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DRAFT REPORT

DRAFT: RESIDENTIAL PARKING MANAGEMENT PLAN



55 Railroad Row
White River Junction, VT 05001
802.295.4999
www.rsginc.com

PREPARED FOR:
CITY OF BURLINGTON
SUBMITTED BY:
RSG

BURLINGTON RESIDENTIAL PARKING MANAGEMENT PLAN

ACKNOWLEDGEMENTS

City of Burlington

Public Works
Nicole Losch
Chapin Spencer

Planning and Zoning
Sandrine Thibault

Community and Economic
Development
Nate Wildfire

Police Department
John King

Transportation, Energy, and
Utilities Committee
Max Tracy

City Attorney's Office
Gene Bergman

Code Enforcement
Bill Ward

Public Works Commission
Jim Barr

CCRPC

Peter Keating

University of Vermont

Jim Barr

Champlain College

John Caulo

CarShare Vermont

Annie Bourdon

Community Advisory Committee

Ward 1
Richard Hillyard
Caryn Long

Ward 2/3
Tony Redington
Jim Brophy
Phil Hammerslough

Ward 5
Abby Mattera

Ward 6
Clare Wool
Charles Simpson

Ward 8/Planning
Commission
Emily Lee

RSG (Consultant Team)

Grace Wu, AICP, LEED-AP
John Burgoyne
Robert Chamberlin, PE,
PTOE
David Grover, EI



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PREPARED FOR:
CITY OF BURLINGTON

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1.0 INTRODUCTION

In 2014, the City of Burlington and Chittenden County Regional Planning Commission (CCRPC) conducted an evaluation of the City's current residential parking program. The City contracted with the consulting firm RSG to work collaboratively with the City and CCRPC to develop a comprehensive residential parking plan. The team also coordinated with the Community Advisory Committee and the Downtown Burlington Parking Plan team throughout the course of the project to ensure that recommendations to the residential parking plan would complement ongoing downtown parking initiatives.

1.1 | RESIDENTIAL PARKING

The residential parking permit program in Burlington began as a response to concerns about the availability of parking for residents within their neighborhoods. Streets that are designated for resident parking limit the locations where non-residents may park on residential streets.

Neighborhoods located near parking generators, such as downtown business districts, schools, colleges, universities, and hospitals, are prone to spillover parking effects with demand from non-residents to park in front of residential homes. This tends to happen during weekday hours while people are at work or when there are large events on nights and weekends. Demand for parking in residential areas is also influenced by car ownership, proximity to available public transportation, dedicated parking, bicycle and pedestrian facilities, and a mix and density of land uses that are conducive to shared parking.

A residential parking permit system is one tool to help provide residents with adequate curbside parking space in front of their homes. It can also encourage non-residents to park in more appropriate locations, such as off-street lots, garages, or metered parking, which often helps generate parking revenue for the city while reducing circling traffic in residential areas.

A residential parking permit system can also be controversial among residents, visitors, and the city. Residents who are required to obtain permission from the City to park their own vehicles and their guests' vehicles in front of their own home can see the residential permit system as a bureaucratic annoyance. Visitors may feel frustration at being prohibited from parking on streets that have ample curbside parking. The City must consider and budget for the costs of administering a residential parking program, which includes additional staff time and enforcement, as well as tangible costs such as parking signage, vehicle decals, forms, envelopes, and postage.

1.2 | PROJECT GOALS

As part of this study, the consultant team looked at the current citywide and residential parking zones, regulations, and trends. Over the course of analyzing existing conditions, best practices, and receiving public feedback, the study's primary focus is to develop a

comprehensive understanding of parking supply and demands in three representative sample area neighborhoods, and also understand the greater residential parking concerns from the point of view of residents, visitors, and city officials. More precisely, the goal of the study is to identify an optimal parking management strategy that preserves the livability of Burlington neighborhoods while finding the best use of the public Right-of-Way.

This project strives to achieve the following objectives:

- **Balance Parking Needs:** Balance the needs of those who park on Burlington's streets, including residents, visitors, and commuters.
- **Consider Limited Land Resources:** Consider the highest and best use of the space that public on-street parking occupies.
- **Account of Neighborhood Need:** Recognize that each neighborhood and block is unique and the residential public parking program accounts for the area's character and needs.
- **Apply a Data Driven Approach:** Use empirical metrics to measure parking trends and the utilization of parking spaces within neighborhoods.
- **Is Fair and Transparent:** Provide clear guidance to the City, the Public Works Commission, and to all Burlington residents and visitors on how residential permit areas are objectively established and how to allocate for future residential permit areas.
- **Is Market-Responsive:** Develop a residential parking management plan that is sensitive to changing demographics, land uses, and built character.
- **Consider Financial Needs:** Determine most appropriate way to fund improvements to the Residential Parking Program and consider the value of parking permits as a potential tool for funding community/city transportation infrastructure.

1.3 | REPORT ORGANIZATION

This report is organized in the following manner:

- **Citywide Parking Data Summary:** This section summarizes the existing data from the City of Burlington and contains information on current residential parking regulations and parking permit zones, as well as an overall snapshot of parking violations and permit usage.
- **Parking Inventory and Analysis for Three Sample areas:** This section details the findings from three representative sample area neighborhoods selected by the Advisory Committee to demonstrate the range of parking issues in the City of Burlington. The majority of the focus is centered on the parking demands stemming from housing and land use and how residential parking is used, managed, and enforced currently in the three geographically specific sample areas.
- **Best Practices:** This section compares the City of Burlington's residential parking program with those of four other cities that are similar in size, population, and have major institutions and universities.

- **Recommendations:** The final section builds on the findings from the parking inventory study, public outreach feedback, and precedents from other comparable towns to arrive at a recommended residential parking management plan. The actions and recommendations detail revisions to the existing parking permit program, regulations for defining future residential parking areas, and ways to better manage and enforce on-street parking in highly utilized areas.
- **For the Final Report, the following appendices will be provided:**
 - **Appendix A-Citywide Parking Rates:** Appendix 1 details the existing fees for public parking (metered, garage, and parks) in the City of Burlington, as well as parking regulations for University of Vermont and Champlain College students and staff. This information is included as a benchmark for market-rate parking pricing at larger parking generator sites adjacent to sample areas and within Burlington.
 - **Appendix B- Public Outreach:** This section summarizes the outcomes from the two public meetings in this study. The first public meeting includes the joint Downtown and Residential Parking Public Meeting held on November 19, 2014 as well as the findings from the online web map made available following the public meeting. The second public meeting, held on April 14, 2015, includes the findings on the preliminary recommendations.
 - **Appendix C- Neighborhood Outreach:** Department of Public Works staff conducted meetings with various neighborhoods around the City. This section summarizes the outcomes of those two meetings.
 - **Appendix D- City Mapping Tool:** This section summarizes the results of the City’s mapping tool.

2.0 RESIDENTIAL PARKING OVERVIEW

The City of Burlington is a vibrant city with an active downtown and waterfront, as well as a thriving college town with deep community roots. Though it is a small city, Burlington has the benefits—and challenges—of a complex urban area.

The purpose of Burlington’s existing residential parking program is to regulate on-street parking in neighborhoods adjacent to high parking generators, such as Centennial Field, UVM, Champlain College, and downtown. The focus of the 1990 Burlington Parking Program was to prevent drivers from parking in certain areas. In essence, the current Burlington resident permit parking program allows resident permit-holders and their guests to store vehicles on-street near their home, within the public right of way. The resident parking program also prevents visitors and other residents without permits from parking on a specified street or block during set times of day or days of the week.

To further Burlington as one of America’s most livable and sustainable communities, the City continues to strive towards the goals stated in the 2010 PlanBTV, the City’s comprehensive land use and development master plan for the Downtown and Waterfront. One of the key transportation goals is to provide a comprehensive parking allocation and management system that meets visitor, business, and resident needs, while increasing public transit and reducing dependence on the single-passenger automobile.

The City of Burlington started their residential parking program in the 1990’s as a response to regulating on-street parking in the neighborhoods around Centennial Field. Since then, the length of restricted residential permit streets has expanded to cover over eight miles of curbside parking, located predominantly in neighborhoods adjacent to high parking generators such as the University of Vermont (UVM), Champlain College, and portions of downtown.

To develop a comprehensive understanding of the parking network and rates in the City of Burlington, the consultant team studied the following items:

- Existing residential parking areas and regulations;
- Parking management;
- Parking enforcement trends;
- Car share locations; and
- Zoning parking requirements.

2.1 | EXISTING RESIDENTIAL PARKING ADMINISTRATION, AREAS, AND REGULATIONS

RESIDENTIAL PARKING PROGRAM COSTS

The current Residential Parking Program (RPP) is financed from the City’s General Fund and any revenue generated from the program, including resident parking citations, are allocated back to the General Fund and not earmarked for specific parking programs.

Therefore, it is difficult to estimate the actual cost or revenue generated for administering, monitoring, and enforcing the existing program. However, an approximate breakdown of the staff and materials resources needed include:

Staff time to manage requests for new parking areas

DPW staff spend roughly 14 to 15 hours to manage any requests for a new parking block. The breakdown of hours includes:

- Resident Petition, Submission, and Meeting with DPW Parking staff: 30 minutes
- DPW conducts petition process to ensure 50% participation agreement: 2 hours
- Once there is at least 50% participation from residents, DPW staff conduct a license place count over the course of one or two typical weekday periods at 7am, 10am, and 2pm: 7 hours
- Memorandum write-up and meeting with City Engineer: 4 hours
- Presentation to the Public Works Commission: 30 minutes to an hour, depending on amount of public presence

Staff time to manage requests

Burlington Police Department (BPD) have two staff, working five hours a week, to manage residential parking permits. The two staff alternate between roles: one runs the register paying tickets, while one is servicing the window.

Staff time to issue permits

It takes about 15 minutes for BPD staff to issue each permit. This includes putting information into the database and issuing the permit in person.

Staff time to manage/issue citations

There are five full-time BPD officers who monitor and enforce Burlington's citywide parking permits. Of the five, four are typically on foot and the fifth officer patrols in a vehicle outside the foot patrol area. They work five days a week, on a staggered schedule, with the first officer beginning duty at 7 AM and the last officer ending duty at 10 PM.

It takes staff about three minutes to issue a parking citation. In 2014, there were a total of 6,593 residential parking violations, amounting to roughly 330 officer hours for citation issues alone.

Vehicles for enforcement

BPD has two unmarked vehicles for enforcement, but normally only one is used at a time.

Signage

Currently in Burlington, on a typical 500' block with good visibility and parking on one-side of the street, sign installation costs roughly \$506 for small signs and \$606 for larger signs. Department of Public Works (DPW) staff installs five 12-foot sign poles with five resident parking signs. The signs are either 12" x 18" or 18" x 24" depending on the amount of text. The cost of each 12-foot pole is \$32 for a 12" x 18" sign, \$19 for 18 x 24" sign, and \$39 to

\$45 an hour for each employee. It typically takes two employees two and a half hours for a sign installation job on a block and truck equipment is billed at \$13 an hour.ⁱ

Residential Parking and Property Taxes

Residents are not the only contributors to the administration, maintenance, and enforcement of a residential parking program. Every tax payer in the City of Burlington, whether in a residential parking area or not, contributes to the residential parking program, as they do for all other municipal services - street maintenance, police, fire, etc. While perhaps desirable and transparent to do so, it is difficult to show precisely how every property tax dollar, from every Burlington property, is allocated to each municipal service.

There is no way to demonstrate that residential parking translates to higher valuation without a specific residential parking checkbox on the assessor's form with a corresponding value. Many factors go into determining a property's assessed value and not all are quantifiable. Desirable location, and other tangible and intangible qualities make a place attractive, leading to higher property values and resulting in higher taxes. For example, streets in the Hill section that do not have residential parking but are high in value e.g. Overlake Park and Summit Street north of Maple, do not demonstrate a lower tax burden because they lack a residential parking privilege.

CURRENT RESIDENTIAL PARKING PROGRAM LOCATIONS

Burlington residents may petition the Public Works Commission (PWC) to have their street designated as resident parking-only, which allows only those who live on that street and their guests to park curbside on the street. In 2013, there were a total of 3,233 active resident and guest permits issued in the City of Burlington. As shown in Figure 2.2, the majority of resident parking-only streets in Burlington have restrictions at all times, but there are also a small portion that limits non-resident parking during other hours, including:

- Weekday hours only - Monday through Friday, 6 AM to 6 PM: These are located on blocks adjacent to Champlain College (Spruce Street and S Union); UVM (Henry Street and Loomis Street); and the north side of downtown (around Peru Street, Monroe Street, and George Street neighborhood).
- Warmer weather months only -May through October months: This is focused on streets next to Oakledge Park (Southwind Dr and Oak Beach Dr).
- Warmer weather nights only -May through October 12 AM to 6 PM: This is limited to a portion of S. Prospect Street next to Redstone Green and UVM's Redstone Apartments.

Currently, all Burlington residents who live on a restricted street can apply and be issued a one-year or two-year parking permit for free. Homeowners and renters may apply for two-year permits, whereas students may only apply for one-year permits. The residential parking permits are issued bumper stickers from the Burlington Police Department's Parking and Parking Enforcement division and is enforced by issuance of parking tickets.

FIGURE 2.1: RESIDENTIAL PARKING RESTRICTIONS LOCATIONS

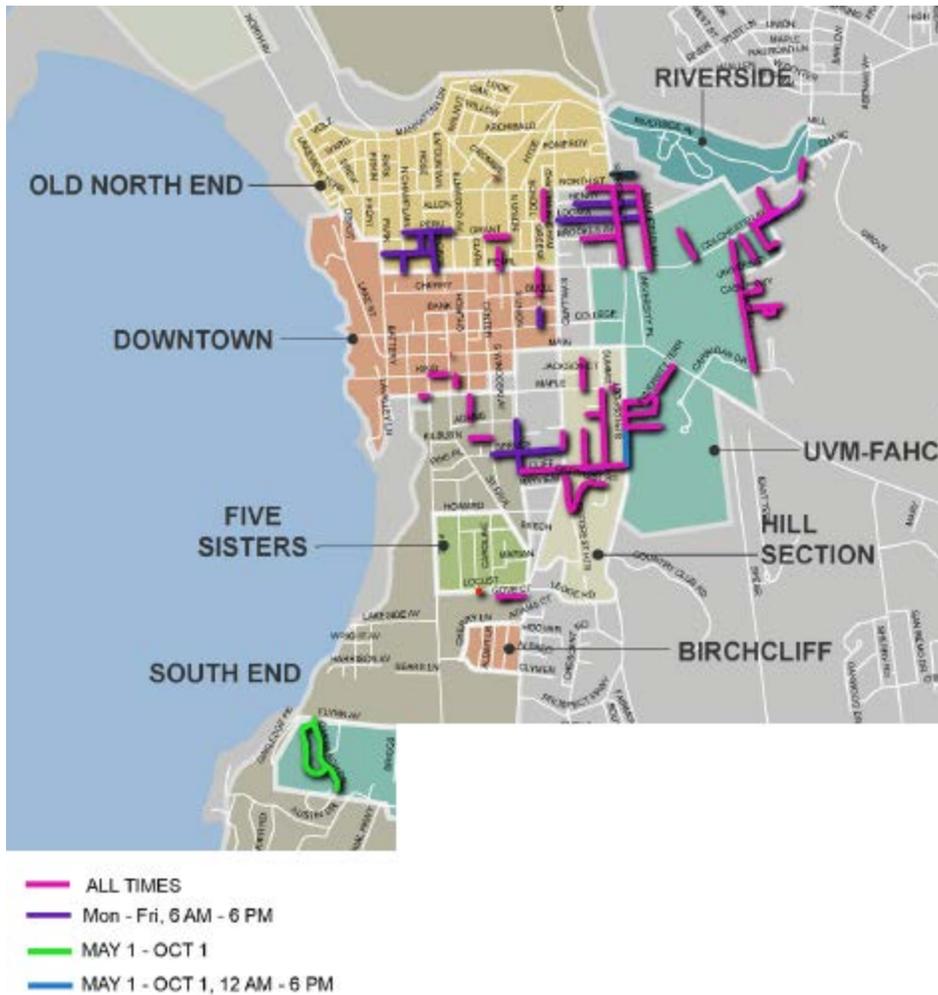
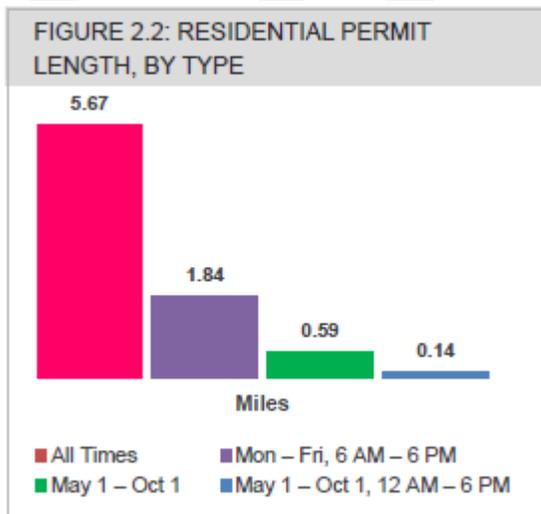


FIGURE 2.2: RESIDENTIAL PERMIT LENGTH, BY TYPE



GUEST PARKING

Residents are currently entitled to register for two guest passes per dwelling unit. Guest parking permits are only for use by persons visiting a residence and must display their guest parking card on the front window of their vehicle. Residents must go to the Police Department in person in order to apply for guest passes. These passes are good for one or two years, depending on whether the resident is a student (one-year guest passes) or renter/homeowner (two-year guest passes).

The City of Burlington, similar to many college towns, has a large rental and subletting community. One key problem with the current system is that when people move out, their guest passes are not accounted for, and the Police Department continues to grant new resident applicants additional guest passes. There have also been issues of unresponsive landlords who are not held accountable to parking concerns that occur on their property's premises.

Additionally, every year between June 1st and August 31st, Burlington experiences a significant turnover between student and subletter population. Currently, there is no defined method for keeping track of how parking permits are shared between academic year residents and summer subletters.

FIGURE 2.3 RESIDENTIAL PERMITS ISSUED

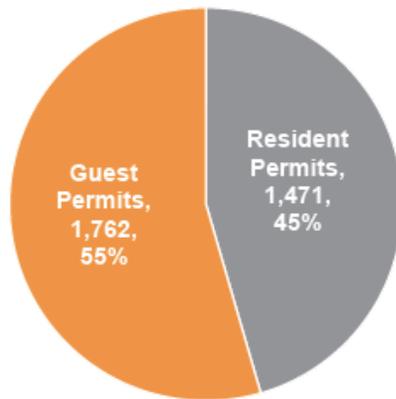


FIGURE 2.4 RESIDENT BUMPER DECAL AND GUEST PARKING PASS



TABLE 2.1: RESIDENTIAL AND GUEST PERMIT DOCUMENTS

STUDENTS: ONE YEAR PERMIT	RENTERS/HOMEOWNERS: TWO YEAR PERMIT
<ul style="list-style-type: none"> • Completed Current Lease • Valid Driver's License • Valid Registration • Valid School ID 	<ul style="list-style-type: none"> • Valid Driver's License with address of Resident parking street • Valid Registration

DEFINING NEW RESIDENTIAL PARKING LOCATIONS

The Public Works Commission makes the final decision on a case-by-case basis to determine which residential street locations are granted restricted residential parking designation. In advance of the commission meeting, Department of Public Works (DPW) staff receive a written request from one or more residents and sends out direct mass mailings in the area to alert neighbors of the upcoming parking permit restriction meeting. The Commission makes their decision based on the following aspects:

- Location;
- Other parking restrictions in the area; and
- Reasons why residents are asking for restricted parking.

The PWC decisions are situation-specific and the public turnout can vary greatly. The Commission compiles their own notes and meeting minutes for all of the parking restriction cases and makes them available online.

However, transparency in the residential parking petitioning process has been an ongoing issue for the City. Currently, there is no uniform checklist or threshold criteria that must be met in order for Burlington residents to petition and receive restricted parking in their

neighborhood. This has resulted in the perception of unfairness or arbitrariness in the decisions for where parking restrictions are located.

2.2 | PARKING MANAGEMENT

There are several agencies that must coordinate on parking issues throughout Burlington's residential areas.

- Burlington Police Department (BPD): BPD manages on-street parking, issues tickets and fines for violations that occur on the street, and administers residential and guest permits.
- Burlington Code Enforcement (BCE): BCE is responsible for ensuring housing and occupancy requirements are met; parking violations that occur on private properties are issued civil tickets through the Code Enforcement Department.
- Burlington Department of Public Works (DPW): DPW operates and maintains the City's public parking facilities, including metered parking both on-street and in surface lots, and staffs the Public Works Commission.
- Institutions: University of Vermont (UVM), UVM Medical Center, and Champlain College have their own set of parking regulations on their campuses and some require staff and students to park off-site in remote lots.
- City Attorneys: Attorneys represent the City in legal disputes arising from parking issues.
- Burlington Department of Parks and Recreation (DPR): DPR manages parking at the various City-owned parks, some of which generate parking demand that spills onto residential streets.

The Police Department maintains links to the UVM student database in order to verify that students applying for resident permits are eligible and enrolled students.

2.3 | PARKING ENFORCEMENT

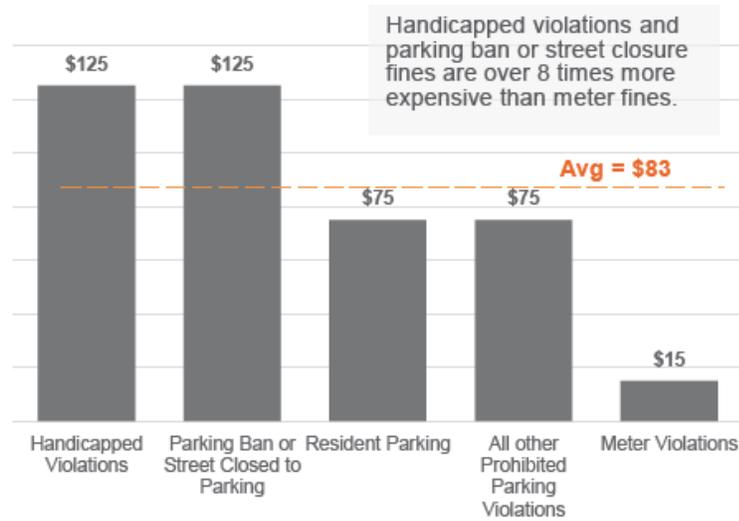
Unless the parking ticket is being contested in court, no permits are issued to residents who have an outstanding parking ticket. In 2013, the Burlington Police Department issued 88,522 parking citations and over \$2.5 million in fines. This amounts to an average of \$28.34 in fines issued per citation, although the average Burlington fine is much greater, at \$83.

Figure 2.5 summarizes the five categories of parking violation fines in Burlington. The data suggests that there are many more meter violations than other forms of parking violation occurring in the city.

The revenue from parking citations currently goes towards the City's general revenue and operating expenses. The City does not tow for residential parking violations because each dwelling receives two guest passes and are informed that if they have more than two guests, their other guests may send in their parking violations to be voided. Since the City allows more than two guests to park, they do not tow for resident parking violations. Chapter 3 goes into further detail on the specific types of parking violations that are occurring in each sample area.

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FIGURE 2.5: FINES BY VIOLATION TYPE (\$)



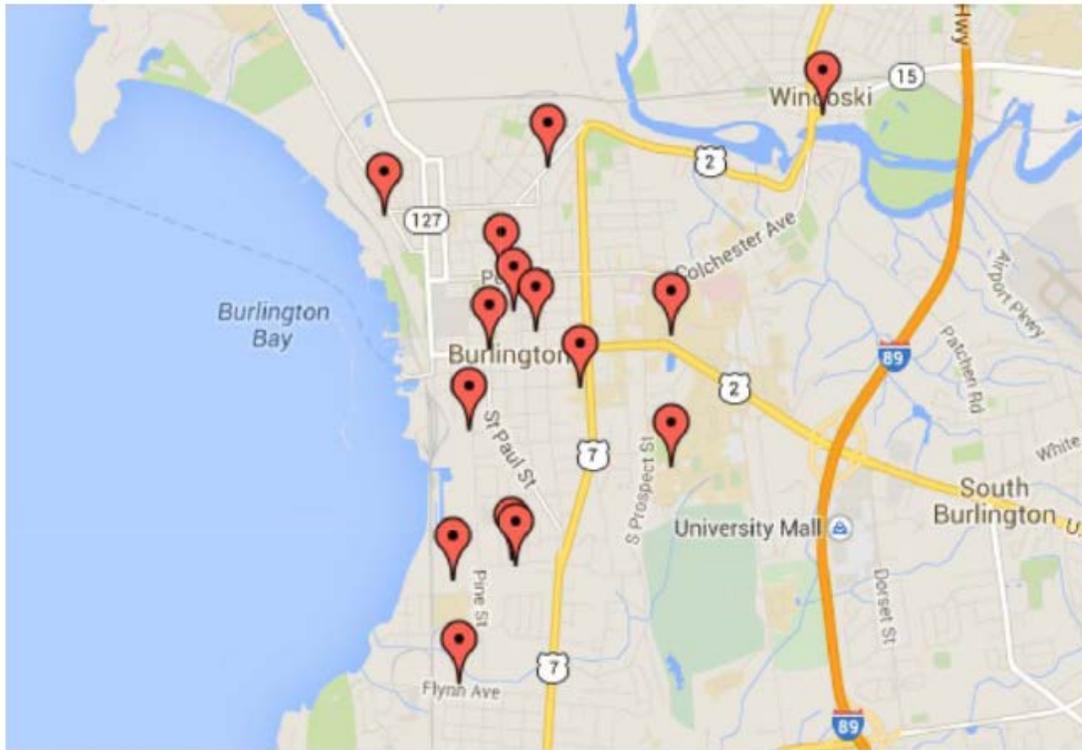
2.4 | CAR SHARE AND RESIDENTIAL PARKING

Access to car share is a notable consideration for residential parking, particularly in Burlington where there are currently 15 CarShare Vermont (CSVT) pods and vehicles available. Based on the rate at which Burlington members shed their personal vehicles or opt not to acquire them, CSVT has noted that each car share vehicle removes 16 from the road—and the need for individual residential parking spots. In the city’s Comprehensive Development Ordinance, there are currently six designated spaces for car share vehicles.

