City of Revere

Broadway Corridor Parking Supply Management Plan

Final Plan – October 2024

Stantec

Funded by MA Downtown Initiative Program of:

Commonwealth of Massachusetts
Executive Office of Economic Development

Acknowledgements

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This report was prepared on behalf of the City of Revere through a "Massachusetts Downtown Initiative Technical Assistance Program" competitive grant from the State Department of Housing and Community Development (DHCD).

The City staff of Revere provided oversight and review of the parking plan and final report. In addition, town residents, visitors, and employees provided insight and input into this study through a series of engagement opportunities.

On behalf of The Massachusetts Executive Office of Economic Development and the City of Revere, the study team would like to thank all stakeholders and participants for their constructive inputs to this process.

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00 Project Overview

What we are analyzing and why

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Plan Scope

The *Broadway Corridor Parking Supply Management Plan* details the existing parking system and presents recommended parking management strategies for the City of Revere. The Study Area is detailed in the following pages and includes parking on and connecting to Broadway between Revere Street and Revere Beach Parkway. The Plan was developed in parallel with the *Broadway Master Plan* which is taking a more holistic look at land use and community facilities along Broadway.

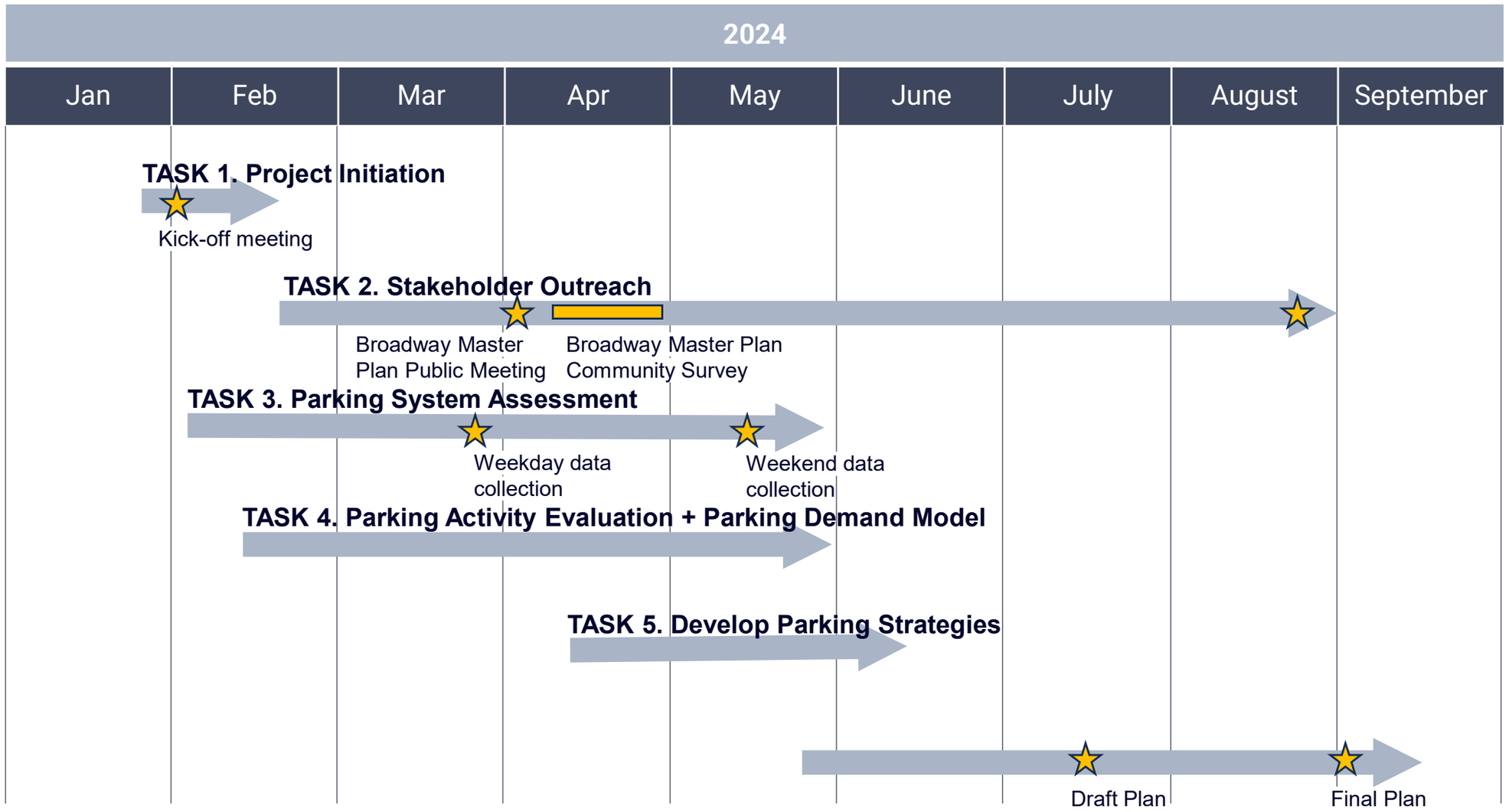
This Plan includes the following components:

- Inventory and assessment of the nearly 2,500 parking spaces along the Broadway Corridor;
- Parking utilization counts for typical weekday and weekend operations along the Broadway Corridor (excluding special events);
- Review and evaluation of Revere's parking management practices, from regulations to enforcement;
- Community engagement through a workshop and a community survey;
- Assessment of the potential for hypothetical land use development in the Study Area and parking capacity to support this development; and
- Recommendations for how to better allocate downtown parking, streamline the user experience, and improve overall Study Area mobility.

Stantec's consultant team worked with a team of City staff members to develop six key goals that guide the *Broadway Corridor Parking Supply Management Plan*.

The outcomes of this Plan are a series of recommendations, detailed later in this Plan, which seek to adjust and optimize the available parking supply in the Study Area to fix existing deficiencies, improve effectiveness and efficiency, and support development and the *Broadway Master Plan* goals.

Plan Schedule



Broadway Corridor Study Area

This Plan focuses on understanding Revere's parking challenges and opportunities on and around the Broadway Corridor, the primary civic and business hub in the city.

The Study Area is not based on a formal existing boundary; rather it is defined to include Broadway's key destinations, services, and areas of highest activity. The Study Area includes parking directly along Broadway, plus adjacent streets that connect into Broadway and support Broadway businesses and transportation. Therefore, the Study Area was defined to include the Central Business District, City Hall, Staff Sergeant James J Hill School, a large portion of Broadway from Revere Street to Taft Street, as well as residential areas to the north, east and west.

This Plan approaches parking comprehensively and includes on-street and off-street as well as public and private parking within the Study Area. The only parking within the boundary that is excluded is one-, two-, and three-family residential properties which have their own, dedicated parking facilities because these are unavailable parking options for all other users.

Plan Goals

Fix Existing Deficiencies	1. Review current **use** of all parking spaces within the Study Area 2. Develop parking **management** strategies to address major challenges
Improve Effectiveness and Efficiency	3. Assess **effectiveness** of existing **permits, regulations, policies** 4. Find opportunities to modernize **parking enforcement** 5. Analyze pricing and utilization to implement **performance pricing**
Support Development and Master Plan goals	6. Identify future parking needs in context of **planned land use and development**

01 Parking Inventory

Where parking facilities are located and the types of supply available to motorists

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Parking System in Study Area Today

A complete understanding of the parking inventory and parking regulations that dictate who can park and for how long is the basic building block to understanding parking patterns. This documentation is the basis for the parking analyses calculated and analyzed in subsequent sections of this Plan.

This Plan documents public and private parking facilities, both on- and off- street, in the Broadway Corridor Study Area. The total numbers included on the following pages represent all parking within the Study Area, with the exception of small (less than 5 spaces), private residential parking areas such as driveways.

Parking Inventory

To gather the most accurate understanding of Revere's Broadway Corridor existing parking, the team recorded regulations within the defined Study Area as they would be experienced by a first-time visitor to the Study Area. The parking inventory in this Plan represents the current signage and usage rather than the legal status of ownership of parking areas. The maps and tables in this section illustrate how parking in the Study Area is distributed among an array of categories and user permissions.

There are **2,487 parking spaces** in the Study Area, roughly split evenly between on-street (1,282 spaces) and off-street (1,205). The largest pool of parking is Unregulated On-Street Parking (973), largely on the neighborhood streets that intersect with Broadway; much of this parking is also residential permit parking only overnight. The second largest pool of parking is Private Parking (940); this is parking that could be reserved for customers, tenants, or visitors of the business or establishment with which the parking is associated. The remainder of the overall parking supply is available to the general public, either for free or as paid parking.

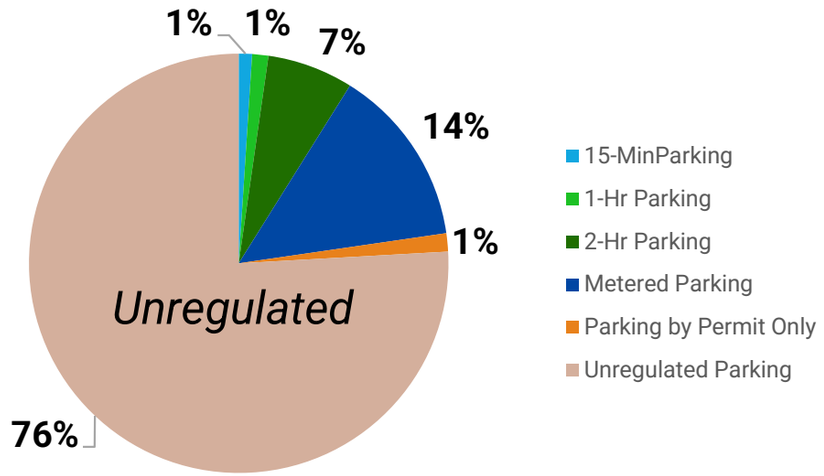
On-Street Regulations	Inventory	Percent
15-Min Parking	13	1%
1-Hr Parking	16	1%
2-Hr Parking	85	7%
Metered (Paid) with 2-Hr Parking	177	14%
Parking by Permit Only	18	1%
Unregulated Parking	973	76%
TOTAL	**1,282**	**100%**
Off-Street Regulations	**Inventory**	**Percent**
Public Parking	162	13%
Public Parking, evenings and weekends, otherwise reserved	103	9%
Private Parking	940	78%
TOTAL	**1,205**	**100%**

Parking Inventory by Parking Type

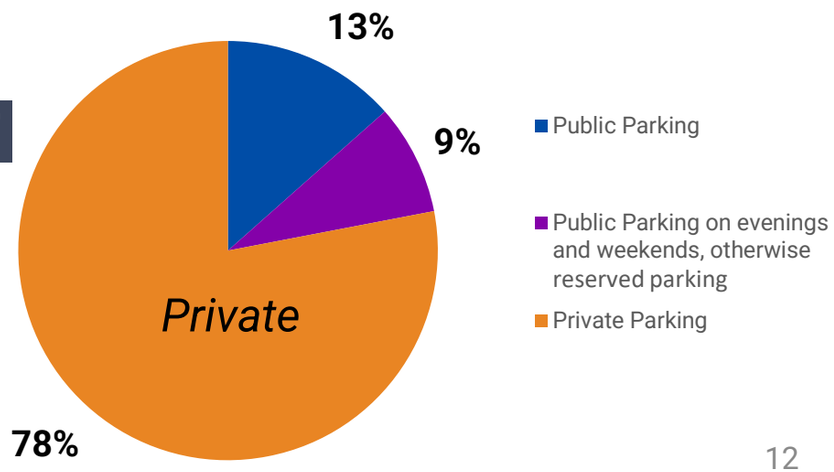
There are 1,282 on-street parking spaces, of which 177 (14%) are paid (aka metered) and have a 2-hour time limit. Most of the remaining **85% of the on-street parking is free and open to the public** (unregulated, 15-min parking, 1-hr parking, 2-hr parking); most of these free on-street parking spaces are not on Broadway itself. The remaining 1% of on-street parking is by permit only.

Most of the 1,205 off-street parking spaces are private parking (78%, 940 spaces). The off-street public parking is divided into parking that is available all the time (13%, 162 spaces) and parking that is only public in the evenings and on the weekends (9%,103 spaces), which reflects parking at the Staff Sergeant James J. Hill School and the Revere Historical Society. Overall, most of the off-street facilities are tied to a single use and not efficiently shared among user groups.

ON-STREET PARKING (1,282 spaces)



OFF-STREET PARKING (1,205 spaces)



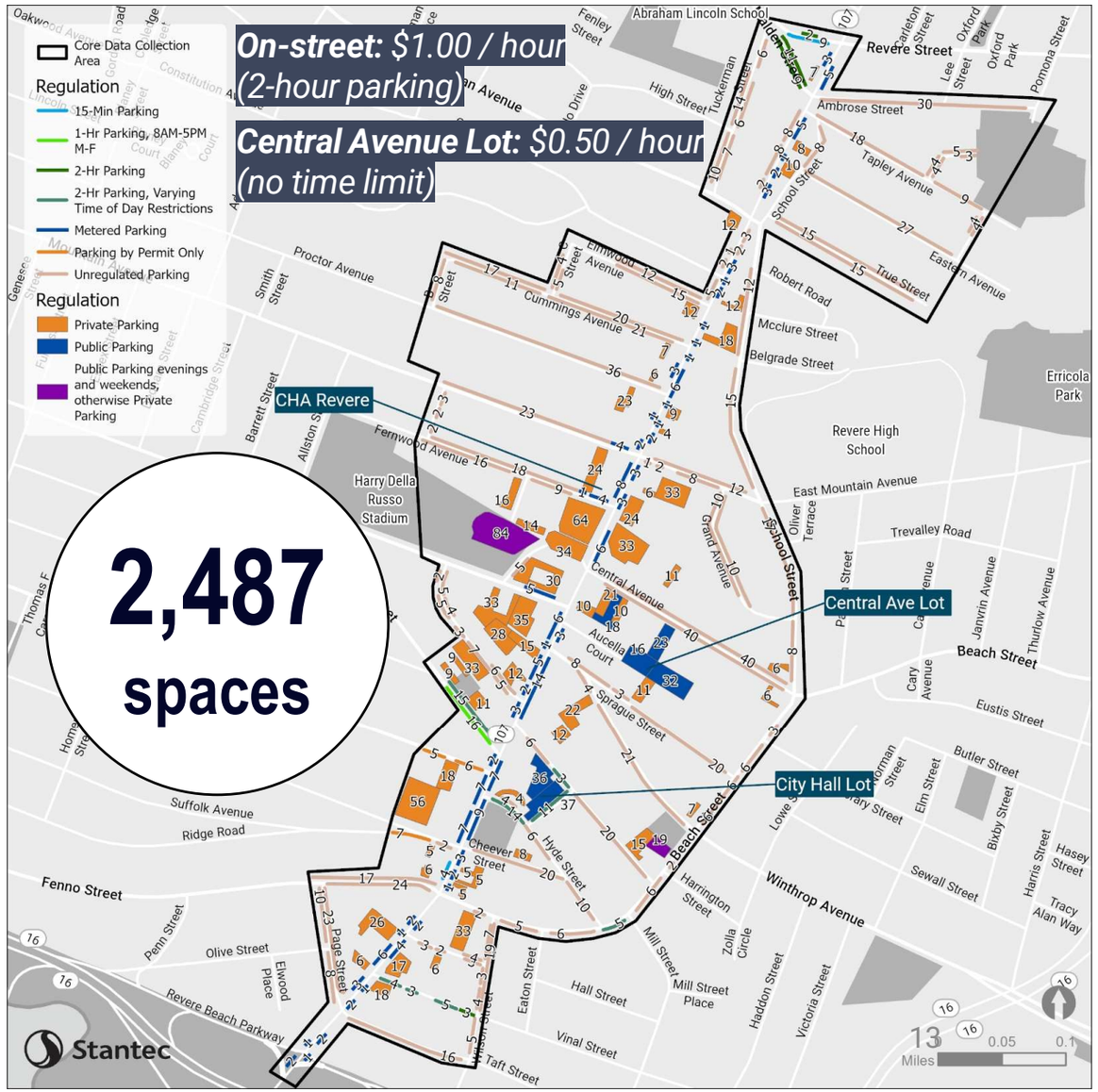
Parking Inventory

This map shows where the parking supply is located. Parking assets are color-coded by the same regulation categories on the preceding pages. In parking lots where there are different regulations for different subsections of the lot, the facility is broken into subsections on the map. The number of parking spaces for each parking asset is included on the map as well.

Most of the metered parking (note that all metered parking has a 2-hour time limit) is located on Broadway, which has 158 metered on-street parking spaces. Broadway also has 38 unregulated on-street parking spaces north of the Proctor Avenue intersection.

Side streets that intersect Broadway—in predominantly residential areas—offer unregulated on-street parking that is restricted to residential permit parking overnight.

The less common regulation types include time-of-day restrictions and permit restrictions for on-street parking located on nonresidential side streets in the Study Area.



Parking Inventory: Bus Lane

Along the west side southbound direction of Broadway is a dedicated bus lane. This lane is exclusively for buses from 4 AM to 9 AM during weekdays, which captures the morning peak rush hour period. Bikes are also permitted to use this lane.

During the weekday morning period when the right lane is exclusively for buses and bikes, 89 parking spaces become unavailable to users. During the weekdays outside of 4AM to 9AM and on the weekends, the bus lane becomes on-street parking that is either metered or unregulated, depending on its location on Broadway.

The dedicated bus lane is enforced on weekdays 4AM to 9AM and can be used as parking outside those hours. Bikes are also permitted in the lane.

Parking Inventory: Loading Zones

Despite being a major commercial and mixed-use street, Broadway has no designated Loading Zones in the Study Area. Instead, delivery trucks are allowed to park and load or unload at a parking meter for 20 minutes without getting ticketed. This approach only works if trucks are able to find parking not taken up by other vehicles and can complete their task within 20 minutes or less.

Although parking in the dedicated bus lane on southbound Broadway is prohibited from 4 AM to 9 AM, this truck loading regulation supersedes the bus lane regulation. Consequently, there is a clear contradiction in regulation that means trucks can be parked in the dedicated bus lane during the morning peak time with no means to remove them, which has caused delays for buses operating on Broadway in the morning peak.

A truck unloading along Broadway during the morning hours.

02 Parking Utilization

How the current parking supply is regularly occupied

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Data Approach and Intent

The team conducted in-person parking utilization counts in all accessible private and public facilities during a typical weekday (Thursday, March 20, 2024) and weekend (Saturday, April 18, 2024) to represent typical conditions of parking demand in the Broadway Corridor. Parking utilization counts include documenting all parked cars, whether parked legally or illegally, in each parking facility or on each block face.

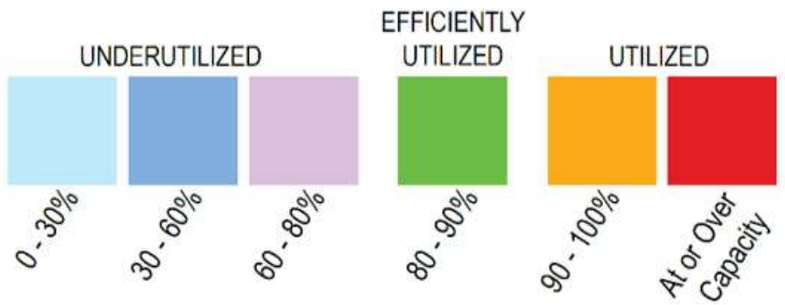
Counts included four weekday time periods to understand how demand changes throughout the day: 10:00 AM, 1:00 PM, 4:00 PM, and 7:00 PM. In addition, three weekend time periods were analyzed at 11:00 AM, 4:00 PM, and 7:00 PM.

What is Good Utilization?

To ensure efficient parking management operations in an urban area and allow reliable visitor access to destinations, it is ideal to maintain at least one empty space on each block face of **on-street parking**. This typically equates to about one out of eight spaces free, or a target of 15% vacant spaces per block face. Similarly, a goal of a maximum **20-10% vacancy (80-90% utilized)** is considered ideal in **off-street facilities**. This occupancy target assessment ensures that prime front-door spaces are available for those who need them—such as those with mobility challenges. If any facility has less availability than this (high utilization), it is usually the case that users feel the lot is full or have significant trouble finding an on-street space. However, if a facility has substantially more availability (low utilization)—especially near high-demand areas—this points to conditions or regulations that may be keeping potential parkers away, including walkability, price, time-limits, or wayfinding limitations.

The series of maps and charts on the following pages illustrate the results of the parking counts conducted on the Broadway Corridor. The maps demonstrate utilization levels for each individual parking facility or block face, and their color heat map scheme shows green for optimal utilization, **80-90% utilized**. The bar charts illustrate how overall Study Area utilization levels change throughout the day.

