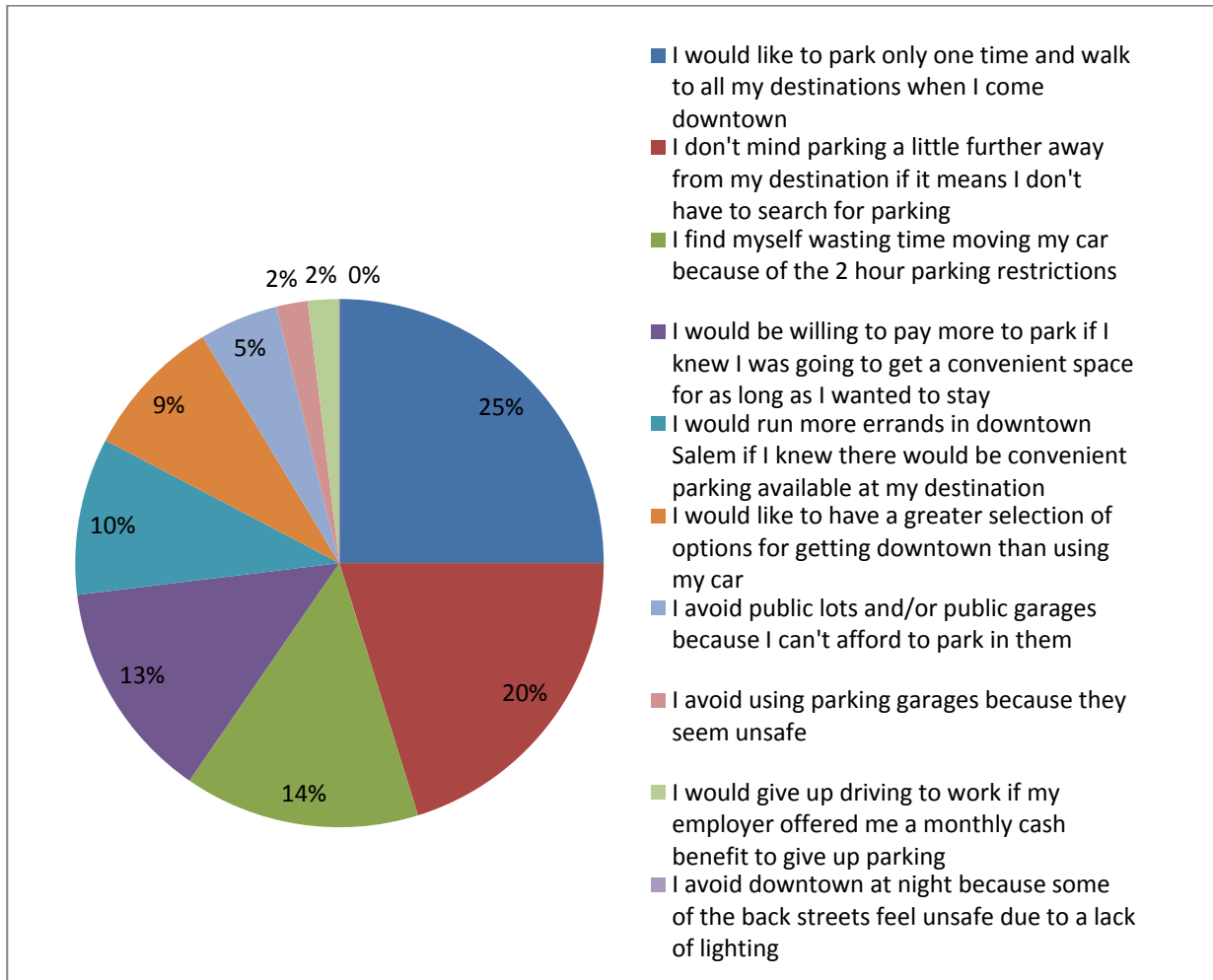
This Section presents the information gathered from attendees of a public parking workshop, held in Salem's Old Town Hall on Monday, November 16, 2009 from 6:00 to 8:30 PM. Approximately thirty participants offered their thoughts on areas of needs and opportunities as they relate to parking in downtown Salem.

Key Findings

- Participants were concerned about the lack of available front-door parking for their errands and for the accommodation of visitors and shoppers in the downtown.
- Many participants were willing to park once and walk to multiple downtown destinations if they could be assured of finding a space easily, even if it meant a slightly longer walk.
- Some frustration with the 2-hour time limits was noted, with many noting that meter feeding took place.
- A fair number of participants were willing to pay to ensure an available parking space.
- Frustration was expressed with the management of the Sewall Street and Church Street lots which had limited availability. The Museum Garage was also noted to have rates too high for customers.
- Many desired better information about parking locations and rates.

5.1 Priorities Poster Activity

The initial activity at the meeting provided insight into the parking priorities of the attendees. Responding to a variety of statements, participants were able to indicate the strength of their preferences. As indicated by the pie chart in Figure 45, several priorities emerged with the most support. The highest priority for attendees, with one-quarter of all potential votes, went to a preference for parking once and walking between multiple destinations when downtown. The second highest priority, with 20-percent of the vote, indicated that attendees would park a greater distance from their destination if it meant that they would not have to search for parking.

Figure 45 Results of Priorities Poster Activity

5.2 Areas of Need

Following the voting exercise and an introductory presentation, participants were invited to sit around tables with large maps of the study area and indicate in writing and with colored marker the locations they park and what issues they find in downtown Salem. In discussing parking areas of need, some concerns were echoed by several groups, while others were only raised by an individual group. Their comments can be organized into several broad categories: pricing, parking supply, parking management, and information.



Pricing

Parking pricing was a popular topic that was discussed in a variety of ways. One group felt that there is a need to make the Museum Place Garage more affordable than metered parking to encourage garage parking rather than on-street. Additionally, some downtown employees park on neighborhood streets, where parking is free, rather than in areas designed for workers that typically require some form of payment. Other attendees noted that not all residents in the downtown obtain parking passes, which can cause downtown residents to park in more short term spots.

On-Street Management

Linked to the price of parking, on-street parking management was another issue that participants brought up in their discussions. Several groups voiced concern about practices, such as “meter feeding,” by some employees of downtown businesses that take up on-street spaces designated to be for short-term use. Without strict enforcement and with an hourly rate lower than the garages, it was felt that the supply of spaces designed for high turnover and available to visitors and customers is limited by downtown employees. Visitors’ resulting hunt for available spaces requires extra time or the greater cost of using the garages. Participants worried that this form of on-street management results in the displacement of customers, and the loss of revenue for downtown. In the same vein, some attendees voiced a concern that a short-term lot is not proximate to shopping.

One group voiced a concern about the Essex Street Pedestrian Mall and its closure to cars, wanting to see it reopened, adding to the supply of parking. Essex Street was also mentioned in the context of on-street parking management. One group discussed the lack of parking turnover at on-street spaces, citing the part of Essex Street currently open to cars as an example.

Off-Street Management

Attendees also discussed the supply of parking, especially as it relates to reserved spaces and weather. Parking space shortages were noted in several places including the YMCA lot, along with the lack of adequate 12-hour parking at Riley Plaza, and the desire for a larger parking area near Front Street. Two groups identified that some spaces reserved for certain workers, such as spaces for the District Court House and fire protection and electrical workers, are underutilized or are used only during certain hours of the day and lie empty the rest of the day. The impact of winter weather on parking in reducing the supply was also mentioned as an area of concern for attendees. Garages, in particular, fill very quickly when snowstorms approach and on-street parking is less available.

The Church Street lot was the issue of concern that was cited by the most groups. Three groups addressed a different problem they had encountered with this lot: one mentioned that the Church Street lot fills too quickly, while a second addressed overlapping demands from employees and courthouse visitors that caused peak demand early in the day. The third group mentioned that the Church Street lot does not accept monthly passes.

Parking Information

Two groups addressed the issue of parking information, saying that more signage and guidance is needed. For one group, signage was addressed in the context of being able to find a parking

meter long enough for one's particular needs that day. The other group noted that parking in Salem is perceived as confusing, and that perception and confusion confronts different users.

5.3 Opportunities for Improvement

Following the needs exercise, participants were asked for their ideas on how to improve parking in the downtown. In considering parking opportunities in Salem, participants not only addressed some of the issues raised in the areas of the needs discussion, but also explored innovative ways to improve parking so that it serves a high quality of life in the downtown. The recommendations participants offered can be organized into several broad categories: pricing, on-street parking management, parking supply and new development, demand management, regulations, and information.

Pricing

The pricing of parking was a topic that participants raised when considering Salem's needs, and was one of the areas in which they saw an opportunity for improvement. Two groups, in suggesting a greater utilization of private parking lots, addressed the issue that some reserved spaces are used only at certain times during the day. One group advocated for discounted parking for employees. Another proposed the implementation of more price tiers at the Museum Place garage, returning to the need expressed earlier to make this garage more affordable than metered parking.

Parking Management

The connection between pricing and on-street management was again seen in some of the recommendations made by participants. One group suggested instituting more regulation to discourage "meter feeding," while another urged metering the parking along the Common.

Several recommendations for new off-street regulations were also made. One group said that new residential and commercial construction in the downtown, or renovated development for the same uses, should be required to provide parking for its anticipated residents or clients. This group also suggested that city employee parking be restricted to the top of the Museum Place garage.

Parking Supply

Increasing the supply of parking was another means of improving parking that participants recommended. One group advocated for the construction of a parking garage at either the Riley Plaza or Church Street lots. Returning to the issue of the Essex Street Pedestrian Mall, two groups suggested that the street be open to cars and that drivers should be allowed to park there. It was also suggested that parking and street construction work should be phased in a manner to minimize displacement.

Demand Management

Methods which involve instituting measures that discourage users from driving into a downtown area while at the same time encouraging other modes of transportation was discussed. One group wanted to encourage the use of bicycles by installing bicycle lockers at the T commuter station. Another group suggested that employers create incentives to encourage employees out of on-street spaces or to use alternative modes of transportation.

Parking Information

There were a variety of proposals for information improvements made by the participants. The same group that asked for improved signage for meters made a general suggestion of better lighting and signage. They also suggested the employment of GPS technology to identify real time parking availability and time-limits as they search for spaces, while another similarly expressed a desire to find a means of promoting availability of space in garages. Another group recommended that education and enforcement were areas of opportunity. Finally, one group said that people need to change their perception of the distance from a parking space to a destination.

5.4 Summary

Figure 46 summarizes all geographically located comments made by participants at the workshop, which are paraphrased in Figure 47 (with issues **indicated in black** and **opportunities in green**).