While the majority of CSVT pods are not located in city-owned spaces, their vehicles are entitled to one residential street sticker per vehicle. As part of the City’s effort to discourage users from driving more than necessary, Burlington amended their City’s ordinance to include designated residential parking for car-sharing in Appendix C, Chapter 27, Section 4: Requirements of Carshare Organizations. Upon showing proof of a valid Vermont registration for the vehicle(s) involved, car share organizations meeting the appropriate criteria will be issued one residential street sticker per vehicle. This sticker will be valid on all streets, or portions thereof, that are designated "resident parking only". CSVT presents their requests to DPW staff, which are then put forward to the Commission for approval.

Additionally, in Article 8.1.9, the city ordinance notes that car-share parking shall not be counted towards the maximum number of spots allotted in a parking district.

FIGURE 2.6: CARSHARE VERMONT POD LOCATIONS



from <http://www.carsharevt.org/locations/>, November 14, 2014.

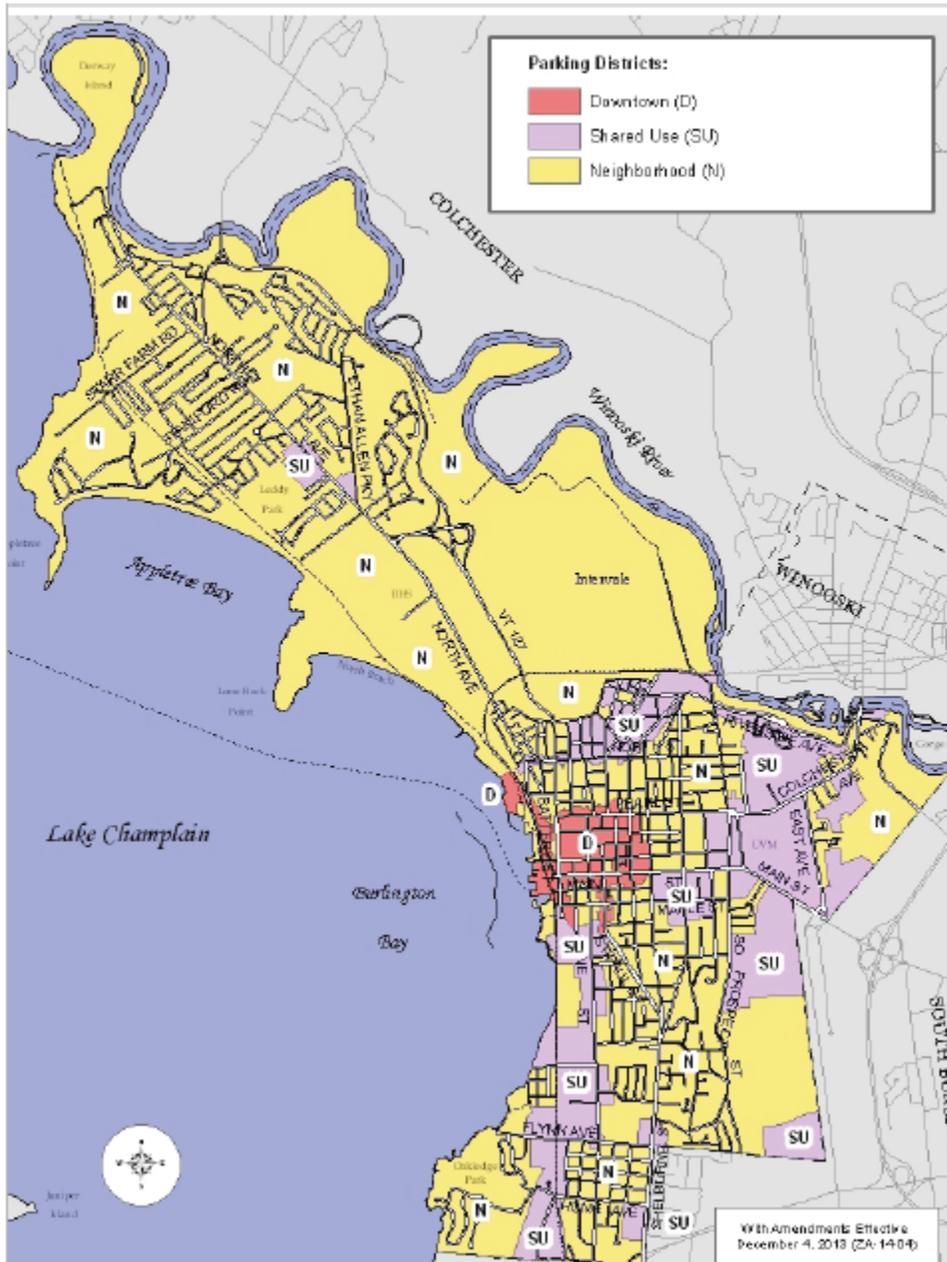
2.5 | ZONING PARKING REQUIREMENTS

There are currently three Parking Districts in the City of Burlington, as shown in

Figure 2.7, as part of Burlington's Comprehensive Development Ordinance. These account for varying demands on parking based on proximity to other related uses, availability of public transportation, the density of land uses, and the ability to share parking with nearby uses (Section 8.1.3 Parking Districts).

- **Neighborhood (N):** The Neighborhood Parking District establishes the baseline for parking requirements throughout the city. The demand for offsite parking is largely dependent on the needs and characteristics of an individual site or land use.
- **Shared Use (SU):** The Shared Use Parking District establishes a reduction in the parking requirement baseline, recognizing the opportunities to share parking demand and rely on non-vehicular transportation in these areas.
- **Downtown (D):** The Downtown Parking District requires the least amount of parking, recognizing the availability of shared parking, frequent transit service, and higher rates of other non-vehicular transportation in these areas.

FIGURE 2.7: PARKING DISTRICTS (MAP 8.1.3-1, BURLINGTON COMPREHENSIVE DEVELOPMENT ORDINANCE)



PROPOSED ZONING CHANGES

There are currently three zoning changes under consideration in the City that may potentially affect residential parking:

- Reduce or eliminate off-street parking requirements in the Downtown Parking District: This change would promote alternate transportation services and increase the affordability of development by unbundling parking costs from development

costs. However, there is also potential that this change may create a greater need for street parking or use of public lots and garages.

- Change the parking requirement to be based on the number of bedrooms rather than on number of units: The purpose of this change is to incentivize development of smaller units and increase housing affordability. This change reduces the minimum off-street parking requirement for all studio and 1 bedroom apartments in the three parking districts.
- Expand Shared Use Parking District: As shown in Figure 2.8, areas directly north, south, and east of downtown would change from a neighborhood parking district to a shared use parking district to allow for reduced minimum parking requirements. Similarly in this case, the reduced minimum requirement may create greater demand for places to park on-street.

The existing and proposed changes to the minimum parking requirement are shown in

Figure 2.9 and Figure 2.10.

FIGURE 2.8: PROPOSED PARKING DISTRICTS (APPROVED BY PLANNING COMMISSION ON 1/14/14)

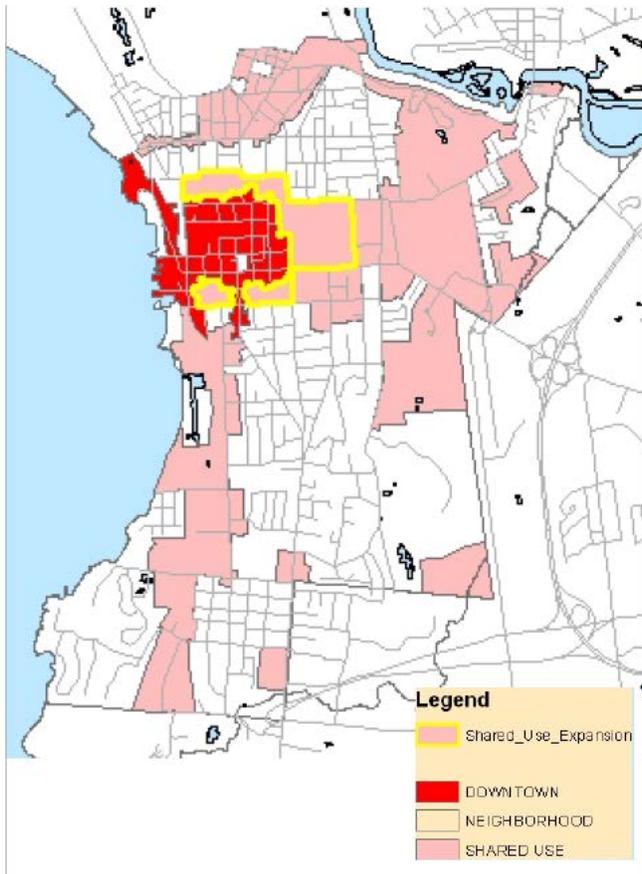


FIGURE 2.9: MINIMUM OFF-STREET PARKING REQUIREMENTS, BY PARKING DISTRICT

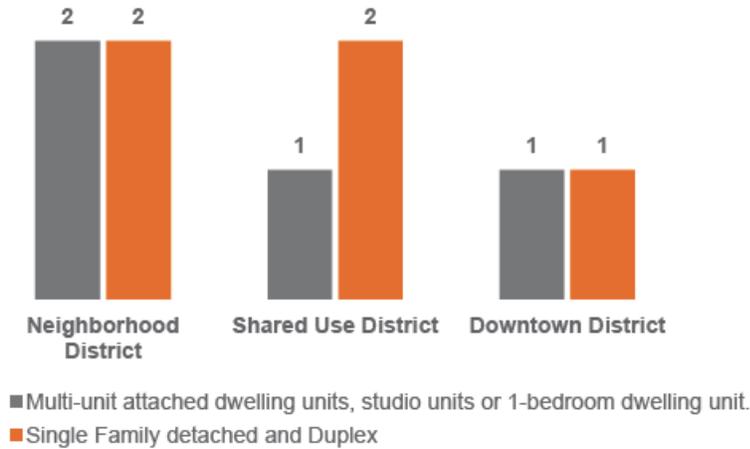
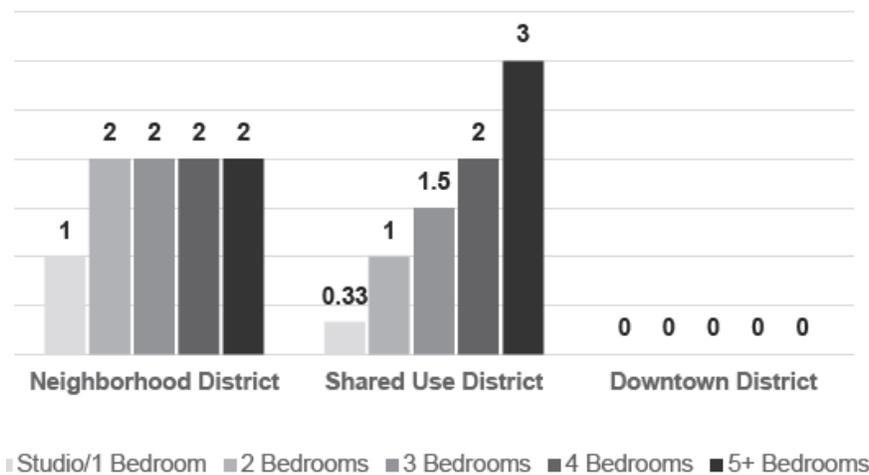


FIGURE 2.10: MINIMUM PROPOSED OFF-STREET PARKING REQUIREMENTS, BY PARKING DISTRICT



SOURCES

- Burlington Residential Parking. <http://www.burlingtonvt.gov/Police/Residential-Parking>
- Burlington Comprehensive Development Ordinance, Article 8: Parking. Updated July 18, 2014. http://www.burlingtonvt.gov/sites/default/files/PZ/CDO/20140718%20ART08-Parking_0.pdf
- Burlington Comprehensive Development Ordinance, as approved by the Planning Commission on January 14, 2014. <http://www.burlingtonvt.gov/assets/0/122/318/302/702/738/a48baf49-4fd0-4f34-9864-bd3551b99c82.pdf>
- Citation Violations by Location Summary. January 1, 2013 to December 31, 2013. Provided by John King, BPD. September 4, 2014.
- Appendix A Article 8.1.9: Parking: <http://www.codepublishing.com/VT/burlington/?BurlingtonAxA/BurlingtonAxA08.html&?f>
- Appendix C, Chapter 27, Section 4: Requirements of Carshare Organizations <http://www.codepublishing.com/VT/burlington/?BurlingtonAxA/BurlingtonAxA08.html&?f>

3.0 THREE SAMPLE AREAS

To better understand the range of residential parking issues in Burlington, the Advisory Committee selected three sample areas that demonstrated a representative sampling of neighborhood demographics, land uses, and built character in order to conduct a more detailed parking analysis. The consultant team conducted a parking inventory in these three sample areas and also analyzed their usage of on-street parking, residential permits, and driveway spaces. The three sample areas selected were:

- **Sample Area 1 - Downtown South Union and Willard:** This area is located in the eastern portion of the Downtown neighborhood and contains a diverse population, including young professionals, students, and visitors to local retailers and community centers. This area's proximity to both the downtown and to UVM make this location a high demand parking area for both residents and visitors. The area is 0.05 square miles in size and bounded by Pearl Street on the north, S Willard Street/VT 2 on the east, Main Street on the south, and S Union Street on the west.
- **Sample Area 2 - Downtown King Street:** This area is located in the southwestern portion of the Downtown district and includes commercial blocks on Main Street and Battery Street. Unlike Sample Area 1, the area contains several higher density apartment buildings, many of which are rented by residents who are eligible for lower income housing through the Burlington Housing Authority. This area is 0.06 square miles in size and bounded by Main Street on the north, S Winooski Avenue on the east, Maple Street on the south, and Battery Street on the west.
- **Sample Area 3 - South Prospect and Summit:** This area is located in the northern part of the Hill Section, surrounding Champlain College and just southwest of UVM's main campus. Unlike the other sample areas, this neighborhood consists largely of single-family homes, with sizeable setbacks from the road, and individual driveways on each parcel. Several roads loop or end in cul-de-sacs, resulting in a more suburban character. Many of the streets in this area currently have residential parking restrictions. Sample Area 3 is 0.11 square miles and bounded by Main Street on the north, S Prospect and Robinson Pkwy on the east, Cliff Street on the south, and S Willard Street on the west.

3.1 | SAMPLE AREA POPULATION

The population in each sample area ranged between 772 to 1094 people, based on 2010 Census data. Sample Area 1 had the highest population and Sample Area 3 had the fewest, as shown in

Figure 3.1. The population density is somewhat correlated with the total number of people in each of the sample areas, although Sample Area 3 is far less dense than the other two. Sample Area 3 was also the largest study area, nearly twice the size of the other two sample areas.

Figure 3.3 shows the variation in population density by block, with very few people living in the core downtown, but several dense residential blocks in areas surrounding it, particularly in Sample Area 1. All three sample areas have a higher population density than the overall average for the city, which is 4,003 people per square mile. Sample Area 1 had the highest population density at 20,260 people per square mile, which is five times the average for the City of Burlington.

FIGURE 3.1 POPULATION AND POPULATION DENSITY

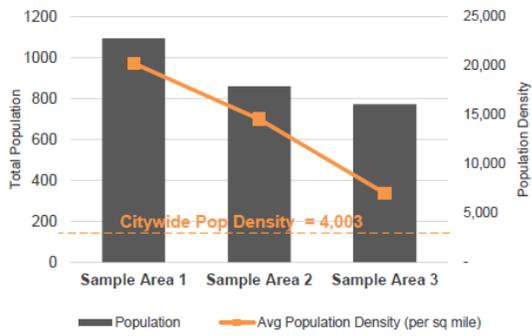


FIGURE 3.2 SAMPLE AREA (SQ MILES)

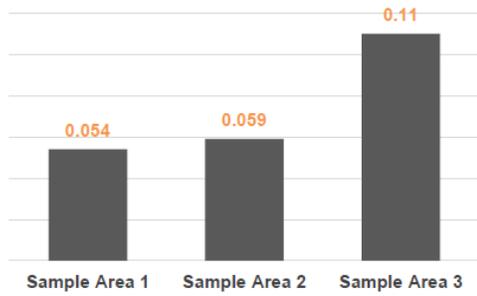
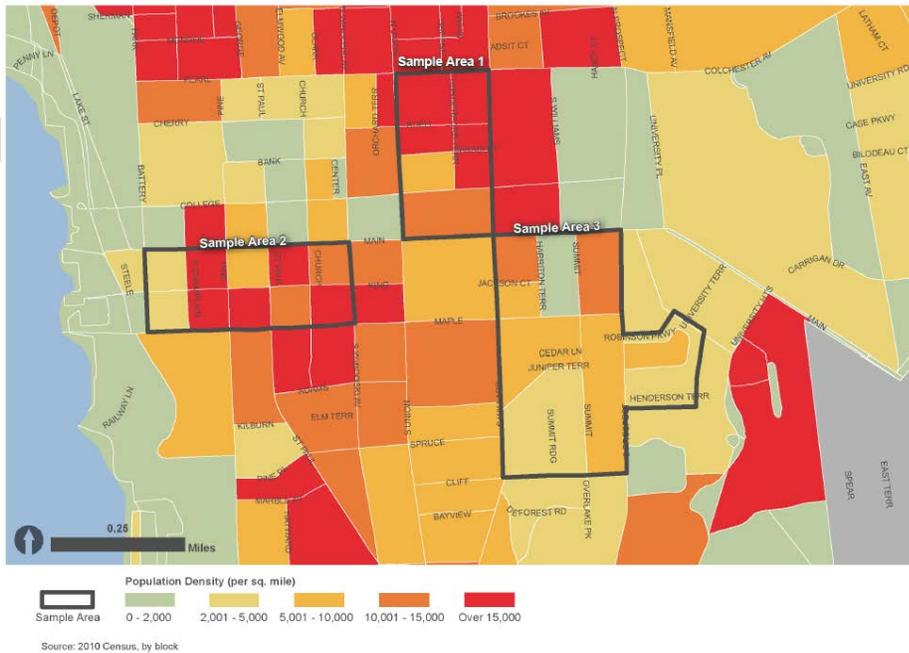


FIGURE 3.3 POPULATION DENSITY, BY BLOCK (PER SQ MILE)



3.2 | ZONING AND LAND USE

The three sample areas varied in their zoning designations and land uses. Sample Area 2 is the only study area containing mixed-use commercial zoning, while Sample Area 3 has a substantial portion of institutional zones. Sample Area 1 is zoned entirely for high density residential, whereas much of Sample Area 3 is zoned for low density residential south of Juniper Terrace and east of Summit Street.

In looking at the more fine-grained land uses by parcel, Sample Areas 1 and 2 have a much greater diversity in land uses. Shown in Figure 3.5, in Sample Area 1 the residential parcels vary greatly, with single-family homes directly adjacent to apartments with five or more units. Sample Area 2 has a much greater proportion of commercial uses, particularly along Main Street (retail, dining, and the Flynn Theater) and fronting on Battery (retail, commercial office, and dining). Sample Area 3 is predominantly single-family south of Juniper Terrace and west of Summit, with large pockets north and south of Maple Street dedicated to institutional and residential buildings for Champlain College.

Block sizes also vary between the sample areas. Longer blocks without any street crossings are perceived to be farther distances than the same distance of blocks that are bisected by several street crossings. Sample Area 2 has uniform 400 foot by 400 foot blocks, which equates to roughly a 1.5 minute walk along each block. Sample Area 1 has blocks that range between 370 feet and 920 feet along College Street. Sample Area 3, with its dead-end streets, has blocks that range between 400 feet and 1,560 feet along Summit Street.

FIGURE 3.4 ZONING

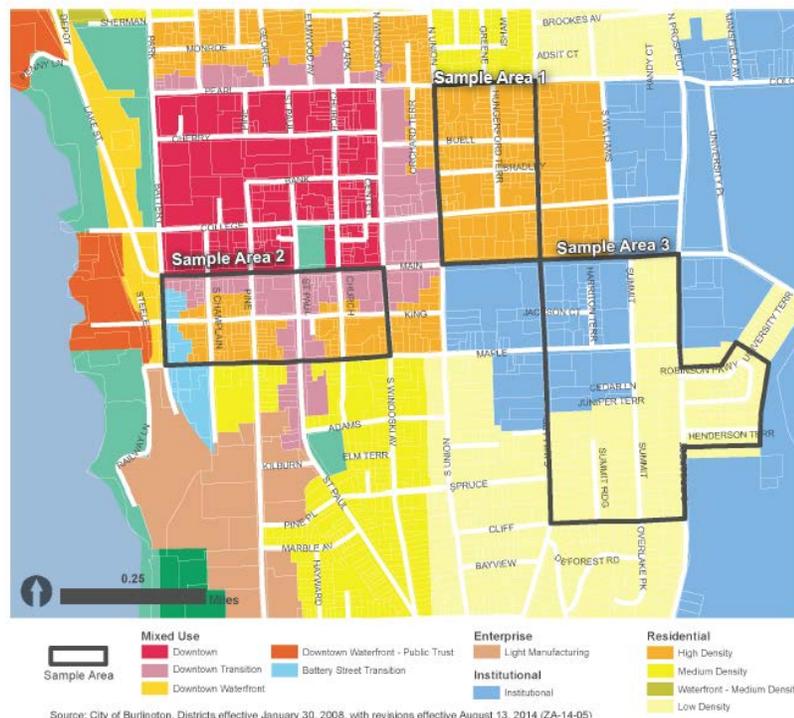
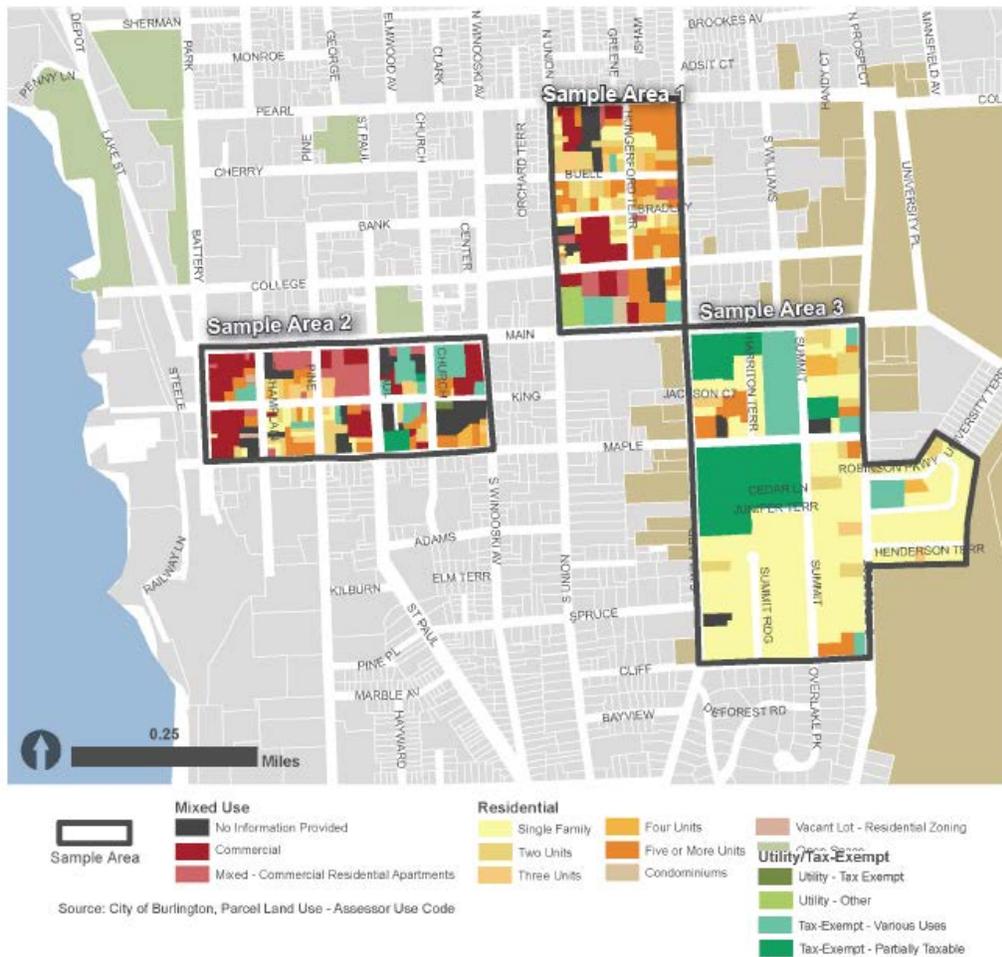


FIGURE 3.5 LAND USE (ASSESSOR USE CODE)



3.3 | HOUSING UNITS

Based on 2010 Census data, the number of housing units in each sample area is generally consistent with population density, where Sample Area 1 has the highest number of housing units (467 units). Sample Area 2 has the highest vacancy rate out of the three study areas, with nearly double that of Sample Area 1, while Sample Area 3 had the lowest vacancy rate.