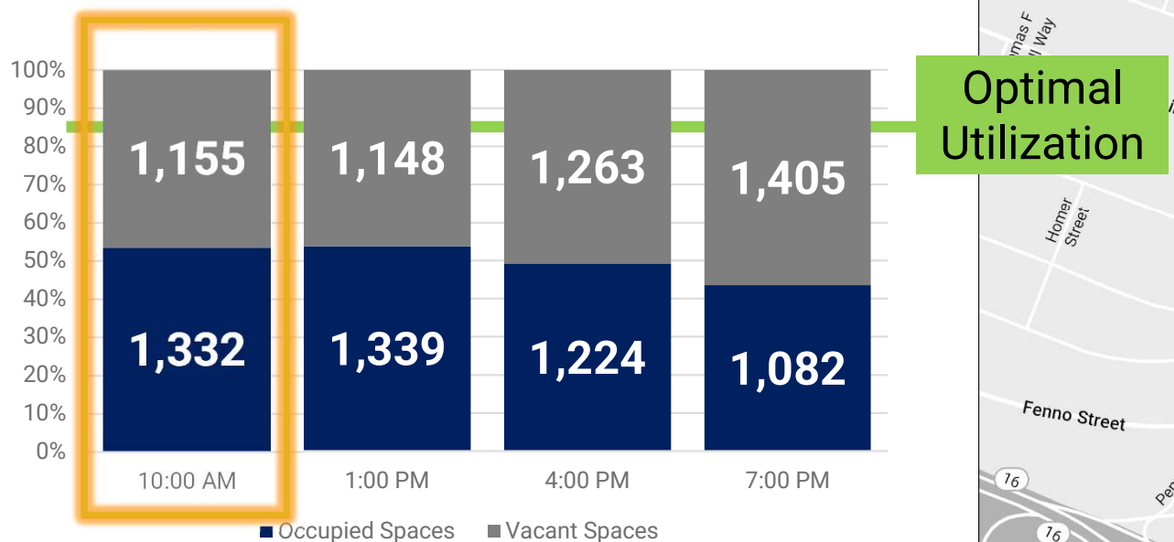
Identifying where and when parking spaces are being utilized can lead to a deeper understanding of the factors that influence space use, such as their proximity to popular destinations (i.e., front door access), awareness of the facility (i.e. is wayfinding adequate), the impact of time-limits (i.e., whether the threat of a ticket meets the needs of a visitor making a short trip vs. an employee), and more.



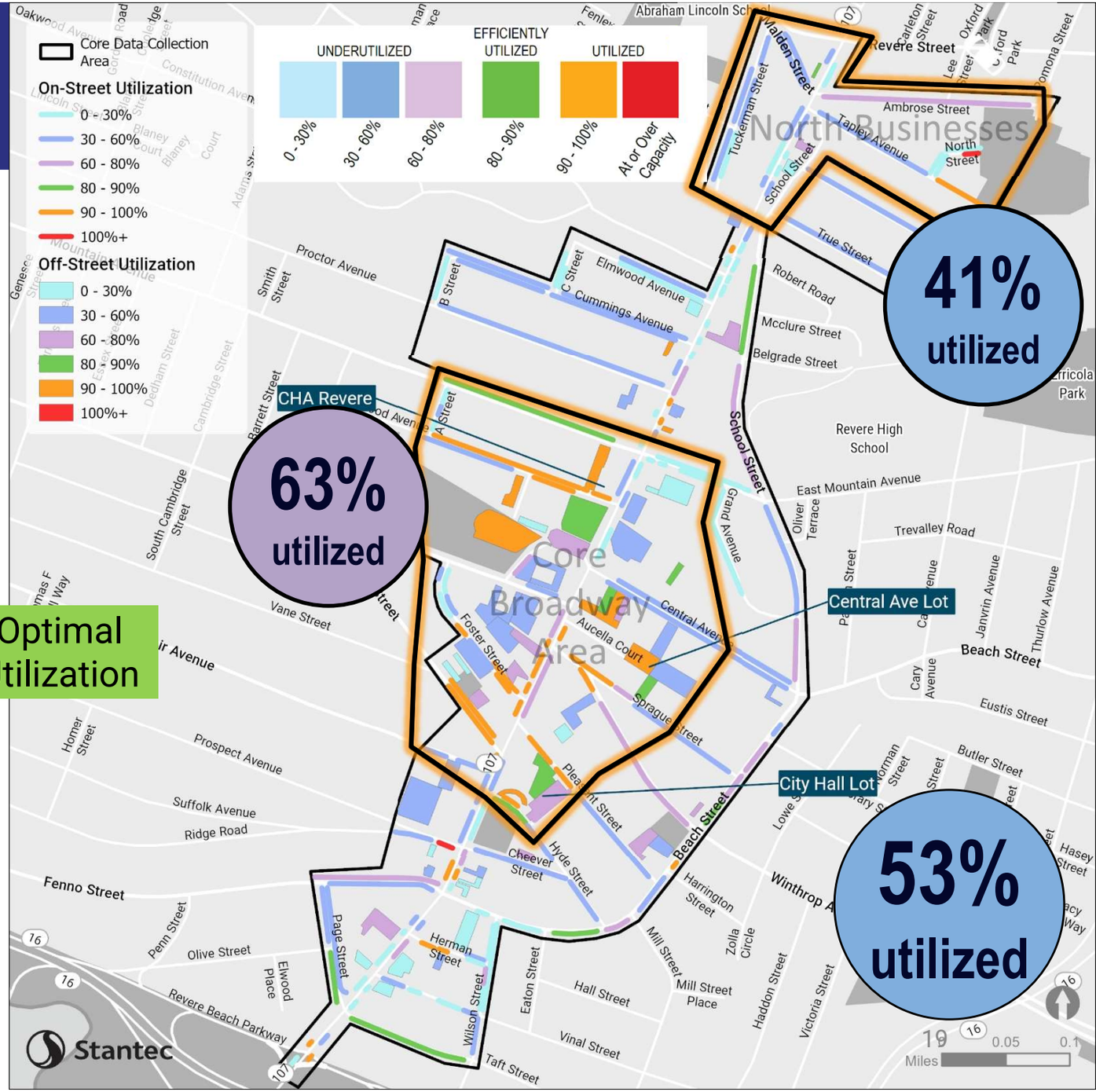
Utilization – Weekdays

THURSDAY – 10 AM-12 PM

Taking the Study Area as a whole, the overall utilization is only 53%. The commercial and civic core area (Mountain Avenue to City Hall) is higher at 63%, but this is still not “efficiently utilized” overall, though certain blocks and lots are in the fully utilized category (90-100%). The northerly business area (Revere Street to Cushman Avenue) is even less utilized at 41% at this time.



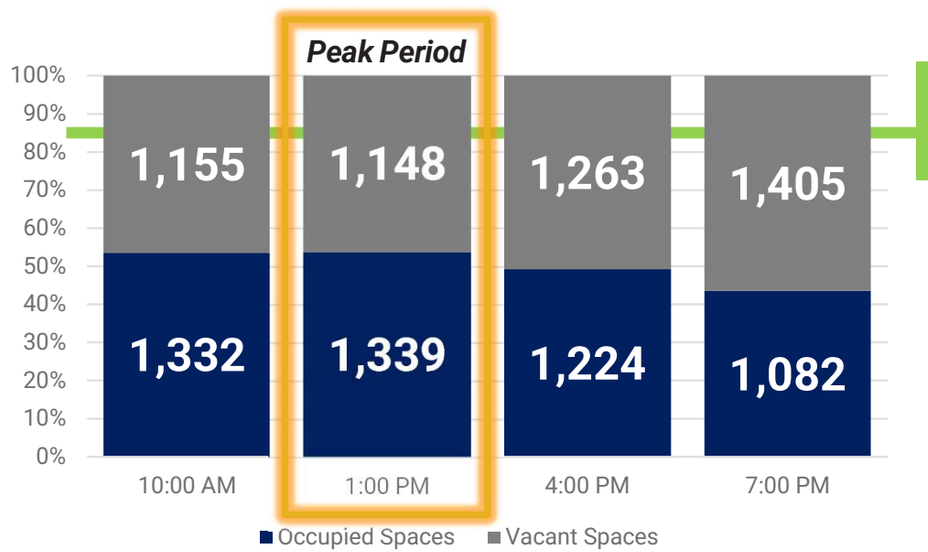
March 21, 2024. This data collection overlapped with Street Sweeping for some on-street parking locations east of Broadway.



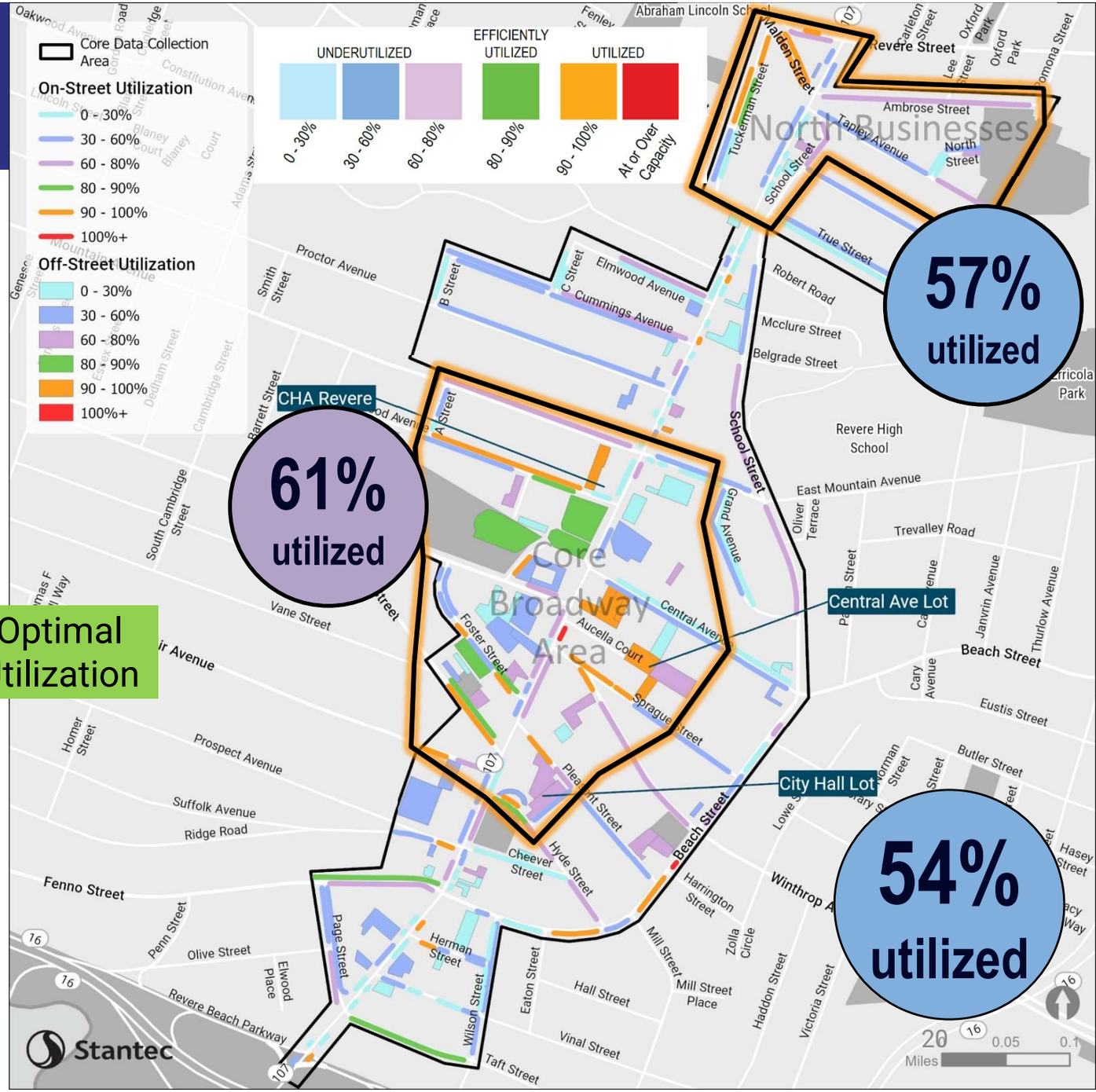
Utilization – Weekdays

THURSDAY – 1 PM-3PM

The early afternoon, 1PM to 3PM is the busiest time of day for the Study Area; however, this is still only 54%. At this time, the core area rises to 61% utilization and the northerly business area to 57%. Since the Central Avenue Lot is subdivided by different user groups, some sections are over utilized while others are under utilized at this time.



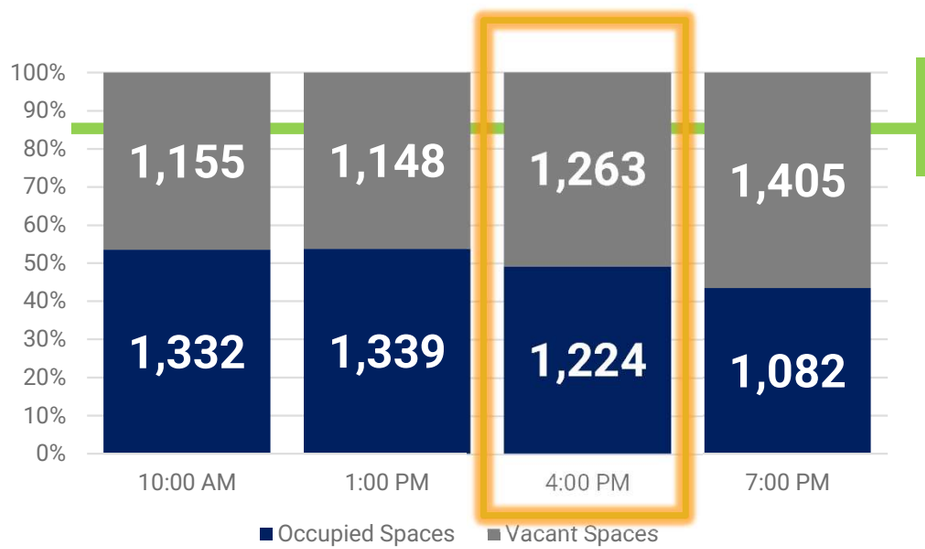
March 21, 2024. This data collection overlapped with Street Sweeping for some on-street parking locations east of Broadway.



Utilization – Weekdays

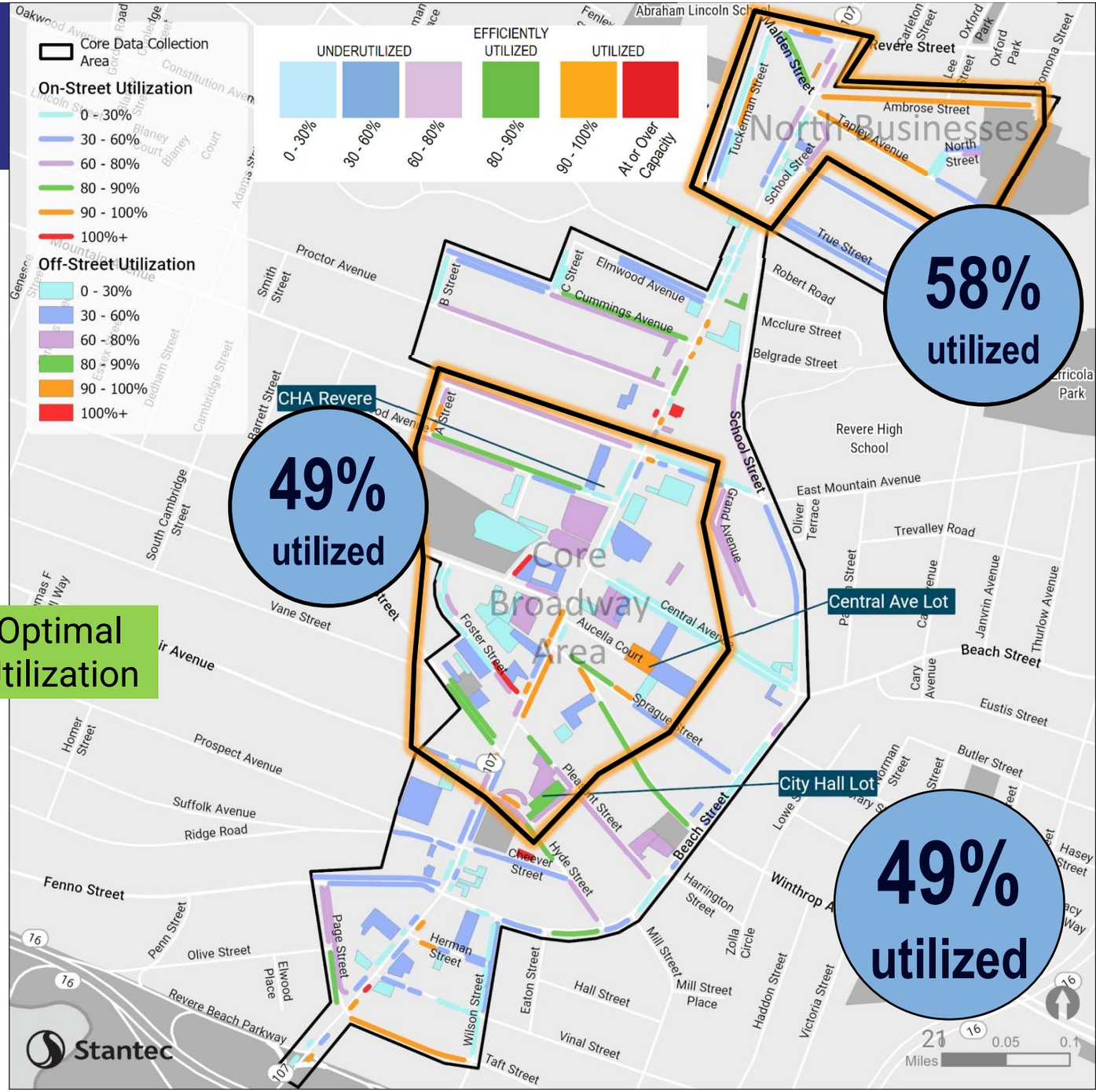
THURSDAY – 4 PM-6PM

Utilization begins to decrease to 49% during this time as people transition from daytime to evening activities. The core area and the overall Study Area are each at 49% utilization. The northerly business area is up to 58% utilization.