Figure 46 Map Summary of Workshop Comments

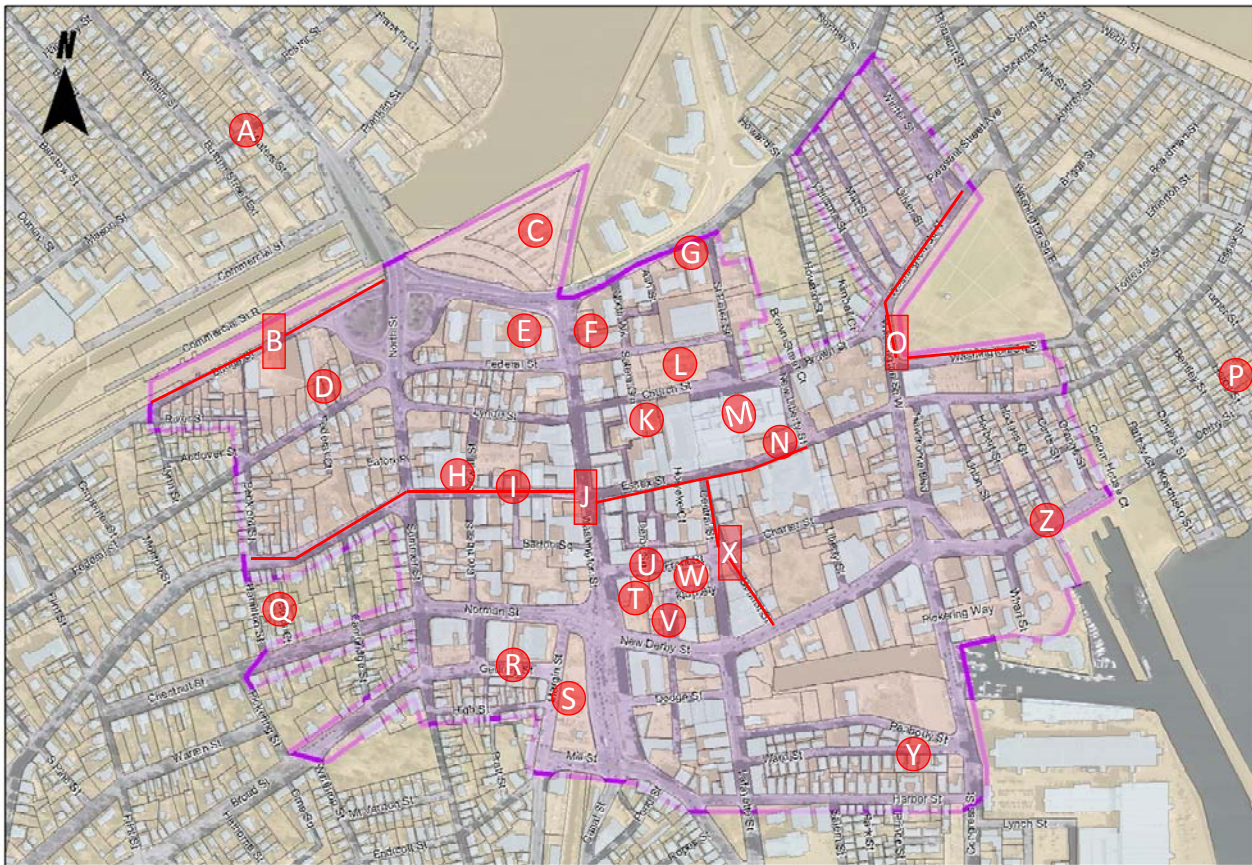


Figure 47 Summary of Key Issues and Opportunities

- A. Some drivers park in the Northfields neighborhood and carpool to downtown
- B. Parking on Bridge Street is dangerous
- C. MBTA Lot: Is not well maintained, needs garage because people use downtown spaces, and needs secure bike parking
- D. Create parking lot from iron junkyard
- E. New courthouse should have parking for lawyers, jury duty, judges, etc.
- F. Parking in front of District Court after hours
- G. Area needs tourist and shopper instructions and signage
- H. YMCA lot fills up quickly
- I. Essex Street: Employees park in metered street spaces, People longer than the 30-minute limit, and Upper Crust delivery people use meters all day
- J. Signage on Essex Street is confusing/ Reopen Essex Street to cars
- K. One-headed meter with two spaces
- L. Church Street lot: Churchgoers have to pay for parking on Sundays, lot fills very quickly, is used by Lifelong Learners with 2 hour courses who receive tickets because of the timing, always full, and does not accept monthly passes
- M. Museum Place Garage: Not well-lit and poor pedestrian access, needs space for covered bike parking, fills up too quickly during snowstorms, is too far to walk from work, is too expensive (\$20) on Halloween
- N. Limit of 30 minutes in front of Museum Place mall or meters
- O. Meter parking around the Common
- P. Resident parking issue
- Q. Botts Court residents cannot obtain parking stickers
- R. 15 minute parking opposite a barber shop
- S. Not enough 12-hour parking at Riley Plaza/ Need 3-story parking garage
- T. Tavern in the Square/RCG should pay for parking stickers for other businesses that have no parking now
- U. Two loading spaces at 40 Front Street no longer needed because restaurant is no longer there
- V. Delfino's parking lot over taxed with residential parking
- W. Front Street Lot: Larger parking area needed and there are unused reserved spaces behind Fire Station
- X. Central Street meter feeding is a problem
- Y. Shetland Property employees park in neighborhoods
- Z. No signage along Derby Street in front of Custom House to restrict long term parking

6. Parking Survey

Beginning in October 2009, a one-page parking survey was distributed to potential users of the downtown Salem parking system. Several hundred printed surveys were distributed at key downtown businesses and municipal destinations. The survey also was posted online through a link on the City's webpage, and City staff emailed existing contact lists to encourage participation. By January 2010, over 600 responses had been logged.

Key Findings

- Nearly two-thirds of respondents must search for parking every time they come to downtown.
- With two-thirds of the respondents being visitors or customers to the downtown, the fact that over 40-percent had to park illegally on occasion and nearly two-thirds would simply leave downtown because they could not find a space sometimes is alarming.
- Even though nearly half of the respondents had to pay for parking – mostly out of their own pocket – price was a concern of only 10-percent of respondents.
- Over three-quarters of respondents had the availability or location of parking as their primary concern.
- The average perceived time to find parking in downtown Salem was very long at over five minutes.

6.1 Survey Questions

The parking survey was designed to help illuminate potential parking problems in the downtown that had not been identified by the working group or at the public workshop. It also was intended to help gauge parking performance by demonstrating percentages of respondents who behaved in one manner or another. Figure 49 shows the paper survey form, which was replicated on the City's website.

6.2 Survey Results

Respondents to the survey covered a wide range of users, with no less than 20 respondents in any user category, except tourists. Figure 48 summarizes the survey respondents.

Figure 50 summarizes key results of the survey through a number of graphics. These responses directly informed the final recommendations of this study.

Figure 48 Survey Respondents by User Group

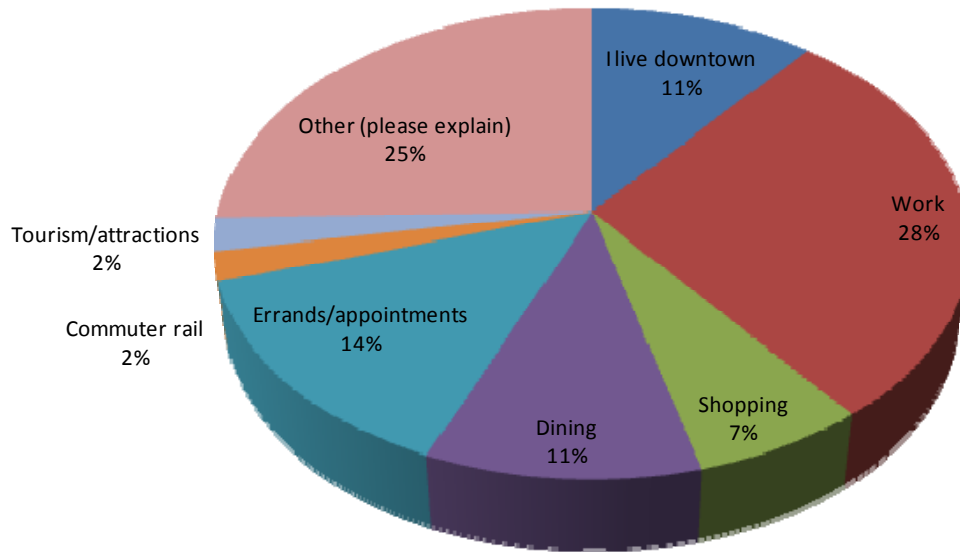


Figure 49 Salem Parking Survey Form

TODAY'S DATE _____

SALEM COMPREHENSIVE PARKING STUDY – 2009
Downtown Parking - Extended Survey

On behalf of the City of Salem, we are conducting a survey of parking activity and preferences. Your accurate responses will help to guide our recommendations to the City.

YOUR RESPONSE IS VERY IMPORTANT. Please submit your answers one of four ways:
Leave with business where you picked it up; Fill out online at www.salem.com;
Drop off at the City Clerk's Office; or Mail to the address provided at the bottom of the form.

1. Zip code of residence (5 digit zip code please): _____
2. What is your primary purpose for coming downtown today?

☐ Work	☐ Shopping	☐ I live here	☐ Commuter Rail
☐ Dining	☐ Errands/Appointments	☐ Tourism/Attractions	☐ Other (describe): _____
3. How many times per week do you travel to downtown for that purpose?

☐ Less than 1 day per week	☐ 2 to 3 days per week	☐ nearly every day
☐ 1 day per week	☐ 4 to 5 days per week	☐ several times a day
4. If you ever travel downtown without your car, what other modes do you use? **AND** How many times per week?

☐ Personal Car Only	☐ Commuter Rail, _____ times per week	☐ Bike, _____ times per week
☐ Carpool, _____ times per week	☐ Bus, _____ times per week	☐ Walking, _____ times per week
5. What is the most important consideration for you in choosing where to park in Salem?

☐ Type of parking (street/lot/garage)	☐ Location	☐ Ease of finding a space
☐ Price	☐ Safety/security	☐ Other (explain) _____
6. Do you always park in the same place or do you search? ☐ Same Space ☐ I Search
7. How long did it take you to find a spot → Today? _____ mins At what time? _____
→ Usually? _____ mins → Worst day? _____ mins
8. How close to your primary destination did you park?

☐ Right in front / 1 minute walk	☐ 5 to 9 minute walk	☐ 15+ minute walk
☐ 2 to 4 minute walk	☐ 10 to 14 minute walk	
9. Approximately, how long will you be staying today? _____ hours _____ minutes
10. Have you ever failed to find parking and just left? ☐ Yes ☐ No
11. Are you ever in a rush and forced to park or stand illegally? ☐ Yes ☐ No
→ If yes, where does this occur for you most frequently? _____
12. Do you typically pay to park in Salem? ☐ Yes ☐ No
→ If yes, how much? \$ _____ per _____ (hour, day, week, month)
13. Is the cost of you parking today paid for, in part or in full, by anyone else?

☐ No cost, free parking	☐ Employer pays partial	☐ Parking included in lease
☐ I pay all cost	☐ Employer pays full	☐ Other (please describe): _____

If you have any other thoughts on parking or parking-related experiences in downtown, please feel free to use the back of this sheet.

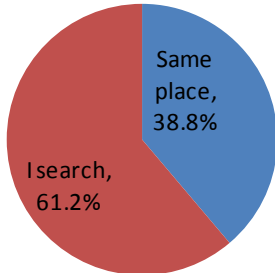
Thank you!

Nelson|Nygaard
consulting associates

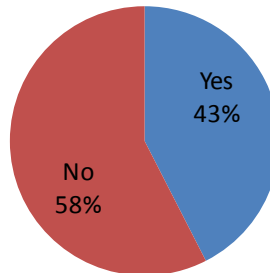
10 High Street, Suite 903
Boston, MA 02110
(617) 521-9404 FAX: (617) 521-9409

Figure 50 Survey Responses

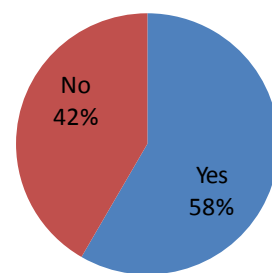
Do you always park in the same place or do you search?