Champlain College buildings and their residence halls fill up a large portion of the northwest blocks in Sample Area 3, which skew the total housing unit count in the census data. For the residential blocks south of Juniper Terrace and east of Summit Street, the number of housing units here are higher due to the larger block sizes in this area as compared to Sample Area 1 and 2.

FIGURE 3.6 HOUSING UNITS (2010 CENSUS)

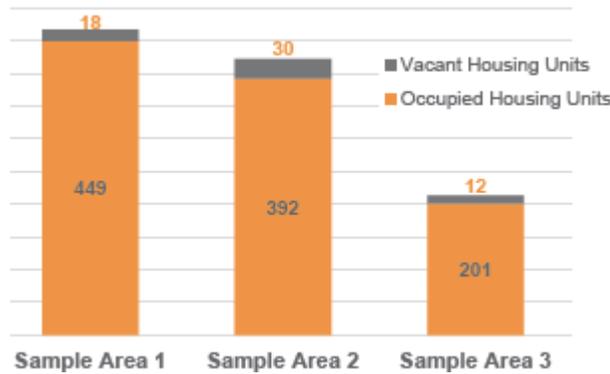
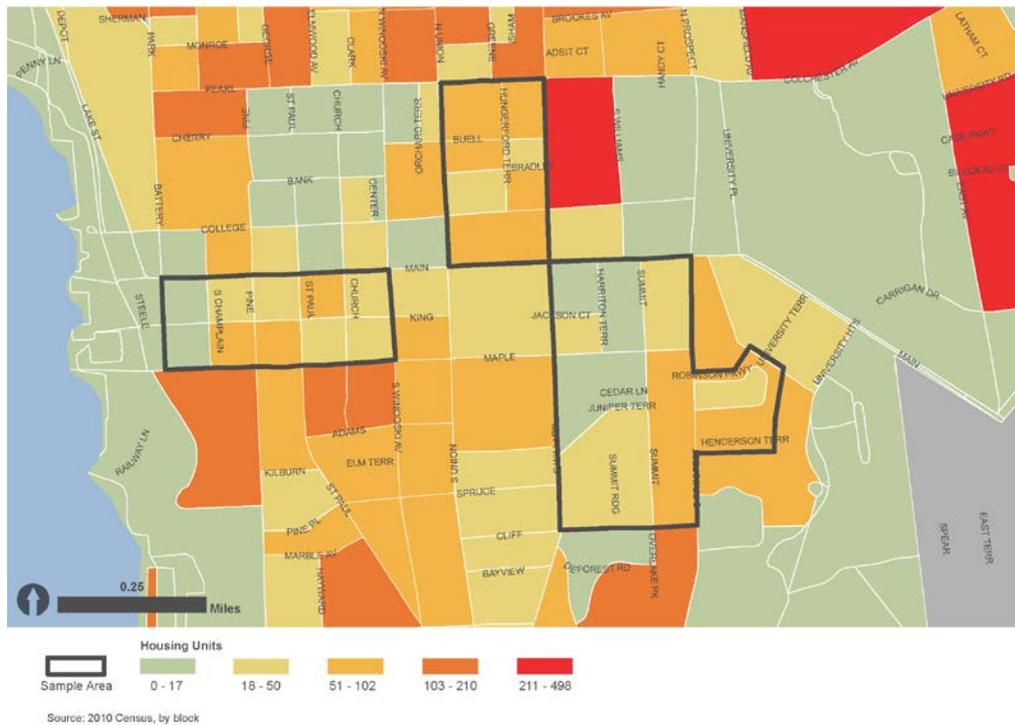


FIGURE 3.7 HOUSING UNITS, BY BLOCK (2010 CENSUS)



3.4 | HOUSING TENURE

Based on 2010 Census block data, which separates housing tenure by three categories (owned with mortgage, owned free and clear, and rented), Sample Areas 1 and 2 contain a substantial proportion of rental housing, with rental rates of 85% and 83% overall rental housing per block, respectively, based on 2010 Census block data. Sample Area 3 is more evenly split between rental and owned housing units, although a considerably higher number of the homes in the neighborhood are owned without mortgage (17%) compared to the other study areas. The only blocks in Sample Area 1 and 2 which have below a 75% rental housing rates are those that are largely commercial. This is in contrast with the single-family blocks south of Juniper Terrace and east of Summit Street that are over 75% owned.

FIGURE 3.8 RENTAL HOUSING (%), BY BLOCK (2010 CENSUS)

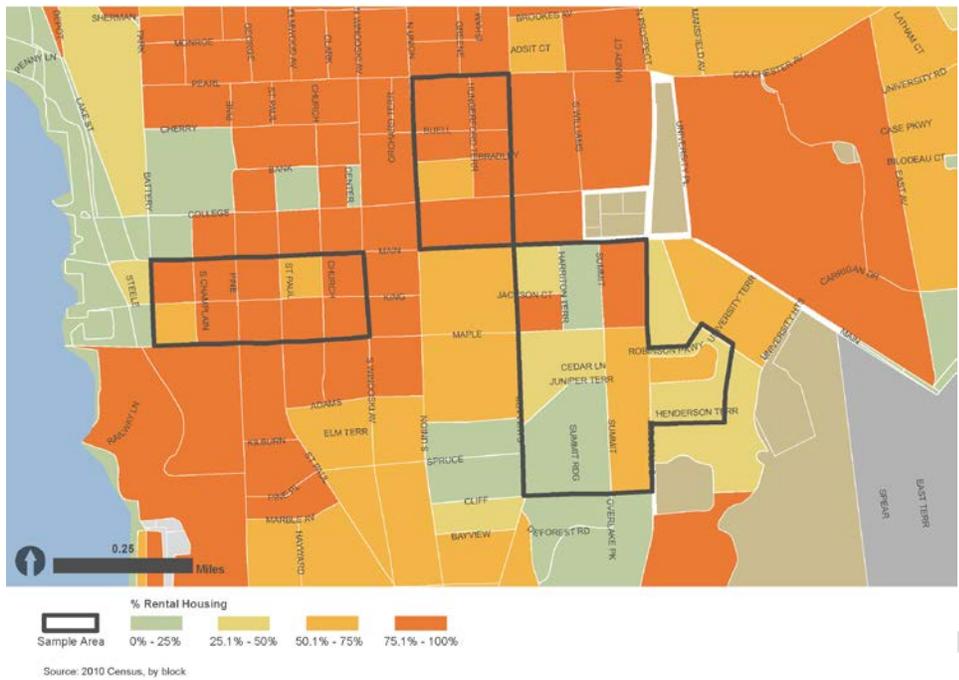
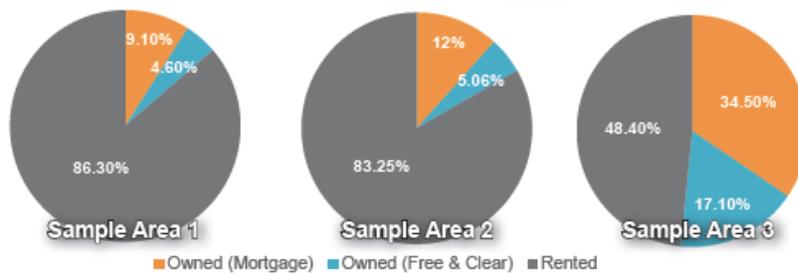


FIGURE 3.9 RENTAL VS. OWNERSHIP (2010 CENSUS)



3.5 | ON-STREET PARKING

There are a total of 868 on-street parking spaces within the three sample areas. During the parking inventory count on September 25, 2014, the consultant team was on-site to record the total number of on-street parking spaces on each block, as well as its occupancy rate for three time periods: AM before work (7am to 8am); Midday (11am to noon); and PM after work (5pm to 6pm).

Based on the parking inventory, Sample Area 2 has the largest on-street parking supply (366 spaces), while Sample Area 1 has just a little more than half that amount because many of the blocks allow on-street parking only on one side. Figure 3.10 maps the locations of on-street parking in the three sample areas, as well as their total supply of parking spaces.

FIGURE 3.10 ON-STREET PARKING SUPPLY

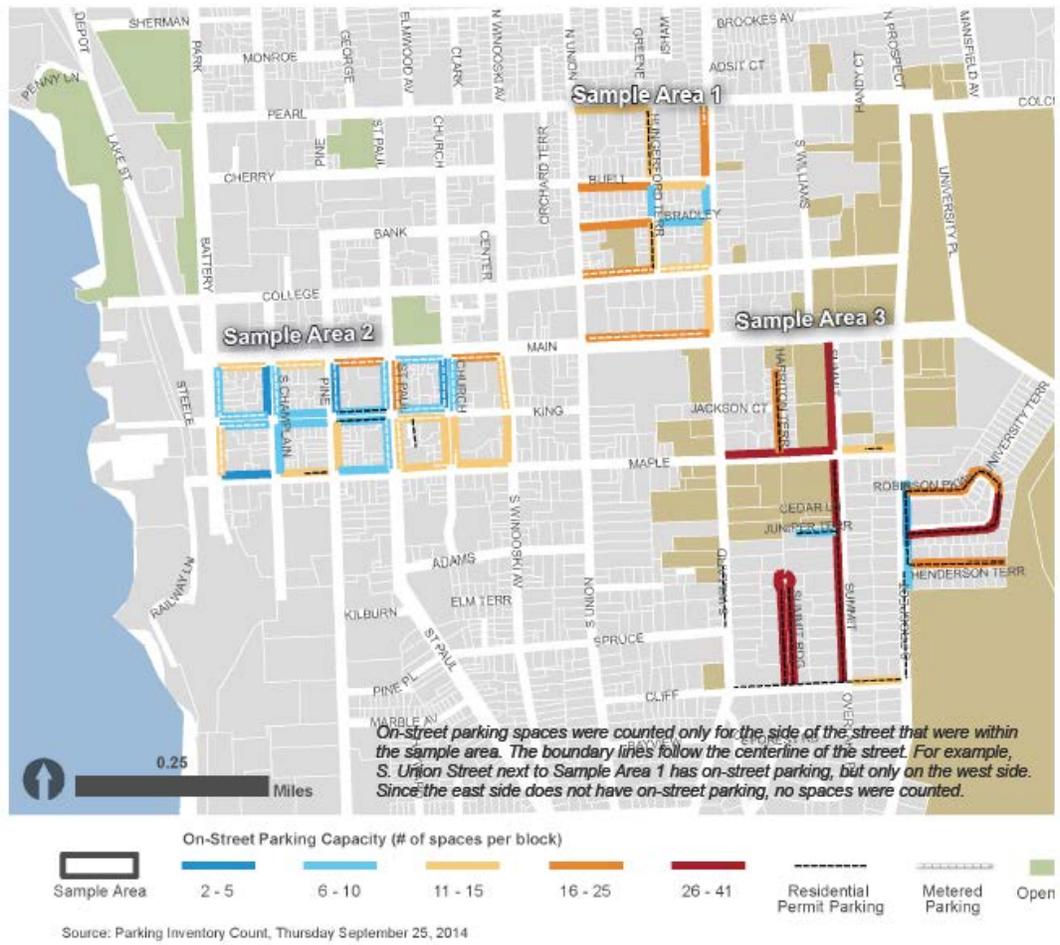
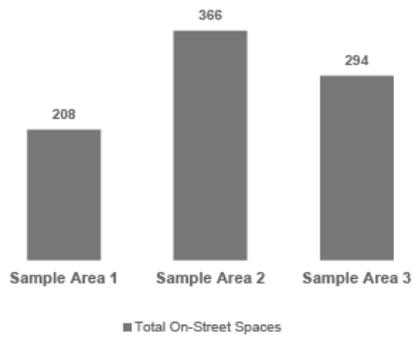


FIGURE 3.11 TOTAL ON-STREET PARKING SUPPLY



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Figure 3.12 maps the locations of the various types of meters and residential permit parking in the greater downtown area. Meters are in effect throughout the City between 8 AM and 6 PM, Mondays through Saturdays, excluding Sundays and holidays. The more commercial streets in Sample Area 1 are lined with 10-hour meters, in contrast with Sample Area 2, which has a significantly greater number of 3 hours meters.

Figure 3.13 totals the length of on-street parking restrictions in each sample area, both metered parking and permit-only parking. Parking restrictions can influence which on-street parking blocks are more highly utilized. Sample Areas 1 and 2 have relatively few residential permit restrictions, but have metered spaces. Sample Area 2 has nearly 1.3 miles of metered on-street parking located over 20 blocks.

FIGURE 3.12 PARKING RESTRICTIONS: METERED AND PARKING

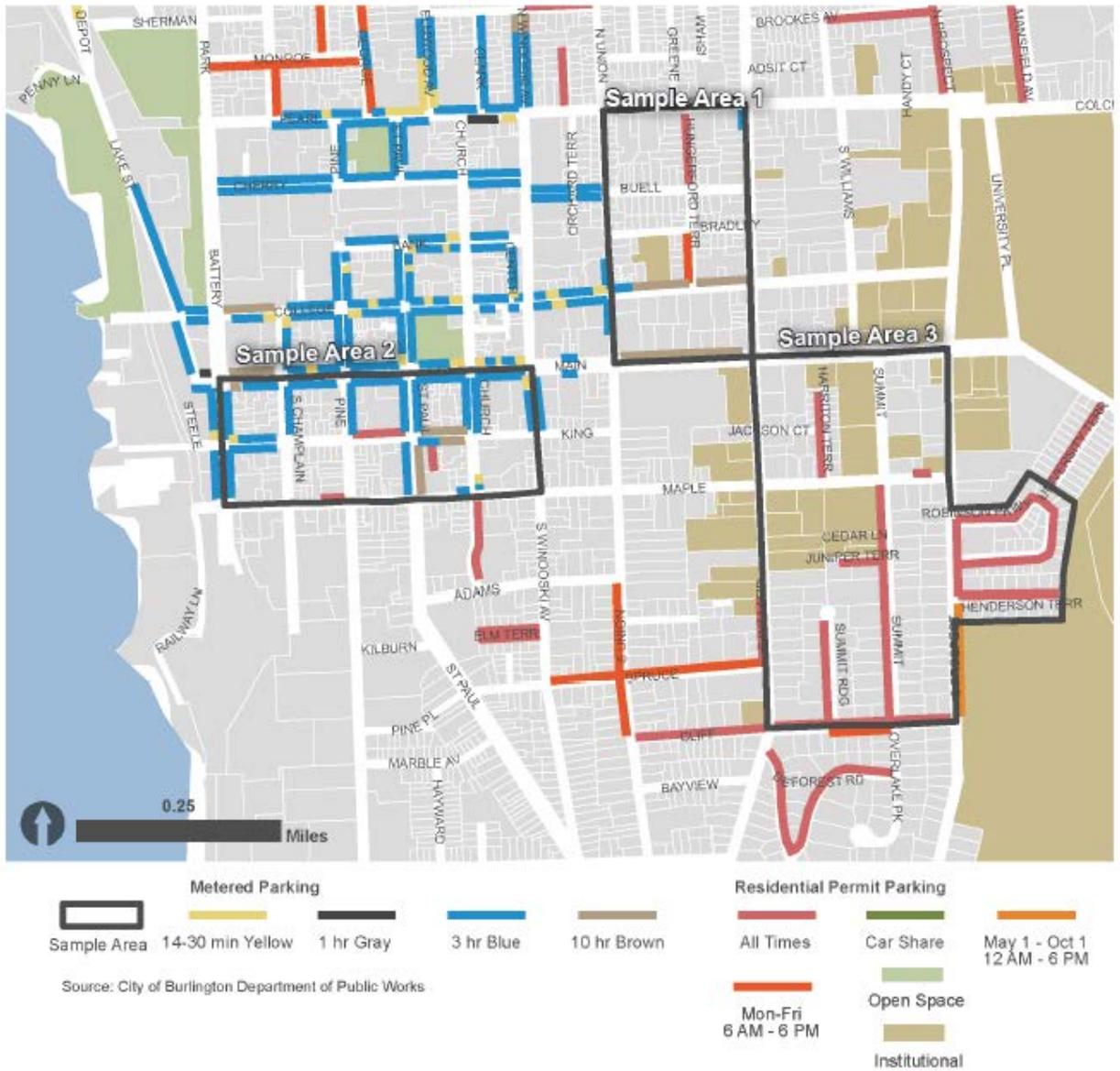
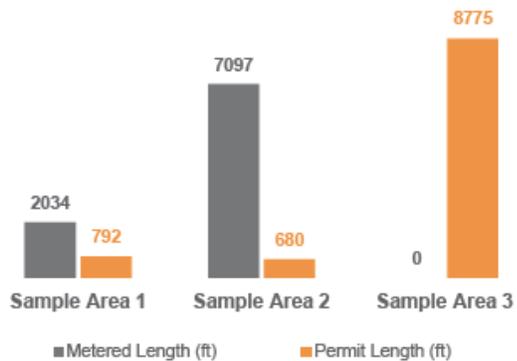


FIGURE 3.13 PARKING RESTRICTIONS: METERED VS. PERMITTED LENGTH (FEET)

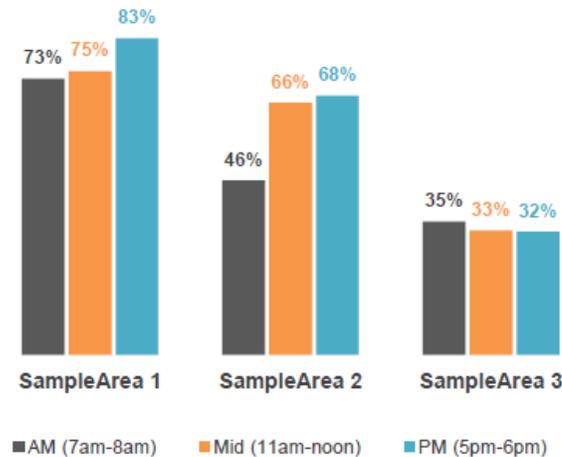


This estimate is based on measured curbside length and does not subtract for curb cuts.

Sample Area 1 had the highest on-street parking utilization observed during the inventory, averaging 77% occupancy over the course of the day, with higher rates in the late afternoon/evening than during the day. Sample Area 2 and 3 averaged 60% and 33% occupancy, respectively, over the course of the day. Sample Area 2 experienced higher rates of on-street parking during midday and late afternoon/evening than in the early morning, suggesting that many of the people parking there live outside the area. Sample Area 3 had a fairly consistent occupancy rate throughout the day, with only a third of the on-street spaces occupied during the three count periods.

The blocks with meters or permit parking generally had lower utilization rates than blocks that did not have any restrictions. Sample Area 1 had the highest on-street parking utilization out of the three sample areas and the least amount of restricted parking supply.

FIGURE 3.14 ON-STREET PARKING UTILIZATION (SEPTEMBER 25, 2014)



BEFORE WORK (7AM TO 8AM)

The parking inventory from this time period accounts for parking occupancy before metered parking restrictions go into effect.

- Sample Area 1: The on-street parking in the mostly residential blocks on and north of Bradley Street are over 80% occupied before work, including the resident parking-only block on Hungerford Terrace between Buell Street and Pearl Street. The permitted section just south two blocks is less than 30% occupied, as are the metered spaces.
- Sample Area 2: The on-street parking on largely residential blocks are all over 60% occupied, with many over 80% occupied during this period. The commercial blocks, including much of Main Street, Battery Street, and St. Paul Street, are largely unoccupied in the early mornings, despite no overnight meter fees and proximity to fully occupied residential blocks.

- Sample Area 3: Much of the curbside parking is largely unoccupied during the morning period, with the exception of northern Summit Street and eastern Maple Street, which have few if any restrictions on them. Although nearly all of the curbside parking is restricted, Maple Street between S Willard Street and Summit Street does not have restrictions and remained less than 30% occupied.

FIGURE 3.15 ON-STREET PARKING UTILIZATION (7 AM-8 AM)



MIDDAY (11AM TO NOON)

The counts from this time period account for the typical weekday parking situation, with meters and residential parking restrictions in effect, with the exception of nighttime resident-only restrictions.

- Sample Area 1: Blocks that were over 80% occupied in the morning remained full and other blocks also became more heavily utilized particularly towards S Willard Street, with the exception of metered parking on Main Street, which remained mostly available.
- Sample Area 2: The overall utilization increased midday, with metered parking at least partially filled, with the heaviest utilization along St. Paul Street and around TD

Bank and the Flynn Theater. In general, unrestricted streets were more heavily occupied than metered sections, particularly on commercial blocks.

- Sample Area 3: Two segments became more heavily occupied during the daytime: Harrington Terrace and S Prospect Street, despite being resident-only parking at all times. Similarly restricted blocks on Robinson Parkway and Cliff Street went from between 31% and 60% occupied in the morning to less than 30% occupied during the midday. Unrestricted portions of Summit Street and Maple Street remained heavily used. All other blocks remained largely unutilized.

FIGURE 3.16 ON-STREET PARKING UTILIZATION (11 AM-NOON)



AFTER WORK (5PM TO 6PM)

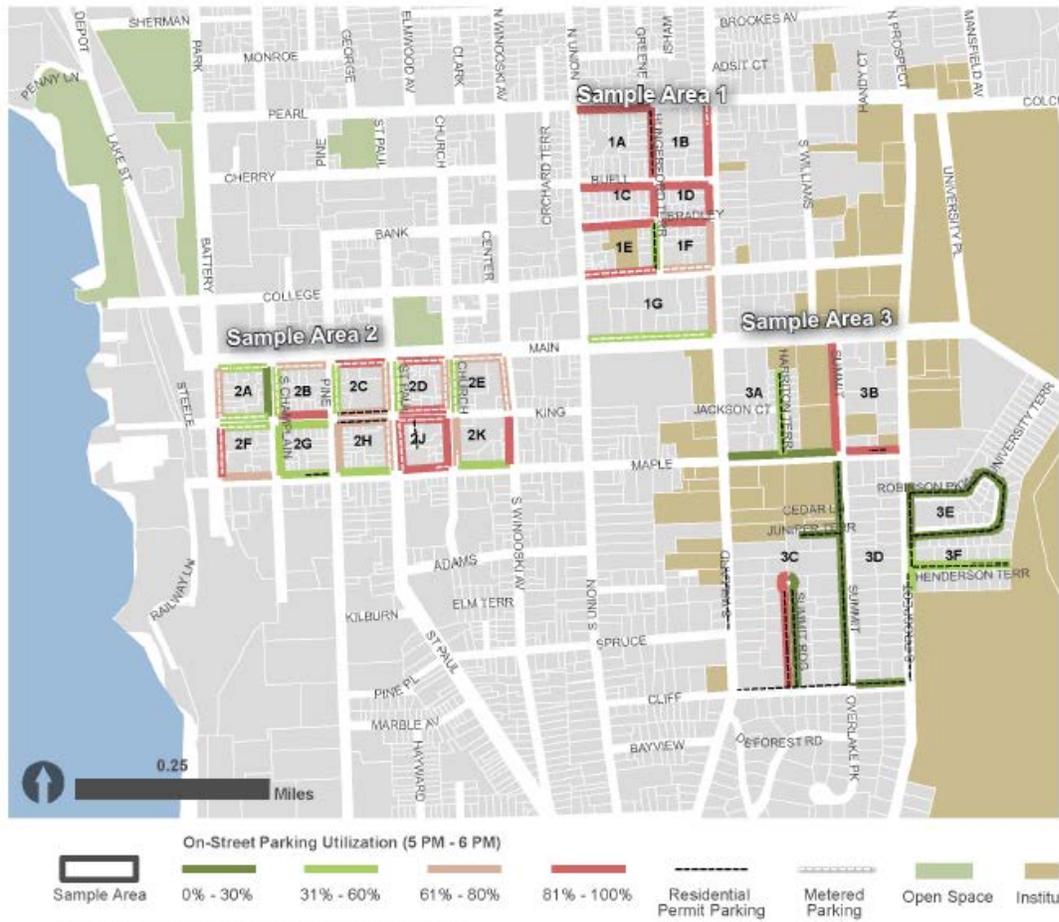
The counts from this time period account for vehicle occupancy just after normal work hours.