Optimal Utilization

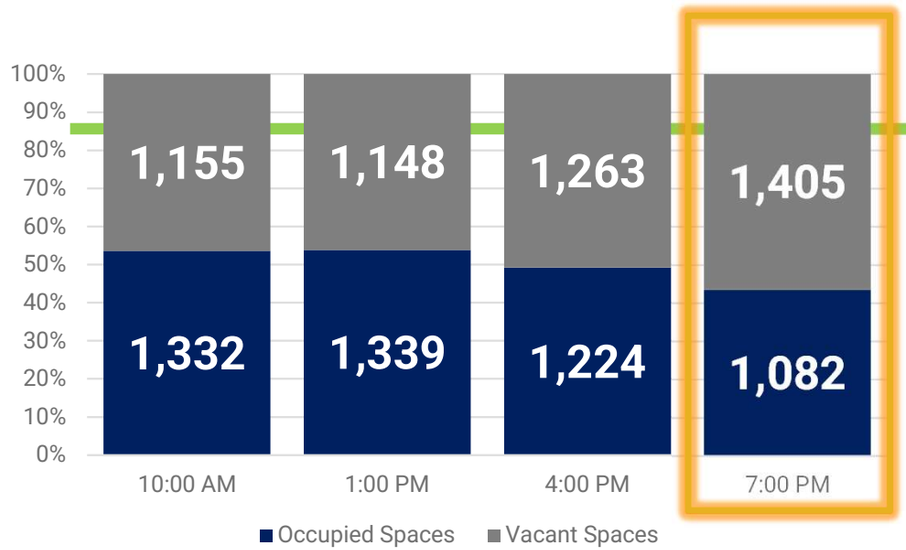
March 21, 2024



Utilization – Weekdays

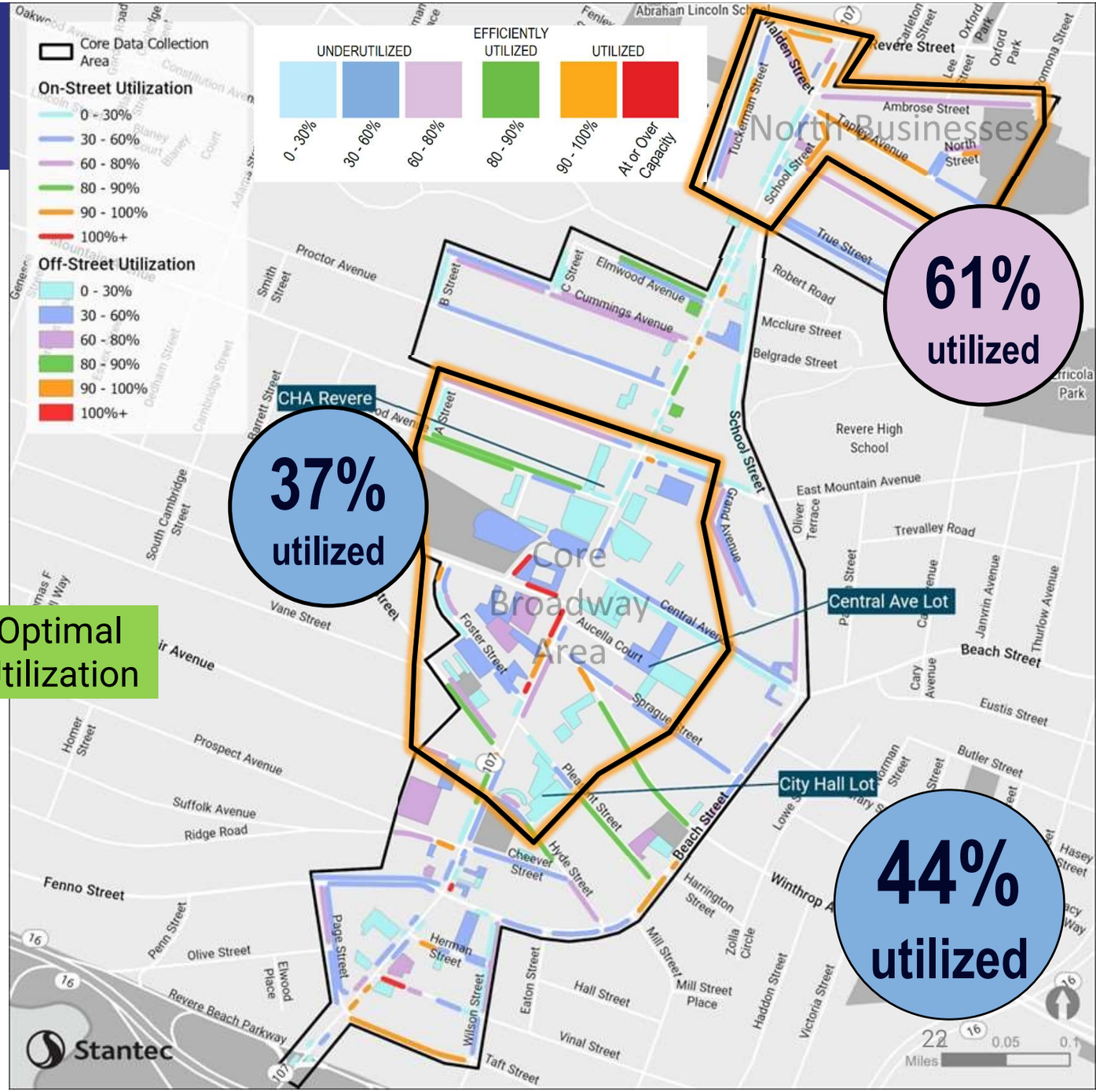
THURSDAY – 7 PM-9PM

The overall utilization continues to decrease to 44% by the evening period. The core area utilization further decreases to 37%. In contrast, the northerly business area has its highest utilization during this time at 61%. This shift in parking utilization reflects a shift away from the City Hall and office users during the day to dining and residential users in the evening.

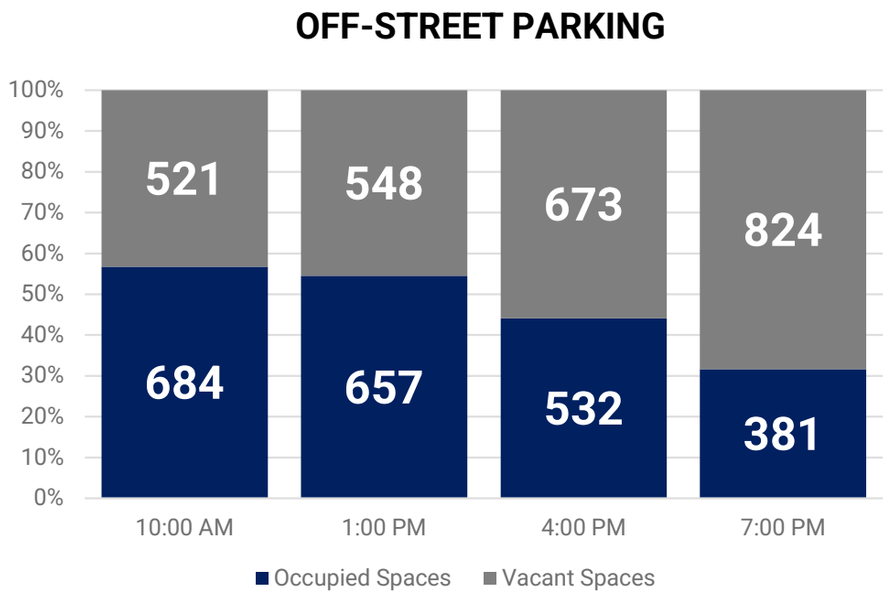


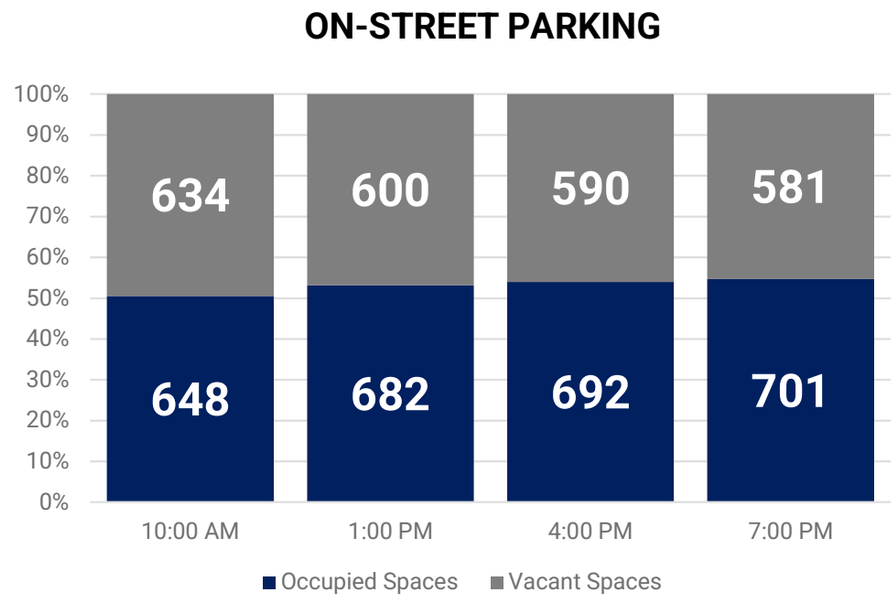
Optimal Utilization

March 21, 2024



Utilization – Weekday Overall Summary



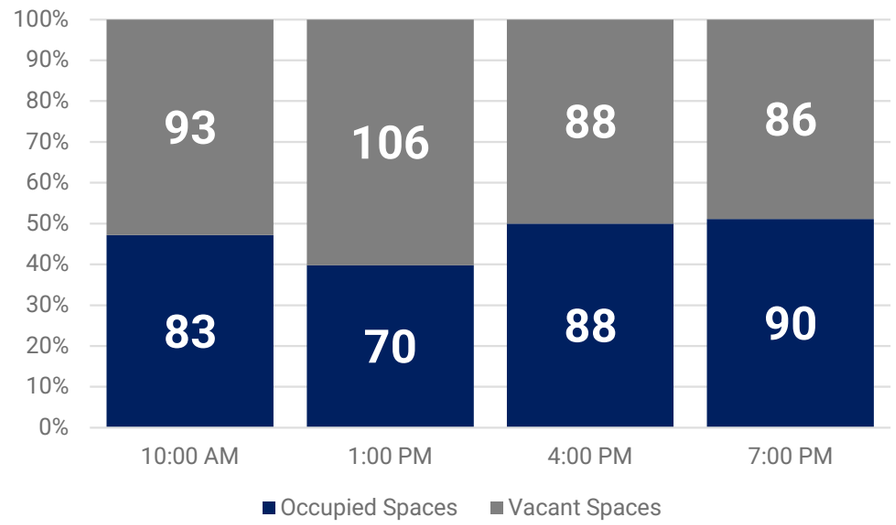


Overall, off-street parking never exceeds 57% and on-street parking never exceeds 55%, **indicating significant available parking capacity in the Study Area**.

Off-street parking utilization peaks in the morning (57%) and decreases throughout the day to 32% in the evening. On-street parking is the opposite, and increases slightly throughout the day, from 51% in the morning to 55% in the evening.

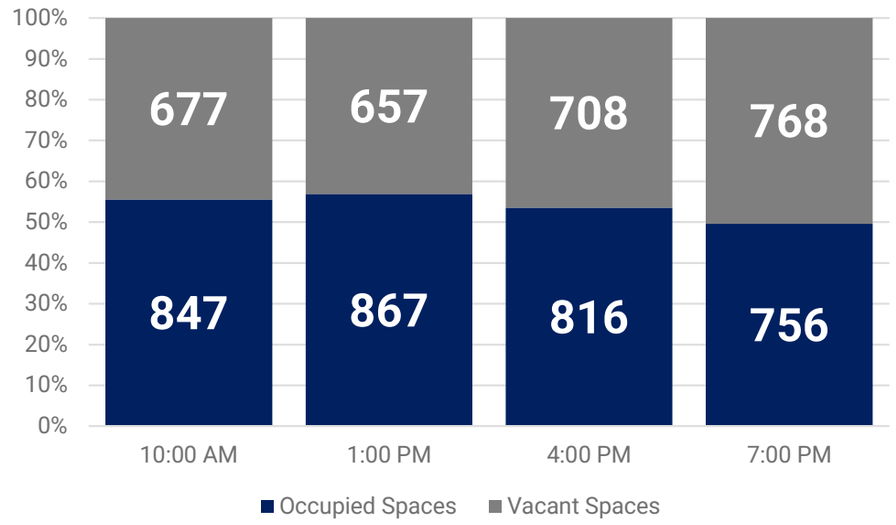
Utilization – Weekday Public Summary

METERED ON-STREET PARKING



While maps on the previous pages reveal certain block faces of on-street parking with optimal or higher than optimal utilization, the overall **on-street metered parking utilization never exceeds 51% at any point on a typical weekday.** This peak occurs at 7PM and the other weekday time periods have similar utilization percentages, with the lowest being 1PM (40% overall).

ALL PUBLIC PARKING (ON AND OFF-STREET)

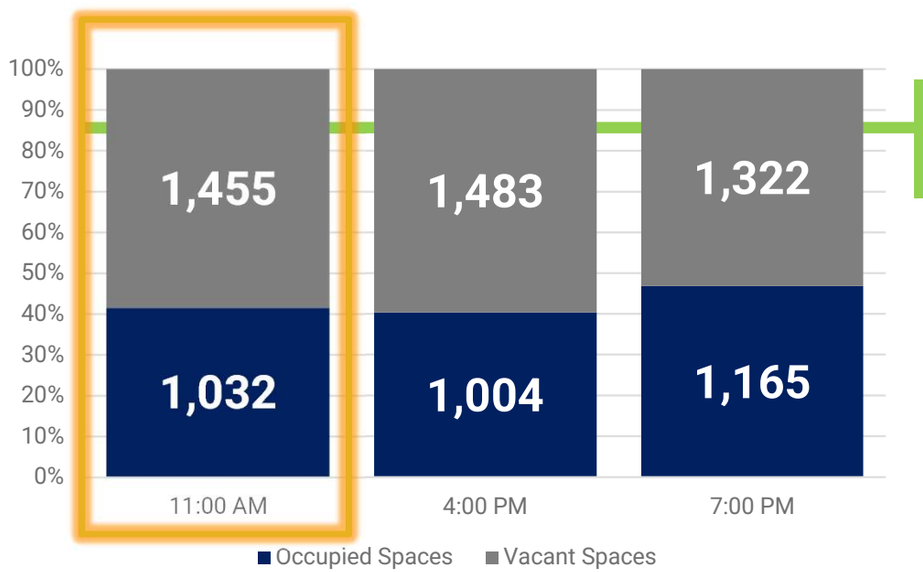


Looking at **all public parking** covering both on- and off-street together (including metered and non-metered), utilization **never exceeds 57%**. This peak occurs at 1PM and other weekday time periods have a similar utilization percentages, with the lowest being 7PM (50%).

Utilization – Weekends

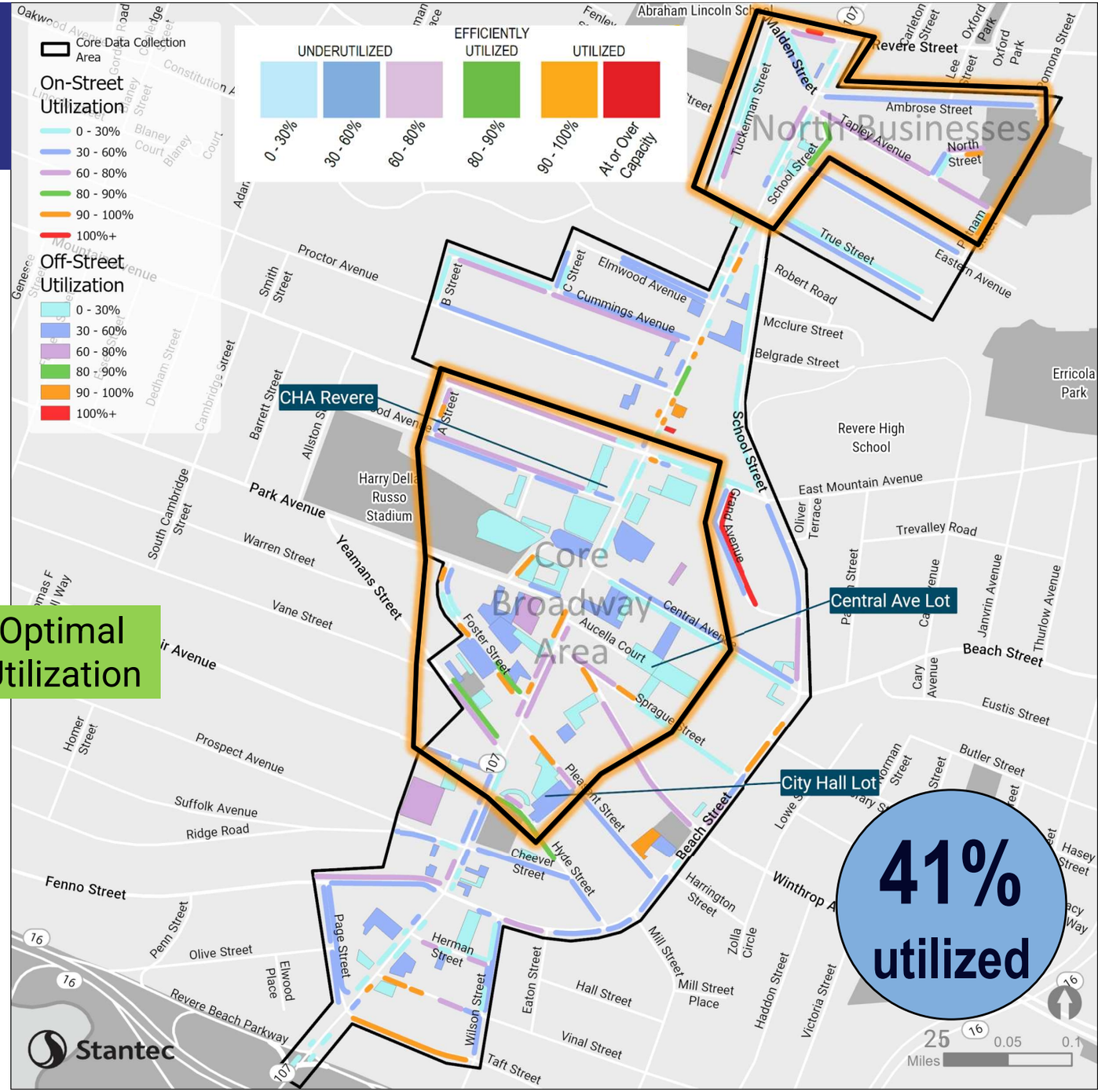
SATURDAY – 11 AM

Saturday mornings see low parking utilization, with both on- and off-street parking options being lightly utilized. Taking the Study Area as a whole, the overall utilization is only 41%. There is ample public parking available, in public parking lots including the Central Avenue Lot and the Staff Sergeant James J Hill School lot (open to the public on weekends).



Optimal Utilization

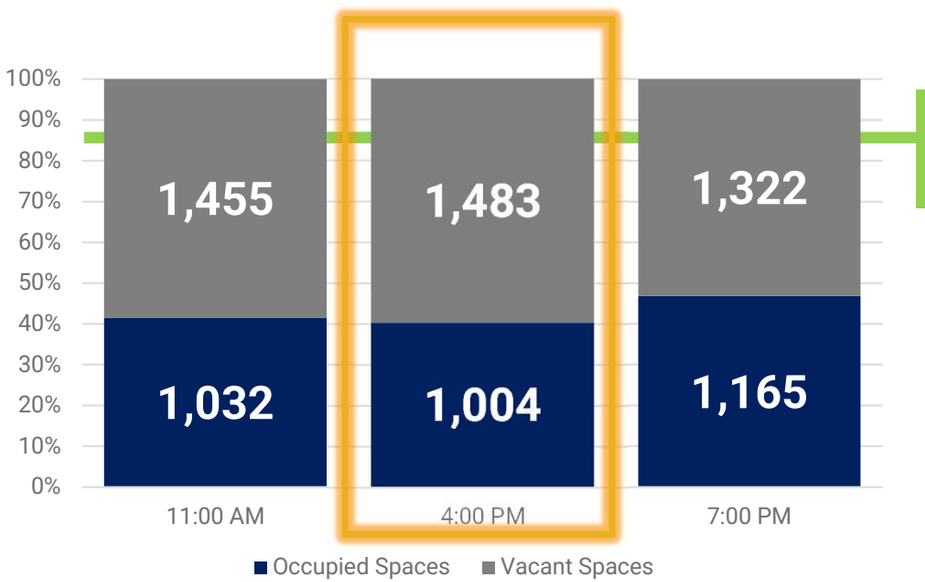
May 18, 2024



Utilization – Weekends

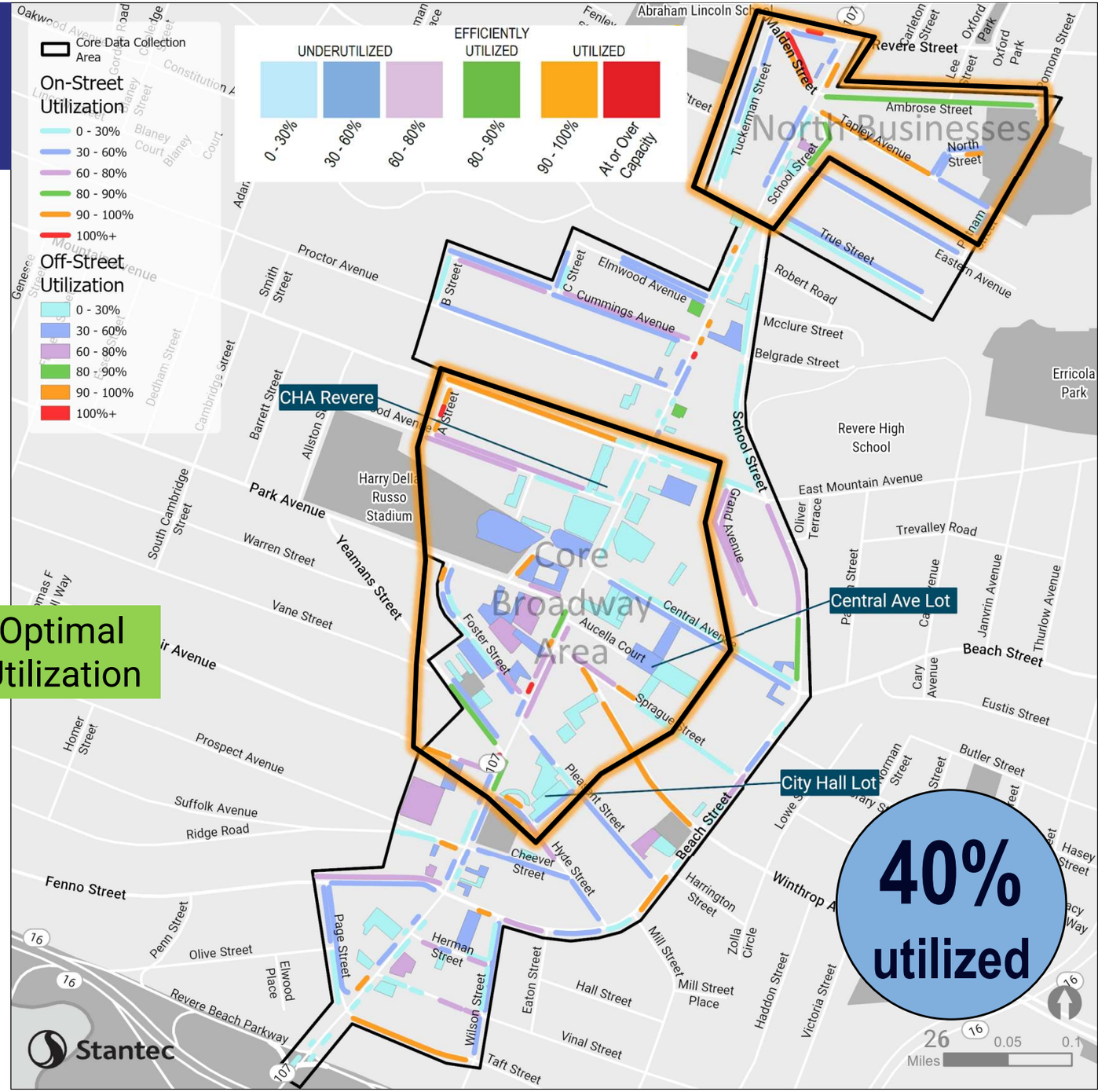
SATURDAY – 4 PM

Afternoon weekend conditions are similar to morning weekend conditions with 40% utilization across the Study Area. On-street parking along residential streets is now more utilized, compared to morning conditions.