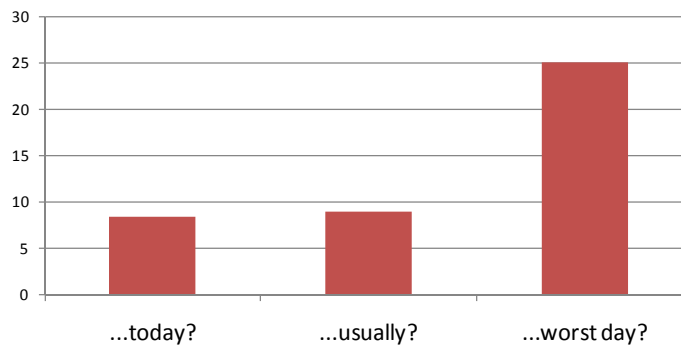
Are you ever forced to park or stand illegally?



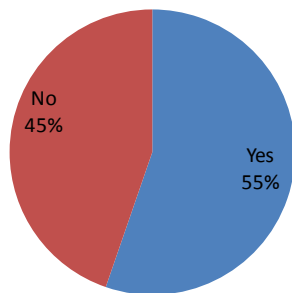
Have you ever failed to find parking and just left?



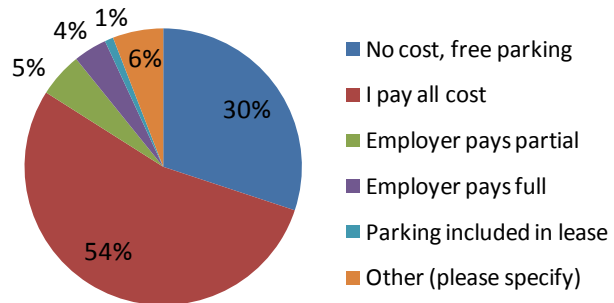
How long did/does it take you to find a space?



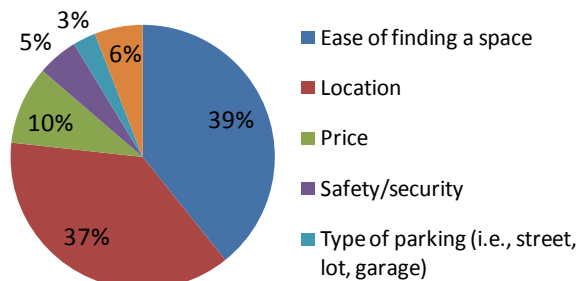
Do you typically pay to park in Salem?



Is the cost of your parking today paid for, in part or in full, by anyone else?



What is the most important consideration for you in choosing where to park in Salem?



7. Review of Innovative Parking Technologies

Parking management technology has come a long way since parking became a consideration on the minds of city leaders. Many of these innovations dramatically change the operations and management of parking as well as alter the way a city looks. Sidewalks no longer need to be littered with hundreds of parking meters; there are advancements in parking payment technologies that greatly reduce this clutter. Cities no longer need to rely on an infantry of parking enforcement and revenue collection officers; there are innovative technologies that streamline both enforcement and revenue collections. Drivers no longer need to wonder if or where parking is available; new signing systems are able to provide dynamic and live information to drivers. This section will review a number of technologies in use around the country that address these different areas of parking management that may be applicable to Salem's downtown.

Key Findings

- Increased payment convenience can be provided to customers through the incorporation of cell-phone payment. Certain vendors can provide this on top of existing meter and pay station technology throughout downtown.
- Given the advantages of pay-by-space, Salem could convert meter posts to space numbers similar to those in Lowell and allow customers to refresh and update payments from any pay station in the downtown without returning to the car.
- In-car meters can allow the City to begin to share underutilized residential streets during the daytime with employees that have in-car meters.
- Real-time availability displays have great convenience for all types of users. Reduced technology costs can help make these available to the City cost-effectively, especially given the desire to present this information in multiple locations beyond the garage entrance.

7.1 Parking Payment Technology

Innovations in meter technology are rapidly changing the way cities across the United States manage parking. The market of parking payment technology has seen the most rapid change by taking full advantage of the age of information. Below is a description of a wide variety of unique parking payment applications across the country.

Single-Space Pay-By-Phone Meters

Several cities utilize cell phone technology to aid in the collection of parking fees from drivers at existing meters. Typically, parking management programs with this system require users to register their cell phones and credit card numbers online. Once registered, a driver finds a parking space, dials the parking phone number, and then enters his space number to start his legal parking time. This program is in use in Coral Gables and West Palm Beach, Florida. In



West Palm Beach, the program vastly exceeded expectations, reaching the first month goal of 400 transactions in the first week of implementation, and attaining 1,300 transactions by the end of the first month. For enforcement, parking officials utilize PDAs that have web-browsing capability to see which cars are compliant and which have exceeded their time.

Multi-Space Meters

Likely the most broad reaching innovation is wirelessly networked, solar-powered “pay stations” or “multi-space meters” that accept a wide variety of payment forms. They are in use throughout the Boston area today, including the communities of Lowell, Wilmington, Northampton, Boston, Cambridge, and others. Others are installing pay stations soon, including Brookline and Somerville. Pay stations come in two primary varieties, pay-and-display or pay-by-space. Salem has explored this area before and is investing in new pay-and-display systems to replace some existing single- and double-space meters. The differences are simple: pay-and-display meters give motorists a permit they then place on their dashboard; with pay-by-space, motorists enter their parking stall number into the meter before paying and they do not need to return to their vehicle.



Pay stations take credit cards, debit cards, cash and coins.

Both types of pay stations have several advantages over traditional single-space meters:

- Customer Convenience:** Pay stations provide more payment options, including bills and credit/debit cards. This makes payment more convenient for parkers, as they do not need to carry around excessive amounts of coins and don't park illegally when they don't have a quarter. A recent installation in Cambridge MA has seen over 75-percent transactions by credit.
- Better Information:** Pay stations can provide a higher level of customer information using electronic screens. Some stations are able to provide dynamic messaging controlled through a central computer.
- Street Design:** Pay stations eliminate the need for a post and meter head at every parking space, promoting more open, pedestrian-friendly sidewalks and possibly reducing visual blight. This is particularly true on block faces with angled parking, where single-space meters are placed closely together. However, pay stations do require visible signs notifying motorists that they must pay for parking, which point in the direction of the pay station. Fortunately, these signs generally need only be placed as frequently as existing streetlights and other sign poles are placed, so the net result is a reduction in sidewalk clutter. This has been the experience of Seattle and Portland, which have replaced all of their conventional meters with pay-and-display machines.
- Revenue:** Almost universally, cities that have implemented pay stations have found that parking revenues increase



Pay station signage in Berkeley, CA.

over conventional meters. During the transition period as Seattle shifted from conventional meters to 100-percent pay-and-display, it saw significantly more revenue per space with multi-space meters:

- Single-Space Meters: \$3.70 per space per day
- Pay Stations: \$6.80 per space per day

Portland, OR, has seen a 40-percent increase in meter revenue per space since shifting to 100-percent pay-and-display meters in 2002. Savannah, GA, has also seen an overall increase in meter revenue every year since implementing pay-and-display meters. Parking managers believe part of this increase is due to parkers now paying their full share. Previously, parkers could use remaining minutes on a meter from the previous parker; now a parker must pay for parking right from the start, even if the previous parker stayed less time than they paid for. According to Karen Moore, parking manager for the City of Berkeley, the City has experienced a 300-percent increase in meter revenues with its new pay-and-display machines, in part due to the severe vandalism problem its previous conventional meters faced.

- **Data Collection:** Pay stations produce detailed records of use that can be analyzed using computer software. This allows parking managers to respond much more quickly and accurately to parking issues caused by ineffective pricing or regulations.
- **Capital Costs:** Although individual pay stations are substantially more expensive than individual single-space meters, the overall long-term savings made by covering 6 to 12 spaces with a single multi-space meter may make this technology cheaper overall. Typical capital costs are included below.

	Traditional Single-Space Meters	Multi-Space Meters
Cost per meter	\$500	\$7,000 - \$9,000
Number of spaces covered	1-2	6 - 12
Total capital cost per parking space	\$250-\$500	\$580-\$1,500

- **Operating & Maintenance Costs:** Some pay stations are designed with the capability to contact parking managers, Parking Control Officers (PCOs) or maintenance staff if the meter fails for some reason. This reduces maintenance costs since each meter doesn't have to be physically inspected and minimizes downtime which in turn increases revenue. Also, an automated payment system results in more cost-effective revenue collection and auditing, enabling meter collection staff to be re-assigned to other street maintenance tasks.

According to the cities surveyed, pay stations have lower maintenance costs per space largely because there are fewer meters. In other words, if a city once had 5,000 parking meters, they had to maintain 5,000 devices, while with multi-space meters they may only have 500 devices which require the same or less maintenance due to their design advantages over single-space meters.

Pay stations are much more resistant to vandalism and theft through their physical design. Traditional single-space meters sometimes have their heads knocked off for theft, or their coin slots jammed to prevent them from functioning so a driver can park for free. Because multi-space meters use multiple payment options, cities have seen fewer attempts at

vandalism and efforts to jam machines. The multiple payment options discourage coin slot jamming, and theft is less common because many of the payments are by credit card so less cash is available inside if a thief were ever to successfully break into the meter.

Berkeley, which had a severe vandalism problem with its conventional meters, has seen a dramatic drop in vandalism since installing pay-and-display machines; moreover, when their new meters experience a problem, their control center receives an immediate e-mail and can fix the problem or replace the meter within an hour.

Pay stations are connected wirelessly, which allows meters to communicate with the parking department. If the meter runs out of paper for receipts, it sends an e-mail indicating it needs refilling. If the meter has a technical problem, it is reported via e-mail so repair crews can target only those meters that have problems. The e-mail sent from the meter indicates exactly what the repair crew needs to bring in order to fix the meter.

- **Power Supply:** Pay stations are often run using solar power from a photovoltaic panel installed on top of the station, eliminating the need for electric power supply and the associated capital costs of providing overhead or underground connections to the power grid. Many models also offer a battery back-up option ensuring that meters do not go out of service should the photovoltaic array fail for some reason. Concerns about sufficient solar exposure in northern cities have been disproven, especially in New York City where winter sun angles are low, skyscraper shadows are long, yet pay stations continue to replace traditional meters.
- **Ease of enforcement:** Costs of maintaining and deploying enforcement teams for pay-and-display remain constant compared to conventional meters, according to Bill Timmer, a consultant for the City of Seattle. The city maintained its force of 63 enforcement officers before and after installation of the multi-space meters.

After switching to pay-and-display, West Hollywood saw a reduction in enforcement revenue of \$900 per month per space (~\$30 per day per space), due to higher compliance with the meters, but this was generally matched by an increase in meter revenue.

Savannah, on the other hand, saw an increase in enforcement revenue of 11.5-percent from citations due to increased efficiency in issuing citations. Seattle has not been able to identify any changes in either enforcement costs or revenues when it changed to pay-and-display.

Pay-by-Space Versus Pay-and-Display Meters

In general, pay-and-display machines are more common in on-street environments, whereas pay-by-space machines are to a larger extent used in parking lots and garages, as further described below. Urban Transportation Monitor, a national transportation research organization, published an article in 2004 summarizing multi-space meter installations in on-street environments in selected North American cities. Most of the cities mentioned in the article are using (or testing) pay-and-display machines, instead of pay-by-space machines. This includes most of the cities that have done large-scale installations (Baltimore, Denver, New York City, Portland, and Seattle). Salem has recently implemented pay-by-space machines in two locations in the downtown.