- Sample Area 1: In the last hour of metered time, demand for metered on-street parking increased on College Street and Main Street after work, likely due to its proximity to the YMCA and City Market. The on-street parking in blocks on and north of Bradley remained over 80% occupied, as they had been since the morning,

while the permitted block between Bradley Street and College Street was over 40% unoccupied.

- Sample Area 2: There is a slight increase in overall on-street parking utilization after work, with greater demand for the metered spaces on Battery Street and Main Street. In contrast, many of the residential blocks that were heavily occupied in the morning and midday are utilized less during this period, though the permit-restricted block is over 60% filled.
- Sample Area 3: S Prospect Street parking reverts to being largely available, while mostly unrestricted portions of Summit Street and Maple Street are over 80% occupied. One striking difference is Summit Ridge, a residential cul-de-sac street, jumped from over 70% available midday to over 80% occupied after work, mostly on the west side. This may be an anomaly due to one or more residences having a larger number of guests than usual, as the count was conducted on Rosh Hashanah.

FIGURE 3.17 ON-STREET PARKING UTILIZATION (5 PM-6 PM)



3.6 | DRIVEWAYS

Driveways are important features in studying residential parking because their presence indicates two salient features:

- Some or all of the residents have the ability to park off-street and on their private property. The resident may have a guaranteed parking spot and therefore may not need to apply for a parking permit.
- The driveway creates a curb cut that prevents other vehicles from parking on-street in front of the driveway, thereby reducing the total number of on-street parking opportunities.

The consultant team collected parking inventory counts on Thursday, September 25, 2014 and estimated the number of driveway spaces and their utilization. Where there were not clearly defined lines, the team took their best guess at estimating how many vehicles would fit in a given residential driveway. Figure 3.18 shows the variation in the amount of driveway spaces within each sample area, with Sample Area 3 containing nearly double the amount of driveway spaces as in Sample Area 1 and four times more driveway spaces than Sample Area 2.

Sample Area 1 had the highest average utilization of driveway spaces, with more than 75% of their spaces occupied in the morning and midday periods. Driveways in Sample Areas 2 and 3 were less well-utilized, at 54% and 46% respectively, with a dip in occupied driveways during the midday period.

Figure 3.20 shows the blocks that contain residential driveways and the number of curb-cuts along each block face. For the most part, Sample Area 3 had longer block faces and a correspondingly higher number of curb cuts, particularly on Summit Street and Summit Ridge. In Sample Areas 1 and 2, the blocks with more single-family homes had a higher number of curb-cuts for driveways, but also were not restricted by meters or residential permits. Sample Area 3 contained a higher number of single-family homes with driveways, but also had curbside parking that was largely restricted by residential permits.

FIGURE 3.18 ESTIMATED DRIVEWAY SPACES

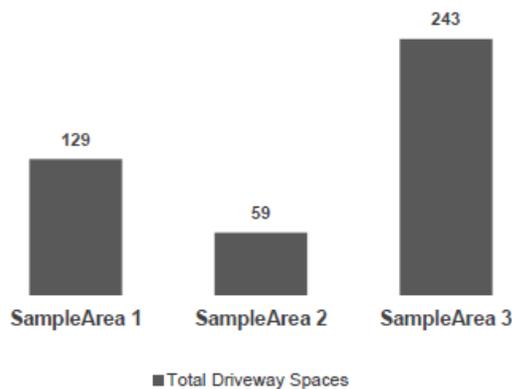


FIGURE 3.19 APPROXIMATE DRIVEWAY SPACE UTILIZATION

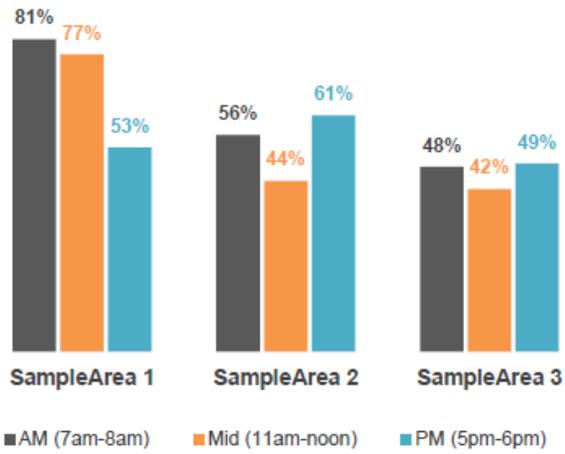
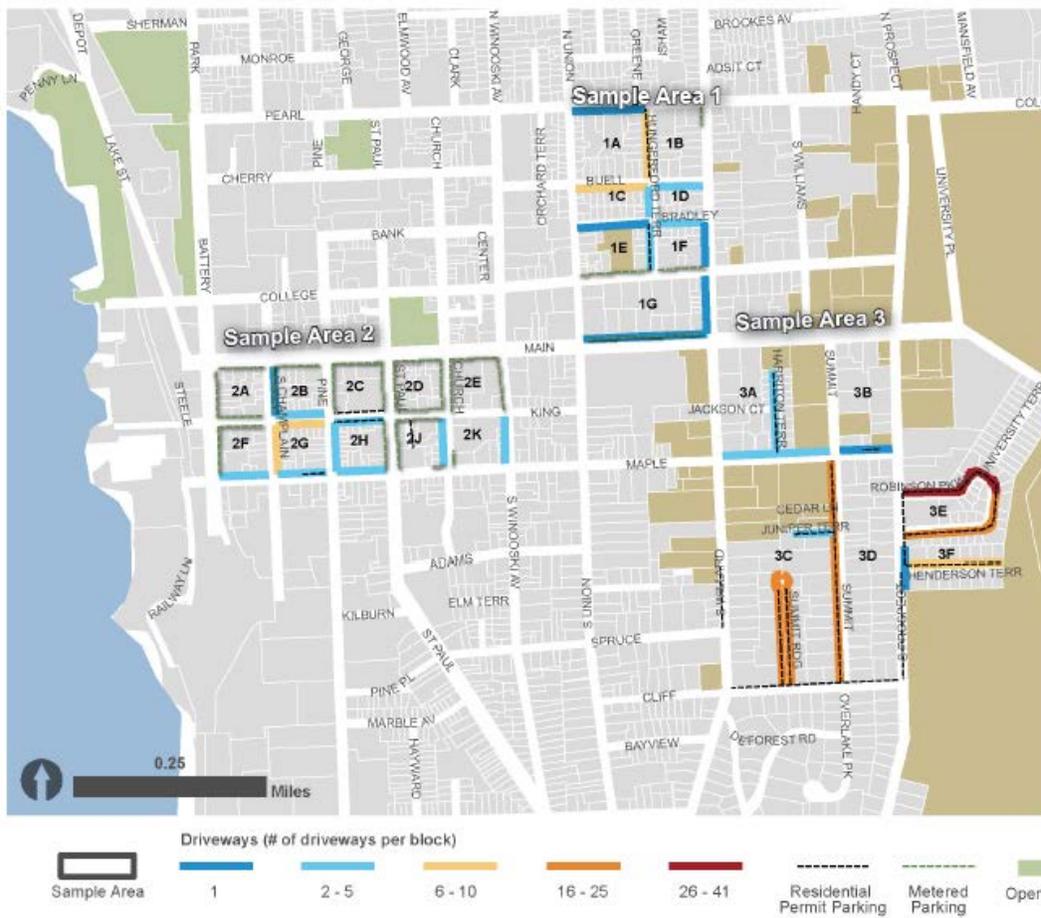


FIGURE 3.20 DRIVEWAYS CURB CUTS PER BLOCK



3.7 | RESIDENTIAL PERMITS

The consultant team analyzed residential parking permit data provided by the Burlington Police Department for permits issued during the period of January 2013 through the end of December 2013. The information provided the number of resident and guest permits issued and resident type by address. Although some blocks require permits for parking on-street, residents who live there do not necessarily apply for on-street parking, such as on the north end of Hungerford Terrace. This may be because the residents do not own vehicles or they have sufficient off-street options available, such as driveways, parking lots, or garages.

Figure 3.22 shows the number of resident and guest permits issued by address. Some addresses contain several apartment units, which accounts for why there are parcels that contain upwards of six permits.

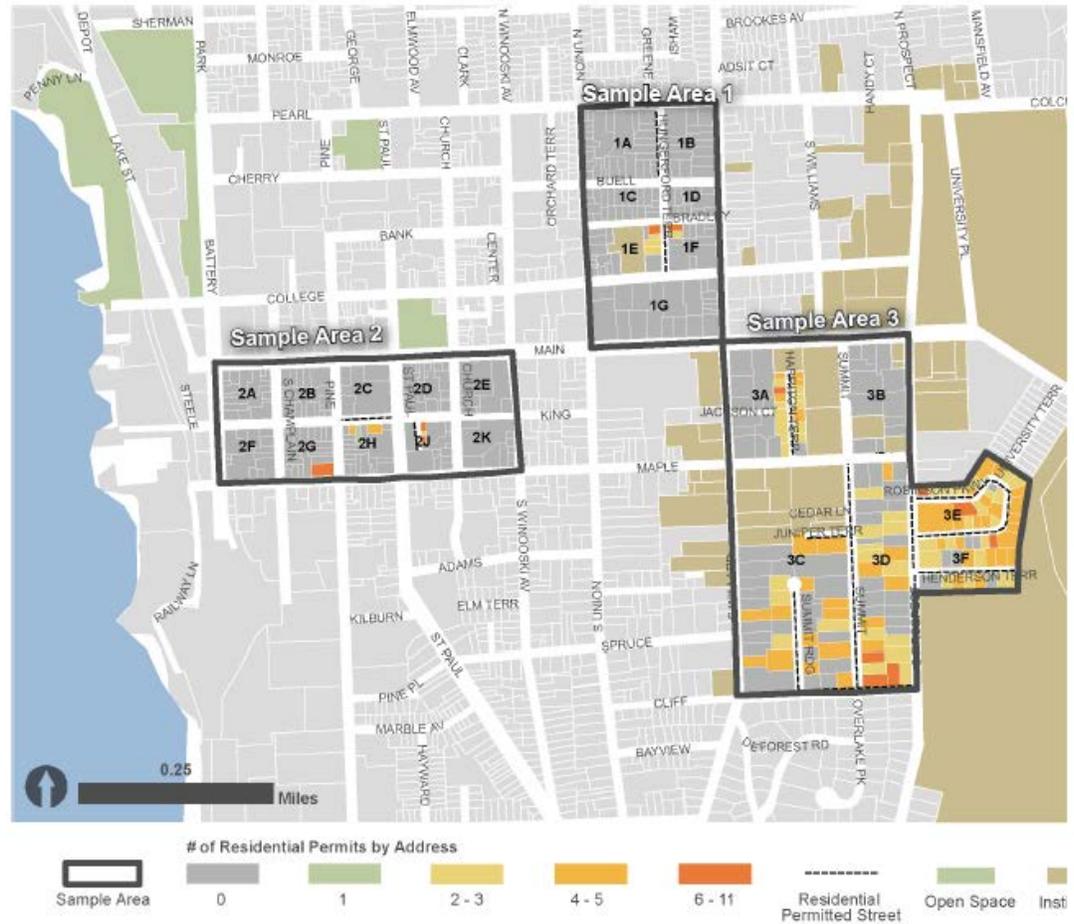
FIGURE 3.21 AVERAGE PERMITS ISSUED BY ADDRESS



For addresses that are on permitted streets.

- Sample Area 1:** This area requires parking permits only along Hungerford Terrace, totaling approximately 792 feet in permitted length, with on-street parking allowed only on the west side. The permit holders include a mix of owners and renters and students, and among the permit-holders, the average residence holds 2.6 resident parking passes and 2.2 guest parking passes per address.
- Sample Area 2:** This area requires permits on three block segments. In total, this area has 680 feet of permitted parking length. The permit holders are predominantly renters and no owners, and the average residence holds 2.4 resident permits and 2.3 guest parking permits per address.
- Sample Area 3:** This area has the most extensive residential parking permit program, with a total of 8,775 feet of permitted parking length in the sample area. The permit holders are primarily owners, with some renters, and a combination of both owners who live on-premises with renters, and the average residence holds 2 resident parking passes and 1.8 guest parking permits per address.

FIGURE 3.22 RESIDENTIAL PERMITS, BY ADDRESS



Source: City of Burlington Police Department, Parking and Parking Enforcement, 2013

As shown in Figure 3.23, Sample Area 3 has the greatest amount of residential parking permits issued out of the three study areas; this correlates with Sample Area 3 also having the highest supply of permitted on-street parking spaces.

IN SAMPLE AREAS 1 AND 2, THE NUMBER OF RESIDENT AND GUEST PERMITS ISSUED ARE ROUGHLY EQUAL, WITH SLIGHTLY MORE RESIDENT PERMITS THAN GUEST. SAMPLE AREA 3 HAS A SLIGHTLY LARGER SHARE OF GUEST PERMITS THAN RESIDENT PERMITS.

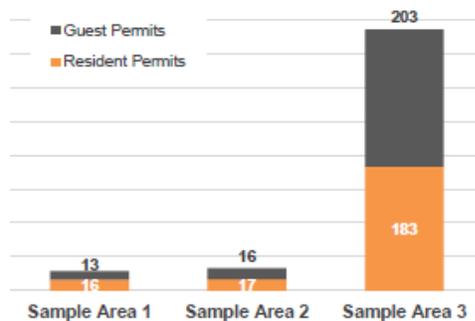


Figure 3.24 shows the amount of permits issued, both guest and resident over the total supply of on-street parking spaces in each sample area. All of the sample areas have issued more residential parking permits than there is supply of permitted on-street spaces, with the largest parking disparity in Sample Area 2 and a larger absolute difference in Sample Area 3.

FIGURE 3.23 RESIDENTIAL PERMITS ISSUED, BY TYPE

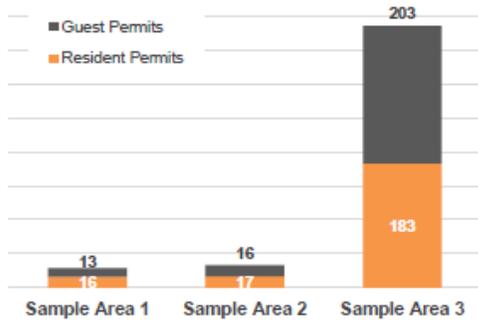


FIGURE 3.24 PERMITTED ON-STREET PARKING: SUPPLY VS. PERMITTED

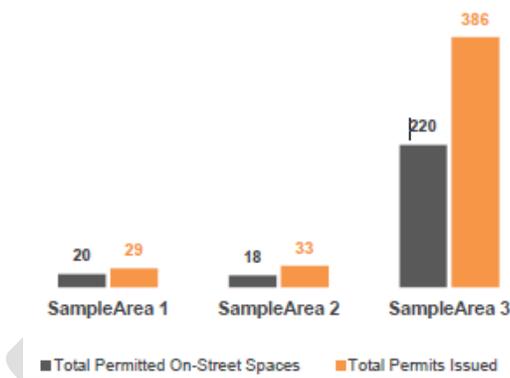
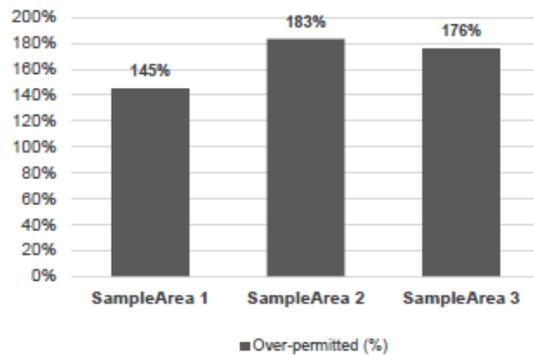


FIGURE 3.25 OVER-PERMITTED (%): SUPPLY VS. PERMITS ISSUED



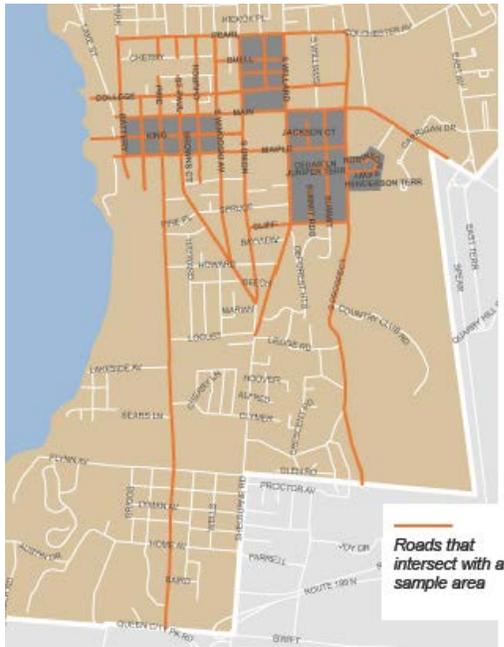
3.8 | PARKING VIOLATIONS

The consultant team received and analyzed data from Burlington Police Department for Citation Violations by Location Summary for the period between January 1, 2013 and December 31, 2013. There were a total of 6,593 residential parking violations city-wide in 2013, which generated \$494,475 in fines. The parking violation data was sorted by street and not block; therefore, the consultant team extracted data for those streets that intersected with the three sample areas for further analysis.

Although more violations typically led to more fines, certain streets within the sample study areas generate a greater number of parking ban, resident parking, or other prohibited parking violations, resulting in high revenues for the city while incurring fewer actual number of parking tickets. Both handicap and winter parking ban violations were among the highest fines by violation type, at \$125 per violation fine. For example, South Union Street, despite generating the tenth highest number of violations, incurred \$56,440 worth of fines, the sixth highest of the streets studied.

The impact that more expensive fines had on streets when fines and violations were normalized by their length revealed that Harrington Terrace, Browns Court, and Hungerford Terrace generated more fines due to more expensive fines for parking bans, resident parking violations, and lawn parking. The resident parking violations generated 575 fines in 2013 on Harrington Terrace, Browns Court, and Hungerford Terrace, which total 0.36 miles in length. S Union Street, three times the length of those streets combined, generated 420 fines in 2013.

FIGURE 3.26 SAMPLE AREA STREETS ANALYZED FOR VIOLATIONS



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FIGURE 3.27 SAMPLE AREA STREETS: TOTAL VIOLATIONS AND FINES

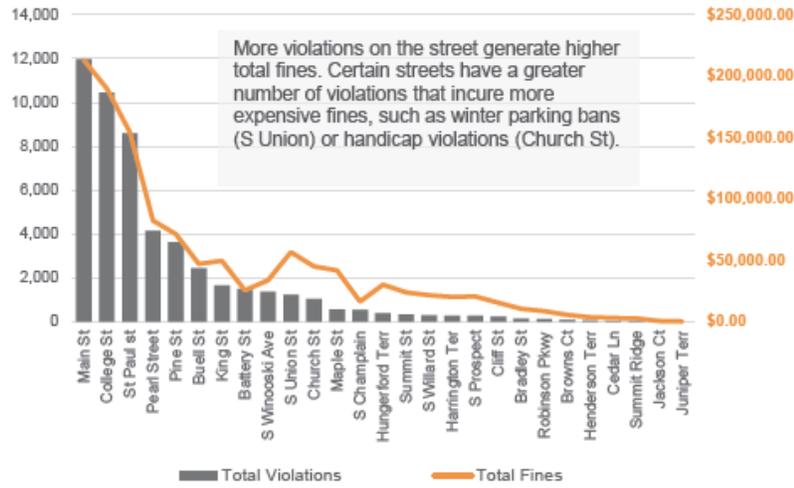


FIGURE 3.28 SAMPLE AREA STREETS: VIOLATIONS AND FINES PER MILE

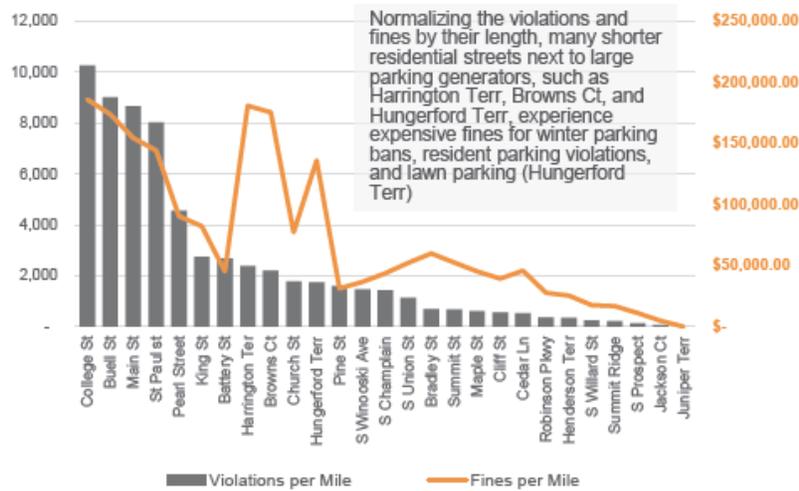


FIGURE 3.29 SAMPLE AREA STREETS: METER AND RESIDENTIAL VIOLATIONS

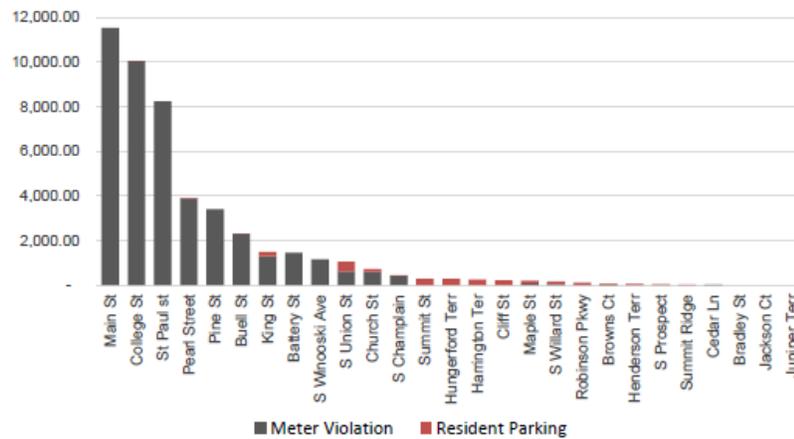
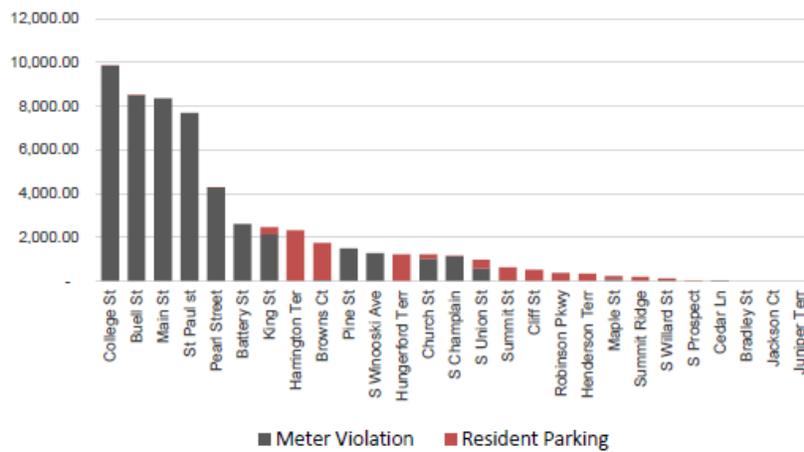


FIGURE 3.30 SAMPLE AREA STREETS: METER AND RESIDENTIAL VIOLATIONS, PER MILE



3.9 | CARSHARE VERMONT

The Car Share Vermont (CSVV) locations benefit the city by increasing access to automobile transportation for the people of Burlington. There are nine total car share locations surrounding the sample areas, with several located within walking distance of multiple sample areas. While there are no car share pods currently inside the three sample areas, there are four car share locations within a thousand feet of each sample area and three directly across the street from a sample area location. With several car share pods located less than a five-minute walk away for residents in each sample area, car share offers a viable option for students and other residents in the area.

CSVV provided car share utilization data from January 1 to November 3, 2014 that revealed a fleetwide average utilization of nearly seven hours per day. Shown in Figure 3.32, the car share vehicles adjacent to Sample Areas 1 and 2 were utilized for more hours on average than the pod located next to Champlain College in Sample Area 3. Car share members could reduce the parking burden in the sample areas by relying on car share vehicles for short-term, local trips, as opposed to adding additional vehicles to a residence.