Optimal Utilization

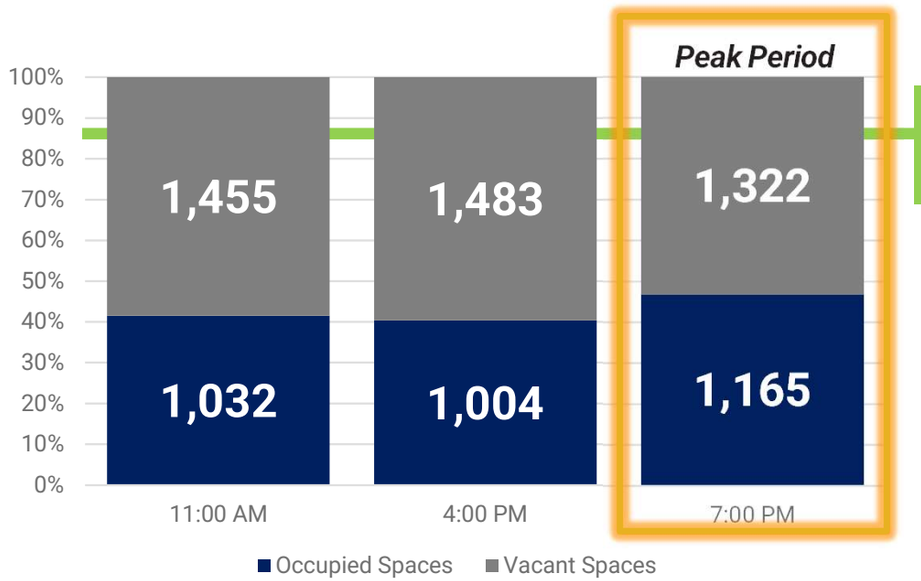
May 18, 2024



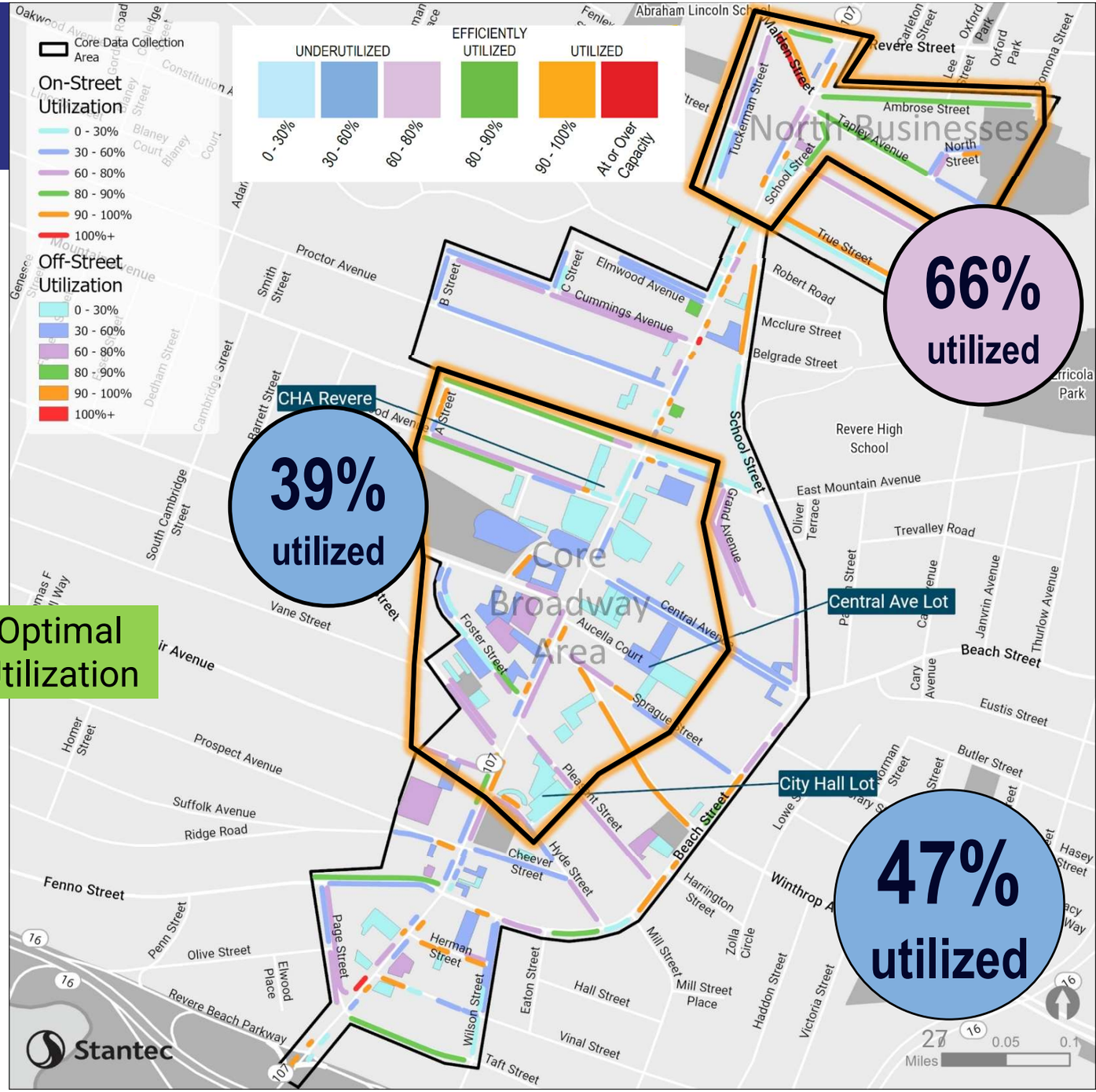
Utilization – Weekends

SATURDAY – 7 PM

For the Study Area as a whole, the evening utilization is slightly higher on Saturday (47%), compared to Thursday (44%). However, more than half of the parking system remains available. Similar to weekday evenings, the northerly business area sees the highest utilization during this time (66%); higher than the weekday (61%).

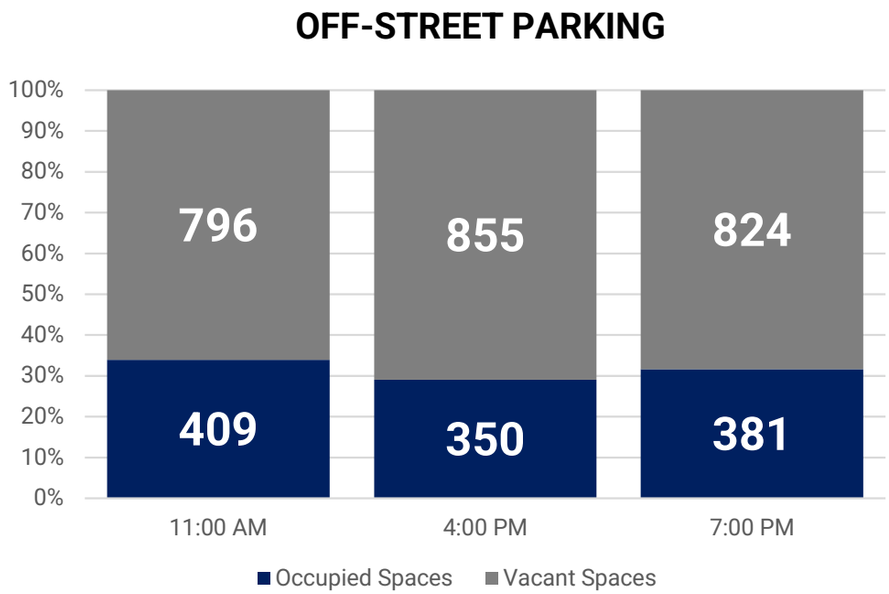


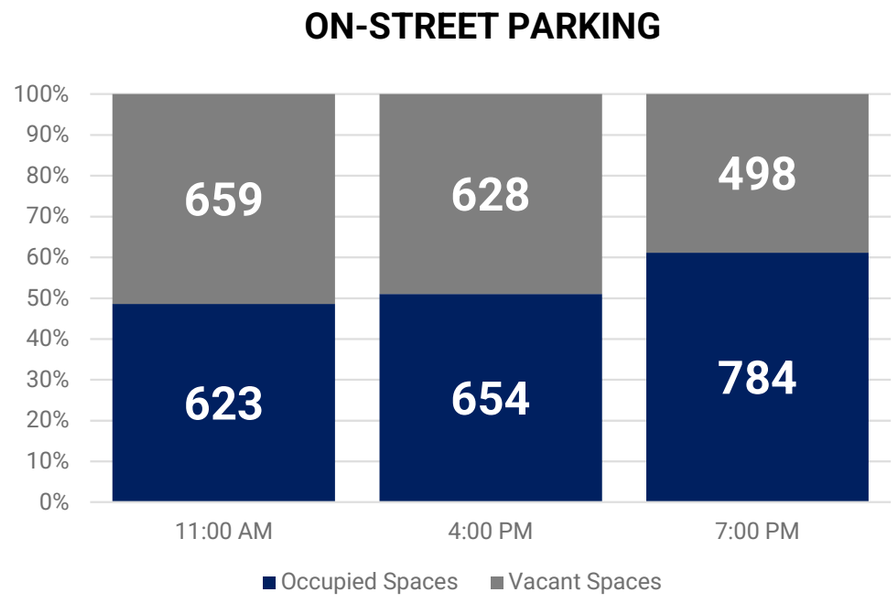
Optimal Utilization



May 18, 2024

Utilization – Weekend Overall Summary





On the weekend, on-street parking is more heavily utilized—hovering around 50-60%--as compared to off-street parking, which hovers around only 30% utilized all day. On-street parking utilization gradually increases throughout the day, peaking in the evening at 61% utilized.

Parking Utilization Summary

Parking utilization in the Study Area never exceeds 54% on weekdays and 47% on weekends. This means that the overall Study Area has available capacity, but it would benefit from changes in management and policy to more efficiently and evenly spread utilization out across the Study Area.

On **weekdays, on-street** parking utilization remains consistent throughout the day, ranging from 51% to 56%, while **off-street** parking decreases as the day progresses from 57% to 32%. Overall, combine weekday parking utilization does not exceed 54%.

On **weekends, the off-street** parking in the Study Area remains consistently underutilized, remaining around 30% utilized for the duration of the day. **On-street** parking is more active and increases from 49% utilized to 61% by the evening, though it remains under optimal utilization overall. Overall, combined weekend parking utilization does not exceed 47%, which occurs in the evening.

During **weekdays**, the core area (Mountain Avenue to City Hall) has some stretches of on-street parking nearly at peak utilization or overutilized. Meanwhile, the core area has its lowest utilization on weekday evenings (37%), whereas the northerly business area (Cushman Avenue to Revere Street) has its highest utilization at this time (61%). This shift in parking utilization reflects a shift away from City Hall and office daytime uses towards dining and residential uses in the evening.

03 Pricing and Permits

How parking is priced and allocated to certain groups

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Parking Pricing

On-street metered parking in Revere costs $1.00 per hour and is limited to **2-hour parking**. This metering is in effect from 9 AM to 7 PM, Monday through Saturday. This means that during overnight hours (after 7PM) and on Sundays metered parking becomes free and without time restrictions.

The Central Avenue Lot costs $0.50 per hour and **does not have any time limit**. The lot operates from 9 AM to 5 PM from Monday through Saturday. Outside of those hours, it becomes parking by permit only, to meet the demand of seniors and proximate residents who have permits for the lot. On Sundays, the lot becomes free public parking.

For either metered on-street spaces or in the Central Avenue Lot, users can pay at a **meter (on-street only), kiosk, or app**. App options for payment include the Passport Parking App or Park Boston.

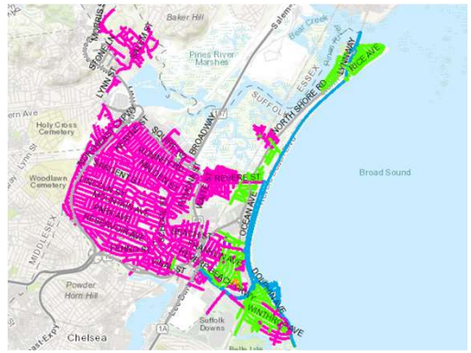
Parking Meter details from City of Revere Parking website

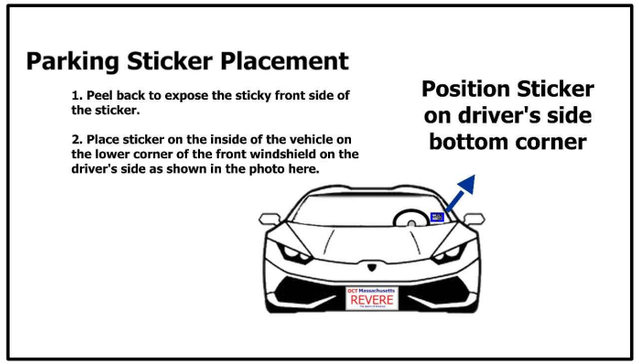
Parking Kiosk in the Central Avenue Lot

Permit Program

Permits grant a user permissions to park in a certain area and not pay a meter fee if there is one. Permits are required for nearly every residential street in the City of Revere from 12 AM to 6 AM. Except for on-street parking in the Revere Beach area, most streets in the City of Revere do not require a permit for parking during the day. The permit application is easily accessible on the City's website and requires proof of residency and vehicle registration. Once it is approved, a permit is mailed to the applicant. Revere uses windshield stickers as permits, with the exception of visitor and special consideration permits, which use a movable placard.

Overnight parking is enforced city-wide from 12 AM to 6 AM daily, excluding holidays. Residential permits are valid on the street where the vehicle is registered or any adjacent street. Visitor permits can only be used 8 days in a month. Streets closer to the beaches are always resident parking only and subject to 24-hour enforcement.





Map & Instructions from City of Revere Parking website

Permit Type	Price	# Issued
Resident	FREE with a vehicle registered to Revere address	~22,000 issued per year (2023 estimate)
Visitor	$10/permit (issued once per year)	~8,000 issued per year (2023 estimate)
Temporary Placard	$10/permit (issued up to 30 days)	
Special Consideration Placard	$10/permit (issued once per year)	
Commercial Vehicle	$420/year (issued once per year)	
Business Parking	$100/year or $10/month	
Landlord Parking	$10/month (issued once per year)	
Healthcare Worker	$5/permit (issued once per year)	

04 Operations

Parking Enforcement, Violations, and Budget

Stantec

Staff Protocols for Enforcement

There are three enforcement shifts, with some overlapping shifts to cover most hours when parking restrictions are active. Enforcement generally focuses on street sweeping violations in the early morning, meter violations during the daytime, and residential and commercial violations during the nighttime. There is a 16-hour gap in enforcement from Saturday evening at 6 PM to Sunday morning at 10 AM. Parking enforcement personnel for the City of Revere drive–rather than travel on-foot—while working their shifts.

Overall, time-limit violations are seldom enforced nor are they restricted in the parking app. As a result, many vehicles park over the time-limit indicated by the signage. Occasionally there are complaints about flagrant violators, and some chalking enforcement may be conducted; but overall, not many tickets are issued for this type of violation.

Areas that could be considered enforcement “hot spots” include the southern stretch of Broadway between Park Avenue and Fenno Street. Generally, the 4-block radius around Broadway experiences heightened enforcement as compared to other parts of the city.

Parking Division Budget

The **Parking Division's budget is formulated from several sources**. The City Council of Revere provides a general fund transfer of $800,000 per year to the Parking Division out of its Meter Reserve Fund, which is derived from parking meter revenues to cover direct spending for the Parking Division.

The City of Revere's **Parking Benefits District**, established in fiscal year 2023, currently has about $40,000 in surplus funds. The Benefits District's purpose is to fund improvements along the Broadway Corridor. However, no funds have yet been spent. Funding is derived from surplus revenues from all meters in the city plus revenue from Business Permits for the Central Avenue Lot and Shirley Avenue Lot.

In 2023, the **Parking Division's total revenue collection was $2.2 million,** based on its Meter Take Report. This figure includes meter revenue and violations for the entire city, including locations outside of the Broadway Corridor Study Area—most notably Shirley Avenue.

All standard parking violations in Revere have an associated fee of **$20 per ticket**. A total of **48,000 violations were issued in 2023, resulting in a total of $1.6 million in tickets issued**.

Of the 48,000 total violations, over 7,000 were meter violations. Around 86% of these tickets were paid. 25,000 of the violations were residential violations, generating a revenue of $442,140. 10,214 violations issued were due to street cleaning; these tickets brought in an additional $466,510 in revenue. There were also around 500 overnight parking violation tickets distributed per week.

05 Community Engagement

Incorporating the community's needs

Stantec

Community Engagement Overview

The *Broadway Corridor Parking Supply Management Plan* occurred at the same time as the *Broadway Master Plan*. The *Master Plan* is an outgrowth of the 2021 *Local Rapid Recovery Project Plan* for the city's central commercial corridor. The Master Plan will include an economic and land use analysis of the corridor. It will also "establish short and long-term goals related to business growth, land use, parking, policy, and infrastructure."

The two integrated studies participated in the following joint public engagement activities:

The first phase of the Master Plan community engagement was a **public meeting on April 1st, 2024**. There were about 50 attendees. The meeting included a presentation followed by a series of small group brainstorming sessions.

In the second phase, a **community survey was distributed in April 2024**, which captured 172 respondents. The survey consisted of 19 questions covering topics such as parking, general land use, economic development, and placemaking factors. This section summarizes the key parking-related findings; the full set of parking related survey responses can be found in the appendix.

Survey Results & Analysis

When taken together, the two questions about (1) how long visitors stay in the Broadway Corridor Study Area and (2) how frequent visitors come to the Study Area, reveal how time-limits may be working against the desires of some users.