New pay-by-space machines in the Church Street lot.

Pay-and-display advantages for on-street parking include:

- **More parking spaces per block:** Previous parking studies have shown that when individual stalls are not striped, parallel parking along a street (with few driveways) can typically accommodate 15- to 20-percent more cars per block because drivers tend to park more efficiently. Since pay and display machines only require the motorist to place a receipt on the car's dashboard, there is no need to stripe or designate individual stalls (as is required with individual meters, or pay-by-space machines where individual stalls must be marked and numbered). Striping would still be required for diagonal stalls, to help people align their cars, but not for parallel or perpendicular parking.
- **No need to stripe stalls:** Not needing to stripe stalls also reduces maintenance expenses, and can improve the beauty of the street (especially in historic areas, such as, for example, cobblestone streets).
- **Receipt provided:** For business travelers, pay-and-display machines automatically provide a receipt for their expense reports. This function can be built into pay-by-space machines.
- **Increased revenue:** When motorists leave, they typically drive away with the receipt that indicates the amount of time they have paid for; so that the next motorist to arrive will have to pay from the minute they park (individual motorists may see this as a disadvantage of pay-and-display).

Some pay-by-space advantages are:

- **More convenient payment:** Motorists do not need to walk back to their car to place a receipt on the dashboard. Motorists can also pay for additional time on their space from any pay-by-space machine in the system, or even by cell phone, without having to return to their car to place another receipt on the dashboard. One vendor's system allows the driver to register their cell phone number, credit card, and license plate online or by phone. Users can simply place a call to pay for parking without visiting the pay station, or they can have the pay station print out a proof of payment receipt remotely. The parking is charged to the registered credit card.
- **Pay only for time used:** If motorists use the "pay maximum" option with their credit card, they can also pay for the maximum length of stay allowed, and then get a refund on their unused time if they return early, simply by reentering their space number in the machine. While this seems like a disadvantage to cities from a revenue perspective, any new parkers in the refunded space must pay to park versus "stealing" time from the previous parker.
- **Easier enforcement:** Pay-by-space machines can indicate which spaces on a block have not been paid for, either when an officer queries the machine, or by wireless communication with handheld enforcement devices. This is considerably easier than checking dashboards to see which receipts indicate that time has expired, therefore reducing enforcement costs substantially.
- **No receipt printing required:** This can cut down on litter on the street, and can reduce the downtime and operating and maintenance expenses created by the printer jams and paper replacement needs associated with pay and display machines.

Among cities that have implemented multi-space meters in on-street environments, pay-and-display is the most common, with fewer cities implementing successful pay-by-space programs:

Pay-and-Display

Boston, MA
 Portland, OR (100-percent of meters)
 Seattle, WA (100-percent of meters)
 Park City, UT
 Cherry Creek North, Denver, CO
 Savannah, GA
 Cambridge, MA (lots only)
 West Hollywood, CA
 Berkeley, CA
 Oakland, CA
 Baltimore, MD
 Chicago, IL

Pay-by-Space

Lowell, MA
 Redwood City, CA
 Whiterock, BC, Canada
 San Francisco, CA (motorcycle parking only)
 Charlotte, NC (pilot test)
 Glendale, CA (vendor selected, 50 meters will be bought)

In-Car Parking Meters

In-car parking meters (also known as in-vehicle parking meters or IVPM) allow individual motorists to pay for parking by utilizing a personal metering device displayed in their vehicle (either set on the dashboard or hung from the rear view mirror). The palm size unit is usually provided to motorists who pay a refundable deposit and possibly also a nominal monthly fee. It provides the motorist with convenience by eliminating the need to carry coins and pay for parking at curbside meters or pay stations in lots/garages.



Motorists prepay, either by using a smart card that they purchase in advance and then insert into the device, by telephone, or by connecting their device to a computer and purchasing parking credits over the internet. The device displays the number of minutes available based on the amount of money on the smart card and the current hourly price for that parking zone (which the parker enters). The meter alternately flashes between the minutes remaining and the parking zone for verification by enforcement. When time has run out, the monitor shuts off, and a blank screen shows enforcement personnel that the parker is in violation.



Enforcement is done in a similar fashion to traditional parking meters except that they must look inside the windshield of cars rather than parking meter displays. Meters can work with cards that either have preset amounts (\$20, \$50, \$100, etc.) or that users can “reload” with additional value. Whichever card is used, a motorist only pays for how many minutes they parked.

A typical solution is for a city to outsource the operation to the in-car parking meter vendor. The vendor then handles all aspects of running the system, including distribution of in-car meters to residents and commuters, maintenance of meters, and hosting a customized website for each city

where customers can purchase credit for their parking meter. The in-car meters are pre-programmed with all parking regulations specific to the city, which means that the meter could both be used for parking in a monthly permit zone and for short-term retail parking.

A typical pricing structure is as follows:

- \$30 deposit and \$4.95 monthly fee per unit
- Vendor charges 20-percent of revenue for service

The advantage of this arrangement is that there is no upfront investment by the City. It is recommended that the unit is not free to customers, as a nominal charge tends to encourage greater utilization of the system than a free in-car meter. This is at the discretion of the City, and the cost to the customer could, for example, be included as part of a monthly parking permit.

The following is a typical operation scenario from the user's perspective:

- Purchase Smart Card with dollar value on card in advance for multiple use, or load parking credit online
- Park car
- Insert Smart Card in to device (if necessary)
- Set the parking meter rate by choosing the parking zone
- Press green button to start timing of meter
- Display will alternatively display time remaining and meter zone
- Remove the smart card from the device
- Display meter so parking officers can see it through the windshield for enforcement
- Turn off the device when you return to the car.

Some benefits of the in-car parking meter are:

- **Greater user convenience:**
 - No coins or exact change necessary.
 - Pay only actual time parked – Park for 5 minutes, pay for 5 minutes.
 - No walking to parking meter – Just park your car, insert your card, and go.
 - Geographic transferability – Use at any parking meter or public lot/garage that accepts the device.
- **Reduced costs, better revenue management:**
 - Simplify accounts - No need to manage petty cash for parking or reconciling dozens of 'Pay & Display' tickets.
 - Reduced operational costs - Traditional parking meters require periodic coin collection.
 - Reduced capital costs - In-car parking meters cost \$30, whereas traditional single-space meters cost approximately \$500 each.
- **Better parking management decisions:**
 - Track data – In-car meters can track parking occupancy history to help better understand demand patterns. You can analyze all the information on where, when, and how long the user has parked, making fiscal audits easier and smarter parking management decisions possible.
 - Pricing flexibility – Can use demand-responsive (variable) pricing or flat-rate pricing depending on needs; can eliminate time limits or preserve them as appropriate.
- **Better urban design** - Eliminates the need for traditional parking meters that take space on the sidewalk.

In-car meters work well where people routinely park in the same place, such as motorists parking for work, routine visitors to government buildings, or transit park-and-ride parking lots. Motorists who park repeatedly at the same place have an incentive to buy a \$20-\$80 smart card. They also work well for trips where convenience and saving time is highly valued. Many motorists find that needing exact change to pay for parking every day, walking to the meter, and/or returning regularly to “feed the meter” is time consuming and annoying. (These benefits accrue in situations where parking is moderately priced or relatively expensive and time limits are liberal or have been removed entirely).

The system is not practical for those who infrequently park and likely wouldn't pay \$20 for a card that they wouldn't use.

Places where in-car meters are used today:

Cities	University Campuses
Ft. Lauderdale, FL – Smart Park (Ganis)	University of California Santa Barbara
Aspen, CO (devices outnumber population- very popular)	Wisconsin University, Madison Campus
Grand Rapids, MI	
Wellington, New Zealand	
Israel (across country)	

7.2 Parking Enforcement Technology

Many years ago, parking technology innovations in the United States were targeted exclusively at improving parking enforcement – primarily through revenue-tracking back office systems and integrating handheld enforcement devices. In recent years, new innovations have begun to see greater efficiencies emerge.

Automated License Plate Reading Technology

Many cities are now adopting automated license plate reading technology. Cameras linked to a computer running special license plate recognition technology are mounted to the parking control officer's vehicle (or any other municipal vehicle that circulates regularly in a downtown). The system can register plates even while moving and can alert PCOs when a vehicle appears to be parked illegally. This can greatly increase the productivity of each PCO. An investment in this technology could allow the City to efficiently enforce parking regulations without needing to hire additional personnel.

Benefits of automated license plate reading technology include:

- Typically allows officers to scan 1,000 plates per hour on the street, around 2-4 times faster than reading manually. 1,500-2,000 plates per hour can be read in a parking lot.
- Can be tied to a database of parking permits.
- Can be tied to a database of stolen vehicles.
- Can flag repeat parking offenders.
- There is additional software that can track turnover and occupancy data.

- Fewer contested tickets, because there is an image of the license plate.
- Fewer problems with officers developing carpal tunnel syndrome from the manual chalking process for time-limited parking.

Places where license plate recognition technology is used today:

Cities
Petaluma, CA
Napa, CA
Sacramento, CA
Tampa, FL

7.3 Parking Information Technology

Some of the best-received advances in parking technology have come from approaches that make drivers more aware about what parking is available before they park.

Real-time space availability displays

Real-time space availability displays provide information to drivers about current parking conditions. Generally, these displays can take the form of electronic signs that show the current amount of available parking in a particular lot.

San Jose, California has implemented a Parking Guidance System in its downtown. The system utilizes electronic signs that provide motorists with current information about how many spaces are available in several lots. Signs at major intersections can encourage drivers to avoid congested routes and use lots with greater current availability. The system currently has 13 such signs. Many are integrated with web displays that enable drivers to plan their parking destination before leaving the front door (for instance, see <http://parkingspacenow.smgov.net/>). Cities throughout Europe utilize Parking Guidance Systems, as well as several places in the U.S., including San Francisco, Rockville Town Center in Maryland, the garages at Natick's Natick Commons mall, and the Baltimore-Washington International, Boston Logan, Jacksonville, and Savannah-Hilton Head Airports. Benefits of this system include:



- **Directing flow of traffic away from full lots.** Signs at major intersections displaying lot information can encourage drivers to move away from full lots, preventing traffic jams outside of full lots and cutting down on pollution from slow or idling cars.
- **Maximizing efficiency of parking facilities and time for users.** With information on usage, drivers can move directly to lots with availability, ensuring that facilities are used most efficiently.
- **Aiding motorists unfamiliar with the parking system and locations.** Signs can direct tourists to parking lots with available space, even if they are in Salem for the first time and not familiar with parking locations in the city.

8. Key Findings

The consultant identified the following key findings that represented areas where the Salem parking system was not operating well. These findings contribute directly to the final recommendations.