FIGURE 3.31 CAR SHARE VERMONT

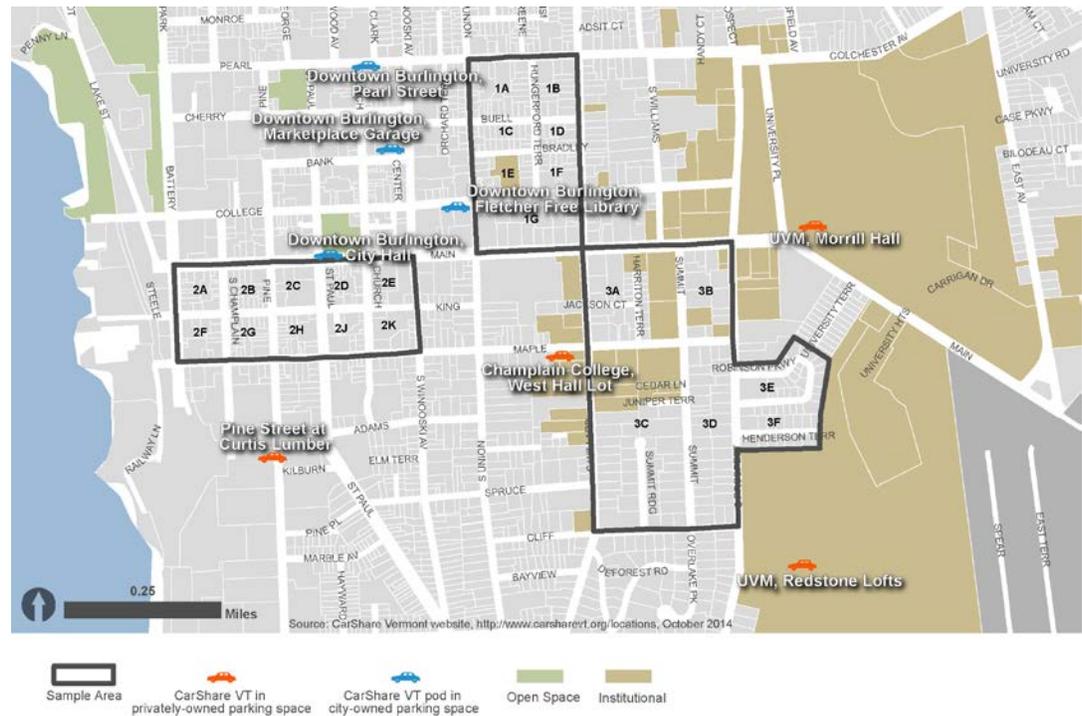
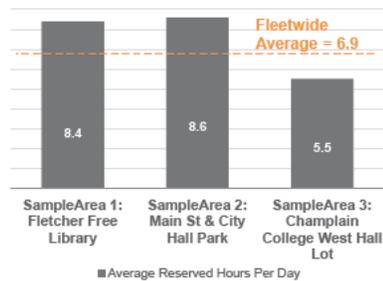


FIGURE 3.32 CAR SHARE POD YEAR-TO-DATE UTILIZATION



3.10 | SUMMARY FINDINGS

The following is a brief summary of the key findings from each of the three sample areas studied and feedback from the public meetings.

- Sample Area 1 - Downtown South Union and Willard:** This largely residential area has the highest average population density of the three sample areas and the majority of residents are renters. Sample Area 1 experienced the highest on-street parking utilization among the three areas studied, with over 80 percent of the residential on-street parking occupied throughout the day. The nearby Fletcher Free Library car share pod was also used for more hours per day than the average car share pod in Burlington, suggesting a demand for access to vehicles from this area. The findings are unsurprising given its proximity to downtown and UVM, combined

with relatively few on-street parking restrictions. Hungerford Terrace, the only permitted street in the Sample Area, produced 384 violations in 2013, 70% due to resident parking violations.

- **Sample Area 2 - Downtown King Street:** Sample Area 2 has the greatest mix in land uses, with a combination of large commercial blocks and retail activity wrapping around the edges of a dense residential neighborhood. This results in an area that has demand for on-street parking at various hours of the day at varying locations. Most of the on-street parking on commercial blocks are metered with 3-hour limits, which helps create turnover and limits overall occupancy. However, blocks with few or no parking restrictions continue to experience higher utilization rates during the day. Despite the walkable urban grid character, there is a clear desire for people to park directly in front of their destination. In the parking inventory count, despite equal costs, metered blocks alternated between being nearly fully occupied and virtually fully available depending on time of day.
- **Sample Area 3 - South Prospect and Summit:** Sample Area 3 is located adjacent to UVM and includes Champlain College, but has a far lower average population density and number of housing units compared to the other sample areas. This neighborhood consists mostly of single-family homes, and residents generally have access to available off-street parking in individual garages and driveways. Despite this, on-street parking is largely restricted by resident-only permits and there remains ample available on-street parking throughout the day for those with resident or guest permits. In 2013, Harrington Terrace, at the heart of the Champlain College campus, incurred the second highest amount of fines per mile in all three sample areas, with 255 resident parking violations issued. This suggests a desire for non-residents to park in portions of this sample area.
- **Public Feedback:** Residents who currently live within a residential parking program area were generally enthusiastic about the benefits that the RPP provides their neighborhood and were concerned with the possibility of changes to the program. Some Burlington residents were concerned that their neighborhood would not qualify for the RPP.

SOURCES

- Property Active Permit Counts by Street. January 1, 2013 to December 31, 2013. Provided by John King, BPD. September 4, 2014.
- Resident Parking Permits & Guest Passes by Address. January 1, 2013 to December 31, 2013. Provided by John King, BPD. September 4, 2014.
- CarShare VT. <http://www.carsharevt.org/> and conversations with Annie Bourdon, Executive Director of CarShare Vermont, on 10/5/2014 and 11/3/2014.

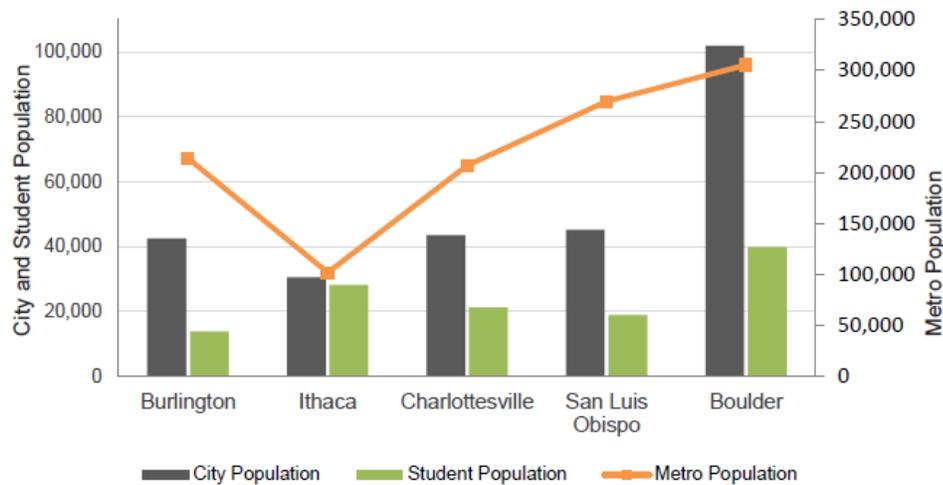
4.0 RESIDENTIAL PARKING BEST PRACTICES

This chapter summarizes the parking management strategies of other cities that were studied to highlight best practices in various innovative places around the country. Four cities were evaluated in further detail because they are comparable in population, size, and/or character to Burlington. They included: Ithaca, New York; Charlottesville, Virginia; San Luis Obispo, California; and Boulder, Colorado. All four of these cities have active downtowns adjacent to large academic institutions and share similar residential parking challenges as Burlington.

Burlington has a population of 42,282 in the city and 213,700 in the metro area, covering 15.5 square miles. The city is home to three major institutions: University of Vermont (UVM), UVM Medical Center, and Champlain College. In 2014, the total student population was 13,788:

- UVM (2014): 11,329 total (9,958 undergrad and 1,371 graduate)
- UVM Medical Center: 459 medical students
- Champlain College (2014): 2,000 students

FIGURE 4.1: COMPARISON OF BEST PRACTICE CITIES



4.1 | KEY LESSONS LEARNED

RESIDENT AND GUEST PERMIT COST

- **Burlington is unique in offering free residential parking permits.** Of all the cities studied, Burlington’s residential permit system is the only one that offers free permits for residents and guests. All four other cities evaluated charged an annual fee for resident permits.

FIGURE 4.2: RESIDENT AND GUEST PERMIT COSTS

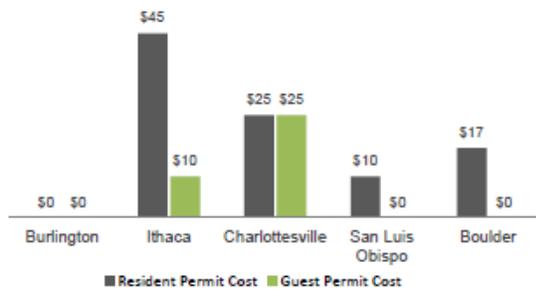


FIGURE 4.3: # OF RESIDENT AND GUEST PERMITS ALLOWED PER HOUSEHOLD OR UNIT

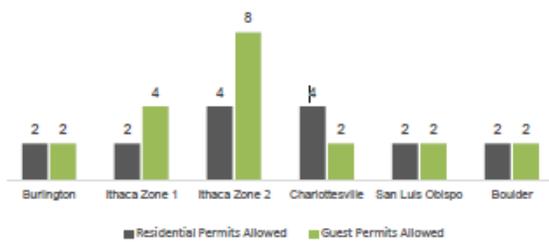
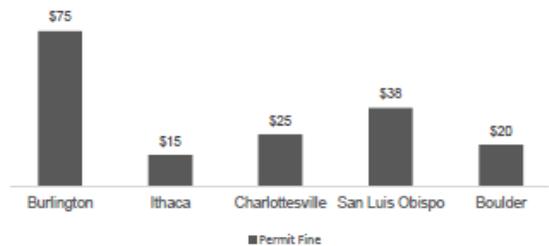


FIGURE 4.4: RESIDENT PERMIT VIOLATION FINES



NUMBER OF RESIDENT AND GUEST PERMITS ISSUED

- **Burlington is on par with other cities on number of permits issued per household.** The other cities in our best practices study also allowed for two to four resident permits per household or dwelling unit, and the majority allowed two guest permits per household or dwelling unit.

RESIDENTIAL PERMIT VIOLATIONS

- **Of the cities studied, Burlington has the highest fine for parking in a residential zone without a permit.** At \$75, Burlington’s residential permit violation is almost double that of San Luis Obispo’s (Figure 4.3). In 2013, the city generated \$166,350 in resident parking violation fines.

RESIDENTIAL PERMIT HOURS

- **Although most cities limit parking during business hours on weekdays, each city varies in the specific times when residential permits are in effect.** The pricing is unrelated to the amount of time restrictions. For instance, San Luis Obispo permits, despite being the cheapest, offer the most time for residential parking restrictions, as they also limit parking on weekends.
- **Permit hours generally address local variation in parking demand.** Permit hours tend to reflect times when parking preference should go to residents. For instance, most cities give preference to residents during working hours on weekdays in response to an overflow of business and/or visitor vehicles that were using neighborhood streets as all-day parking areas. San Luis Obispo has eight different parking times for the different residential districts in order to address varying parking demand, as determined by the city traffic engineer.
- **Several cities allow for two-hour visitor parking in non-metered residential zones.** Boulder, San Francisco, and Washington DC all allow free two-hour parking in residential zones that do not have meters so that visitors or students may make park for a limited amount of time to run an errand, pay a visit, or perform a task.

WHO GETS A RESIDENTIAL PERMIT?		
<p>In Burlington, VT:</p> <ul style="list-style-type: none"> • Homeowners, Renters, and Students • Guests of Residents 	<p>In San Francisco, CA:</p> <ul style="list-style-type: none"> • Special permits for contractors, vanpoolers, medical and child caregivers <p>In Pittsburgh, PA:</p> <ul style="list-style-type: none"> • Allows each business in a residential area one resident pass and one visitor pass. 	<p>In Boulder, CO</p> <ul style="list-style-type: none"> • Allows non-resident commuters to buy a permit for \$82 per quarter (\$328 per year) <p>In Berkeley, CA:</p> <ul style="list-style-type: none"> • Does not have to be a guest of a resident. Visitor passes are \$2.25 for one day or \$23 for 14 consecutive days

ESTABLISHING RESIDENTIAL PARKING DESIGNATION

- **Several cities have a system of implementation for residential parking zones that involves a minimum resident participation requirement.** The city government also undergoes a formal process in order to approve the implementation of residential parking areas. Since parking regulations impact residents, citizen participation is essential. Endorsement from more than half of participating residents is generally required to support changes to the parking process in their communities.

WHEN IS A RESIDENTIAL PERMIT REQUIRED AND HOW LONG DO THEY LAST?		
<p>In Burlington, VT:</p> <ul style="list-style-type: none"> • Majority of residential parking prohibits non-residents from parking at all times. • Residential Permits last 1 or 2 years from date of issue 	<p>In Washington, DC:</p> <ul style="list-style-type: none"> • Allows visitors to park for 2 hours free in one residential zone <p>In Ithaca, San Luis Obispo, Pittsburgh, Charlottesville:</p> <ul style="list-style-type: none"> • Have set expiration dates every year, based on the academic calendar 	<p>In Boulder, CO</p> <ul style="list-style-type: none"> • Allows 2-hour visitor parking near academic institutions and 3-hour visitor parking near downtown for businesses. <p>In San Francisco, CA:</p> <ul style="list-style-type: none"> • Allows part-year parking permits at a pro-rated rate

ADMINISTRATION AND ENFORCEMENT

- **Many college towns issue permits based on the academic calendar year.** From an administrative perspective, it is easier to have all permits expire at the same time every year. For example, Ithaca’s parking permits are good from August 1 through July 31. Charlottesville issues their permits beginning on September 1.
- **Residential permits are enforced through fines.** Several cities studied also issue a residential permit similar to Burlington, with a bumper sticker or a pass in the car that is numbered and coded by zone or street.
- **Some cities issue residential permits that are directly tied to the vehicle, while others are tied to the owner and can be transferred between vehicles.** For example, Ithaca’s database allows police to use license plate recognition to identify whether a car is permitted or not simply by driving past them. This technology enables easier enforcement of permit parking. San Luis Obispo allows residents to transfer their permit between vehicles. A system like Ithaca’s enforcement through an electronic database of vehicles registered with a permit would not be possible for transfer between vehicles.
- **Charlottesville has an owner-agent system for student parking permits.** By allowing the option to give property owners a number of permits for distribution to their tenants, the city gives owners increased responsibility and does not have to account for student permits.

WHAT DOES A RESIDENTIAL PERMIT LOOK LIKE?		
In Burlington, VT: <ul style="list-style-type: none">• A bumper sticker that expires in 1 to 2 years from date of issue• A windshield guest pass that expires in 1 to 2 years from date of issue 	In Ithaca, NY: <ul style="list-style-type: none">• Assigns a permit to a unique vehicle license plate number and uses license plate readers for permit enforcement. In San Luis Obispo, CA <ul style="list-style-type: none">• Issues annual permits that become property of the owner and can be transferred between vehicles.	In Boulder, CO <ul style="list-style-type: none">• Enforces by examining permits, which are numbered and color coded by zone.

TRANSPORTATION DEMAND MANAGEMENT MATTERS

Transitioning a street to a residential permit street or zone will likely go more smoothly if the city and/or institutions have a well-developed transportation demand management strategy that may include improved transit and pedestrian and bicycle infrastructure. For example, the creation of Ithaca’s residential permit system forced many Cornell students and faculty to find alternative transportation methods instead of parking in residential neighborhoods near campus. The bus system offered by the university offered students and faculty a reliable alternative to driving.

SIGNAGE AND WAYFINDING MATTER, TOO

In order to successfully deter non-residents, clearly marked signage is necessary in residential permit areas. Ithaca, Boulder, and San Luis Obispo all address the importance of adequate signage in their residential parking documentation.



4.2 | ITHACA, NEW YORK

The City of Ithaca has a population of 30,000 (2010) and 101,560 in the greater metro region. The City covers 6 square miles and is similar in climate to Burlington. The student population in 2014 was 27,400 (21,000 at Cornell and 6,400 at Ithaca College).

REASON FOR RESIDENTIAL PERMIT PARKING SYSTEM

A main reason for the development of Ithaca’s Residential Permit Parking System (RPPS) was to alleviate the burden placed on Ithaca’s residents that resulted from Cornell students and faculty. Students and employees avoided the costs of Cornell parking lots by parking in nearby residential neighborhoods and walking to campus. With many Ithaca residents lacking driveways, the shortage of on-street parking negatively influenced their quality of life. The RPPS has helped these residents by restricting the usage of residential on-street parking, encouraging Cornell students and staff to utilize the effective bus system that the University offers. Another motivation of the program was to incentivize property owners to provide off-street parking for their tenants. However, at \$45, the permits offered through the RPPS have been the least expensive parking option since its implementation. The program has actually taken pressure off of property owners, as their tenants have relied on the new permit system.

PETITION PROCESS

- The petition may be requested from the City Clerk’s Office, and when returned must be signed by at least 51% of the eligible residents in the proposed permit block in order to qualify for inclusion in the permit system. All eligible residents signing the petition must be at least 18 years of age.
- In an R1 zone, not more than one resident per tax parcel shall be permitted to sign the petition for the establishment of the permit system. In an R2 zone, not more than one resident per dwelling unit or two residents per tax parcel, whichever is fewer, shall be permitted to sign the petition for the establishment of the permit system.
- A block petitioning for the permit system must hereby meet certain minimum requirements with respect to parking occupancy. The City Traffic Engineer will conduct a parking survey over two separate days during average weekly peak hours to determine that at least 75% of the legally available parking spaces are being utilized.

IMPLEMENTATION

To keep track of permits, Ithaca has a database that records the information of vehicles with a permit. This database has a dual purpose, as it links to a license plate reader system that allows enforcement vehicles to determine whether a car has a permit or not simply by driving past the vehicle. Permitted vehicles also have a permit sticker affixed to their window.

Residents hope to discourage long-term parkers. Signs prohibit the public from parking in residential zones during certain hours of the day, on Monday through Friday. For instance, only residents with permits may park from 9 AM to 1 PM on certain streets. The prohibited parking times vary from street to street based on the size of the streets. If a street is only large enough for parking on one side, then half of the block will be signed “No Parking 9 am – 1 pm” and the other half of the block will be signed “No Parking 1 pm – 5 pm.” This unique signage system gives residents priority parking on different sized streets during the workday. There are progressive tickets for violators so that the fines rise based on how frequently a vehicle illegally parks.

Ithaca has two different residential zones, based on housing density. In residential zone 1, two permits are allowed, and in residential zone 2, four permits per property are allowed. Each resident may have four guest permits at a price of ten dollars each. Residential zone 1 may have up to eight guest permits, and residential zone may have up to sixteen guest permits.

SOURCES

- <http://www.cityofithaca.org/departments/clerk/resparking.cfm>
- Email correspondence with Julie Holcomb, City Clerk, City of Ithaca.

4.3 | CHARLOTTESVILLE, VIRGINIA

The City of Charlottesville has a population of 43,475 in the city and 206,615 in the greater metro region. The City is 10 square miles.

Student Population: 21,238 (14,898 undergrad, 6,340 grad) at University of Virginia and 5,684 undergrads at Piedmont Virginia Community College

REASON FOR RESIDENTIAL PERMIT PARKING ZONES

The City of Charlottesville instituted residential parking zones in order to address issues of traffic, pollution, noise levels, and other negative environmental impacts. By establishing these nine parking zones, the city also intended to maintain the character of the residential areas. With this dual mission, citizens and city officials worked together to determine the areas that would best benefit from the implementation of these permit parking zones.

PETITION PROCESS

The city does not have a formalized process for petitioning for permit parking.

ADDRESSING STUDENT PARKING

Charlottesville instituted a unique owner-agent system specifically to address student parking. The system allows property owners to pick up and control the distribution of up to 50 permits for their building. The owner gives the city a list of people whom they issue permits to, and the city gives the owner responsibility to issue permits. The city is not responsible for validating who receives permits and whether or not they are qualified to receive one. Not all owners choose this process, but the owner-agent option allows property owners to have more control over their tenants, while alleviating the city of additional administrative burden.

IMPLEMENTATION

Residents may apply through the city treasurer's office for a \$25 annual permit. No more than four permits are issued per household, with some exemptions for multi-family units. Permits enable residents to park from 6 AM to 5 PM from Monday to Friday, unless otherwise stated. Most streets have significantly less demand after 5 PM, as permits are meant to restrict commuters and students who park during normal business hours. However, there are a few areas in which parking demand is high throughout the day that the permit restrictions apply at all times because there are few parking spots available. Permits are issued annually, starting on September 1st to coincide with the academic calendar. Office administrators in the treasurer's office keep track of residential permits in a parking database.

SOURCES

- Code of ordinances (Section 15-201 to Section 15-205)
- Charlottesville Zone Parking Permits:
<http://www.charlottesville.org/Index.aspx?page=430>
- Email and phone correspondence with Jason Vandever, Charlottesville City Treasurer

4.4 | SAN LUIS OBISPO, CALIFORNIA

The City of San Luis Obispo has a population of 45,119 in the city and covers nearly 13 square miles. It is the home of Cal Poly San Luis Obispo, which has a total student population of 18,762 with an undergrad population of 17,725 and grad population of 1,037.

REASON FOR A RESIDENTIAL PARKING DISTRICT

The city created residential parking districts for two main reasons. One is if residents live in an area that is predominantly residential and the availability of on-street parking is limited due to the high demand from users who do not reside in the neighborhood. A second is if residents want to preserve the character of the existing neighborhood by limiting the on-street parking to only residents in the neighborhood.

The City Council considers the negative impact of the vehicles parked by persons not residing in the area on: a) environmental characteristics such as ambient noise levels and air

pollution levels; b) pedestrian and vehicular traffic safety in the area; and c) the burden on persons residing in the area gaining access to their residences.

PETITION PROCESS

- At least three neighborhood residents interested in forming a parking district schedule a meeting with Parking Services to obtain assistance.
- If warranted, the three residents begin an informal survey in the neighborhood.
- If there are more than 50% of the households in favor of pursuing a parking district the City will hold a meeting to answer questions asked by the residents. The City will then mail out a formal survey with self-addressed envelopes to determine the final percentage of those in favor and those who are not in favor of the Residential Parking District. It takes a 60% majority of the households in the affected area. If you fail to answer the survey it will not be counted in the determination of the percentage of those in favor of or against the Residential Parking District.
- If that threshold is met during the formal survey, the Residential Parking District will be forwarded to City Council for consideration.

IMPLEMENTATION

If the City Council grants permission for a Residential Parking District, then the city traffic engineer will direct the posting of signs. These signs will indicate the limitation on the parking of vehicles in the area and the times and days in which this limitation will be in effect. Different areas of the city have different time requirements, with many areas enforcing seven days a week. The Director of Public Works issues permits annually, with no more than two permits issued per dwelling unit. These permits become property of the owner, and they can transfer parking permits between whichever vehicle they wish. Police enforce parking permits on a routine basis, as well as on a complaint basis by residents. Fines to park in a residential zone during limited hours are \$38.

SOURCES

- San Luis Obispo Parking Services: <http://www.slocity.org/publicworks/resdist.asp>
- Email and phone correspondence with Rebecca Cox, San Luis Obispo Parking Services

4.5 | BOULDER, COLORADO

The City of Boulder is slightly more than double the size of Burlington, but maintains a small college town character and often share the top college town lists with Burlington. The City of Boulder has a population of 100,230 in the City and the average work commute is 15 minutes. The total student population at University of Colorado Boulder is 31,702.

REASON FOR THE NEIGHBORHOOD PERMIT PARKING PROGRAM

Neighborhoods with Neighborhood Permit Parking (NPP) zones balance residential parking with visitors and commuters. Commuters, members of local universities, hospital staff, and

public high school students make it difficult for residents to park in their neighborhoods. Through varying enforcement times and diverse parking areas, restrictions of each NPP zone are unique to specific areas. By accurately balancing parking needs, these NPP zones make Boulder neighborhoods ideal residential areas.