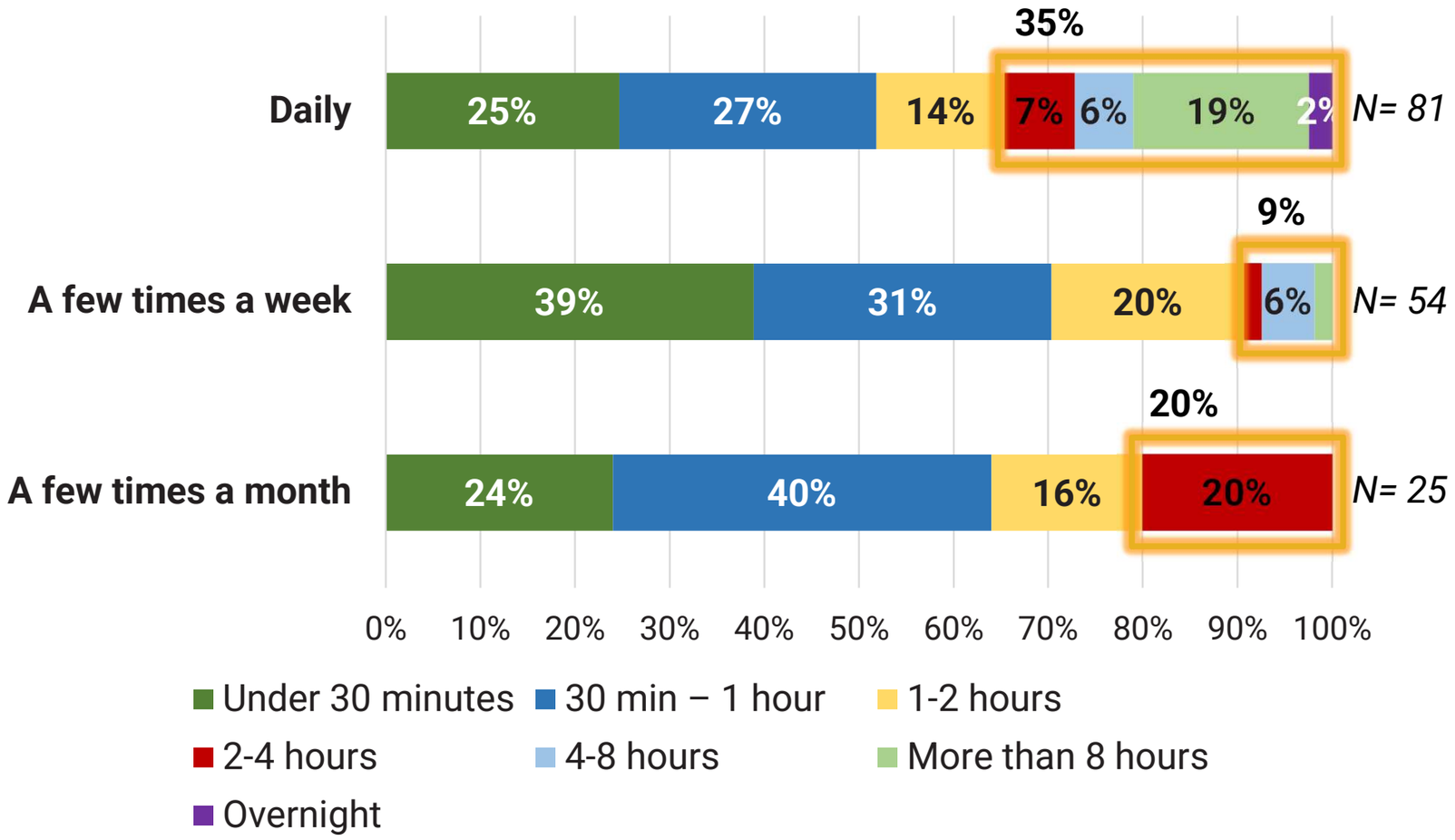
People who visit Broadway daily tend to stay for longer durations. 35% of respondents who visit daily were there for periods greater than 2 hours. These are likely employees who come to the Study Area for work.

By contrast, among those visiting a few times a week, 91% stay for less then 2 hours. More infrequent visitors who visit the Study Area only a few times per month are staying for moderately long durations, with 20% staying more than 2 hours.

"A few times a year" not included because only 7 respondents selected this option.

"Seldom" not included because only 5 respondents selected this option.

Length of Stay & Frequency of Visit

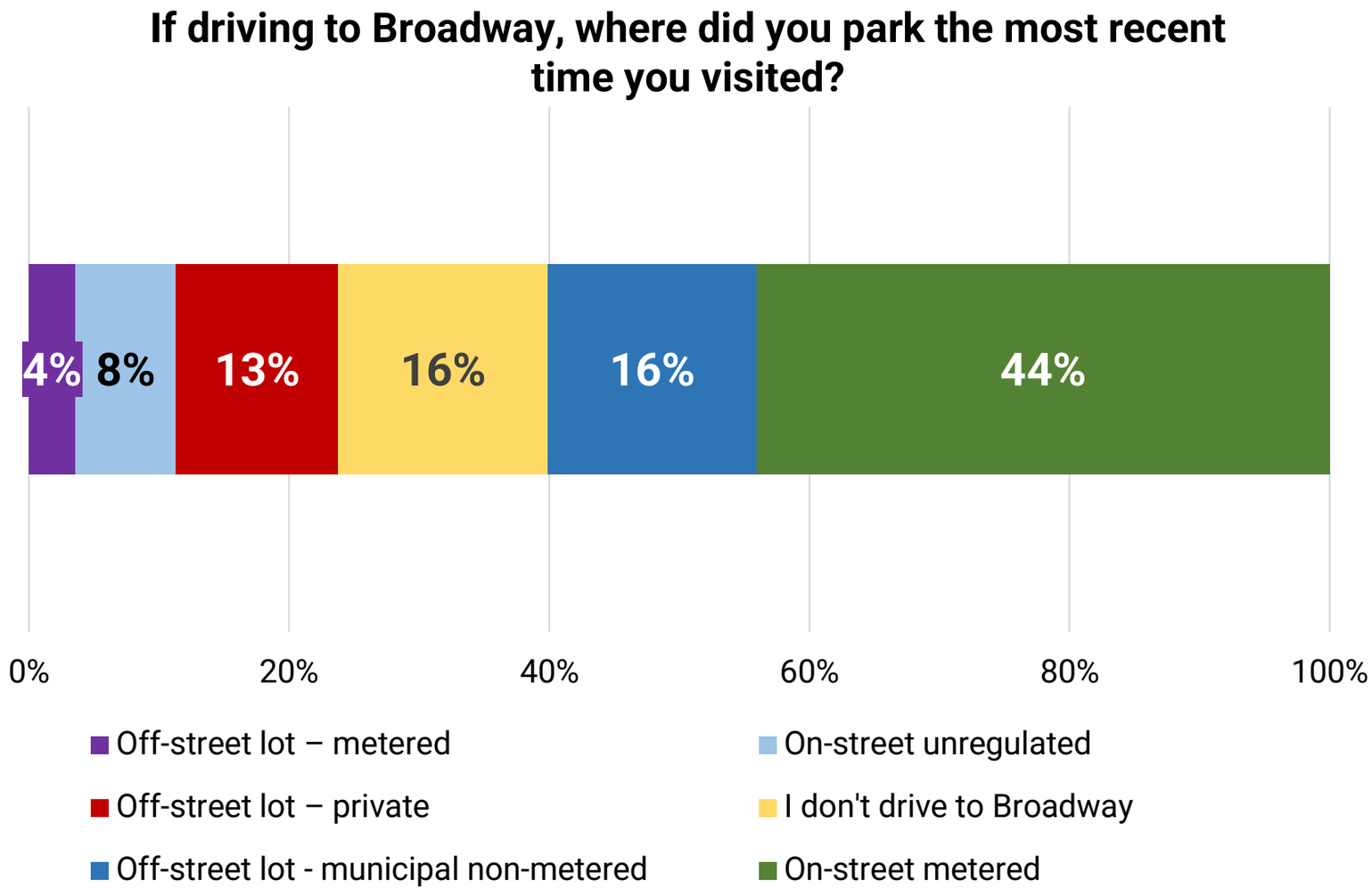


N = 160

Survey Results & Analysis

Parking in a metered off-street lot is the least common action taken by those parking near Broadway.

On-street metered parking is the most common choice for respondents and used ten times more often than off-street metered parking, even though public lots are half of the paid supply.



Respondents could select up to one

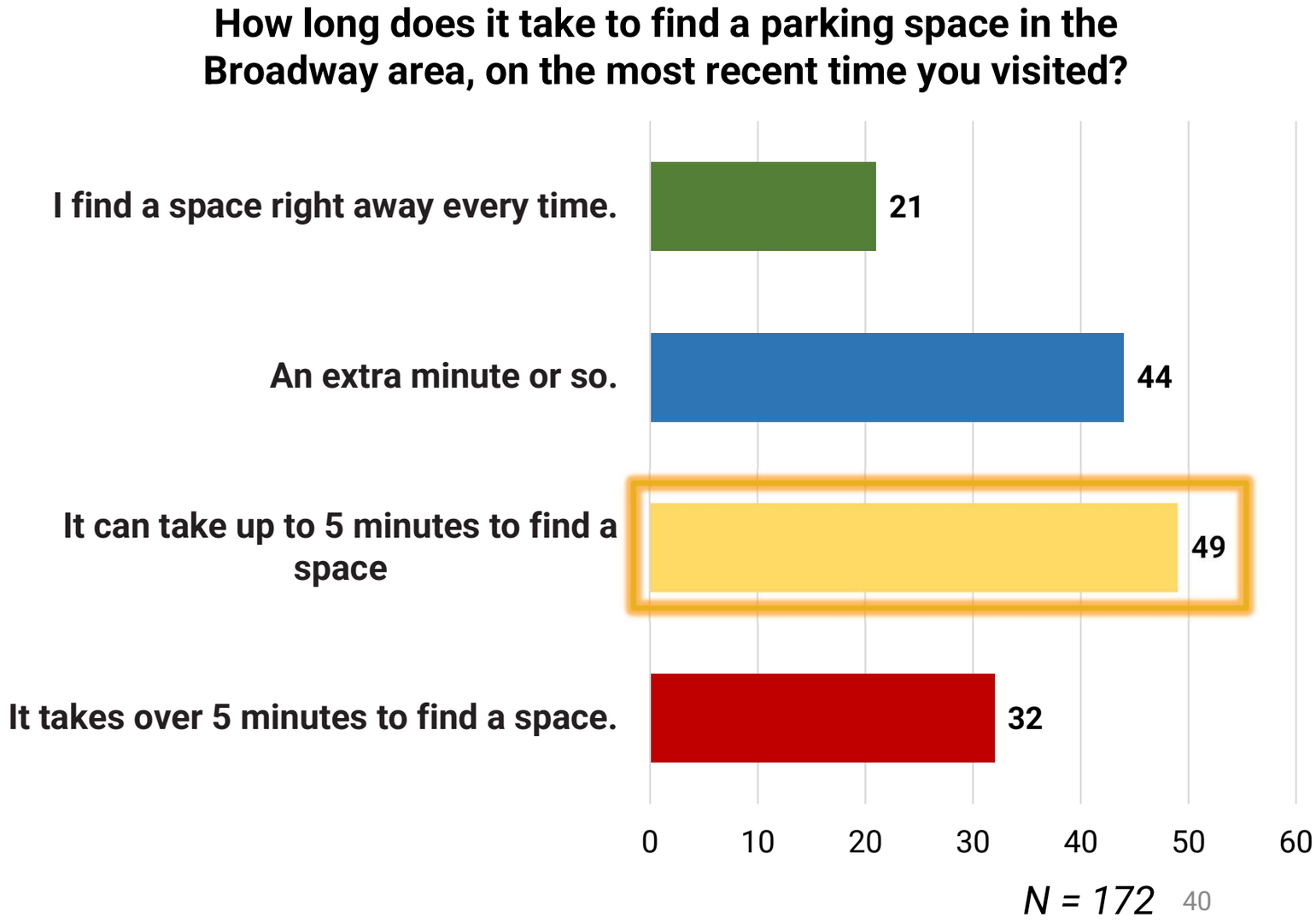
On-street permit parking not included because only 4 respondents selected this option

N = 168

Survey Results & Analysis

Most survey respondents need at least some additional time to find parking.

Nearly 19% of respondents report needing more than 5 minutes to find parking in the Broadway Corridor Revere

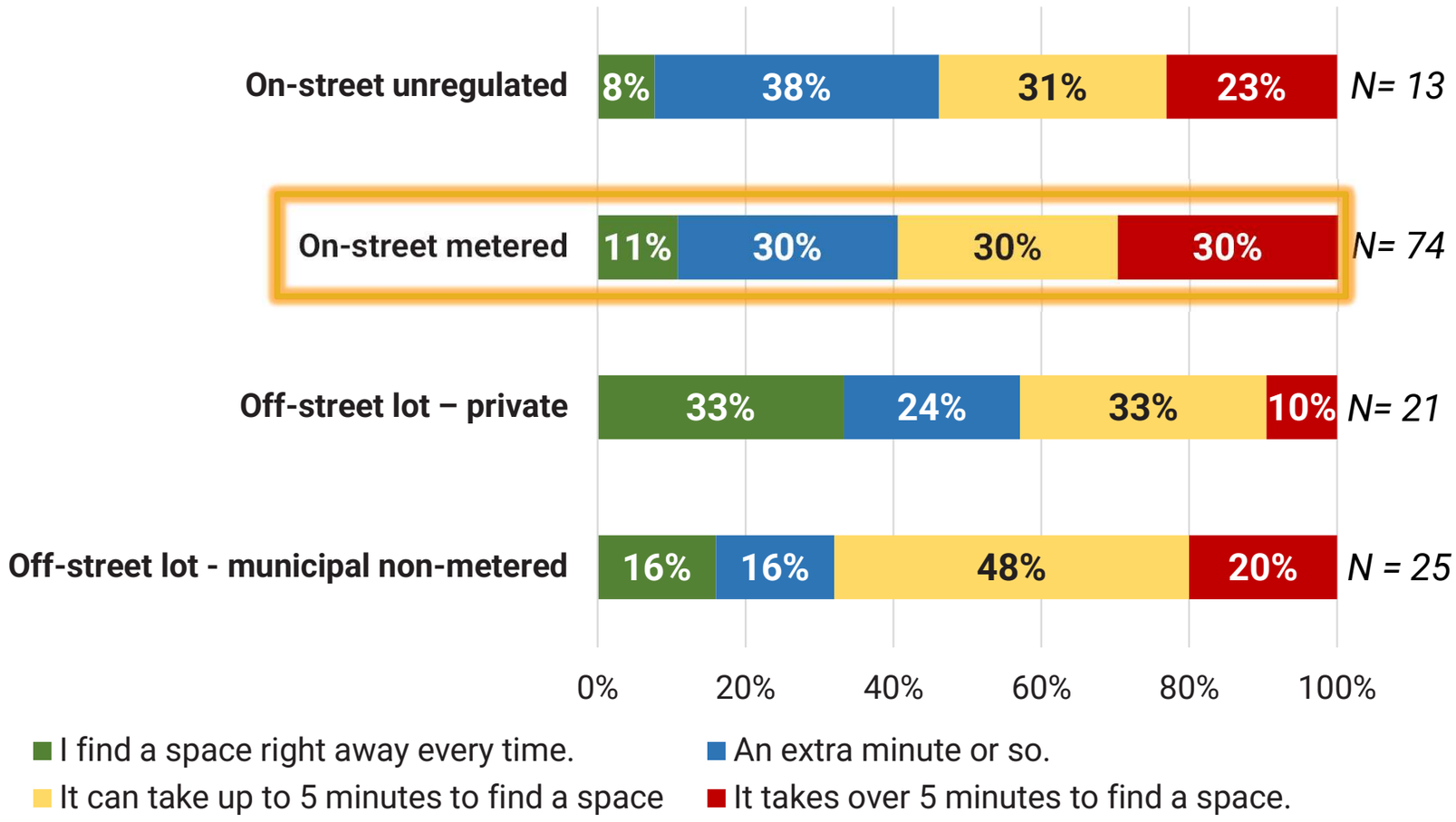


Survey Results & Analysis

Survey respondents who end up parking in an on-street space tend to need longer time to find a parking space in the Broadway area.

Private off-street lots have the greatest percentage of respondents who find a space right away every time.

Parking Location & Difficulty



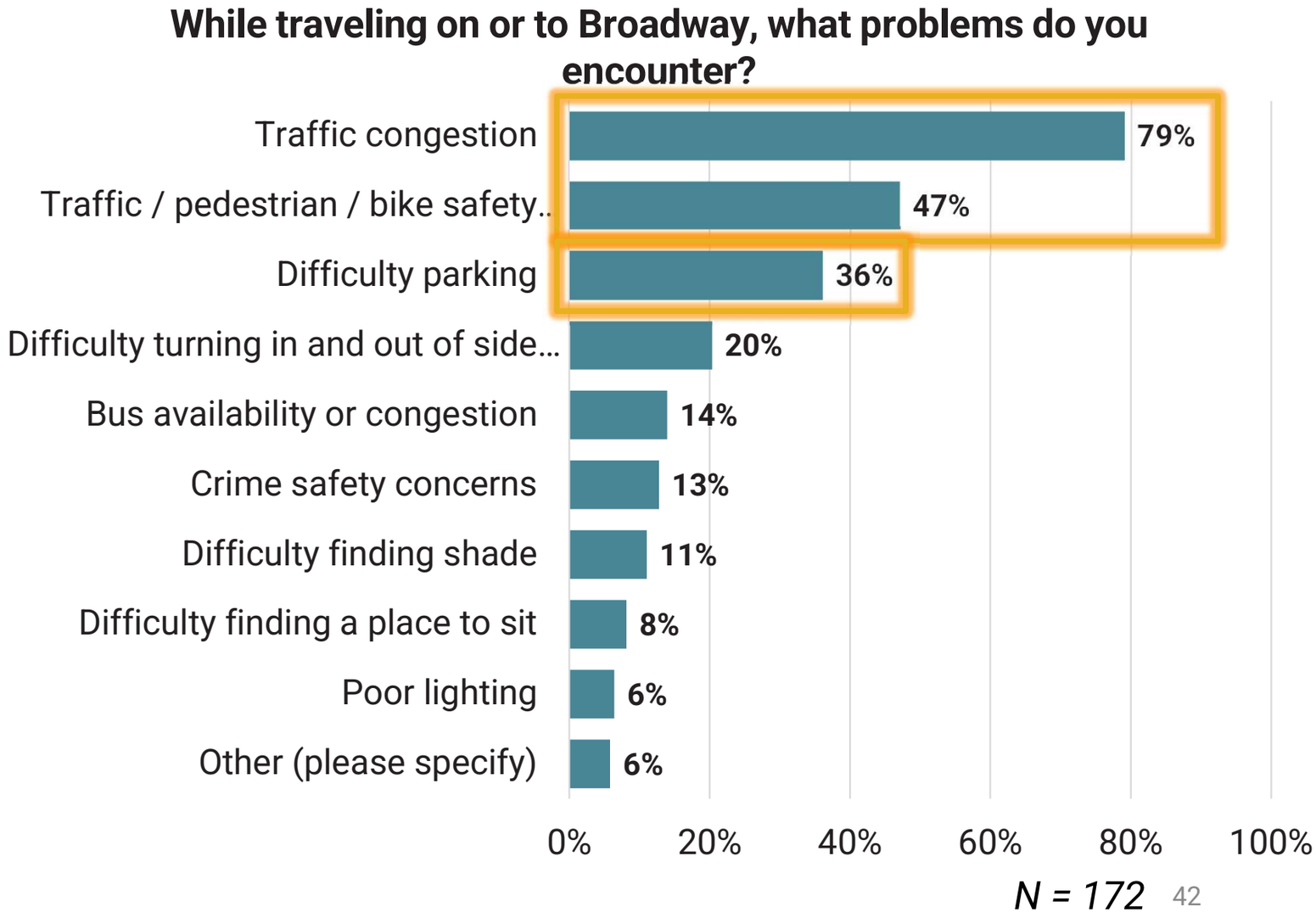
Off-street lot metered parking not included because only 6 respondents selected this option

On-street permit parking not included because only 4 respondents selected this option

N = 143

Survey Results & Analysis

People express more concern about general traffic and safety than parking.



06 Parking Demand Model

Understanding current parking demand and parking capacity for future development

Stantec

Land Use Overview

This section covers an analysis of the existing parking supply's ability to accommodate future development on Broadway, developed using a customized shared parking demand model. This section covers the inputs to this model and its projections when new hypothetical development is added to the Study Area.

A key component of this analysis is an understanding of the existing land uses present in the community. Parcel-level land use data provided by the City of Revere was verified through a combination of online research and "windshield" surveys via Google Maps. The land uses of the Study Area are shown in the figure to the right, with size information–by number of units, square feet, or students—per land use type in the table below.