Summary

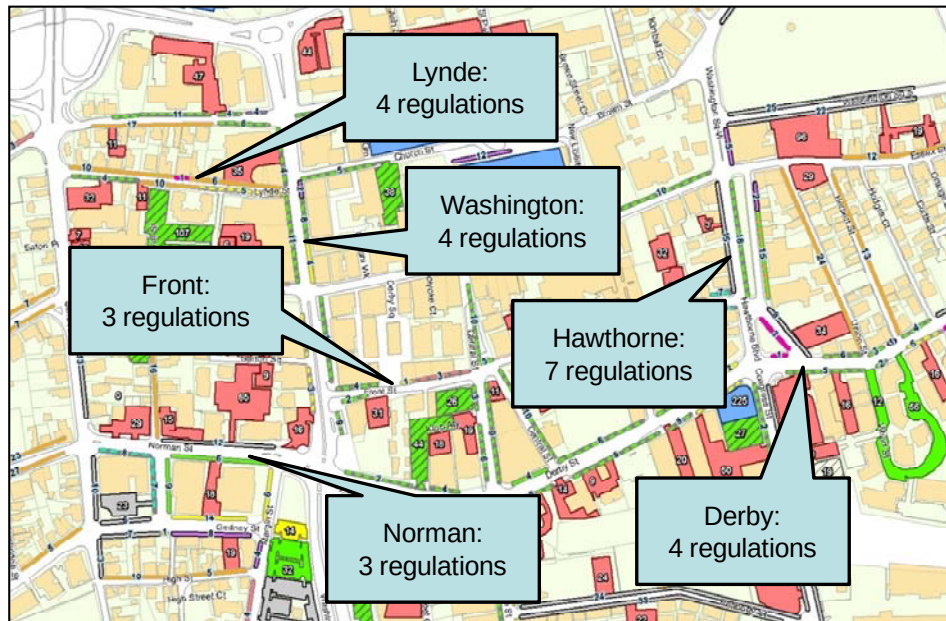
- Regulations are confusing.
- Availability is very unbalanced with congested parking areas near vacant areas.
- Parking information in Salem is among the best in the state, which means that other problems contribute to the unbalanced availability.
- Pricing is unbalanced and unfair to some user groups while others receive noticeable discounts.
- Certain downtown connectivity barriers may limit the utilization of more remote spaces.
- Private parking spaces are noticeably underutilized.

8.1 Regulatory Confusion

During the course of data collection, the consultant observed that a great deal of effort had been spent by the City over the years tailoring street regulations to satisfy parking needs in the downtown. Unfortunately, it was also clear that the amount of different regulations was significant and that the variation in regulations – sometimes along just one block face – contributed to a great deal of confusion, delay, and possible driver frustration when seeking parking. In the downtown, there are thirteen separate on-street regulations and five different regulations in public off-street lots (see Figure 51). This is a lot of regulatory variation in a one-half-mile area. Furthermore, variation along single block faces was excessive – as high as seven regulations in a stretch along Hawthorne Boulevard (Figure 52).

Figure 51 Salem Parking Regulations

On-Street	Off-Street
Unregulated	Unregulated
15-minute	30-minute
30-minute	2-hour
30-minute (metered)	2-hour (metered)
1-hour	Public daily pay
1-hour (metered)	MBTA Commuter
2-hour	Private
2-hour (metered)	Loading zone
2-hour / resident permit (metered)	
Resident permit	
Reserved parking	
Tour bus parking	
Emergency vehicle parking	
Handicap parking	

Figure 52 Regulations Along Select Block Faces in Downtown

While tailored parking regulations might satisfy the needs of one user or user group, they are often at odds with the needs of another user or user group. This is clear from the variety of regulations occurring on single block faces in the downtown, where a mix of users exist in close proximity to each other. The mix of users is a positive aspect of downtowns, however the mix of parking regulations is not conducive to customer attraction and represents a number of problems, including:

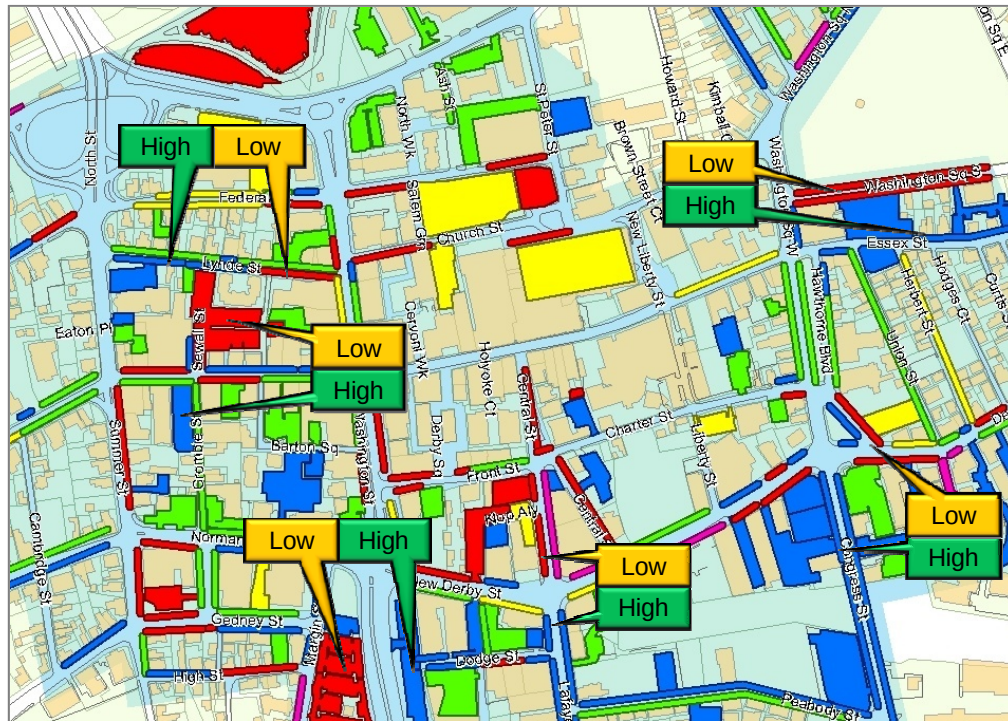
- Unclear expectations for new visitors or customers
- A higher incidence of unintended user violations
- Decreased rates of enforcement
- Increased traffic circling for parking
- Increased sign maintenance cost and complexity
- Sign clutter

Key Conclusion: The downtown regulatory environment is overworked, contributing directly to many perceived and real parking problems in Salem. A significant reduction in the complexity of this system would improve the customer environment, improve enforcement capacity, reduce sign clutter, and potentially reduce downtown traffic. In particular, customer confusion and the potential for unexpected tickets may be creating a negative experience for downtown's customer base.

8.2 Unbalanced Availability

Input from the general public and initial observations of the downtown both indicate that it is very difficult to find parking in Salem. The prime commercial streets of Washington and Essex are heavily utilized much of the day. Similarly, prime lots such as the City lot at the MBTA station, the Sewall Street lot, and the Church Street lot were difficult to find spaces in. However, mapping the parking utilization data (Section 4.0) revealed that there are many streets and lots that remain underutilized throughout the day in the downtown – some simply around the corner from heavily utilized locations (see Figure 53).

Figure 53 Parking Availability in Downtown Salem



Weekday morning time period

This characteristic of the downtown is not related to posted regulations. On blocks with varying regulations, the availability may be consistent. Similarly, on blocks with consistent regulations, the availability may vary widely from street to street – or simply across the street.

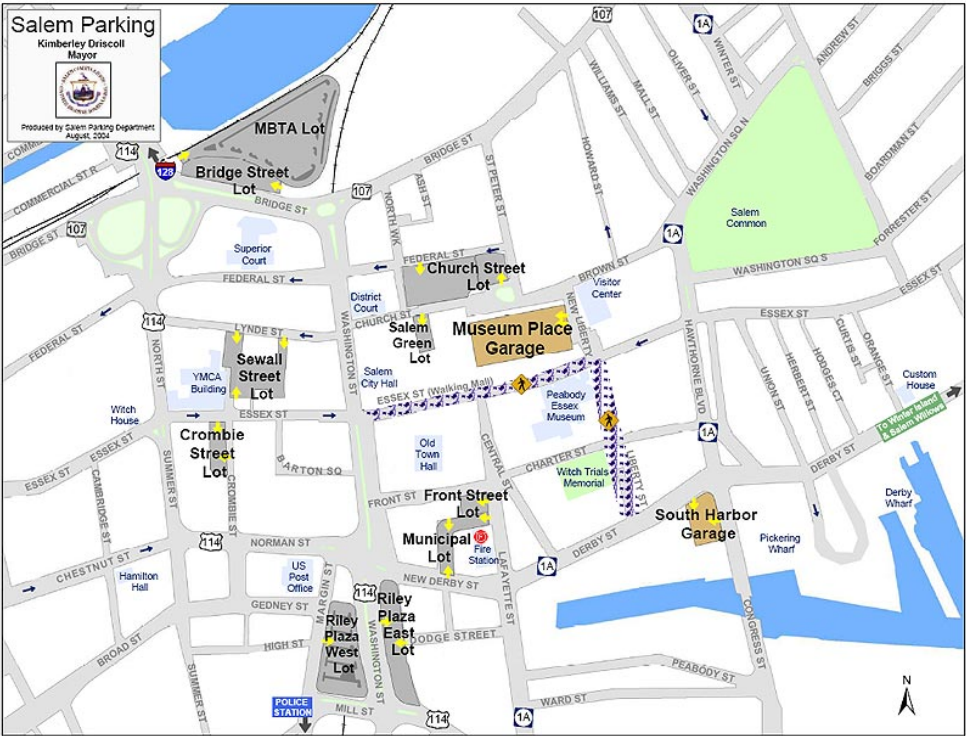
Key Conclusion: Existing regulations throughout the downtown core are not resolving real and perceived availability problems in areas of high demand, even where available parking exists nearby. Given the failure of many forms of regulation and time-limits, it is evident that enforcement and time-limits are not creating adequate turn-over in areas where it is needed. An alternative approach to producing more parking availability is needed.

8.3 Sufficient Parking Information

In many communities, the poor utilization of some parking resources is attributed to inadequate signing and other information about downtown parking resources. However, Salem has a strong parking information program, incorporating a website (see Figure 54), parking signs throughout downtown, and parking information incorporated as part of its downtown wayfinding program.



Figure 54 Salem Web-Based Parking Map



While some opportunities exist to improve parking information, existing systems in Salem are among the best in the state. City staff continue to assess the need for additional signing, and an expanded wayfinding program will place more signs in the coming year.

Key Conclusion	The parking information in Salem is among the best in the state, with clear signing to direct patrons to reserve parking locations. This system includes identification of short-term parking (time-limited) and long-term parking (hourly garages). Therefore, the unbalanced availability observed throughout the downtown is not likely a result of inadequate information but rather a result of insufficient short-term parking for customers in high-demand areas. One possible explanation is that there are insufficient incentives to clear long-term parkers.
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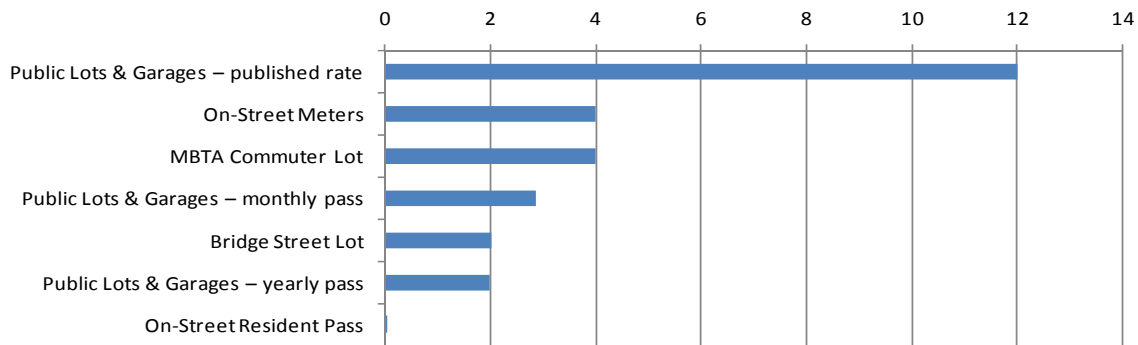
8.4 Unfair Pricing

Today, the majority of downtown Salem's parking spaces are priced in one way or another. Figure 55 summarizes the prices at facilities in the downtown if each had no regulatory restrictions. This exercise helps evaluate pricing structures.