PETITION

To be eligible for a NPP zone, neighborhoods must have a minimum of 25 residents apply by petition. This petition enables action from the city to initiate the process for creation of a new zone. The process involves these actions from the city:

- A parking survey and collection of information that assess the need for an NPP zone
- A draft proposal that includes zone boundaries, the type of zone, recommended parking restrictions, permits available, and other details
- A potential neighborhood meeting to give input towards the proposal
- A modified proposal, after input from the public
- A public hearing before the Transportation Advisory Board in order to review the proposal
- Board recommendations and public hearing comments forwarded to the City Manager for review
- A final decision from the City Manager regarding the zone, which will be given to the City Council

IMPLEMENTATION

Each zone has a different time of enforcement, but most zones operate during business hours or weekdays. In NPP zones, those without a permit may park, but only once during the day for no longer than a specified time limit. In zones near academic institutions, there are 2-hour limitations to account for students with a typical class schedule. Near the downtown, there are 3-hour limitations to account for business needs. The downtown also has parking lots to account for higher parking demand in this area. Law enforcement can check a vehicles' eligibility to park by examining their permits, which are numbered and color coded by zone. Signs should indicate the type of permit required, based on which zone they are in, the hours of enforcement, and the parking time limit.

Businesses located in a Neighborhood Permit Parking zone may purchase up to three business permits for use by its employees for \$75 per year. Large businesses may apply for additional employee parking permits. Nonresident commuter permits are available on a limited basis and specific to one neighborhood parking zone block. Costs \$82 per quarter for each permit.

SOURCES

- Boulder Neighborhood Parking Program: <https://bouldercolorado.gov/parking-services/neighborhood-parking-program>
- Email and phone correspondence with Kurt Matthews, Boulder Parking Services

5.0 RESIDENTIAL PARKING RECOMMENDATIONS

The residential parking study recommends maintaining Burlington’s Residential Parking Program (RPP), and making improvements so the program is more transparent, manageable, and responsive to unique on-street parking needs in residential neighborhoods.

This chapter presents the 14 residential parking strategies, three of which are block-specific strategies that require further analysis for implementation. Of the recommended strategies, 15 are new to the City of Burlington. This study also recommends strategies and methods for establishing or reallocating new residential blocks, but **does not propose removing any current resident-only permitted streets**.

The strategies are intended to allow for flexibility over time, with general improvements at the citywide level, as well as block-specific strategies to address particular parking needs in specific neighborhoods. Each strategy contributes to addressing one or more community objectives, which are:

- **Balance Parking Needs:** Balance the needs of those who park on Burlington’s streets, including residents, visitors, and commuters.
- **Consider Limited Land Resources:** Consider the highest and best use of the space that public on-street parking occupies.
- **Account for Unique Neighborhood Needs:** Recognize that each neighborhood and block is unique and the residential public parking program accounts for the area’s character and needs.
- **Apply a Data Driven Approach:** Use empirical metrics to measure parking trends and the utilization of parking spaces within neighborhoods.
- **Is Fair and Transparent:** Provide clear guidance to the City, the Public Works Commission, and to all Burlington residents and visitors on how residential permit areas are objectively established and how to allocate for future residential permit areas.
- **Is Market-Responsive:** Develop a residential parking management plan that is sensitive to changing demographics, land uses, and the character of the built environment.

5.1 | CATEGORIES OF RESIDENTIAL PARKING STRATEGIES

The recommended residential parking strategies generally fall into four categories. They are:

Technology

These are systems or technological applications that are designed and developed to enhance residential parking communications and simplify the parking administration process.

Parking Experience

These are part of ongoing physical infrastructure and transportation demand management (TDM) improvements that will help reduce parking demand near high parking generators and enhance wayfinding.

Permits & Pricing

These are recommendations to account for administration and enforcement costs from those who benefit from the program, as well as encourage residents to be thoughtful about parking as a limited land resource. They also take into account the parking needs of non-residents on some RPP designated streets and the potential revenue that can be generated from parking in the public right of way.

Administration and Petition Process

These are recommendations to enhance the governance and management of residential parking permits in order to streamline the registration, renewal, monitoring, and enforcement of residential parking. They also provide clear guidance on how residential permit areas are objectively established and provide a methodology for allocating or reallocating future residential permit areas.

5.2 | EXISTING RESIDENTIAL PARKING STRATEGIES TO MAINTAIN

The City must continue to make physical, administrative, and capital improvements in order to maintain the success of the program. The following four existing strategies are crucial to an effective long-term parking program. Each strategy includes a description of case studies from other cities where similar strategies are successfully deployed.

STRATEGY #1: ENCOURAGE AND IMPROVE SUSTAINABLE TRANSPORTATION MODES

In order to provide the foundation for sustainable growth and transportation, the City must provide options for non-single occupancy vehicle (SOV) trips, which will to reduce traffic and demand for on-street parking.

Category

Parking Experience

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources

Discussion

The City of Burlington should continue to enhance its comprehensive system of transit routes, pedestrian facilities, and bicycle routes to encourage a sustainable transportation system that does not rely on SOV's and on-street parking. Increased membership in CarShareVT will help reduce car ownership. The City must also continue to plan for long-

term multi-modal transportation and parking coordination. High ridership facilitates a transit system that is comprehensive, frequent, and economical.

To this end, the Chittenden Area Transportation Management Association (CATMA) is a partner to the City, area institutions, and local transit and transportation organizations to coordinate TDM strategies. In 2014, the City received grants from the High Meadows Fund and the Chittenden County Regional Planning Commission (CCRPC) to prepare and implement a Transportation Demand Management (TDM) Action Plan in order to identify employee strategies and policies to decrease SOV commutes. For example, one strategy is to allow City employees to relinquish their City-provided parking permit in exchange for cash. This reduces City costs and opens up a parking space for someone else. These strategies should be expanded to provide comprehensive TDM services across all major employment centers, including the institutions, Downtown, and the South End, and a portion of ticket revenue should be allocated to fund TDM, transit, and active transportation modes.

A frequent complaint is that parking related to the institutions spills over into nearby residential neighborhoods. The institutions should continue to discourage SOV trips through work with CATMA and other TDM polices.

The City is also exploring an expansion of the Downtown Improvement District, which would encourage active transportation and a move away from SOV trips. This effort should be coordinated with parking and transportation services to reduce parking burdens on residential neighborhoods.

Case Studies

Ithaca, NY

Cornell University offers their regular employees the option to forego or relinquish and return a parking permit and join the OmniRide commuter program instead. OmniRiders receive free, unlimited travel on any transit bus within the county, a \$600 value annually. Transit riders outside of the county can also join OmniRide by paying a discounted rate for a pass for use on their county's transit system. OmniRiders can take advantage of park-and-ride lots that offer bus services from 11 parking lots to campus.ⁱⁱ

San Luis Obispo, CA

At California Polytechnic State University, a certain portion of parking ticket revenue must go towards TDM solutions. In the 2014-2015 academic year, there was approximately \$650,000 total revenue from parking tickets, according to the Assistant Director of Business Services at University Police Department (UPD) Marlene Cramer. A majority of the revenue, approximately \$400,000 (62 percent), is paid to San Luis Obispo (SLO) Transit, which allows students, faculty and staff to ride the buses for free.

“A lot of people think that the city is providing transit as a gift to the university,” Associate Director of UPD Cindy Campbell said. “The city actually works with us to provide convenient service to Cal Poly. We contract with the city for the service, but we pay for it with parking citation revenue. It's not free.”

In the parking fines, there is a \$13 charge toward state-mandated fees, so \$188,000 (29 percent) goes to the state and does not go to the institution, Cal Poly. After that, the school is left with approximately \$60,000 (9 percent) in citation revenue. Most of this is used for TDM at Cal Poly, such as the escort van, Regional Transit Authority (RTA), rideshare and vanpool.ⁱⁱⁱ

By mandating that a portion of parking revenue go towards transportation demand management solutions, the university starts the shift towards more sustainable options than SOV travel. The mandate both discourages car users by enforcing parking rules and encourages healthier transportation options through investment.

Boulder, CO

Similarly, Boulder uses parking revenue to fund TDM solutions—although the process is not as direct. In Boulder, revenue generated from permit fines goes towards the City’s general fund. Over a million dollars out of the General Fund go towards TDM including transit passes for people who live in the residential permit districts. Therefore, people who are paying to park through permit fines pay for people who choose healthier transportation options, discouraging on-street parking and investing in TDM options.^{iv}

STRATEGY #2: ENCOURAGE SATELLITE PARKING ON CAMPUS AND INCENTIVIZE PARKING IN REMOTE LOTS

Incentivize use of satellite parking as part of a long-term transportation demand management strategy. This strategy is especially important for managing student parking demand. Students typically use their car infrequently, and should be encouraged to park in a remote lot, instead of long-term, on street.

Category

Parking Experience

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources

Discussion

Burlington has a significant college/university presence, with major institutions including Champlain College, University of Vermont (UVM), and UVM Medical Center. UVM has 3,650 undergraduate students who live off-campus, with an estimated 2,200 of those students living in Burlington.^v While student renters have the same residential parking rights as any other renter living in the City, one key way to manage on-street residential parking, particularly in densely student populated areas, is to discourage students from bringing their cars in the first place. Students tend to use their cars less frequently than residents who drive for work on a daily basis, so their cars end up sitting on neighborhood blocks for long periods at a time, preventing needed turnover of spaces for other users. To this end, the city should continue to coordinate with the institutions to provide convenient satellite parking

options, shuttle/bus service to downtown or campus, and financial incentives (such as gift certificates to the campus store) to encourage student participation.

UVM, UVM Medical Center, and Champlain College currently all provide park and ride facilities at Lakeside Ave Lot (formerly the Gilbane Lot). All three campuses provide free off-site parking for their employees, staff, and students and CATMA coordinates with CCTA on its satellite commuter routes.^{vi} UVM currently prohibits all first-year students from bringing a car to campus, with the exception of a proven medical need. There is also no free parking on the University campus, with the exception of handicapped parking, and the policies are designed to encourage use of other transportation modes besides driving. The University and colleges provide free transit passes, CATMA memberships, car share privileges, and up to eight emergency taxi rides home. It is important to keep these practices in place.

According to Association for the Advancement of Sustainability in Higher Education, one of the most popular ways to cut down on congestion is to close off central areas of campus to cars. This isolates traffic flow around the perimeter of the campus, where satellite parking lots are located. An investment must be made in alternative parking areas, and larger schools may need a public transit option, which UVM currently has. In the long term, there are likely significant savings in reducing the need for road maintenance within the campus.^{vii}

Similar to the institutions, downtown businesses should encourage their employees and customers to utilize park-and-rides and satellite lots. Shuttles from these lots or free transit passes would likely be needed to bring people the last mile. The City's Downtown Parking Study will have additional information on reducing parking needs downtown.

Case Studies

Ithaca, NY

Cornell University offers its faculty and staff a tiered, permit parking system, where employees pay different rates based on the privileges they receive. The outer tier is free, and it grants permit holders access to outer lots with free bus service, which comes every ten minutes. However, there are only limited spots at this tier. The perimeter tier costs \$359.85 annually, and it grants permit holders access to slightly closer perimeter lots. The mid-campus tier permits cost \$575.02 annually for mid-campus locations, in addition to perimeter and outer lots. The central tier costs \$806.32 annually for access to perimeter and outer permit lots, student residential permit areas, and a complimentary 30 minute loading permit. These prices are significantly more than UVM's parking prices; however, due to their differing pricing structure, a direct cost comparison is not possible.

For Cornell students, parking is mostly limited to perimeter lots. Resident students pay \$752.86 annually, and commuting students living off campus can opt for a cheaper permit, which offers less flexibility in lot choice at \$359.85 annually. Some permits that resident students can buy also provide OmniRide services that provide free use of public transit. OmniRiders can take advantage of the 11 park-and-ride lots that have bus routes that pass through them on the way to campus.^{viii}

Charlottesville, VA

University of Virginia (UVA) uses T2 Flex to manage its 16,000 parking spaces in 11 garages and its large surface lot inventory. UVA students living on campus have the option to purchase a \$228 annual permit, which grants them access to free transit and a 1,200-space, satellite lot. Students living off campus can purchase a \$228 annual permit, which grants them access to free transit and a choice between several lots.^{ix}

Boulder, CO

University of Colorado at Boulder offers its employees four “shuttle lots” that have a tiered proximity pricing system that charges different prices based on the distance between an employee’s office and their parking lot. Even though pricing discourages faculty and staff from parking closer to their office, still two-thirds of campus permit holders pay the highest rate, \$53/month, to park relatively close to their primary workplace. One-third pay a lower rate, as low as \$13/month, to park further away – some out of choice to save money or because they don't drive very often, others because there is not enough close-in parking near their workplace to accommodate them. Employees apply to for shuttle lots through a parking liaison, and parking fees come directly out of employee’s salaries. Shuttle trips typically last 7 minutes, and the shuttles arrive every 10-15 minutes.

One of the four “shuttle lots” offers free parking and shuttle service through Denver’s RTD park-n-ride service. This lot is usually over 50% empty.^x

Denver, CO

Denver’s RTD offers over 70 Park-n-Ride locations that provide cheap transportation from parking lots throughout the metropolitan area, including locations in Boulder. Over half of the lots are free for residents who are parking for 24 hours or less.^{xi}

STRATEGY #3: ESTABLISH RESIDENTIAL PARKING PERMIT PERIODS BASED ON PARKING DEMAND

Specifying hours, days, and/or months when residential parking permits apply addresses local variation in parking demand.

Category

Administration

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources
- Account for Neighborhood Need
- Apply for a Data Driven Approach

Discussion

The time limits, by hours or days or the week, should account for the particular needs of its residents, visitors, and commuters. The recommendations of the residential parking program

are intended to manage the City's limited public parking resource. Central to the goal is the need to balance the demands of all those who wish to park on Burlington's public streets.

The parking generators throughout the City vary by time of day, and day of week. Therefore, the residential parking permit hours must correspondingly address the unique parking patterns of each neighborhood. At times when there is not a high demand for parking from non-residents, the City would not need to expend additional staff time and resources to enforce parking restrictions in those areas.

It is important to acknowledge other parking management approaches outside the RPP that can be useful in areas with high parking demand, especially those residential areas proximate to commercial activity, or mixed-use areas (see Section 5.4 |).

Case Studies

Ithaca, NY

The City of Ithaca only enforces permit requirements from Monday to Friday between 9 AM and 5 PM, excluding holidays. Street signage displays the restricted hours. Alternatively, residents can petition the City Traffic Engineer to install restriction signage on their streets. This petition process is appropriate for blocks that would like the benefits of time restricted parking for their street without being involved in the permit system.^{xii}

Charlottesville, VA

Hours restricted to only permit holders vary based on location. Most downtown areas authorize restricted parking regulations from 6 AM until 5 PM as parking demand is highest during normal business hours. However, the hours are extended in some zones that have limited spots at any point of the day.^{xiii}

City Council ultimately approves or denies proposed restricted parking areas, and they determine if the proposed area necessitates extended hours. To make their decision, the council considers recommendations provided by the traffic engineer based on a three-day parking survey, the director of neighborhood development services, the city manager, or other individuals. After the traffic engineer mails residents living in the restricted area about their decision, new permit parking areas will be marked with signs indicating the restricted hours.^{xiv}

San Luis Obispo, CA

San Luis Obispo has nine Residential Parking Districts, all with different restricted hours. Hours can even vary within the district based on specific demands.^{xv} For example, in the newly implemented Mission Orchard district, Parking Services staff conducted car counts various times throughout a random weekday. They found that the proposed hours of 6 am to 6 pm on weekdays would be best because of the non-resident students, teachers, and employees that typically parked in the district. Since the residents play a large role in determining which times are peak hours, the City is alleviated of the costs associated with conducting extensive parking counts in areas they may not be familiar with. The system also ensures resident buy-in, and thus, they are more likely to be satisfied with the permit hours.^{xvi}

Boulder, CO

Boulder has ten different neighborhoods with permit parking that have slightly different enforcement hours. Most are from Monday to Friday between 8 AM and 6 PM or between 9 AM and 5 PM. The petition process, which involves conducting a parking survey and formulating a draft proposal with permit times, takes at least 7 hours of staff time at \$20 an hour.^{xvii}

STRATEGY #4: CLEAR SIGNAGE

Install user-friendly signage to explain residential parking restrictions by time, day, and/or location. Signage can also help point drivers to suitable alternative public parking areas.

Category

Parking Experience

Primary Goals

- Is Fair and Transparent

Discussion

Clear signage is instrumental to ensuring that all drivers understand the parking restrictions, time limits, and location of regulated on-street spaces. Wayfinding signs can also make it easier, particularly for visitors and other non-residents, to find suitable parking elsewhere. Signage can help reduce the need for heavy enforcement by preventing non-residents from accidentally parking on restricted residential blocks in the first place and redirecting them to appropriate locations where possible.

Signage and pole maintenance is also a relatively inexpensive way to improve residential parking management. Currently in Burlington, on a typical 500' block with good visibility and parking on one-side of the street, sign installation costs roughly \$506 for small signs and \$606 for larger signs.^{xviii}



FIGURE 5.1: EXAMPLE CLEAR PARKING SIGNAGE

Case Studies

Ithaca, NY

Ithaca’s Public Works Department is in charge of sign construction. Through the General Fund, the department puts about four signs on each street. Each sign costs \$25 and typically lasts 5 years.^{xix}

Boulder, CO

Boulder’s city manager appoints a traffic engineer who is responsible for constructing residential parking signs, among other duties.^{xx} It typically costs \$100 per sign, and two signs on block faces.^{xxi}

Charlottesville, VA

Charlottesville’s Public Works Department designs and installs signs with funding from the General Fund. Because most of their signs are simply replacements of signs that have already been designed, costs are minimal.^{xxii}

San Luis Obispo, CA

The City’s Streets Maintenance Division installs and maintains all road signs in San Luis Obispo, including those that designate restricted parking hours in Residential Parking Districts. The Streets Maintenance Division bills Parking Services for the installation and payment of physical signage. In May, 2014, the residents of Mission Orchard successfully petitioned to become a Residential Parking District. This parking district includes portions of a five block area. Parking Services paid \$21,000 to buy signs, sign posts, installation labor, permit printing, and any miscellaneous items for the newly installed district.^{xxiii}

5.3 | RECOMMENDED NEW RESIDENTIAL PARKING STRATEGIES

Nine new **citywide** residential parking strategies were developed through the course of this study through analysis and public input. They are based on the City's goals to better manage Burlington's on-street parking assets in order to balance the needs of residents, visitors, and businesses. They are designed so that each strategy can be applied independently to allow for flexibility and phasing based on resources and political will.

It is important to note that the parking recommendations are intended to be implemented as part of the City's comprehensive plan to reduce overall dependence on the SOV and be thoughtful about the use of on-street parking. The overarching comprehensive goal is a sustainable and desirable transportation network throughout Burlington.

STRATEGY #5: ONLINE AND/OR MAILED RESIDENTIAL PARKING RESOURCES

In the short-term, allow residents living in residential parking areas to download the RPP Application and Renewal Form online. To save time for both residents and BPD staff, residents may print, fill out, and mail the forms from home. In the long-term, develop an online system for residents to renew their parking permits—as well as pay for parking citations—with payment by credit card or banking account.

Category

Technology

Primary Goals

- Fair and Transparent

Discussion

Burlington residents must currently apply or renew their permits in-person at the Burlington Police Department (BPD) counter during business hours, between Monday and Friday, 8 AM to 4:15 PM. While not publicized, residents may also mail in their resident permit application if they first call ahead to verify with a BPD staff that they have all copies of their supporting documents and have no outstanding citations on record.

Currently BPD Parking Enforcement accepts checks, VISA, MasterCard, or Discover credit cards for citation payments. Payments may be mailed to BPD, dropped off during business hours, or over the phone. With a secure and comprehensive parking website, the City should also allow users to go online and pay for parking fines. This saves staff time and resources and can encourage prompt payment by making the system easier for users. Users would enter their citation number, vehicle license plate number, and the date the ticket was issued, along with the user's credit card information.

In the short-term, allow residents to apply for a parking permit through the mail or by visiting the Burlington Police Department. From the BPD website, provide a link to a Residential Parking Permit Application form that residents can download, print, fill, and

mail-out from home. Applicants would also need to provide copies of the following documents:

- Students and Renters: Proof of residence (i.e. a current lease or utility bill)
- Students: Valid School ID
- Valid Driver's License with address of Resident parking street
- Proof of Valid Vehicle Registration
- Credit Card Number or Check payable to "Burlington Police Department"

In the longer term, when a more comprehensive parking website is developed, allow existing residents to renew their parking permits online, with a scanned copy of a valid proof of residence, such as a utility bill.

Case Studies

Charlottesville, VA

At the University of Virginia, usage of T2 Flex software has significantly eased the administrative burden of selling permits and collecting citation fines. Online payments, citations, permit sales, events, and garage transactions are all integrated in one system using T2. They sell about 15,00 permits per year and moving the system online has significantly relieved labor of physically issuing permits. The system, wait time in line could last almost four hours, and over 12 staff were needed to sell the permits. Now, with almost 80% of permits ordered and fulfilled online, three cashiers are needed, and the line's maximum has been nine people. Though T2's eBusiness Solution, students can also pay citations online and manage their personal accounts, which provide information for UVA's electronic permit database.^{xxiv} Thirty-five percent of citations are paid online.^{xxv}

The City of Charlottesville's Treasurer's Office relies on mailing to inform residents that it is time to renew their permits. Residents who have already purchased a permit and are thus already in the system receive renewal applications with their names, addresses, and permitted vehicles already filled out. In the weeks leading up to August 31, the expiration date of annual permits, the office uses approximately six staff to prepare and send out several thousand reminders of permit renewals, with their electronic database automatically generating information for renewal applications. Residents can mail in these applications, and they will then receive permits by mail, saving them a trip the Treasurer's Office.^{xxvi}

San Luis Obispo, CA

In the weeks before residential permits expire, Parking Services' Administrative Assistants send out notices to all residents in the Residential Parking Permit Districts. Residents have the option of renewing over the phone, via mail, or via email.^{xxvii}

STRATEGY #6: USER-FRIENDLY WEBSITE AND PRINTED MATERIALS

Construct a web page that provides information on why residential permits are established and how to petition for new residential parking blocks. The City's website should also provide clear guidance on how to get a permit for an existing residential parking block, a map of existing permitted areas and their restrictions, as

well as all necessary forms and documents needed to apply for resident parking permits.

Category

Technology

Primary Goals

- Is Fair and Transparent

Discussion

The City of Burlington should provide one webpage where comprehensive information on the residential parking program can be found in one place. The webpage would serve as an information resource, as well as a library for downloadable forms, maps, and brochures. The Residential Parking website can be hosted through ParkBurlington.com or by DPW and parking enforcement staff through the burlingtonvt.gov website. Basic features that should be included on the website are:

- What is the Residential Parking Program?
- Map of Residential Parking Permit Blocks
 - Rationale for why particular blocks received residential parking restrictions
 - Time limits of residential parking
- Eligibility
 - To be eligible for a Residential Permit, all vehicles must be registered and residents must provide proof of residence on a permit-restricted block.
- How to apply for a Residential Parking Permit?
- Terms and Fees
- Permit Expiration Dates (Annual or Quarterly, based on the academic calendar)
- How to petition for a new Residential Parking Permit Area?
- Restrictions and Exclusions
- Pay Citations
- Frequently Asked Questions

STRATEGY #7: COORDINATED VIRTUAL PARKING PERMITS

As a long term capital investment, the City of Burlington should consider License Plate Recognition (LPR) technology to eliminate the need for paper parking permits, offer a web-based application system for residents to manage their parking options, and allow City administrators to oversee the database system and user accounts. The goal is reduce staff time needed to administer, monitor, and enforce the residential parking program, while allowing permit holders to more easily manage their accounts online.

Category

Technology

Primary Goals

- Apply for a Data Driven Approach
- Is Fair and Transparent
- Is Market-Responsive

Discussion

Currently, the City of Burlington does not use license plate recognition (LPR) technology. The T2 parking system that the City of Burlington currently uses is not compatible with LPR equipment. BPD also currently do not drive marked police vehicles and do not have the technology installed in their vehicles that would be compatible with LPR technology. Federal regulation does not allow for the City of Burlington to access information from institutions' parking databases. Therefore, while the City of Burlington can check if a student ID is valid, there is not an easy system for verifying whether or not the student is currently living on or off-campus.

However, as a long-term strategy, the City should move towards using a parking database system that is compatible with LPR enforcement technology. LPR technology uses a camera and a computer to “read” license plates and then automatically verifies the plate number against a list of authorized plates in the parking database. As an enforcement officer drives through a neighborhood, the system will issue an alert if the plate is not found, and the vehicle owner is issued a parking ticket.

Investing in improved technology which would reduce or eliminate the need for distributing physical permits, saving on permit supplies as well as staff time needed to administer and distribute parking permits. Within a coordinated T2 parking database, parking permits can track back to code enforcement data, detailing the number of dwelling units—and even number of bedrooms—per building. This detailed information will help parking enforcement and the City of Burlington better understand the population densities and correlated parking requirements in a specific neighborhood area.

Additionally, with a coordinated online application system, residents can log-in and manage their parking accounts online, such as changing their vehicle information. This feature helps streamline the data processing needed from the BPD end, allowing them to focus resources on monitoring and improving the residential parking program.