Model Land Use	Size	Units
Apartments*	804	Dwelling Units
Govt. Office	50,000	Square Feet
Retail	119,756	Square Feet
Office	137,204	Square Feet
Auto Services	31,175	Square Feet
Restaurant	40,437	Square Feet
Bank	15,038	Square Feet
Church	14,307	Square Feet
Museum	8,359	Square Feet
School	639	Students

*Apartments do not include 1F, 2F, and 3F residential housing

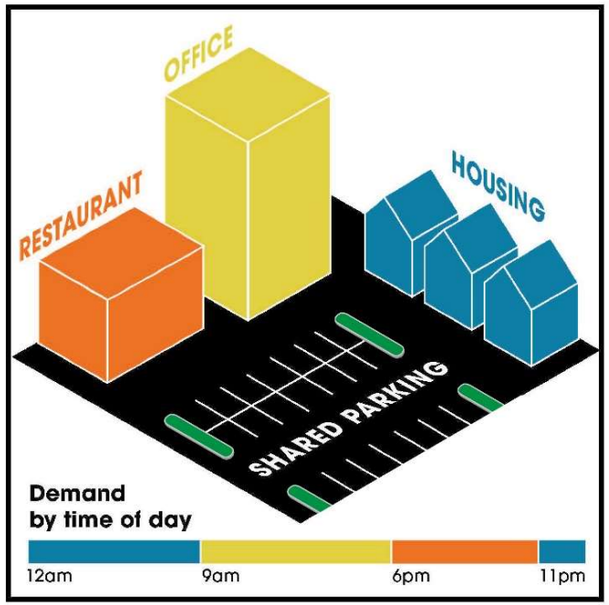
Source: City of Revere Parcel Data (received 5/20/2024) and MassGIS Accessors Parcel Data (accessed on 5/13/2024)

Parking Demand Model Overview

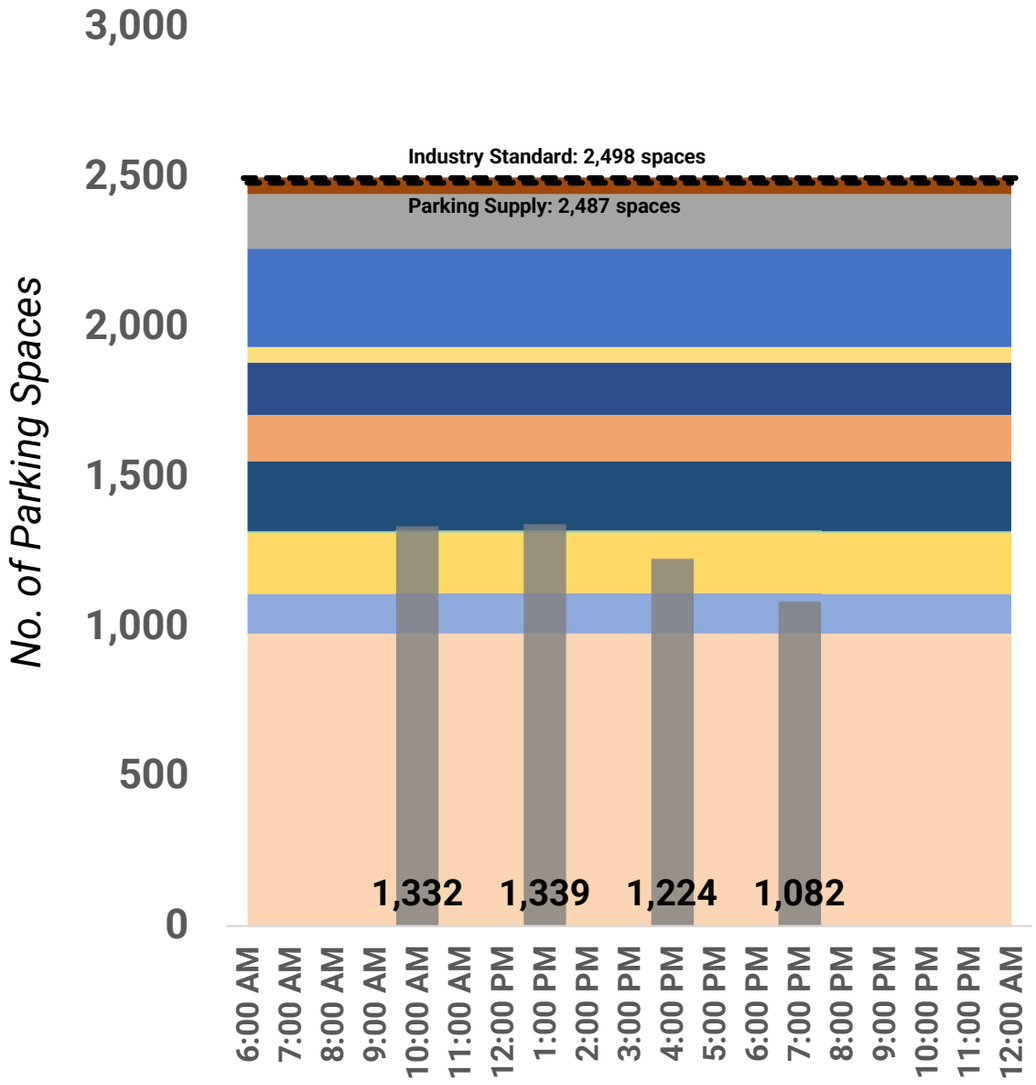
To model parking demand, Stantec followed a three step process using the Urban Land Institute Shared Parking Manual and Institute of Transportation Engineers (ITE) Parking Generation Manual 6th Edition to create the Broadway Corridor parking demand model. This model starts by using parking rates from ITE for each of the land uses in the Study Area to calculate the "industry standard" parking demand. This level of analysis assumes that demand for each land use is constant throughout the day and that the parking supply for each parcel must accommodate that parcel's highest demand.

In reality, though, demand varies throughout the day based on uses. Certain use types may be more prevalent at certain times of day. For example, residential demand is at peak during the night whereas the office peak will occur during midday. Using the Urban Land Institute (ULI) Shared Parking Manual, the demands for each land use were adjusted to reflect a more accurate representation of their demand curves throughout the day, then added together to represent the Study Area's total shared demand.

Furthermore, a local context was added to the model. The Broadway Corridor is a dense mixed-use environment. A variety of uses like shopping, dining, office, and residential are all within walking distance from each other. To capture users who are going to multiple destinations by foot on a single trip, internal reduction factors were applied—as well as adjustments for non-auto travel and lower auto ownership rates—to calibrate the parking demand model to local conditions.



Step 1: Unshared Parking Demand



A traditional unshared approach to estimating parking demand assumes that each land use in a downtown needs its own supply of parking and thus simply adds together the amount of parking demand "required" for each use to estimate demand.

This type of analysis would point to nearly 2,500 parking spaces needed in and around Broadway. The current number of spaces in the Study Area is 2,487, and yet observed demand never exceeds 1,350 cars, conveying that 2,500 spaces are not actually required to satisfy the Study Area's parking demand.

Source: ITE Parking Generation Manual, 6th Edition

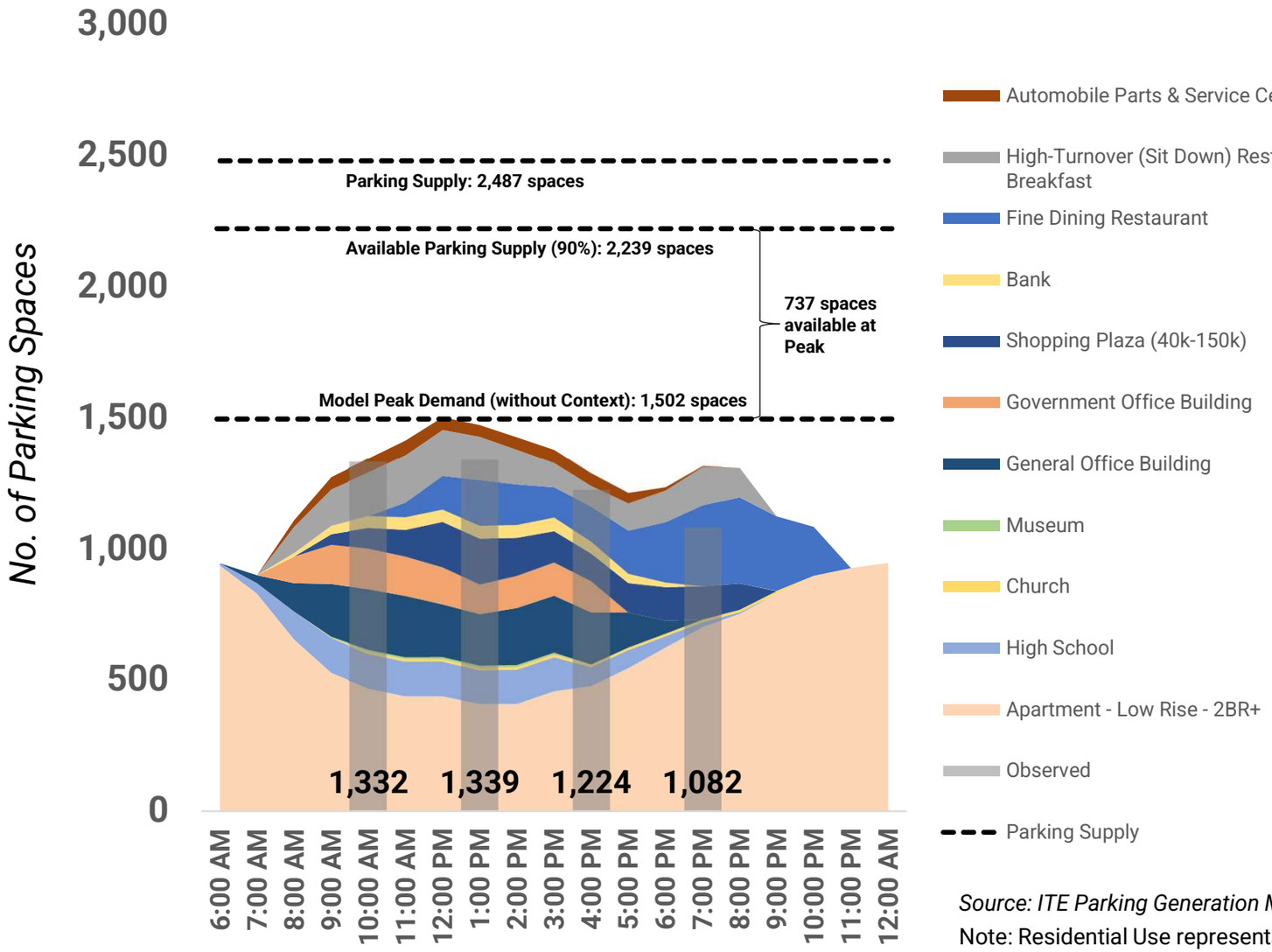
Note: Residential Use represents Mid-rise, 2Bedroom+ and within ½ mile of transit

Step 2: Shared Parking Demand Without Context

An analysis applicable to a mixed-use environment should more accurately reflect demand patterns that vary by use throughout the day. The ULI's Shared Parking Manual provides a methodology to estimate real parking demand over the course of a day in mixed-use areas.

The Shared Parking Manual was referenced to create a model that demonstrates how parking can be shared among different uses across a day. For example, demand at an office is low in the middle of the night, hits its peak in the middle of the day, and drops off again in the early evening. Conversely, a restaurant may have little to no demand during the day but peaks in the late afternoon or evening.

Step 2: Shared Parking Demand Without Context



Modeling the shared parking demand of the Study Area's land uses applies a time-of-day percentage to the peak parking demand rates to create a more realistic estimate of demand across the hours of the day in mixed-use environments like Revere's.

The results of this exercise show that the modelled peak demand significantly reduces from 2,500 spaces to only 1,500 spaces. This points to the existing parking supply being 737 spaces above the capacity needed at the midday peak, even when holding 10% of this supply in reserve.

Source: ITE Parking Generation Manual, 6th Edition

Note: Residential Use represents Mid-rise, 2Bedroom+ and within ½ mile of transit

Step 3a: Calibrated Shared Parking Demand - Existing

In addition to shared parking, the true demand can better be discerned by applying several context reduction factors, such as internal capture, mode share, and transportation demand management (TDM) measures.

Internal Capture

Parking demand is reduced in mixed-use environments because retail, commercial, office, and residential uses are closer together and more walkable. Users that opt to walk to get from one destination to another (without moving and parking their vehicle a second time) are considered "internally captured." Given Revere's mixed-use environment on Broadway, this is estimated to reduce total parking demand from standalone uses by at least 15%.

Mode Share

The multimodal options in the Study Area result in some trips to the Study Area not needing a car and therefore not needing parking, so additional parking reductions can be taken for some users who walk, bike, or ride transit. The Revere shared parking demand analysis assumes 10% as the proportion of trips that do not use drive. This is a conservative estimate because 28% of Revere residents commute to work by a means other than driving.[1]

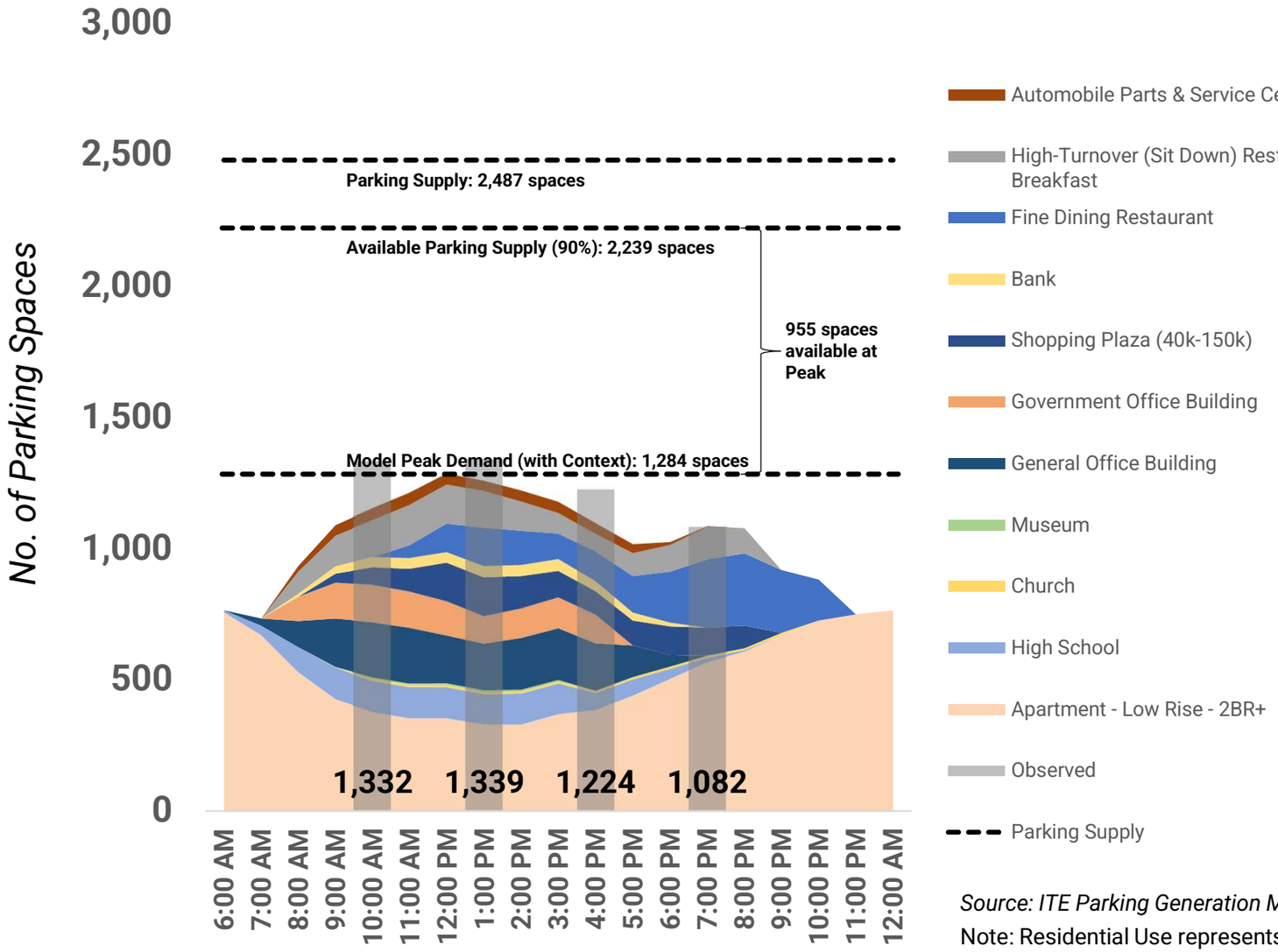
Residential TDM

Referencing census data for vehicle ownership rates in the Study Area reveals that 9% of households have no vehicles available and 34% have only one available.[2] People who chose to live near the transit-rich and mixed-use center of Revere may choose to own fewer vehicles. This model analysis assumes a 15% parking reduction due to the low auto ownership rates.

Using the ULI methodology together with these local context reductions applied to parking demand rates from the ITE Parking Generation Manual, parking demand was modeled in the Study Area, resulting in a peak demand of 1,284 spaces that nearly matches observations.

[1] American Community Survey 2022 5-yesr estimates B08006
[2] American Community Survey 2022 5-yesr estimates B08014

Step 3a: Calibrated Shared Parking Demand - Existing



Parking utilization counts captured for the study were used to calibrate the context reduction factors, resulting in a model that brings projections in line with observed demand.

The modeled peak (1,284) demand is only slightly below the study's observed peak demand (1,339), providing a tool that can roughly estimate the amount of parking needed for land uses in the Study Area, enabling future demand scenarios to be modeled.

The results of the calibrated parking model point to the existing parking supply in the Study Area being approximately 955 spaces above the capacity needed at the midday peak, when holding 10% of this supply in reserve. However, most of this parking is not yet available for sharing with future development.

Source: ITE Parking Generation Manual, 6th Edition

Note: Residential Use represents Mid-rise, 2Bedroom+ and within ½ mile of transit

Step 3b: Calibrated Shared Parking Demand - Future

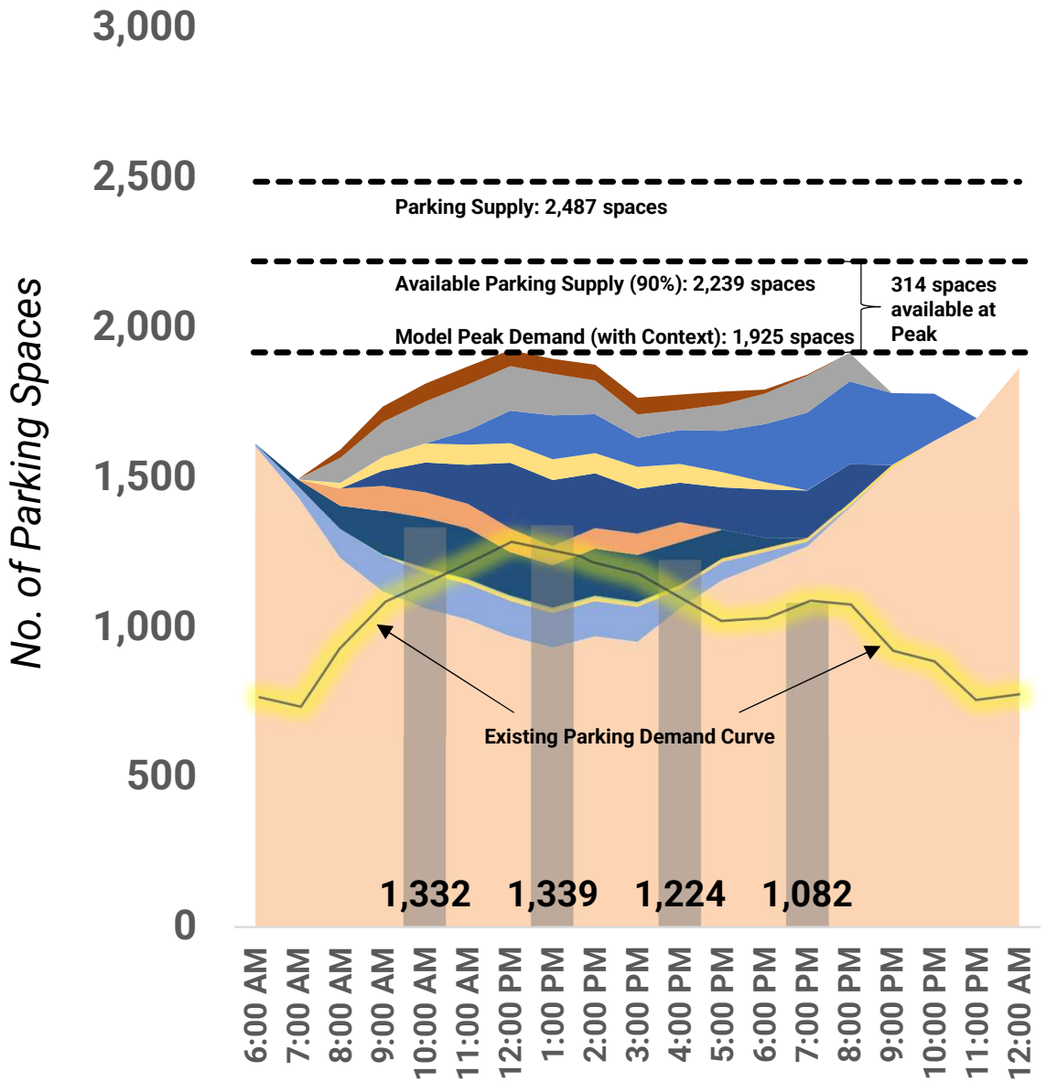
One of the goals of the Broadway Master Plan is to bring in new developments to Broadway over the next few decades. A future scenario model was run to assess the future parking demand based on the following theoretical additions to the Study Area:

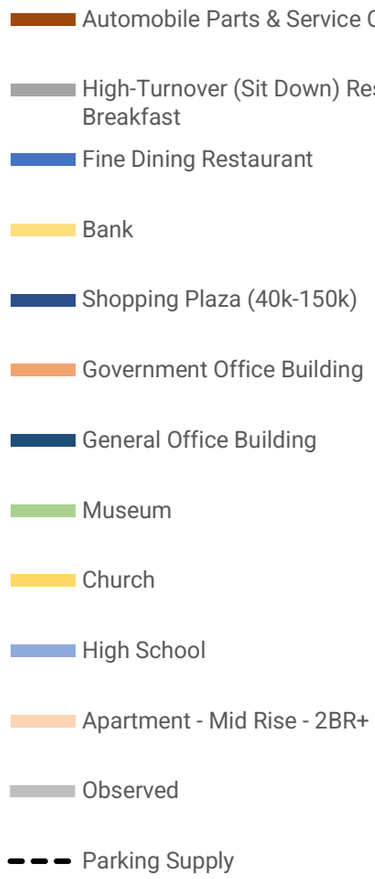
- 1,000 new residential dwelling units (mid-rise, 2 bedroom+)
- 60,000 square feet of retail space

Assuming there is no additional parking introduced in the system, the results of this exercise point to the existing parking supply continuing to exceed the modeled peak parking by approximately **300 spaces**, when holding 10% of the supply in reserve.