Figure 55 Existing Pricing Structure in Downtown Salem

Location	Hourly Rate or Equivalent	Daily Rate or Equivalent	Monthly Rate or Equivalent
Church St. Lot & Public Garages – published rate	\$1.50	\$12.00 (daily max)	\$252 (equivalent)
On-Street Meters & other Public Lots	\$0.50	\$4.00 (8-hr. equivalent)	\$84 (equivalent)
MBTA Commuter Lot	\$0.50 (8-hr. equivalent)	\$4.00	\$84 (equivalent)
Public Garages – monthly pass	\$0.37 (8-hr. equivalent)	\$2.86 (equivalent)	\$60
City Lot at MBTA Station	\$0.25 (equivalent)	\$2.00	\$42 (equivalent)
Public Garages – yearly pass	\$0.25 (8-hr. equivalent)	\$1.98 (equivalent)	\$42 (\$500 per year)
On-Street Resident Pass	½ cent (8-hr. equivalent)	\$0.05 (equivalent)	\$2 (\$25 per 2 years)

Daily Rate or Equivalent



The hourly-paying general public pays the highest parking rates in Salem. Employees and residents with monthly or annual passes pay the lowest rates. This is not an unusual situation in downtowns, and it appears fairly equitable given that employees and residents are around daily and individual visitors are infrequent on average. However, this structure has some notable negative impacts:

- The most valuable spaces to customers – on-street meters in front of their destination – are one-third the price of the garages. If a customer cannot find a space easily (as is reported in Section 5.0 and evidenced above), they are severely penalized by going to the public garage, which motivates repeat customers to hunt for on-street parking, contributing to the lack of availability and downtown congestion.
- The Bridge Street lot is severely underpriced, making it the best deal in town for non-residents – as good as buying a \$500 yearly pass.
- Low-wage part-time employees that typically need to park for only a few hours a day or week pay at least twice as much to park at meters or in the garage as those who can afford monthly or annual passes. This is a clear inequity that may impact the ability of Salem to attract and retain retail workers. However, it has the benefit of encouraging some workers to park further from the core of downtown in unregulated spaces.

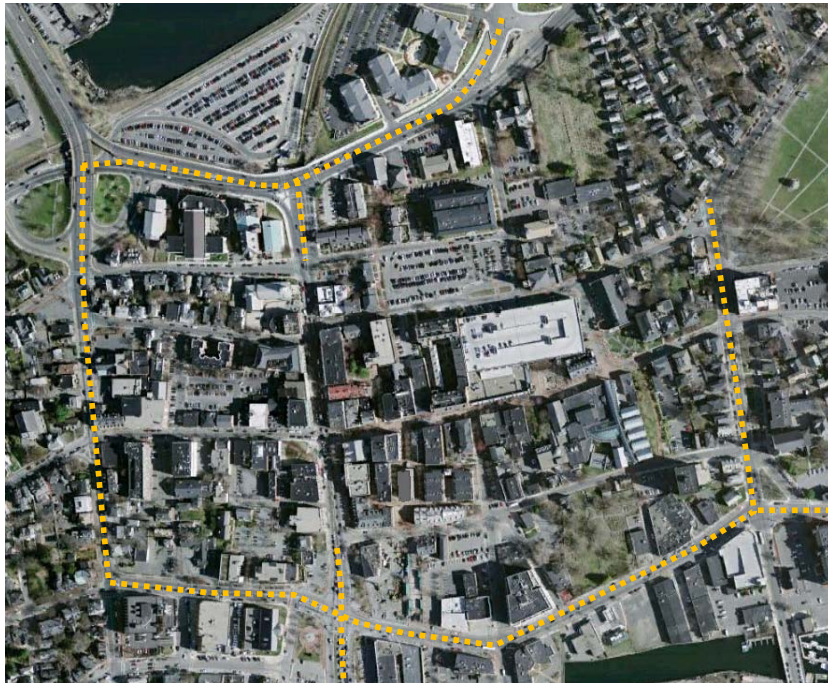
Key Conclusions: Parking pricing as currently structured in Salem is contributing to the lack of availability on prime streets by pricing garages higher than streets. Simultaneously, the discounts for monthly and annual pass holders encourages employees to fill prime Museum Garage spaces early in the day, forcing inconvenienced visitors who cannot find on-street spaces to have to park on upper decks, inconveniencing them further. These discounts are no greater at the Harbor Garage, resulting in the underutilization of that facility at all hours of the day.

8.5 Improving Connectivity

Salem is a wonderful place to walk, with most downtown destinations under a five-minute walk from each other. The City has continued to improve the walking environment through improved sidewalks, crosswalks, benches, lighting, and wayfinding. These improvements are critical for motorists seeking to park in Salem, because every motorist becomes a pedestrian upon exiting the car. In places where the pedestrian environment is lacking or connections to other downtown destinations are difficult, parking is less desirable.

While walking conditions are generally excellent in the core of downtown, there tends to be a walking barrier of sorts surrounding the core as defined generally by Bridge, North, Norman/Derby, and Hawthorne Boulevard (see Figure 56). All of these streets carry higher volumes of traffic than any of the streets interior to this square, with the exception of Washington. All of these streets are wide and represent longer crossing distances for pedestrians, with the exception of North. The combined effect of traffic volume and longer crossing distance has a great impact on the perception of parking availability “across the street.” This is very evident in many spots. For example, Derby Street experiences dramatic utilization changes from one side of the street to another. At over 60-feet in width with three travel lanes and parking lanes, accessing a free space on the other side of the street can be less desirable than circling the block for a preferred space.

Figure 56 Roadway Barriers to Parking Access





Derby Street



Washington & Derby



North Street

Key Conclusion: Larger size and volume roadways surrounding the downtown core represent a barrier to motorists accessing parking outside the core. These barriers may contribute to lower utilization rates outside the core and likely contribute to unbalanced utilization on opposite sides of key streets, such as Derby, lower Washington, and Hawthorne. Continued improvements in walkability will help improve access to underutilized parking resources, including the Harbor Garage.

8.6 Under-Utilization of Private Parking

While the City is mostly interested in improvements to the public parking system in Salem, a large number of private parking lots go underutilized every day in Salem. In aggregate, the private off-street parking system is never more than 50-percent utilized, representing hundreds of vacant spaces at the busiest hours of parking demand. Private owners seem to covet and protect this capacity, as evidenced by the preponderance of “No Parking” and “Violators Will Be Towed” signs in downtown.



Key Conclusion:	While it is clear that private parking lot operators are very protective of their parking – likely in response to a history of violators – there is very poor utilization of these parking assets. Clear opportunities exist to provide more customer parking – especially during hours when the landowner’s business(es) is closed. Many communities have successfully incorporated these lots into the public supply through a number of mechanisms that are beneficial to the private owner and the municipality.
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9. Recommendations

The recommendations that follow were developed through an effort by the consultant to rationalize the downtown parking system. That process is described below, followed by recommended actions for the short-term and then several additional recommendations for consideration.

Summary

Short-Term Recommendations

1. Salem should implement demand-responsive pricing on- and off-street to help create availability and better balance parking demand in the downtown.
2. Designated employee parking areas should be established that are price and convenience competitive with customer spaces to help ease user conflicts at prime front-door spaces.
3. Residential parking in nearby neighborhoods should continue to be protected with Salem's resident permit system, and a new area-wide permit for certain impacted downtown residents should be established.
4. A new permitting program for tour buses and jitneys can help rationalize curb regulations and reduce under-utilized tow-zone space in Salem.
5. The City should establish a parking & transportation fund that spends surplus parking revenues on downtown improvements and connections to remote parking. Decisions should be made in close coordination with Salem's downtown business community.
6. On-going monitoring of parking utilization is necessary in order to adjust programs in response to performance on the ground.
7. The City should move to develop an implementation program for pricing, regulatory, signing, and technology changes as soon as possible, including a robust outreach and education program.

Additional Recommendations

8. The City should consider creating and offering a municipal management program for private parking facilities to improve utilization of these assets and generate new public and private revenues.
9. Several low-cost supply increases in existing lots and on wider streets should be considered after better management practices have been operating successfully and before additional parking lots or garages are contemplated.
10. Smart parking technologies should be considered to enhance customer convenience, information, revenue collection, enforcement, and overall efficiency.

9.1 Rationalizing the Parking System

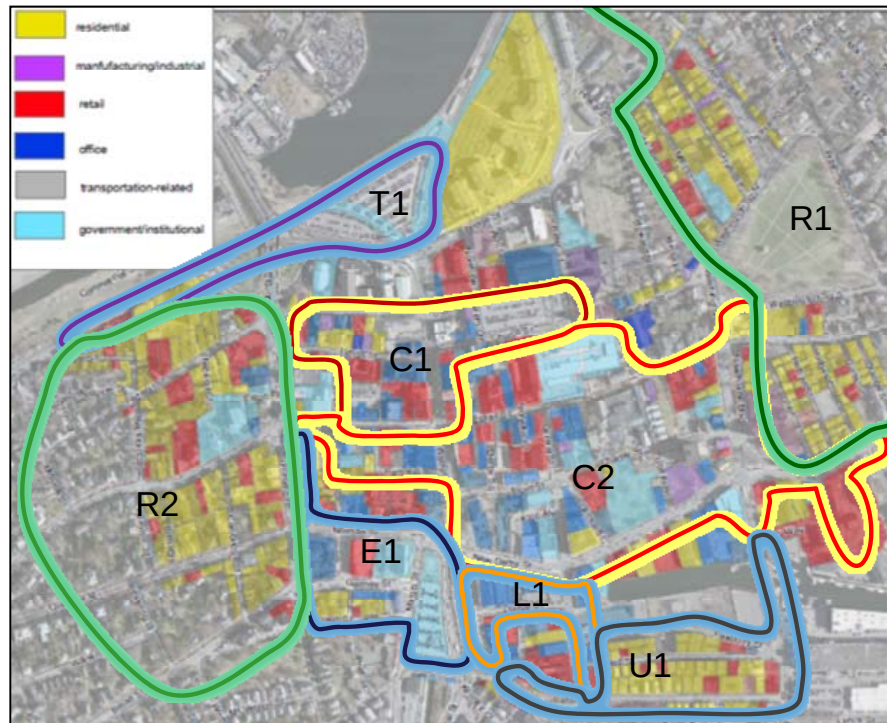
Empowered by the data collected during the fall of 2009, the consultant attempted to identify clear parking patterns in the downtown that could be extracted reliably from the data. The goal was to help restructure parking regulations and pricing. Based on strong complaints from downtown customers, a key objective of this effort was to improve customer parking availability and convenience in the downtown. This was closely followed by the objective of ensuring a clear supply of parking for downtown employees that discouraged long-term parking in key customer

locations, such as on-street, in attractive lots, and on the lowest levels of garages. Finally, it was clear that a strategy to protect surrounding residential neighborhoods from spill-over parking should be reinforced. These policy goals were summarized spatially for the working group (see Figure 57).

Figure 57 Policy Goals for the Comprehensive Parking Plan



Through an iterative process of reviewing the utilization data presented in Section 4 along with land use data provided by the City, the consultant identified eight distinct “parking operations areas.” Each area had a unique characteristic based on its utilization pattern and typical set of users. These are summarized below and show in Figure 58.