Case Studies

Several other comparable cities have invested in LPR technology to streamline their parking management system. As noted, there have been many benefits to utilizing LPR technology, particularly in conjunction with university campuses. However, there are many different layers to the T2 and LPR technology and they vary greatly by municipality. Therefore the cost estimates are not easily translatable to the cost for integrating the system with Burlington's existing T2 system.

Fort Collins, CO

The City of Fort Collins and Colorado State University employ a Community Liaison, who splits half of her time working with each of the institutions. The role was created as an

interface for the City and the university, and part of the job entails addressing town-gown relations, including, but not limited to, parking. The City manages a Residential Permit Parking Program, and the university uses T2 Flex to meet the demands of their students and employees.^{xxviii}

The City and the University work very closely on many projects, but they do not share databases with each other. Whenever a new residential neighborhood is implemented, the City communicates with the University so that they can pass along relevant information to students and staff.^{xxix}

The City uses T2 Flex software to enhance its administrative and enforcement capabilities. With LPR technology, parking enforcement officers can quickly identify violators while driving their vehicles, providing increased coverage for parking regulations. In addition to LPR technology, Parking Enforcement Officers also use handheld computers to write citations. The City hopes to use this technology in the future to help collect parking turnover and occupancy data.^{xxx}

Irvine, CA

University of California at Irvine began utilizing LPR technology at two on-campus housing complexes in the fall of 2007, which resulted in a simplified permit process, 75 percent reduction in citation complaints, and significant reduction in staff resources because users could enter their license plate information themselves online.^{xxxi}

STRATEGY #8: CHARGE FOR RESIDENTIAL PARKING PERMITS

Recognize that the use of public space for residential on-street parking is not free, but a privilege that is funded in part by all residents in Burlington. Implement a cost structure for residential permit fees that encourages residents to use on-street permits judiciously and use revenue generated towards administering and improving the residential parking program.

Category

Permits & Pricing

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources
- Is Fair and Transparent

Discussion

In the study of comparable communities, Burlington is unique in that the City currently administers and enforces residential parking permits without a fee. In line with the study's goals to help manage valuable on-street public parking, charging for parking stands out as a key lever to encourage residents to be more thoughtful about the use public on-street spaces.

As a recommended best practice, the City should charge residents for on-street sticker permits. To be sensitive to households at all income levels, residents would be charged a

nominal fee for their first permit, with a cost structure that includes incremental increases for each additional permit per dwelling unit. The goal is to discourage residents from obtaining more permits than needed and to be able to use generated revenue towards administering, enforcing, and improving the RPP.

To allow flexibility short-term, residents may also have the option to purchase a quarterly permit that is good for three months, based on the established expiration cycle. The quarterly permit is priced at half the annual rate to encourage residents to purchase the annual permit in order to reduce administrative costs associated with issuing and renewing permits.

TABLE 5.1: PROPOSED RESIDENTIAL PARKING PERMIT FEE STRUCTURE

PERMIT #	RESIDENTIAL PERMIT DESCRIPTION	ANNUAL RESIDENT PERMIT COST	QUARTERLY RESIDENT PERMIT COST
1	The first permit in the dwelling unit	\$10	\$5
2	The second permit in the dwelling unit	\$40	\$20
3	The third permit in the dwelling unit	\$80	\$40
4	The fourth and final permit in the dwelling unit	\$130	\$65

Case Studies

Ithaca, NY

The City of Ithaca’s Residential Parking Permit System charges \$45 per permit. Permit sales revenue goes towards the costs of administering of the Residential Parking Permit System, such as paying the three clerks who assist residents in the permit renewal process.^{xxxii}

Charlottesville, VA

Residential parking permits costs \$25 each, and the City generates approximately \$10,000 annually in permit sales. An additional \$40,000 is generated from zone parking violations, with each fine costing \$25. This revenue goes into the General Fund, and the General Fund budgets money to many different City departments, including the residential parking program.^{xxxiii}

San Luis Obispo, CA

The City of San Luis Obispo’s Residential Parking Districts distributed free residential permits until Parking Services ran a cost-benefit analysis that determined that they should charge \$10 per permit in order to be able to continue administering the program.^{xxxiv} The permits generate approximately \$15,000 in revenue that goes towards Parking Services’ annual budget of about four million dollars.^{xxxv} It is difficult to determine how much of this budget goes towards the Residential Parking Districts because the enforcement component is wrapped up with other enforcement that Parking Services oversees. The cost-benefit

analysis estimated that the enforcement component of the Residential Parking Districts was approximately \$36,000.^{xxxvi}

Boulder, CO

Residents who live in a Neighborhood Permit Parking zone may purchase up to two resident permits for each vehicle registered in their name at a cost of \$17 each per year. This price was determined in order to ensure that the program is cost-neutral. The revenue generated from permit sales funds the material costs of the program. Commuter permits, which sell at \$82 per quarter, also fund the Neighborhood Permit Parking program.^{xxxvii}

Fort Collins, CO

The City of Fort Collins' Residential Parking Permit Program uses a tiered pricing system for permits, with a limit of five permits per household. The prices of the permits are free for the first permit, \$15 for the second, \$40 for the third, \$100 for the fourth, and \$200 for the fifth.^{xxxviii} The increased cost for additional permits ensures that residents only buy permits that they absolutely need.^{xxxix}

STRATEGY #9: ESTABLISH MAXIMUM NUMBER OF TRANSFERABLE PARKING PASSES PER DWELLING UNIT

Establish a maximum of up to four transferable residential parking passes per dwelling unit, with incremental cost increases for each additional permit sticker. As the parking passes are transferable, visitors can be accommodated.

Category

Parking Experience

Primary Goals

- Balance parking needs
- Consider limited land resources
- Is market-responsive

Discussion

The City of Burlington currently does not have a maximum number of residential permits issued to each household. For example, if a unit has four members who all have vehicles, they may each get a resident bumper sticker for their vehicle. If a building has eight units and each unit has four resident permit stickers and two guest permits, this amounts to a 32 resident permits and 16 guest permits from one building address. Bilodeau Court currently has 65 permits issued for 24 on-street public parking spaces.

Similar to all other comparable cities studied, Burlington's existing RPP does not guarantee on-street parking spots for residents with parking passes. None of the cities studied limit the total number of permits issued by street or by neighborhood area, because doing so would create unfairness towards new residents and be burdensome on City staff to administer a waitlist.

In order to control the number of active on-street parking passes, particularly on streets with limited spaces, resident passes should be limited to a maximum of four transferable permits per dwelling unit, with a cost structure that charges incrementally increasing rates in order to discourage residents from having more permits than needed (Table 5.1). BPD staff would need to verify that each new applicant's address does not already exceed the maximum number of permits allowed per the dwelling unit.

The existing visitor permit system allows for two parking passes per dwelling unit. In 2013, there were a total of 1,762 active guest permits, 291 more than resident permits issued. The visitor passes are good for one or two years and are provided at no cost. As the parking passes proposed with Strategy #9 are transferable, visitors can be accommodated.

Case Studies

Ithaca, NY

The City of Ithaca's Residential Parking Permit System allows properties to buy up to two permits for \$45 each. In one zone, they are allowed up to four permits if there are multiple dwelling units within a property.^{xi} Permit sales revenue goes towards the costs of administering of the Residential Parking Permit System, such as paying the three clerks who assist residents in the permit renewal process.^{xii}

Charlottesville, VA

The City of Charlottesville's Residential Permit Parking System usually allows for up to four residential permits per single-family households. However, certain households may have different limits based on varying needs. For multi-family properties, the number of units usually influences what the permit limit is per household. Permits are available on a first-come, first service basis for affected households.^{xiii}

Residential parking permits cost \$25 each, and the City generates approximately \$35,000 annually in permit sales. This revenue goes into the General Fund, and the General Fund budgets money to many different City departments, including the ones involved in the residential parking program.^{xiiii}

San Luis Obispo, CA

The City of San Luis Obispo's Residential Parking Districts allow up to two permits per residence.

Fort Collins, CO

The City of Fort Collins' Residential Parking Permit Program uses a tiered pricing system for permits, with a limit of five permits per household.

STRATEGY #10: RESTRUCTURE VISITOR PASSES

Strategy #9 accommodates visitors with transferable permits. To allow parking for people who have business at a residence (e.g. contractors, at-home care professionals), a 30-day and one year pass system will be established.

Category

Permits & Pricing

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources
- Account for Neighborhood Need

Discussion

To accommodate the parking demand for contractors and Home Care professionals 30-day contractor parking passes and one-year Home Care parking passes should be established.

Table 5.2 details the proposed fee structure for each type of visitor pass.

The intent of this recommendation ties back to the original goal of managing and balancing the city’s valuable on-street public parking. By placing a value on the visitor pass, the City encourages residents to purchase and use visitor passes judiciously. For residential areas close to large off-street parking, such as garages and surface lots near downtown, a paid visitor pass encourages a more balanced use of the City’s existing parking lots.

TABLE 5.2: PROPOSED VISITOR PARKING PERMIT FEE STRUCTURE

RESIDENTIAL PERMIT DESCRIPTION	30-DAY PERMIT	ANNUAL PERMIT
Contractor Pass	\$10	n/a
In-Home Care Pass	n/a	\$10

Case Studies

Ithaca, NY

Ithaca’s City Clerk’s Office sells residents up to four visitor passes annually at a price of \$10 per pass. Depending on the zone, residents can purchase a maximum of eight or 16 passes per property. Visitor passes are issued to a specific vehicle, and they allow legal parking in a residential permit area for two weeks.^{xliv}

Charlottesville, VA

Charlottesville’s City Treasurer’s Office sells a maximum of two annual guest permits to residents in single- or two-family households. For multi-family households, the limit is usually four guest permits, with some exceptions for special cases. Guest permits cost \$25, the same price as residential permits, and they are intended for someone who visits a household and needs a temporary place to park. Residents purchase the guest permits for their visitors, and in order to buy one, they must provide proof of residency on a residential block and proof of ownership of a vehicle within the residency.^{xlv} Guest permits last for a year, with the same expiration date as residential permits. Residents may share and lend out their guest permits throughout the year.

The City generates approximately \$25,000 in revenue from guest permit sales, \$15,000 more than the amount generated through resident permit sales. The disparity is largely due to the

fact that many residents do not have access to off-street parking, which qualifies them for a free residential permit. In contrast, every household that acquires a guest permit must pay \$25. The money raised goes into Charlottesville’s General Fund.^{xlvi}

San Luis Obispo, CA

Since residential permits are transferrable, residents may allow guests to hang their residential permits in guests’ windshields. If a resident needs to park more than the two permitted vehicles, they can receive a free, temporary permit from the Parking Services Office.^{xlvii} These temporary permits must be picked up at the Parking Services Office, and there is a limit per individual household. They apply to guest and commercial vehicles, and they can last up to a month.^{xlviii}

Boulder, CO

Each household that purchases a resident permit may receive two free visitor permits that will last for the calendar year. Visitors must park within a one-block radius of the residence address. Additionally, residents may be issued two two-week guest permits per year.^{xliv}

STRATEGY #11: ESTABLISH FIXED EXPIRATION/RENEWAL DATES, PRO-RATED BY ACADEMIC CALENDAR

Simplify the administration, renewing, tracking, and enforcing of residential permits by establishing fixed expiration and renewal dates on an annual and quarterly cycle, based on the highest turnover period. To provide flexibility for short-term residents, subletters, or those that only need street parking for part of the year, provide quarterly permits at a lower cost.

Category

Administration

Primary Goals

- Is Fair and Transparent
- Is Market-Responsive

Discussion

Currently residential parking permits are valid for one year for students and two years for renters and homeowners, on a rolling cycle that begins when the resident successfully applies for their permit. Student permits have a set expiration date of May 31 each year.

The two-year rolling timeline was initially established because the bumper sticker lifespan is two years and a two-year renewal period reduced overall staff and resident time. However, when residents move, and especially during high turnover periods, the number of “active” permits increases, making enforcement more difficult given the influx of new resident permits.

As a recommended practice based on other comparable cities, residential permits should have fixed expiration and renewal dates, based on the academic calendar when the City experiences its highest resident turnover. All annual permits potentially should start on

August 1 and expire the following year on July 31, corresponding with high population turnover periods, particularly when many students move during mid to late August each year.

To allow flexibility for short-term residents, the City should also offer a quarterly permit. The start and expiration dates would need to be coordinated with the institution schedules. One potential schedule is:

- August 1 to October 31
- November 1 to January 31
- February 1 to April 31
- May 1 to July 31

Having set expiration dates helps streamline the administrative process, making it predictable when the City should anticipate receiving larger volumes of permit applications. It also ensures that permits “reset” each year to curtail improper use of permits over long periods of time. The City currently structures their truck permits on an annual and quarterly cycle; a similar system can be implemented for the residential parking program.

Case Studies

Ithaca, NY

Ithaca’s City Clerk’s Office sells permits starting on July 1, and the permits expire on June 31 of the following year.ⁱ Currently, there are three clerks with knowledge of residential permits and the electronic database. The Director of Parking would like to switch to one clerk for the majority of the year, with an influx of staffing in July, when permit sales are busiest.ⁱⁱ

Charlottesville, VA

Old permits expire on August 31 of each year, and new permits go on sale beginning July 28 in the main lobby of the Treasurer’s Office on the first floor of City Hall. The Treasurer’s typically have 3 cashiers who are in charge of customer service and permit sales, among other responsibilities.ⁱⁱⁱ With Charlottesville’s schools beginning in mid to late August, the Treasurer’s Office is usually busiest with permit sales in the first few weeks of August. During these weeks, the Office may shift more staffing to the main lobby to help with permit sales, inputting data into the electronic permit database, and sending renewal applications.ⁱⁱⁱⁱ

San Luis Obispo, CA

All Residential Parking Permit Districts have the same permit expiration date, September 15th. Parking Services begins issuing new permits about a month in advance, and their Administrative Assistants usually do not require additional help serving residents coming into the office during that time. However, if there are abnormally busy periods, other Parking Services Staff, including Parking Enforcement Officers, will help out.^{liv}

Boulder, CO

Boulder’s Parking Services sells neighborhood parking permits throughout the year, and the renewal dates vary depending on which neighborhood residents live in. Renewal dates

include August 31st, September 30th, October 31st, November 30th, and January 30th.^{lv} Staff at the front desk is in charge of permit sales and inputting information into the electronic database, among many other responsibilities.^{lvi}

STRATEGY #12: ALLOW APPROVED LANDLORDS AND PROPERTY OWNERS TO ADMINISTER PARKING PASSES TO TENANTS

For rental properties, approved property owners or landlords may apply for, distribute, and enforce a set number of passes from the City to distribute to their tenants. An owner-agent residential parking pass system helps relieve the administrative burden on the City and encourages owners to be active and involved with their tenants' parking situation.

Category

Administration

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need
- Is Market-Responsive

Discussion

All renters, including off-campus students, currently apply individually for their residential permit stickers at BPD. In 2013, there were a total of 1,471 active residential permits. To streamline the number of individual permit applications, particularly given the high proportion of rental housing in parts of the City (see Chapter 3, Figure 3.8), create a program that allows a set of approved landlords and property owners to be able to apply for, distribute, and enforce the parking permits for their tenants. This system is attractive to tenants because it eliminates an additional step in gathering documentation and applying for a residential permit themselves. Property owners will be held accountable for unfair distribution or overcharging for permits.

This strategy may be best implemented as a one-year pilot program initially, giving a handful of reputable landlords the option to control a set number of parking permits based on total residents and units in their building. Over time, the City may formalize the owner-agent system by developing a criteria for maximum number of permits per complex and standards that property owners must meet in order to become approved for permit distribution.

Case Studies

Charlottesville, VA

Property owners in Charlottesville have the option of buying all the permits for their tenants and distributing them. This owner-agent system gives landlords control over the process so that they can fairly distribute the permits among the people who live in their property.

Owner-agents must report which vehicles are registered to the City Treasurer's Office, and in the City's electronic permit database, a red flag appears next to these permits, indicating that they were distributed by an owner-agent. The system is somewhat institutionalized, as

many owners choose to distribute permits, some distributing up to 40-50 permits per complex. If the City learns that owners overcharging or unfairly distributing permits, they will send a strongly worded letter that prevents further corruption.^{lvii}

STRATEGY #13: ESTABLISH RESIDENTIAL PARKING AREAS RATHER THAN STREETS

Establish residential permits by a walkable area, rather than individual blocks or streets, to balance parking demands throughout a close neighborhood area.

Category

Administration

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need

Discussion

When the Burlington residential parking program was first formalized in 1990, the City established residential permit areas by ward, which did not resolve issues of high parking demand given the large geographic extent of the ward areas. The City then changed the permit areas to a street level system, where residents may only receive permits for the street that their property faces. This system has created issues for corner properties, who have received mixed information on whether they can get a permit for either street or only the street which their front door faces onto. The City has also received complaints that residential parking overcrowds non-permitted areas from residents who live on unrestricted streets adjacent to permitted streets.

To alleviate these concerns, create tightly bounded parking areas on resident-only blocks to allow residents to park not only on their street, but within a walkable radius of their home. Major streets should serve as boundary edges between two adjacent residential parking areas to discourage residents from crossing major corridors to get from their parking space to their home.

The areas may be of varying sizes, based on existing residential permit areas, topography, and location of major corridors. The residential parking areas are designed to best serve residents' parking needs within their neighborhood and better distribute parking around a walkable and convenient set of blocks. A parking area strategy, as opposed to a street-by-street arrangement, will widen the geographic scope of restricted residential parking in Burlington. However, enforcement can be simplified through a color-coded system, coupled with fixed expiration dates.

STRATEGY #14: ESTABLISH COMMUTER PERMIT PROGRAM (PILOT PROGRAM)

To balance parking needs and generate funds for neighborhood/transportation improvements, offer a limited number of commuter permits on specific permit-

restricted blocks that have demonstrated surplus parking during complementary times.

Category

Permits & Pricing

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need
- Is Market-Responsive

Discussion

A critical component to the success of the Residential Parking Program is to recognize that each neighborhood and block has unique parking needs and demands. Some form of targeted strategy may be necessary at a block level to allow flexibility for custom-tailored solutions. One of the goals of the Residential Parking Program is to be market-responsive and recognize that land uses may change over time and parking management will need to evolve to respond to new parking demands.

To manage the City's on-street public spaces, particularly in areas that are appropriate for shared parking opportunities between residents and commuters, the City may propose to allot a specific number of commuter permits on a specific block or neighborhood area. This strategy is considered only for areas that have a parking surplus largely during daytime business hours.

A parking surplus is demonstrated when BPD Parking Enforcement staff notice a pattern over the course of a fall or spring month where less than 50 percent of on-street spaces are occupied at specific times of day or days of the week. This information should be relayed to DPW staff who would then conduct a parking count on those blocks, during the specific period where parking counts are low, to verify utilization.

DPW staff then prepares a memorandum documenting the parking count and analysis to the Public Works Commission. The Public Works Commission then decides whether or not they would like to propose an add-on strategy to use the excess parking spaces in the specific residential area or block for commuter parking passes. With data on the availability of parking and the number of surplus on-street public spaces in a given residential area or block, the Public Works Commission and other City staff (such as DPW and DPZ) would determine:

- The geographic, time, and capacity limits for commuter passes;
- Cost-benefit analysis for implementing a commuter pass system for specific blocks, including potential revenues.
- Proposed neighborhood improvements that could be made using the generated revenues (if applicable).

All of this information would be posted and followed up by a Commission hearing that is open to the public for feedback. The Public Works Commission and other City staff then

meet following the public hearing and petition process to determine whether to adopt the strategy.

To ensure neighborhood livability, key elements of a commuter parking pass program are:

- The number of commuter permits per zone or block (existing or future) would be limited to attain approximately 85% on-street parking occupancy during peak daytime periods. The City would conduct counts during peak periods in the identified area to determine the 85% occupancy inventory.
- **For existing RPP zones, property owners can petition to opt-in to the commuter permit pilot through a process where 51% of property owners on the block vote to participate.**
- For newly-proposed RPP zones, commuter permit pilot participation can be required should the DPW staff and Commission determine that the street/zone has additional daytime capacity up to the 85% occupancy goal.
- Commuter permits would be limited to daytime work hours (e.g. 7:30am to 5:30pm) to provide more on-street availability for residents during the evening and overnight.
- Each unit in RPP zones participating in the commuter permit pilot will have the opportunity to get their first three residential parking passes free of charge — up to an \$130/year savings.

Implementation Process

It is recommended that this strategy be implemented as a pilot program, to allow residents to adjust and for the City to determine whether additional adjustments are needed. The City recognizes that the proposal for a commuter permit program has generated a lot of concern from residents in existing Residential Parking Program zones.

Given this concern and given the need to better understand the commuter permit opportunities and challenges, **this report does not recommend RPP-wide commuter permit implementation at this time**. A 2-3 year commuter permit pilot program is recommended to help the City understand the opportunities and challenges.

Pricing for commuter permits would be significantly higher than for residential permits. Pricing will also be coordinated with institutions that have their own parking pricing systems so as not to compete. A fixed number of permits would be available on a quarterly basis and the permits would be sold on a first-come, first-serve basis.

A pilot program would reveal the following:

- Determine how effectively this approach balances neighborhood livability and non-residential parking needs in the city.
- Determine the operational issues with such a program and the public's demand for commuter permits.
- Determine how much additional revenue from out-of-town commuters could be generated for the City's street and sidewalk capital needs.

The pilot would be reviewed at 2-3 years to determine whether to terminate, continue, or modify it.

The Commission could exempt new proposed RPP zones from participating if there were street design considerations or other considerations that would make such implementation unsafe.

Following adoption of a commuter parking program if parking availability drops considerably for residents and becomes problematic, residents may alert DPW staff, who would follow-up with a parking count and adjust the boundary, time, or number of commuter permits accordingly. If the pilot goes well, City staff will consider an expansion of the commuter permit program into all RPP areas.

Case Studies

Boulder, CO

As part of its petition process, Boulder's Parking Services determines how many commuter permits are allowed per each neighborhood based on how many a street could handle after residential needs are met. If residents are unhappy with parking availability, they can call Parking Services and the number of commuter permits may be reduced.

Revenue generated from commuter permits funds the general budget for the Neighborhood Parking Program. This budget is set up to be cost-neutral so that commuter permit and residential permit sales fund the material costs of issuing permits.^{lviii} Parking Services' website has a dynamic map that displays which commuter spots have been sold and which are still available.^{lix} Commuter permits are sold for \$82 per quarter, with quarters lasting from January until March, April until June, July until September, and October until December. Commuters are responsible for renewing their permits before the quarterly renewal deadlines, and they have the option to make renewal payments by mail, phone with credit card, or in person. Businesses, property managers, property owners, and individuals can apply for permits. Permits are only transferrable if the permit is leased by a business or a property manager and is part of the sale of that business or property.^{lx}

5.4 | GENERAL PARKING MANAGEMENT APPROACHES

Several parking management strategies outside of the formal RPP should continue to be pursued by the City to create convenient visitor parking, encourage turnover, and generate funds for neighborhood/transportation improvements.

Category

Permits & Pricing

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need
- Is Market-Responsive

Discussion

Three general parking management strategies can be applied city-wide under appropriate conditions:

- Install parking meters and/or paystations.
- Establish parking time limits in mixed-use areas or along arterial roadways.
- Striping parking stalls/areas.

Parking meters or pay stations may be added to specific areas of the City that would allow visitors to pay to use excess on-street parking spaces in mixed-use areas, or in areas adjacent to commercial zones. This strategy may be attractive to some residents in non-RPP areas because they avoid the costs and restrictions associated with the RPP. This strategy is attractive to the City as it avoids the RPP approval process and provides a source of revenue.

This strategy can also be considered in RPP areas, particularly for the downtown transition zone, mixed-use areas, and residential areas immediately adjacent to commercial and/or employment centers. It balances the needs of residents to have a place to park at the end of the day while sharing those spaces with the broader public while adjacent shops, offices, schools are open. To ensure that the goals of the City are met, RPP permit holders would be required to pay for meters during enforcement hours.

Parking time limits encourage turnover on streets during the day and free up spaces in the early evening when residents come back from work. Time limits can be associated with metering or not.

Striping of parking stalls can optimize parking spaces on a block while minimizing the potential for blocking driveways.

5.5 | PETITION PROCESS

Currently, DPW staff are tasked with managing all requests for new parking permit locations. Residents on a given block are responsible for collecting support from 33 percent of their neighbors and submitting the request to DPW Parking staff. Then DPW follows up with their own petition to ensure that there is 50 percent agreement from residents on the block. Following that, DPW conducts a license plate count over the course of a typical weekday, at 7 AM, 10 AM, and 2 PM. There is currently not a minimum occupancy requirement in order to qualify for residential permit designation.