This means that there could be ample existing parking supply across the Broadway Study Area to accommodate future planned and projected future development without providing new parking inventory if current obstacles were changed. However, unshared private facilities, restrictive parking regulations, the quality of walking, and perceptions of safety can mean many of these empty spaces are not considered viable parking options. **Thus, this capacity can only be leveraged through policy, operations, and infrastructure changes like those recommended in this Plan, particularly those that advance shared parking.**

Step 3b: Calibrated Shared Parking Demand - Future





The results of the future scenario model point to its peak demand continuing to be below the parking supply by 314 spaces, when holding 10% of the supply in reserve. However, this assumes many currently restricted or undesirable spaces would be available to new development.

Future Growth Assumptions

Model Land Use	Units
Residential Dwelling Units	1,000
Retail Square Feet	60,000

Source: ITE Parking Generation Manual, 6th Edition

Note: Residential Use represents Mid-rise, 2Bedroom+ and within ½ mile of transit

07 Recommendations

Ways to achieve the parking system goals of Revere's Broadway Corridor

Stantec

Recommendations Overview

Fix Existing Deficiencies	1. Wayfinding 2. Regulatory Streamlining 3. Parking Benefit District Improvements
Improve Effectiveness and Efficiency	4. Performance Pricing 5. Shared Parking 6. Parking Ambassadors 7. Enforcement Technologies
Support Development and Master Plan goals	8. Loading and Dynamic Curbs 9. Locations for Parklets 10. Capacity to Support Development

Fix existing deficiencies

1

Wayfinding

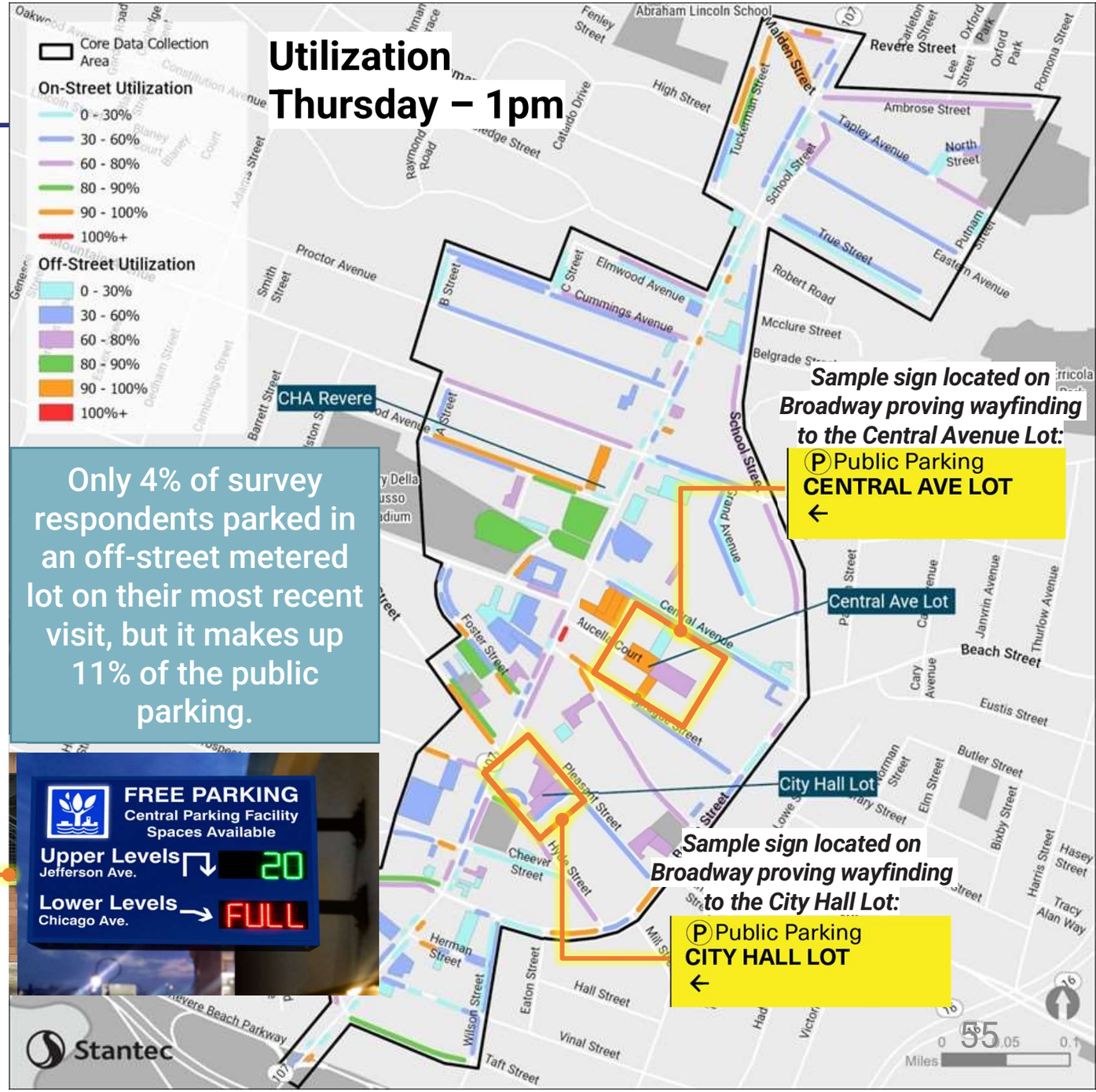
→ Improve **wayfinding signage to off-street public parking**, specifically to long-term options (Central Avenue Lot & City Hall Lot)

→ Already underway:

- *2023-2024 Broadway Corridor Wayfinding Plan*
- Initial deployment **between Mountain Avenue & Prospect Avenue**
- Minor changes recommended

→ Long-term, consider **electronic signing** for price & availability

What it does: redirects parkers to off-street lots which have parking availability.



Fix existing deficiencies

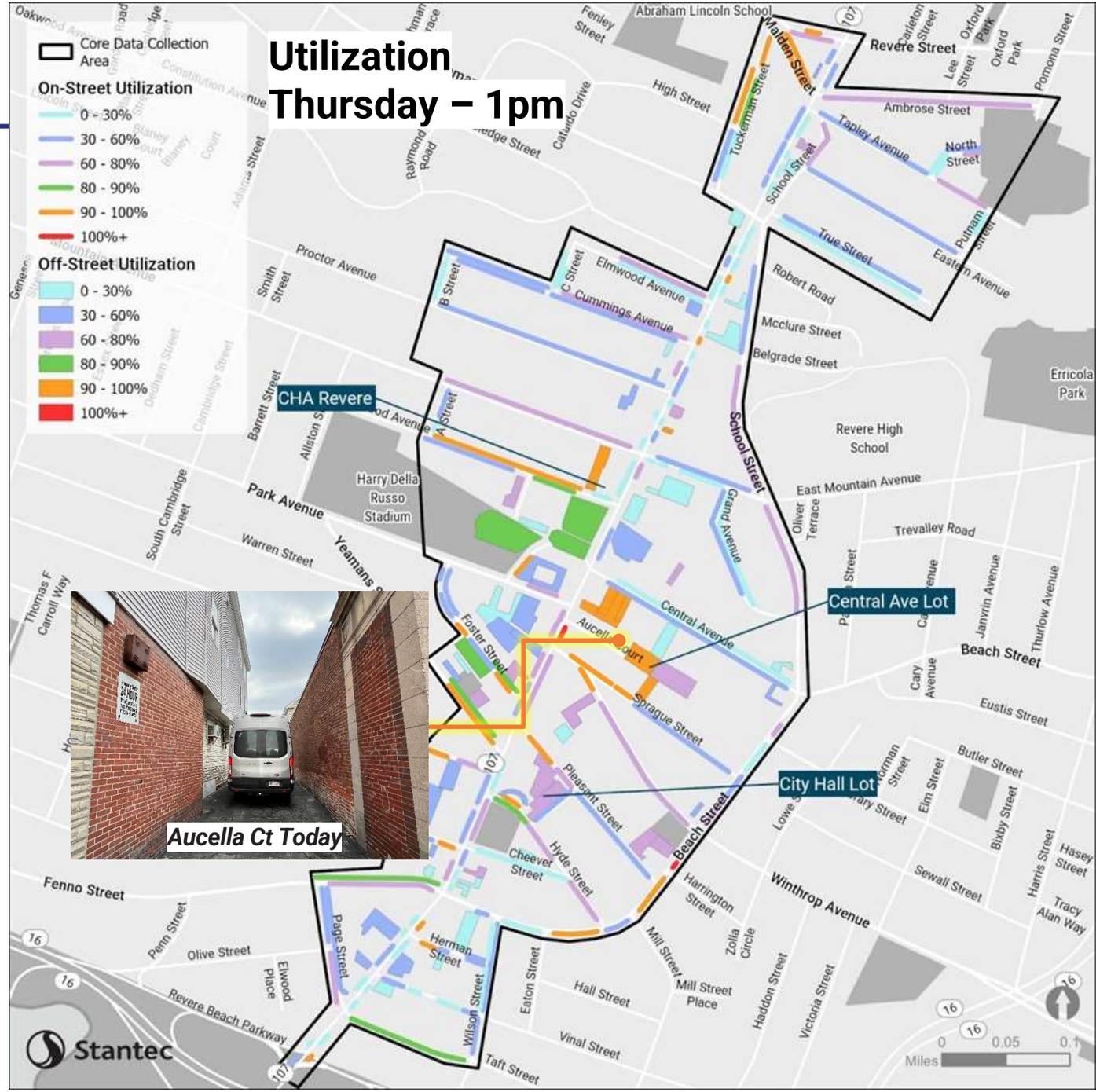
2 Parking Lot Access

→ Improve **walking and access paths** to public parking lots, specifically the Central Avenue Lot

Example from Jacksonville, FL

Example from Lincoln, NE

What it does: draws parkers comfortably to and from off-street lots which improves their use



Fix existing deficiencies

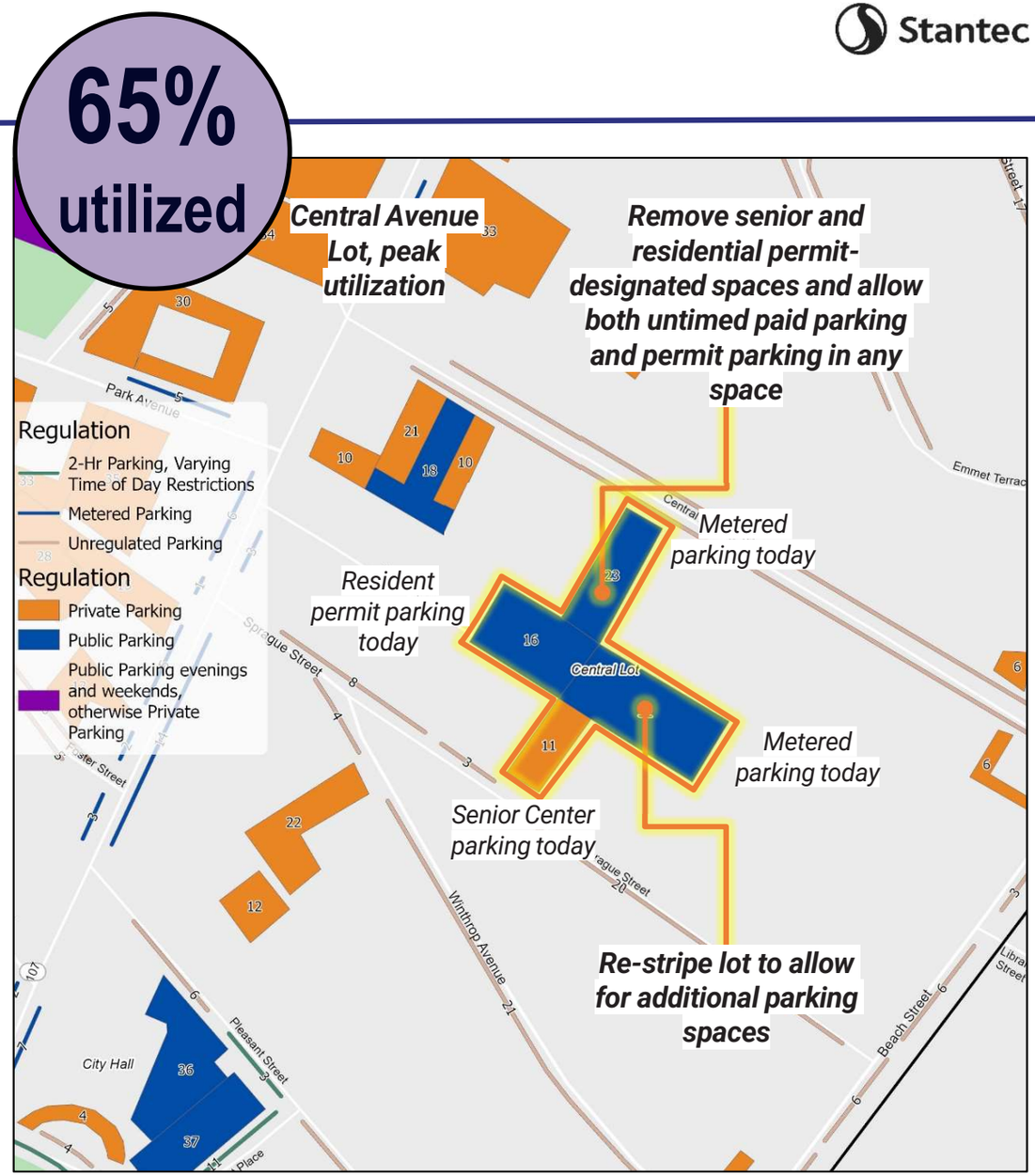
3a

Regulatory Streamlining

→ Streamlining the operation of the **Central Avenue Lot**

- Eliminate separate areas designated for permits vs. hourly, allowing each to park anywhere
- Manage demand through number of permits sold and/or paid parking price
- Re-stripe to increase supply
- **Remove time-limits** (only a long-term storage ban)

What it does: creates more clarity and approachability for users while opening up more supply.



Fix existing deficiencies

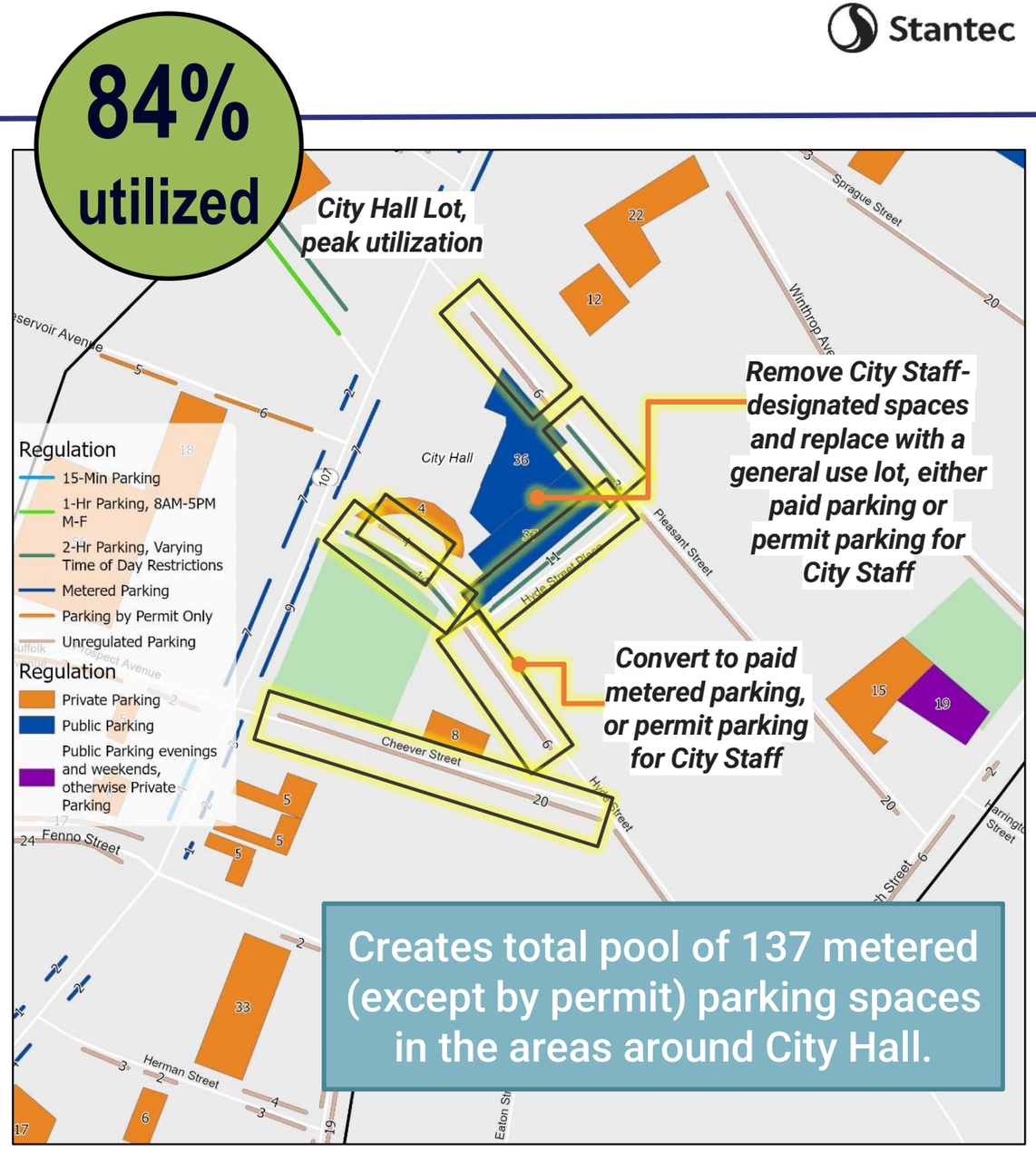
3b

Regulatory Streamlining

→ Streamlining operations in the **City Hall Lot** and on adjacent side-streets

- Eliminate separate areas designated for City staff spaces vs. public
- Allow City Staff parking permits in City Hall Lot and on side streets
- Remove time-limits
- **Price lot and adjacent side streets for general public** (non-permit holders)

What it does: creates more clarity and approachability for users while opening up much more supply.



4

Parking Benefit District – Establishment

→ Use the Parking Benefit District funds to implement recommendations in this plan (detailed on the next page)

- In 2022 the City Established a Parking Benefit District, but limited funds have been dispensed on a few projects so far
- The current fund is **~$40,000**

REVERE ADVOCATE

City Council approves parking benefits district

May 13, 2022 News Advocate News

Print PDF Email

Monday night the City Council approved the adoption of a Parking Benefits District in the city. The council's Economic Development Subcommittee recommended the full council adopt the parking benefits district at its May 2 meeting. The district would allow the city to use revenue from its parking meters on Broadway, Shirley Avenue and the

A 2022 article from the Revere Advocate *reporting on the Parking Benefits District's creation*

What it does: facilitates reinvestment of parking revenues into the multimodal transportation system.