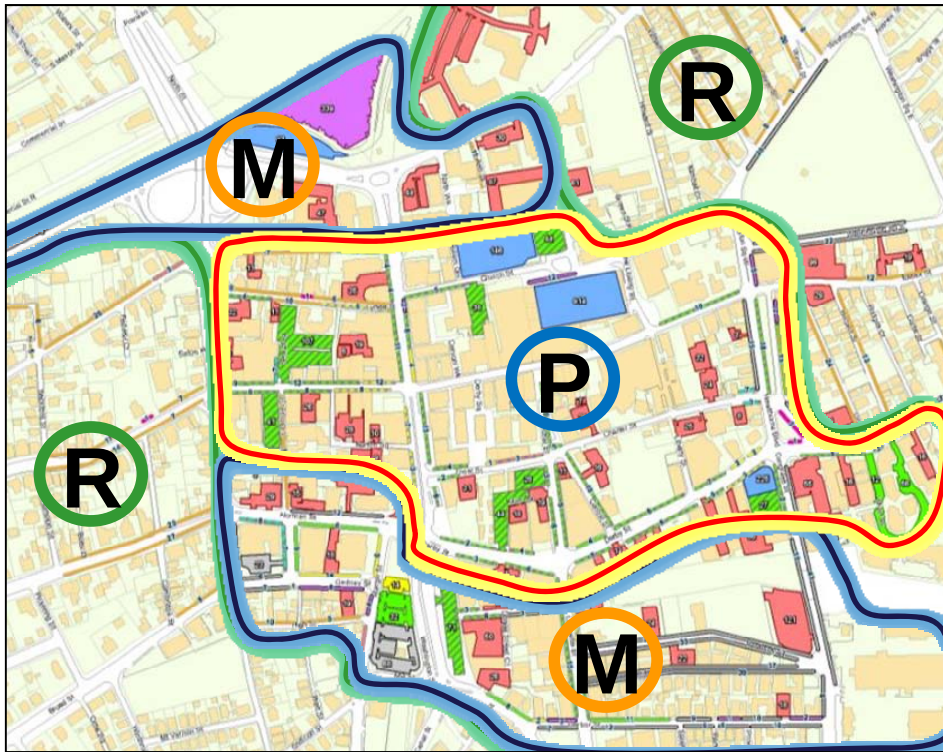
Figure 58 Downtown “Parking Operations Areas” & Land Use Map

- C1: The Commercial Core, North – Surrounding the courthouse area, this zone was dominated by early parking activity and a mix of long and short-term stays, mostly associated with courthouse activity.
- C2: The Commercial Core, South – Encompassing most of the downtown’s retail areas, this zone was clearly oriented to customer parking throughout the day, though longer-term stays were observed. It includes both municipal garages, which mostly parked employees.
- T1: Commuter Parking – Mostly located in the MBTA lot, Bridge Street lot, and along Bridge Street itself, all-day parking and high utilization was observed in this area – reflective of commuter parking and, to some extent, longer courthouse stays.
- E1: Employee Parking – In locations that had more unregulated on- and off-street parking than any other location in the downtown, this area was clearly a place for employees to park free of charge throughout the day – other than some customer parking for the Post Office.
- L1: Low Utilization – Immediately east of E1, this area of time-limited parking is proximate to core customer areas and desirable employee parking areas, but it exhibited low utilization throughout the day.
- U1: Unregulated Parking – On the south side of the river, this area of unregulated parking within a short walk of Derby Street was not well utilized.
- R1: Residential, East – The neighborhood to the east of downtown showed heavy on-street utilization on streets which are nearly 100-percent residential.
- R2: Residential, West – The neighborhood to the west of downtown showed unusually low utilization on streets that are nearly 100-percent residential.

While these operations areas helped to describe downtown operations somewhat, there continued to be a level of complexity that was unusual for downtowns. The consultant then sought to move beyond the classification of users by specific categories such as commuter, employee, courthouse visitor, downtown resident, neighborhood resident, and customer, to instead identify the core operational desire of each user group. In general, customers and visitors each desire short-term parking that is convenient to downtown destinations; employees and commuters generally return to the downtown daily and often seek monthly parking privileges; and residents in the core or nearby seek to have a parking space near their home that is not encumbered by other users.

With these simple assumptions in mind, the consultant redrew the “parking operations areas” map and identified parking areas by short-term (or “public”) parking, long-term (or “monthly”) parking, and protected residential parking. The result, shown in Figure 59, is the basis for the following recommendations.

Figure 59 Recommended Parking Operations Areas in Downtown Salem



9.2 Short-Term Recommendations

Recommendation 1: Implement Demand-Responsive Pricing

Within the core “public parking” area, implement strategies that ensure availability for short-term visitors. The following strategies should be implemented simultaneously:

Adjust On-Street Pricing by Block Face to Maintain 15-Percent Vacancy

The goal of the comprehensive parking plan is to efficiently manage demand for downtown parking while accommodating customer, employee, resident, and commuter parking needs. Demand-responsive pricing helps to put customers first in the “public parking” area by creating vacancies and turnover of the most convenient “front door” curbside parking spaces to ensure availability for customers and visitors. Existing parking rates should be revised to rates that will create a 15% vacancy rate on each block – or roughly one space free for every 7 parked cars – rather than relying on arbitrary time-limits. Rates in some places may be zero. Rates in other areas may be subsequently raised or lowered based on future occupancy counts.

Based on our understanding of parking in Salem today, a preliminary set of parking rates might be as indicated in Figure 60.

Figure 60 Revised Meter Rates

Location	Hourly Rate	Hours of Operation
Federal, Church, Washington (north of Essex)	\$1.50	8 AM – 4 PM
Essex (btwn. North & Washington), Front, Central, Lafayette (north of Derby), Derby, Hawthorne, Washington (south of Essex)	\$0.75	10 AM – 8 PM
Congress, Lafayette (south of Derby)	\$0.50	10 AM – 4 PM

After an initial trial period, occupancy rates for each block should be reviewed and then adjusted down or up to achieve the 85% occupancy goal, as described earlier. To ensure that this happens on a regular schedule, promptly, and with clear assurance to policymakers, citizens and the downtown community that the goal of parking prices is to achieve the desired vacancy rate, the following procedure for adjusting parking meter rates and hours is recommended:

1. *Set Policy:* By ordinance, City Council should establish that the primary goal in setting parking meter rates and hours for each block and each lot is to achieve an 85% occupancy rate. Additionally, the ordinance should both require and authorize City staff to raise or lower parking prices to meet this goal, without requiring further action by the City Council. The Parking Director should be charged with the responsibility of running the district, including monitoring occupancy rates and adjusting rates.
2. *Monitor occupancy:* Utilization should be evaluated at least quarterly with a full-day sweep of prime parking areas. The goal is to ensure that there is about one free parking space

on each block face. If installed, wirelessly-networked multi-space parking meters (as described in Section 8) are capable of instantly transmitting current information on the number of spaces in use on each block where the meters are installed, giving the Parking Director the ability to constantly monitor parking usage in the system. Reports can also be generated to track occupancy by the hour over the course of a day, weeks, or months.

3. *Adjust rates:* Armed with good information on recent parking occupancy rates, the Parking Director should adjust the rates (and hours of operation) up or down on each block, to achieve the policy goal (an 85% occupancy rate) set by City Council. Typically, rates should be adjusted quarterly (four times per year), but in the case of major changes in downtown, such as the opening of a new development, it may be advisable to adjust rates in response to particular events. To provide additional input to the process, an advisory board should review the proposed rate changes and provide feedback to the Parking Director.

Extend All Time-Limits to At Least 4-Hours

Once a policy of market rate pricing is adopted with the goal of achieving an 85% occupancy rate, then time-limits need not be instituted. With no time limits, much of the worry and "ticket anxiety" for downtown customers disappears. In Redwood City California, where this policy was recently adopted, Dan Zack describes the thinking behind the City's decision in this way:

Market-rate prices are the only known way to consistently create available parking spaces in popular areas. If we institute market-rate prices, and adequate spaces are made available, then what purpose do time limits serve? None, other than to inconvenience customers. If there is a space or two available on all blocks, then who cares how long each individual car is there? The reality is that it doesn't matter.

Given the concerns about some employees and commuters being capable of paying for a full day at prime spots, an interim time-limit of at least 4-hours can be implemented, though the City should experiment with complete removal of time-limits in some areas to help demonstrate the turnover effect of pricing alone. The only place in downtown that should retain time-limits and not implement pricing would be the streets surrounding Salem Common where open community access has always been available regardless of utilization.

Adjust Garage Pricing to Maximize Utilization

Similar to the pricing goal of on-street meters, parking garages are not considered to be optimally utilized until they reach 90-percent of their capacity. Today, neither public garage meets this goal, and their spaces represent lost capacity that is more valuable on-street. To encourage greater use of the garages, demand-responsive pricing is again in order. This should also encompass many off-street lots (the only exceptions to this policy would be the Riley Plazas, which are described below, and the City lot at the MBTA station, which should charge rates identical to the station lot). A possible pricing structure is suggested in Figure 61.

Figure 61 Revised Garage and Lot Rates

Location	Hourly Rate	Hours of Operation
Church St. & Salem Green Lots	\$1.00	8 AM – 4 PM
Museum Garage & Sewall St. Lot	\$0.75	8 AM – 4 PM
Crombie, Front, & Riley Plaza East Lots	\$0.50	10 AM – 6 PM
Harbor Garage	\$0.25	10 AM – 4 PM

Implement a Clear Information Program

Throughout the “public parking” operations area on streets where meters exist today, all existing parking regulatory signing can be removed (besides those reserved for special uses or safety clearance). Meters alone are an indication of public parking availability, and the four-hour time-limit will be evident on the meters themselves. If desired, “Public Parking” signing can reinforce the operations area at the entrance to key streets, and clearer notation about pricing and hours of operation can be put on supplemental signs at the head of each block. Further signing is not necessary as all relevant information is posted on each meter.

In addition to signing, the City should develop a strong outreach campaign to advise businesses and residents of the changes. Important parts of this campaign include:

- Outreach brochures
- Informational meetings
- A comment line, email, and blog
- A special notice webpage

The City also should consider having PCO’s hand out brochures and help answer questions, even if enforcement activity is significantly reduced for a month.

Recommendation 2: Provide Employee Parking Areas

A significant amount of employee parking occurs today in the “public parking” downtown core. Many employees feed meters. Others move their cars every hour or two. Some Salem residents park in surrounding residential areas to go walk to work in the downtown. A large amount of the capacity of the Museum Garage – especially on the lower decks – is taken by employees while the Harbor Garage remains underutilized. To incentivize the use of underutilized parking assets, the following strategies are recommended.

Establish a Monthly Permit Zone

In areas that are utilized today mostly by employees, the City should formalize this operation for the benefit of employees, which will help to attract employees to these areas. Through a system of simple signs enforceable by normal ticketing, several existing parking areas should become “Monthly Permit” parking only, including:

- Riley Plaza West
- Lower Riley Plaza East
- Margin Street (except in front of the Post Office, where 30-minute spaces can remain)
- Norman Street
- Congress Street near the river bridge
- Dodge Street
- Holyoke Square
- Gedney Street

Permit parking should be active at least between 8AM and 5PM weekdays. Some areas should also be active on Saturdays, particularly on-street zones closest to retail stores. Permit parking does not need to be enforced in the evenings and overnights when overall demand drops, allowing these areas to become free employee parking for hourly restaurant workers.