Assumptions are made on the driver type: whether they live on the street, live in Burlington, live outside of Burlington but in Vermont, or out of state. The assumptions are based on the license plate and the time(s) they are parked on the street. For example, someone parked on the street at 7 AM on a Monday morning, but not 2 PM, is an indication of a resident commuter. Previously, DPW has also shared the license plate numbers with BPD, who run the list through the Department of Motor Vehicles (DMV) to assess whether the vehicle owners were largely residents (homeowners and renters) or non-residents, which include any out-of-town students, transients, and visitors. However, given that it is not possible to differentiate between student renters and other transient vehicles, the petition process does

not use the information as a factor in the memorandum write-up to be presented to the Public Works Commission.

The current petition process for establishing new permitted spaces is not clear to Burlington's residents. In order to instill a fair and transparent process, the petition process should include well-defined thresholds and be supported by parking data and counts. The study proposes a two part process that includes community support and recognition of high parking demand.

DEMONSTRATED COMMUNITY SUPPORT

Ensure demonstrated community support via a grass-roots petition process that exhibits majority agreement and support for residential parking restrictions. Require 51 percent of resident property owners' signatures to order to initiate the resident permit parking process.

Primary Goals

- Account for Neighborhood Need
- Apply for a Data Driven Approach
- Is Fair and Transparent
- Is Market-Responsive

Discussion

Adopt a streamlined petition process, with one step involved for DPW Parking staff and minimal administrative effort from the Department of Planning and Zoning (DPZ). In order to start the residential parking petition process, the petition(s) would go to the DPZ at City Hall to request the names of all property owners on their block and build their petition. The residents would be responsible for getting 51 percent support from their neighbors, the property owners listed on their block. Tenants should be encouraged to talk to their landlords in order to gain their support for residential permit parking. Student renters particularly have a higher turnover rate than other types of residents, so the City wants to ensure that there is agreement from the long-term owners of the building.

Petitioners will have the option to request for full-time residential parking restrictions (all times), overnight parking restrictions (5 PM to 8 AM), or daytime and weekday parking restrictions (Monday – Friday, 8 AM to 5 PM). Once the petition(s) have demonstrated support from the majority of residents on their block, they will meet with DPW staff to review. No further petition process by DPW staff would be necessary.

Case Studies

Ithaca, NY

Residents must petition the City Clerk's Office to join the permit program system, and the petition must include at least 51 percent of eligible residents in the proposed permit block. In one zone, no more than one resident per tax parcel shall be permitted to sign the petition. In the other zone, no more than one resident per dwelling unit or two residents per tax parcel, whichever is fewer, shall be permitted to sign the petition. With a petition that has at

least 51 percent of residents' signatures, the City Traffic Engineer will conduct a parking survey over two separate days during average weekly peak hours to determine that at least 75 percent of the legally available parking spaces are being utilized.^{lxi}

In addition to this one-time parking survey, the Parking Director and the Traffic Engineer conduct daily inventory in residential parking zones using License Plate Recognition technology, which allows them to conveniently conduct counts from their vehicles. They use data from the daily counts to inform them how many permits they can sell to ensure that utilization is at 80 percent.^{lxii}

Charlottesville, VA

Charlottesville's City Council will consider establishing new parking zones once a year. To prompt an on-street parking survey, residents must submit a petition that includes signatures from one representative of at least 75% of the affected households. The petition must include a list of the addresses of the affected households and a list of the license plate numbers for each vehicle registered to any person(s) residing at each address. The Director of Neighborhood Development is in charge of conducting the survey, which not only measures total utilization rate, but it also measures the percentage of parked vehicles owned by residents in the parked area.

Boulder, CO

In order for an area to be eligible for residential parking program, 25 neighbors must submit a petition to Parking Services. The petition prompts the City to conduct a parking survey that assesses the needs for an NPP zone. This survey takes about 6-7 hours of staff time at \$20 per hour.^{lxiii} This information will inform a draft proposal that the residents can choose to contribute to. Next, a public hearing before the Transportation Advisory Board to review the proposal is held. The Board's recommendations and residents' comments are forwarded to the City Manager to make a final decision regarding the zone.^{lxiv}

DEMONSTRATED PARKING DEMAND

Assess that there is a demonstrated parking problem. Following demonstrated property owner support, DPW Parking staff conducts a parking survey over the course of two peak periods to determine the occupancy levels. Minimum threshold is 75 percent occupancy, which demonstrates that there is sufficient parking demand and possible increased traffic due to people circling for a parking spot.

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need
- Apply for a Data Driven Approach
- Is Fair and Transparent
- Is Market-Responsive

Discussion

Currently, the City does not have a set minimum occupancy threshold that must be met in order to qualify for residential parking. A quantifiable methodology helps the City make a clear and sound case to explain why certain neighborhoods have resident parking.

DPW Parking staff will continue to conduct a parking survey to ensure that there is demonstrated parking demand on a given block or neighborhood area. Seasons play a large factor in Burlington's parking demand, particularly when school is in or out of session.^{lxv} In the past, DPW parking occupancy counts during the summer time would reveal low parking occupancy and resident petitions would be rejected. Therefore, residents will be petitioning for residential parking restrictions will be made aware that all parking surveys will be counted between September 1 and April 30 in order to capture peak parking demand.

The parking survey count will vary depending on the requested timeframe of the parking petition and the times and days of week with the highest perceived parking demand. While residents will not know the exact days that the counts will be conducted on, to prevent biased counts, they will be aware that the occupancy counts must reflect a minimum threshold of 75 percent during the peak demand periods.

Case Studies

Ithaca, NY

Residents must petition the City Clerk's Office to join the permit program system, and the petition must include at least 51 percent of eligible residents in the proposed permit block. In one zone, no more than one resident per tax parcel shall be permitted to sign the petition. In the other zone, no more than one resident per dwelling unit or two residents per tax parcel, whichever is fewer, shall be permitted to sign the petition.

With a petition that has at least 51 percent of residents' signatures, the City Traffic Engineer will conduct a parking survey over two separate days during average weekly peak hours to determine that at least 75 percent of the legally available parking spaces are being utilized.^{lxvi} In addition to this one-time parking survey, the Parking Director and the Traffic Engineer do daily inventory in residential parking zones using License Plate Recognition technology, which allows them to conveniently conduct counts from their vehicles. They use data from the daily counts to ensure that parking utilization is optimized at around 80 percent.^{lxvii}

Charlottesville, VA

Charlottesville's City Council will consider establishing new parking zones once a year. To prompt an on-street parking survey, residents must submit a petition that includes signatures from one representative of at least 75% of the affected households. The petition must include a list of the addresses of the affected households and a list of the license plate numbers for each vehicle registered to any person(s) residing at each address. Using this data, the survey not only measures total utilization rate, but it also measures the percentage of parked vehicles owned by residents in the parked area. This information is gathered by comparing the license plates of vehicles parked on the street to the ones gathered from the survey. In order for a zone to be approved as a residential parking zone, the survey must

fund that at least 75% of the total number of on-street parking is utilized and that at least 50% of the occupied spaces are occupied by vehicles with owners that do not reside within the new proposed area.^{lxviii} The General Fund allocates money to Neighborhood Development Services, which is in charge of conducting the on-street survey.^{lxix}

San Luis Obispo, CA

The citizen group that initiates the Residential Parking Permit District process proposes permit hours because they have an understanding of when peak hours are. This citizen group must include individuals from 60 percent of the households in the district. Parking Services staff will then evaluate the parking impacts in that particular district and approve or recommend modifications to the hours.

Boulder, CO

In order for an area to be eligible for residential parking program, 25 neighbors must submit a petition to Parking Services. The petition prompts the City to conduct a parking survey that assesses the needs for an NPP zone. This survey takes about 6-7 hours of staff time at \$20 per staff per hour.^{lxx} This information will inform a draft proposal that the residents can choose to contribute to.

A public hearing before the Transportation Advisory Board to review the proposal is held and the Board's recommendations and residents' comments are forwarded to the City Manager to make a final decision regarding the zone.^{lxxi}

ESTABLISH A PROCESS FOR REMOVING OR REALLOCATING RESIDENTIAL PARKING

Establish a neighborhood-driven process to remove or reallocate existing residential parking restricts. The process should mirror the petition and parking survey count method used to establish new residential parking restrictions.

Primary Goals

- Balance Parking Needs
- Account for Neighborhood Need
- Apply for a Data Driven Approach
- Is Fair and Transparent
- Is Market-Responsive

Discussion

Although it has been rare, the City should also establish a process that allows resident property owners to reverse or change their existing residential parking restriction. Residents may wish to change the hours or days of the week that public parking is restricted on their block. Similar to the petition process to establish residential parking, residents and property owners must request a property owner list from DPZ and collect 51 percent of their neighbors' signatures, showing support for either removing resident parking restrictions altogether or choosing their preferred terms of public parking restrictions.

For the parking survey counts, the City would cover parking restriction signs in the neighborhood over the course of a two-day period. This allows the parking count to more accurately assess the parking demands were there no restrictions in place. DPW staff would conduct a parking survey at perceived peak periods over the course of the two-day period to ensure that occupancy is less than 75 percent in all hours of the peak counts.

Case Studies

Charlottesville, VA

Residents can sign a petition with signatures from at least 50% of households in a residential parking area to request the removal of the residential permit system. The city traffic engineer can also make recommendations to remove restricted parking hours in a residential permit parking zone. Either of these actions will prompt an on-street parking study from the director of neighborhood development services to determine if parking restrictions should be discontinued. If the survey finds that 50% or more of the total number of on-street parking space along the block are unoccupied, and that 50% or more of property adjacent thereto is residential, then the parking restrictions may be eligible to be lifted. The city council ultimately decides whether the area should remain part of the residential permit parking zone, and if they decide that it should not, then the traffic engineer shall oversee the removal of permit parking district signs.^{lxxii} The City Traffic Engineer is a member of Charlottesville's Neighborhood Development Services, which is funded through the City's General Fund.^{lxxiii}

5.6 | PARKING BANS

Code Enforcement currently allows lawn parking overnight during winter parking ban. However, in certain neighborhoods, lawn parking has become an issue during the daytime. Illegal lawn parking has stemmed in part from a lack of available and appropriate on-and off-street parking in residential areas.

Lawn parking during the day creates a visual blight in the neighborhood and in some cases, creates safety concerns and blocks driveway or pedestrian access. The fine in Burlington for lawn parking is \$75, where a new citation may be issued every day that the vehicle is discovered illegal parked on the lawn.

Recommendation

Continue to encourage residents to park overnight in the City's downtown garages for free during winter parking bans, rather than parking on green spaces. For households that receive more than three parking ban fines per year, all permit holders in the unit automatically lose their residential parking permits for the remainder of the year. If it remains a significant issue, the BPD will consider raising the fine from \$75 to \$125.

5.7 | PARKING AND ZONING DISTRICTS

Changes made to pricing and management of downtown parking may impact the on-street parking in adjacent residential neighborhoods. Many of the impacts are addressed by a number of the recommended strategies presented, including:

- Establishing a clear process for creating new residential parking areas in the future
- Considerations for block-specific strategies that would allow non-residential access during off-peak hours, such as meters, pay stations, time of day restrictions, 2-hour free parking, and/or commuter permits. A portion of the revenue from these block-specific strategies could directly go back towards neighborhood/transportation improvements.
- Signage to identify more suitable parking locations for non-residents, including students and commuters.

PARKING OVERLAY DISTRICTS

There are currently three Parking Districts in the City of Burlington as part of the City's Comprehensive Development Ordinance that account for varying demands on parking based on proximity to other related uses, availability of public transportation, the density of land uses, and the ability to shared parking with nearby uses (Section 8.1.3 Parking Districts, Burlington Comprehensive Development Ordinance).

- **Neighborhood (N):** The Neighborhood Parking District establishes the baseline for parking requirements throughout the city. The demand for offsite parking is largely dependent on the needs and characteristics of an individual site or land use.
- **Shared Use (SU):** The Shared Use Parking District establishes a reduction in the parking requirement baseline, recognizing the opportunities to share parking demand and rely on non vehicular transportation in these areas.
- **Downtown (D):** The Downtown Parking District requires the least amount of parking, recognizing the availability of shared parking, frequent transit service, and higher rates of other non-vehicular transportation in these areas.

The City is proposing to extend the boundaries of the Shared Use Parking District to include neighborhoods that wrap the downtown area. (Figure 5.3)

FIGURE 5.2: EXISTING PARKING DISTRICTS MAP

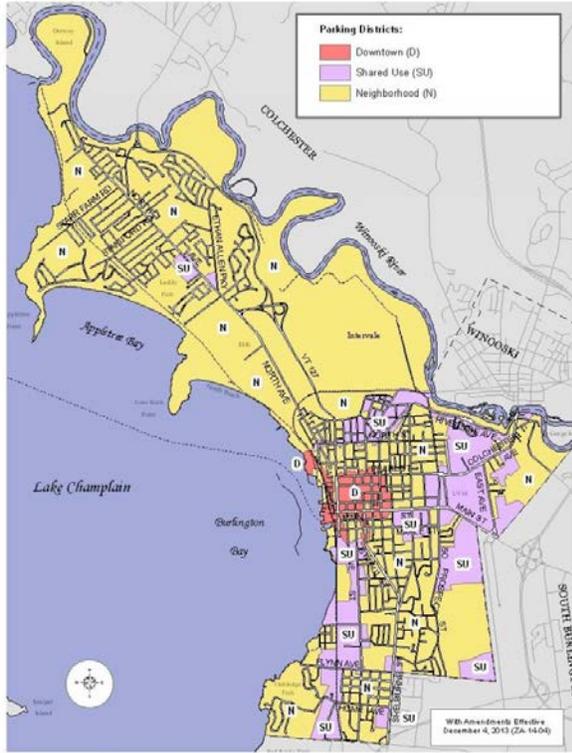


FIGURE 5.3: PROPOSED NEW PARKING DISTRICTS MAP



MINIMUM PARKING REQUIREMENT

The City is also currently exploring the idea of changing the minimum parking requirements in order to respond to the number of bedrooms in a unit, as opposed to the type of dwelling unit, which can vary widely in resident headcount. (

Figure 5.4 and Figure 5.5) The purpose of revisiting the minimum parking requirements in the zoning ordinance is to making downtown development more affordable, while reducing the amount of under used parking spaces. The Downtown Parking study revealed that 35 percent of downtown parking spots are empty during peak periods.^{lxxiv}

There remains community concern in Burlington that if minimum residential parking requirements are lifted in the Downtown Parking District, the resulting problem will be “spillover parking” into nearby neighborhoods and additional traffic. However, other studies have shown that minimum parking requirements, particularly in walkable, transit-accessible areas, instead increase overall congestion by encouraging driving and decreasing the usage of other modes.

Ithaca, NY eliminated minimum parking requirements in their downtown and Collegetown, which resulted in new denser development within its walkable and transit-accessible core. From the City’s financial perspective, the property values of a developed use are much higher than a parking lot; commercial developments provide employment prospects and denser housing provide more homes to residents. Ithaca was able to close their \$3 million structural budget and eventually was able to cut taxes by incentivizing smart growth.^{lxxv}

Parking requirements can have a powerful effect on the architectural form, urban character, affordability, and level of traffic on Burlington’s street. On-site and off-street parking requirements can inadvertently create inefficient pockets of surface lots, each parcel with its own individual driveway. Particularly in multi-unit dwellings, surface lots are unevenly used throughout the day and create impediments to the pedestrian and bicycle infrastructure. Minimum parking requirements can also make it impossible for affordable housing to be financially feasible to develop. When parking is included free of charge as part of a residential development, people are encouraged to drive more, which increases overall traffic and discourages use of transit and other sustainable modes. The cost of bundling the parking with the housing is ultimately passed along to the residents, whether or not they own a car.

FIGURE 5.4: EXISTING PARKING MINIMUMS, BY DISTRICT (GRAPH)

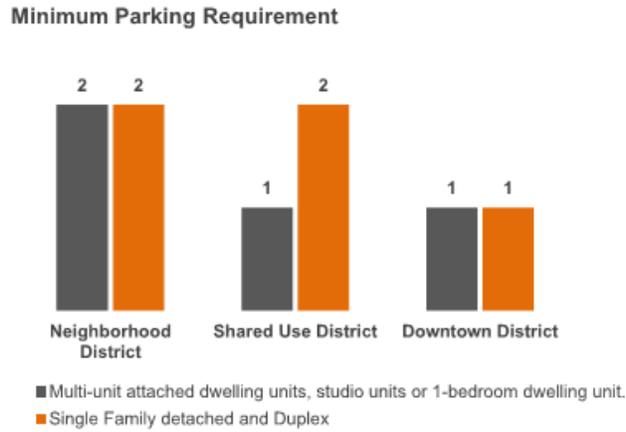


FIGURE 5.5: PROPOSED NEW PARKING MINIMUMS, BY DISTRICT (GRAPH)

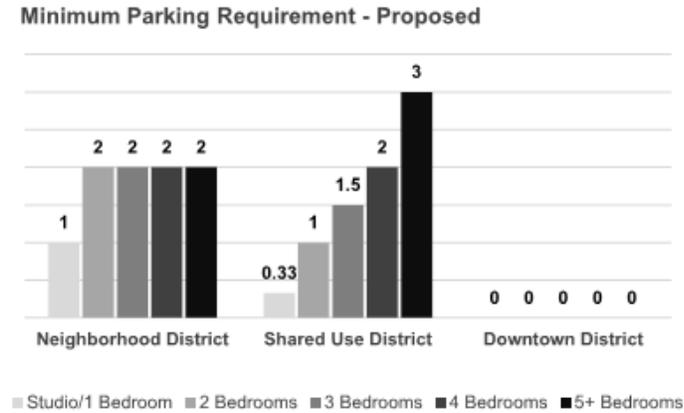
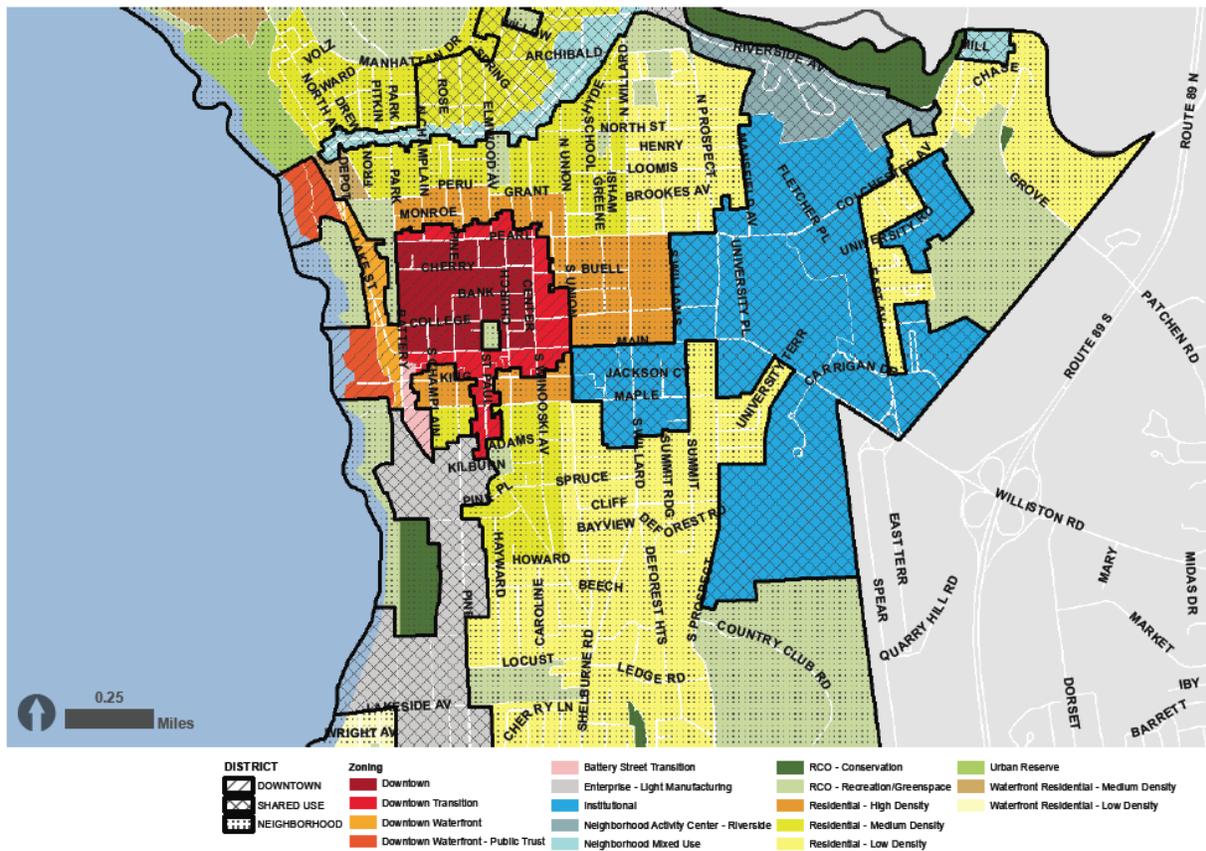


FIGURE 5.6: RESIDENTIAL ZONES WITHIN THE DOWNTOWN PARKING DISTRICT (MAP)



FINDINGS

Based on the three sample areas studied, these are the summary findings:

- High on-street parking utilization in high density residential areas, with or without residential restrictions
- Lower parking utilization on metered streets, even those adjacent to high density residential, and even before the meters are running. Suggesting that having to pay for parking discourages long-term parking.
- There is not a direct correlation between population density and parking utilization throughout the day, although higher density blocks near downtown tended to have higher on-street parking utilization in AM and Midday periods.
- There is not a direct correlation between parking district and population density.

RECOMMENDATION

- Parking in-lieu fees: Eliminate minimum parking requirement in downtown. Lower parking minimums in Shared Use and Neighborhood Parking Districts – if developers contribute to a parking in-lieu fee. Similar to the “fair share model” for transportation impact fees, this allows the City to pool monies towards a future parking garage or consolidated lot, as opposed to having several individual off-street

spaces serving individual parcels. The in-lieu parking fee would need to be carefully structured so that the fee per space does not preclude developers from being able to finance new projects.

5.8 | IMPLEMENTATION

	RECOMMENDATIONS	LEAD DEPARTMENT/AGENCY AND PARTNERS	TIMELINE
CITYWIDE RESIDENTIAL PARKING STRATEGIES			
1	Encourage and Improve Sustainable Transportation Modes	DPW Streets, Traffic & Parking, CCRPC, CATMA, Go! Burlington	Ongoing
2	Encourage Satellite Parking on Campus and Incentivize Parking in Remote Lots	BPD Parking Enforcement, UVM, UVM Medical Center, Champlain College, CATMA	Ongoing
3	Establish residential parking permit hours based on parking demand, by hours or days of the week	DPW Traffic & Parking, BPD Parking Enforcement	Ongoing
4	Clear signage	DPW Equipment Maintenance	Ongoing
5	Online or mailed residential parking resources	BPD Parking Enforcement	2017-2018
6	More information on a user-friendly website and printed materials	BPD Parking Enforcement, Go! Burlington	2018-2020
7	Coordinated Virtual Parking Permits	BPD Parking Enforcement	2020-2025
8	Charge for residential parking permits	BPD Parking Enforcement	2018-2020
9	Establish maximum number of transferable parking passes per dwelling unit	BPD Parking Enforcement	2017-2018
10	Restructure visitor passes	BPD Parking Enforcement	2018-2020
11	Establish fixed expiration/renewal dates, pro-rated by academic calendar	BPD Parking Enforcement	2017-2018

12	Allow approved landlords to administer permits to tenants	BPD Parking Enforcement, Planning & Zoning, Code Enforcement	2017-2018
13	Establish residential parking areas rather than streets	DPW Traffic & Parking, BPD Parking Enforcement	2018-2020
14	Pilot commuting parking program	BPD Parking Enforcement, Planning & Zoning, CEDO(?)	Varies
PETITION PROCESS FOR NEW RESIDENTIAL PARKING AREA			
1	Demonstrated Community Support	DPW Traffic & Parking	2017-2018
2	Demonstrated Parking Demand	DPW Traffic & Parking	2017-2018
3	To Remove or Reallocate Residential Parking	DPW Traffic & Parking	2017-2018

ⁱ William Burns. DPW Traffic Foreman. May 18, 2015 email correspondence.

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^v Gustafson, Thomas. UVM Vice President for University Relations & Administration. City of Burlington, Draft Action Plan for Expanding and Improving Burlington's Housing Stock.

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^{vi} CATMA Off-site Parking. <http://catmavt.org/program/site-parking>

^{vii} McClure, Ann. "Go with the Flow: Campus Traffic and Parking Solutions." *University Business* May 2010. <http://www.universitybusiness.com/article/go-flow-campus-traffic-and-parking-solutions>

^{viii} Commuter and Parking Services. <http://transportation.fs.cornell.edu/parking/default.cfm>

^{ix} University Transit Service. <http://www.virginia.edu/parking/uts/index.html>

^x Parking Permits. <http://www.colorado.edu/pts/parking-permits>

^{xi} How to Park. <http://www.rtd-denver.com/HowToPark.shtml>

^{xii} Residential Parking Permit System. <http://www.cityofithaca.org/187/Residential-Parking-Permit-System>

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