In addition, the City should consider implementing daytime monthly permit parking on the underutilized stretches of Federal, Essex, Chestnut, and Broad in the R2 residential operations area. A key strategy to consider for implementing this program in combination with a permit is the use of in-car meters (see Section 7).

Revise the Monthly Permit Program

The current monthly permit prices do not motivate the use of the Harbor Garage. Meanwhile, many potential purchasers of monthly permits cannot afford the cost or the time it takes to obtain a permit. Therefore, a new pricing structure should be implemented as suggested in Figure 62 which works to encourage the use of underutilized facilities. Annual passes may continue to be available but at a small (under 10-percent) discount from the monthly rate. Permits should be made available for purchase through the web to speed transaction time and ease. Finally, the City should seek to leave at least 25-percent of the capacity of any of these locations available to short-term parkers at the rates listed above in Figure 61. Therefore, pass sales should be limited to the facility's capacity (assuming peak use typically will not exceed 75-percent of all passes sold). If short-term demand is high, the number of monthly pass sales should be further reduced.

Figure 62 Revised Permit Rates

Location	Monthly Rate
Church St. Lot	\$75
Museum Garage, top three decks	\$65
Harbor Garage	\$40
Riley Plaza & on-street spaces	\$25

The City also should immediately investigate the use of in-car meters. For the employee parking program, an in-car meter can be a huge benefit by enabling part-time employees to park cost-effectively in the employee parking areas as well as on underutilized residential streets (specifically those immediately west of North Street) during the day for a low rate (\$0.25 per hour). With payment only processed while an employee is at work, the in-car system would be very attractive to part-time employees while freeing up customer and other monthly employee spaces.

Recommendation 3: Ensure and Protect Residential Parking

Salem already employs an effective residential permit program that protects residential streets from parking by out of town commuters and employees. This program should continue to be enforced outside of the downtown. However, within the downtown, residential permit-only zones exist on Federal, Lynde, Ash, and Crombie Streets where there is also high demand for on-street parking – especially when residents have left for work, leaving spaces vacant but unusable by other non-permitted users. To overcome this underutilization while protecting residents, the following strategies are recommended.

Convert Residential Parking to Public Parking

On Federal, Lynde, Ash, and Crombie Streets, convert the existing residential permit zones to public parking and install meters or pay stations, with the “resident only” restriction limited to the hours of 5 PM – 8 AM and weekends. This affects approximately 100 existing residential units on these streets where about 60 residential spaces are signed today for permit parking.

The residents of these streets would have access to a new district-wide permit allowing them to park on-street at any meter (or time-limited space if not yet metered) in the “public parking” area on weekdays from 8 AM to 5 PM. These permits will be limited to the approximately 100 households on Federal, Lynde, Ash, and Crombie Streets in a quantity not to exceed the existing amount of vehicles owned by these residences as registered with the Massachusetts Registry of Motor Vehicles. The permit would cost the same as the standard residential permit. The associated visitor pass would be limited to resident only zones.

Initiate a District-Wide Parking Permit Program

After other changes to the parking system have been implemented, the City may choose to offer district-wide permit parking to other downtown residents. Two variants of this permit may be offered: a 24-hour permit and an overnight permit. The 24-hour permit allows parking at any time for any duration. The overnight permit would allow parking between the hours of 5 PM and 8 AM weekdays and all-day on weekends, except in the “resident only” spaces.

These district-wide permits should be limited in quantity and offered only to those who live in the downtown area – approximately 1,500 units today. Initially, a set quantity should be offered, not to exceed 200. Over time, quantities can be changed depending on the performance of the downtown parking system. Suggested rates are listed in Figure 63.

Figure 63 Residential Permit Rates

Permit	First Year
24-Hours	\$5,000/year
Overnight	\$1,500/year

Recommendation 4: Implement a Tour & Jitney Bus Parking Registration

Salem's successful tourist economy is dependent on access by large tour buses and local trolley buses throughout the year. Tour bus activity is higher in the summer and during October, but the number of operators and their number of visits to Salem frequently varies year to year. This unpredictability often results in an over- or under-supply of curbside tour bus parking, depending on the desired location, the equipment used, and the time of year.

A successful solution that has been used frequently in the United States and locally in Cambridge is to have all tour operators seeking to reserve on-street curb space apply for a registration of their operations in the community and receive a permit for their tour bus parking zone. While provisions of the Massachusetts Department of Public Utilities ensure all providers have access to a community, there are no laws forcing communities to revise curb regulations to accommodate buses – many simply do so in response to a few requests and an overall assessment of demand. A far more effective alternative is to require that operators purchase a permit that covers the cost of the municipality posting and maintaining custom signs for private tour operators (cities may charge as little as \$250 annually or as much as \$2,500 to cover the material and labor costs of making and posting signs). With the permit application, operators can be required to provide information about the stop location(s), days and hours of operation, and amount of curb length required, helping to clarify when tow-zones need to be active and freeing up spaces for customers when they are inactive. The process helps operators rationalize their tour operations by talking directly with the Parking Department – typically in the off-season when annual permits are renewed and there is time to make adjustments – while allowing the Parking Department to suggest better locations or operations if mutually beneficial.

From the perspective of this study, the recommendation would eliminate complaints about unused tour bus areas while ensuring areas that do get posted are valuable to both the tour operators and the City.

Recommendation 5: Establish a Parking & Transportation Fund

Surplus revenues from the employee permit program and other additional revenue sources, such as additional meter revenue, should fund public improvements that benefit the downtown. If downtown parking revenues seem to disappear into the General Fund, where they may appear to produce no direct benefit for downtown businesses, there will be little support for parking policies that may ultimately benefit business, such as increased permit fees, installing parking meters, or adjusting regulations. When Salem's merchants and residents can clearly see that the monies collected are being spent for the benefit of their downtown, on projects that they have helped to choose, they become willing to support parking policies that generate revenue for the City. If experience from other cities is any guide, many will become active advocates for the concept.¹¹

To develop support for parking regulation changes, and to build support for charging fair market rates for permits, it is crucial to give local stakeholders a strong voice in setting policies for the downtown, deciding how downtown parking revenues should be spent, and overseeing downtown investments to ensure that the monies collected from employees and customers are spent wisely.

Potential uses for Parking and Transportation Fund revenues include:

- Landscaping and streetscape greening

¹¹ Parking Benefit Districts are currently in place in Pasadena, Boulder, San Diego, Austin, Seattle, and Aspen.

- Increased frequency of trash collection
- Street cleaning, power-washing of sidewalks, and graffiti removal
- Parking, transit, pedestrian, and bicycle infrastructure and amenities
- Additional parking enforcement
- Garage improvements
- Reconfiguration and restriping of Riley Plaza west lot (see Recommendation 9 below)
- Marketing and promotion of Salem's merchants
- Additional programs and projects as recommended by downtown stakeholders and approved by the Board of Selectmen

A number of different organizational structures can be used to establish and oversee a Parking and Transportation Fund. The fund can be managed by a quasi-public entity, similar to a Business Improvement District. Alternatively, the fund can be established as simply a financial entity (somewhat like an assessment district), which would require by ordinance that parking revenues raised within the downtown be spent to benefit the downtown. Under this arrangement, the fund would be managed and housed within an existing City department, such as the Parking Department.

Recommendation 6: Monitor Parking Utilization

An important part of maintaining the success of any of these recommendations will be monitoring parking utilization on a regular basis. A recurring annual or biennial monitoring regime can allow the City to modify its pricing, permitting, zoning requirements, and other key policies. Based on the detailed utilization information collected for this study, a much smaller and targeted utilization effort can be conducted (potentially in-house or with the use of students or volunteers) by focusing on area of high demand and only casually observing other areas to confirm the results of this effort. Where parking patterns appear to change, a more detailed utilization count would be warranted.

As noted above, quarterly assessment of availability at priced on-street spaces (and in lots and garages) should also be performed in accordance with a City Council resolution.

Recommendation 7: Implementation Program

In order to implement these short-term recommendations effectively, it is advised that the City seek professional assistance to implement the various strategies in coordination with the Parking Director, the Planning Department, the City Council, and the Mayor's Office. A variety of tasks are needed, including:

- Development of signs and sign locations
- Establishment of final operations area boundaries
- Refinement of pricing structures
- Recommended on-line permit purchase services
- Identification of appropriate parking technologies (i.e. additional pay stations, smart meters, in-car meters, real-time parking occupancy signs, etc.)

- Public outreach publications
- Facilitation of information meetings
- Reconfiguration of existing meter mechanicals
- Monitoring

10.3 Additional Recommendations

Recommendation 8: Municipal Management Program for Private Parking

The utilization study revealed that between 900 and one thousand privately held and operated parking spaces remain vacant at the busiest times of day in downtown Salem – a vacancy rate of at least 40-percent throughout the entire day. This is a significant amount of underutilized parking supply – mostly contained in commercial and residential surface lots scattered throughout the downtown. In the future, as the City experiences growth and increased parking demand, a prime opportunity for expanding available parking options cost-effectively would be to utilize these vacant spaces.

Leasing of private parking for public purpose is not uncommon in Massachusetts, but many landowners resist the idea of giving up their private property, even when they may be paid for the use of their underutilized parking. A well-structured public program should be established that clearly outlines a beneficial and consistent arrangement that the City can offer to landowners in exchange for the ability to utilize their parking. Key elements would include:

- Clear removal of private liability concerns;
- A lease payment at a valuable rate in excess of current parking revenues but below the full market potential so as not to discourage more productive redevelopment;
- Higher lease payments for parking that is entirely municipally managed; lower for parking that is retained as exclusive private use;
- Clearly stated maintenance, security, and operating terms that keep the facility in good condition for the public and the landowner; and
- Assurance that parking can be returned to the landowner on short notice if a redevelopment plan is approved and/or permitted.

The City should establish clear conditions by which a private lease arrangement can be entered into, such as:

- Only when vacancy rates in the existing public supply – assuming demand responsive pricing is in place – dip below 15-percent;
- The annual parking revenues must exceed the lease payment to the landowner;
- The maintenance of parking should not compromise other City downtown goals; and
- The leased facility can be improved to acceptable standards for public parking, including curb cuts, handicap parking, signing, landscaping, lane width, stall dimensions, etc.

The program can be particularly advantageous where the City can arrange for lease agreements on abutting lots and remove intervening barriers to restripe the parcels as a combined facility. By reducing redundant circulation and access, the City can effectively operate many more spaces, helping to create greater revenues to offset lease payments.

Recommendation 9: Expand Employee Parking Supply

If pricing is correctly controlled, downtown Salem has sufficient supply on-street and in its garages for customers at all times of the year (except Halloween). However, as the downtown grows, demand for employee parking may increase. If supplies in the “monthly permit” areas begin to be insufficient, expansion of that parking supply may be warranted.

A cost effective approach to parking supply increase is to reconfigure lots and add-on street parking where travel lane capacity is excessive. Both of these strategies happen to be very applicable to Riley Plaza and surrounding streets. The image in Figure 63 suggests how this parking supply could be increased by over 120 spaces.

Figure 64 Parking Reconfiguration and Expansion at Riley Plaza



Recommendation 10: Implement Smart Parking Solutions

After the short-term recommendations are implemented, it is very likely that demand for improved parking technologies that provide greater customer conveniences will grow. Many vendors offer very advanced solutions that the City would be wise to consider as part of furthering customer convenience, increasing revenues, and attracting economic development. Most of the latest solutions are detailed in Section 8 and include:

- Smart meters
- Multi-space meters
- Cell phone payment
- Variable daily pricing
- MBTA pass integration
- Debit card integration
- Real-time space availability sensors
- Mobile applications