Fix existing deficiencies

4

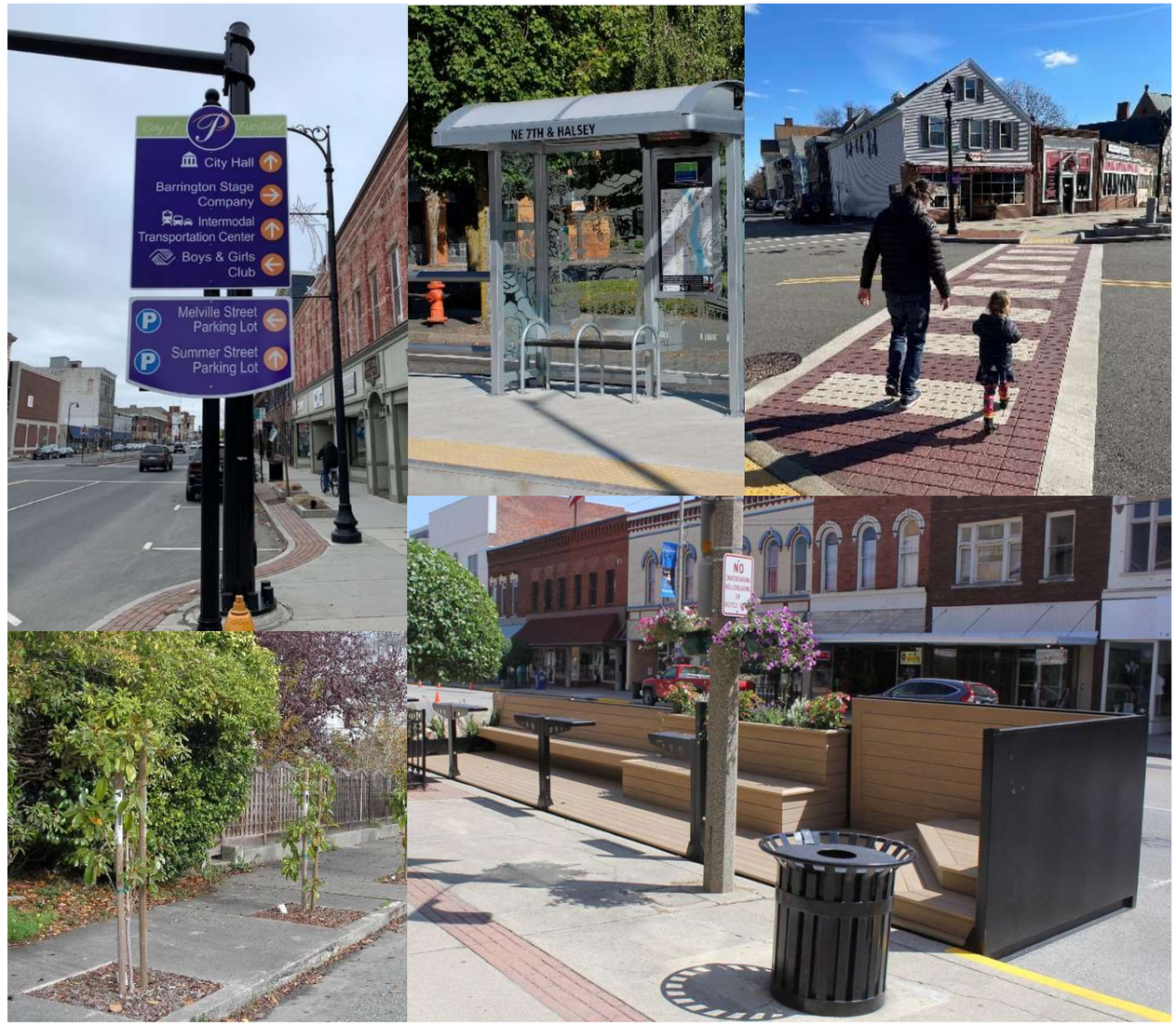
Parking Benefit District – Use

→ Recommended uses for Parking Benefit District funds:

- Implement the remainder of the Wayfinding Plan
- Enhance the Aucella Ct connection to the Central Avenue Lot
- Implement pocket parks

- Changes to pricing (next page) may result in a 170% increase in annual revenues
  - Assuming half of the new meter revenues go into the Parking Benefit District, this means $200,000 more dollars annually for the Parking Benefit District

What it does: facilitates reinvestment of parking revenues into the multimodal transportation system.



Improve effectiveness and efficiency

5

Performance Pricing

→ Implement performance pricing with an 85% utilization target:

- Where peak demand is above 85%: Higher prices ($1.50 or $1.00/hr)
- Where peak demand is below 60%: Bag meters (Free)
- Add cheaper meters on first ½ block of side streets ($1.00 or $0.50/hr)
- Eliminate time-limits
- Monitor performance and adjust pricing to meet target (as often as every 6-months)
- Seek Council approval of pricing to the target, not of specific prices

What it does: values parking by adjusting prices to match demand, which encourages the use of currently underutilized areas.

6

Shared Parking – Description

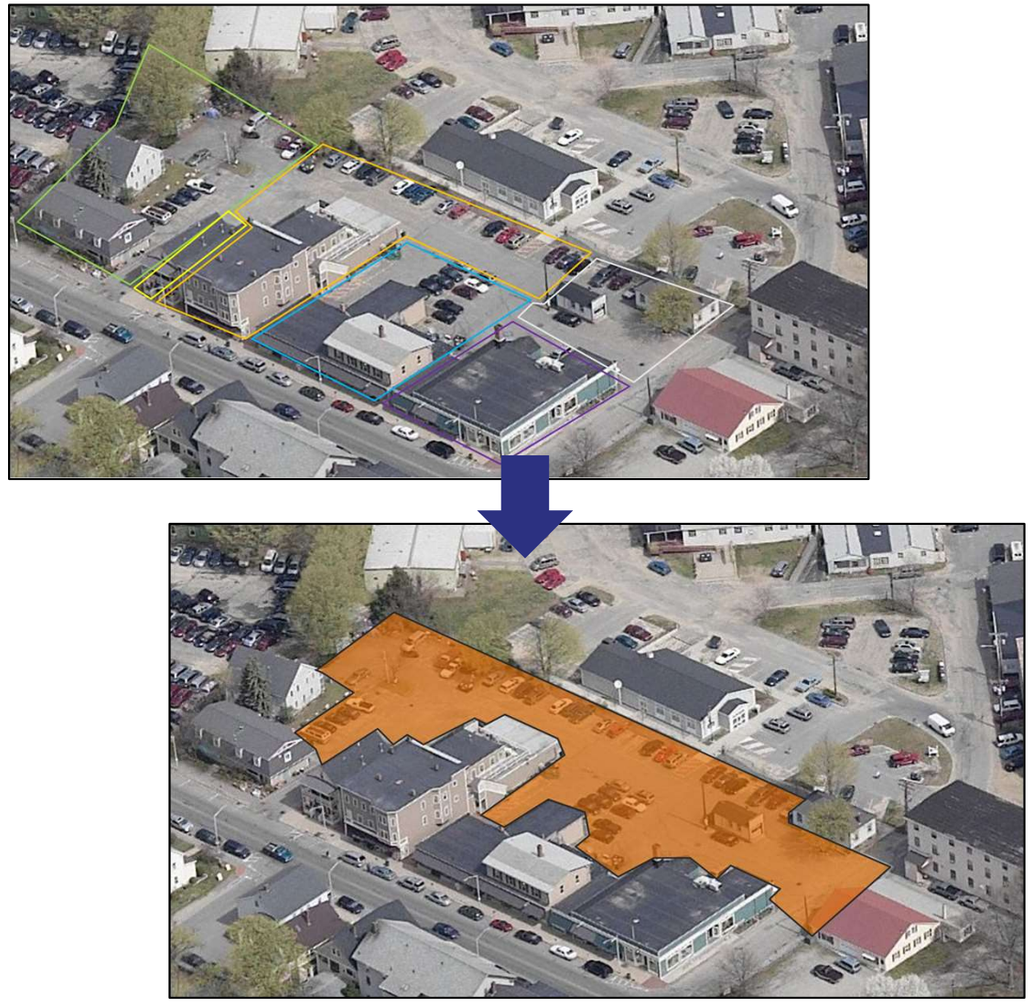
→ Take an active role in **coordinating shared parking and managing parking permits**

Start here

Grow over time

There are 3 potential levels of involvement:

1. **Connecting** private parties
2. **Formal Agreement** with private lot owners to provide in-kind services in exchange for parking lots being opened
3. **Permitting and/or Revenue Sharing System**



West Concord helped facilitate the sharing of private lots to create a single shared facility, increasing supply for everyone

What it does: allows efficient use of existing parking assets before considering need for additional parking supply.

Shared Parking – Methods

→ There are three levels of involvement that the City can take to advance shared parking, detailed below. The City should start with the first level in the short-term and pursue the following levels in the long-term, building upon the success of the first.

1. The City serves as an agent by **connecting** private parties who desire parking with lot owners who have excess capacity. Most shared parking agreements are codified in some way to guarantee protections to each party as well as the community, but many are casual handshake agreements. Simplicity and flexibility are encouraged with shared parking agreements between private parties.
2. The City enters into a **formal agreement** with private lot owners to lease parking or provide in-kind services in exchange for parking lots being opened for more general usage, while preserving zoning entitlements and the owners' right to revert. This usage could be unrestricted (open to the public at all times for any purpose) or limited to selected areas of a parking facility, certain times of the day or days of the week, or certain users, such as permit-holders. In-kind services provided by the City could include striping, plowing, maintenance, improvements, enforcement, etc.
3. The City and private lot owners initiate a **permitting and/or revenue sharing system** where private lots are branded as being part of the public supply with users charged for parking. Revenues are shared between the City and the private lot owners, with some of the revenue re-invested into the PBD.

What it does: allows efficient use of existing parking assets before considering need for additional parking supply.

Shared Parking – Example

→ **Existing shared parking** through business-to-business arrangements exist in Revere:

- 385 Broadway: Citizen Bank with MGH Doctors Offices

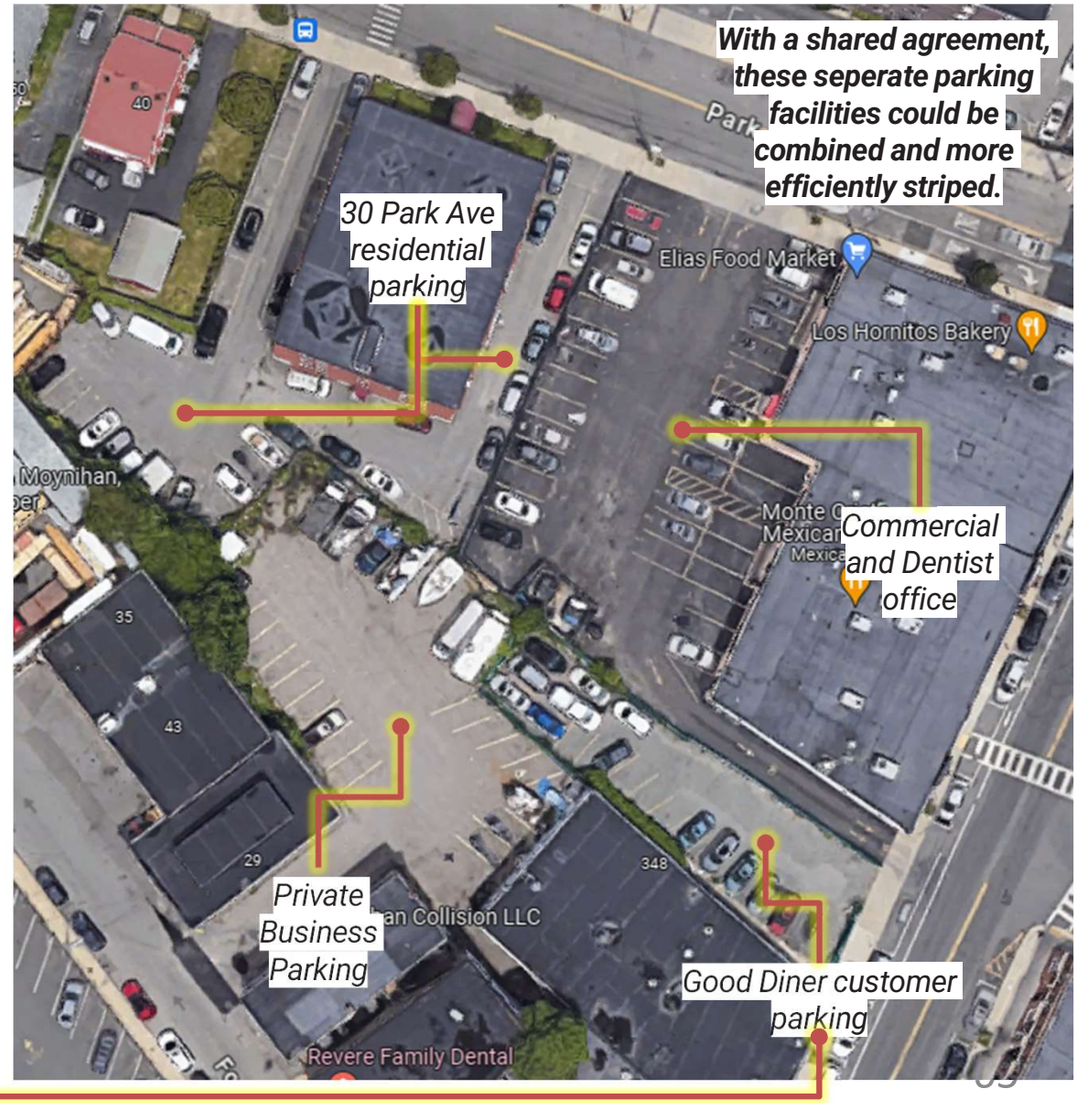
What it does: allows efficient use of existing parking assets before considering need for additional parking supply.

Shared Parking – Sample Opportunity

→ Recommended locations for **additional shared parking** that should be immediately pursued by the City:

- Between Park Avenue and Foster Street

What it does: allows efficient use of existing parking assets before considering need for additional parking supply.



7

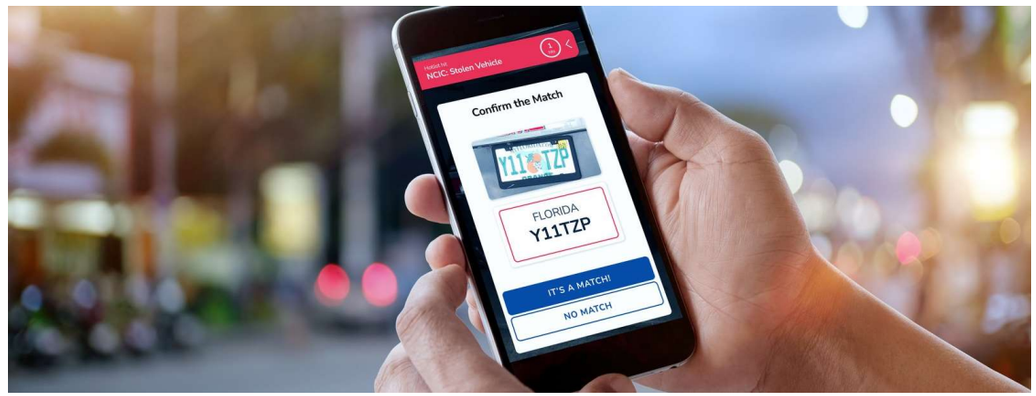
Parking Ambassadors

→ Develop a program (perhaps with Revere High School students) to provide parking information to the public while also supporting parking enforcers with more eyes on the street

→ Retrain enforcement focus on educating drivers, not penalizing them

→ Focus enforcement efforts on peak times and seasons

In Pittsfield, MA, the City recruits young parking ambassadors to support enforcement and teach visitors how to pay for parking



Sources: the Broadway Corridor Pittsfield Inc; Police1

What it does: creates a channel for education about the parking system to mitigate future violations.

8

Enforcement Technologies

Stantec

→ Implement an automated system License Plate Recognition (LPR) to improve efficiency in enforcement

- An LPR system will aid the City's parking enforcement operators. Lynn's Parking Department recently implemented this technology. Consulting with them will provide valuable insights related to this technology.

Start here

Begin with vehicle-mounted devices (used in Lynn, Chelsea, others)

Over time, implement hand-helds (used in Somerville, Cambridge, others)

Grow over time

Long-term, consider Safety-Stik fixed, automated devices (used in Somerville)

What it does: increases operational and logistical efficiency of parking management.

9

Loading and Dynamic Curbs – Options

→ Implement dynamic curb zones with part-time allocation to loading and part-time allocation to parking or other use

- There are 2 potential levels of management:

Start here

Grow over time

1. **Manually-Regulated Signage:** indicating allowed loading times for commercial vehicles, passenger vehicles, and pick-up drop-off
2. **Automated System:** like Safety Stick, which records how long a vehicle remains parked during different regulatory periods (short durations during loading times and paid durations during parking times)

What it does: allows balance between loading zones and other more active uses at different times of day.

Cambridge, MA

Sources: City of Boston, City of Cambridge, MyParkingSign.Com

Sources: MPS Parking and COORD

9

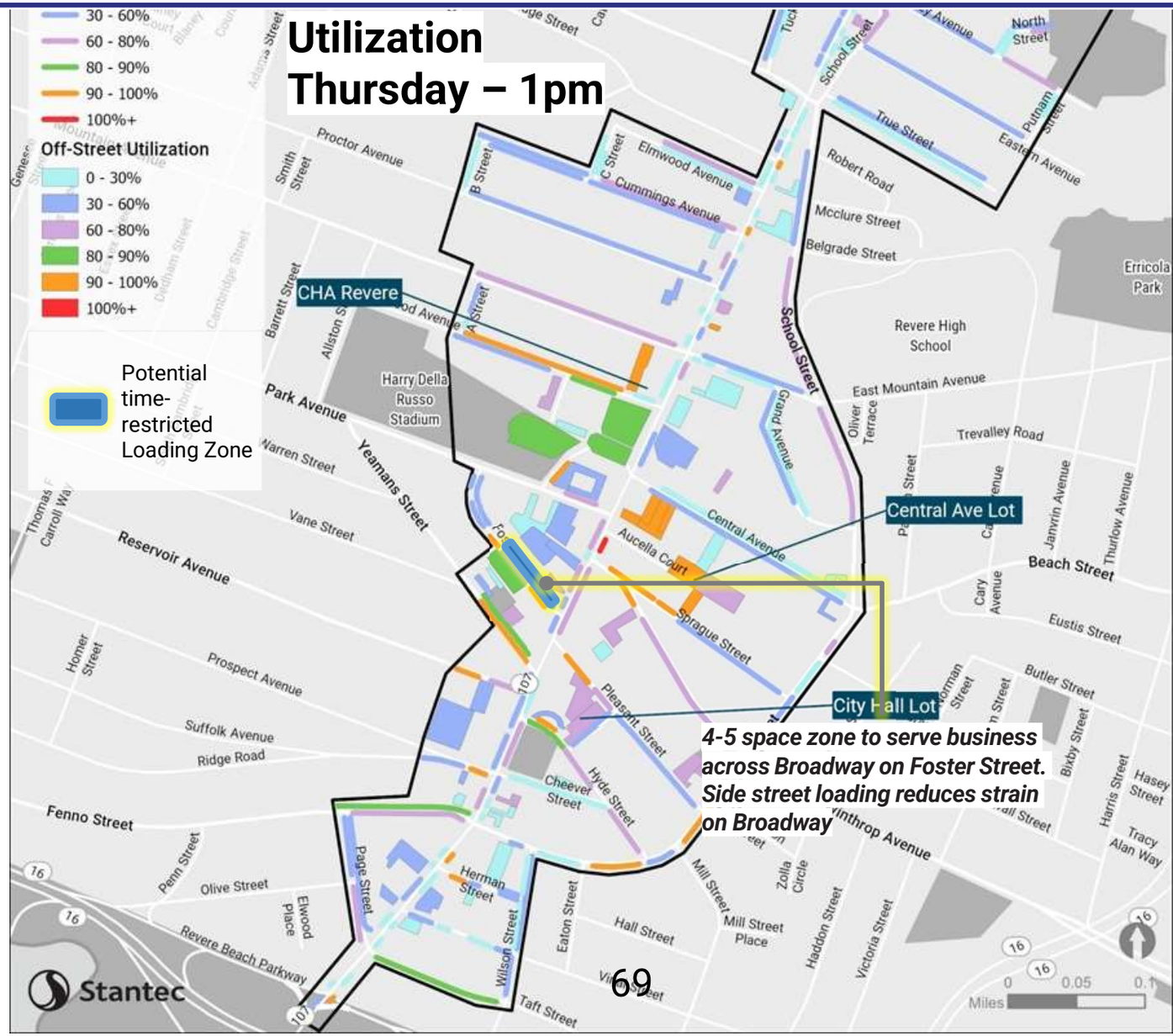
Loading and Dynamic Curbs – Application

→ Early candidate location for dynamic curb zone:

- Foster Street to accommodate loading demand near Broadway during bus hours
- Add other locations as needed (beginning and end of blocks)

→ Long term use Safety Stik / other tech to allow 15-min. free loading anywhere

What it does: allows balance between loading zones and other more active uses at different times of day.



9

Loading and Dynamic Curbs – Bus Lane

→ Rectify the inconsistency between the bus lane regulation and the delivery truck regulation such that it is not permissible for delivery trucks to park in the bus lane during the active time period.

What it does: allows balance between loading zones and other more active uses at different times of day.

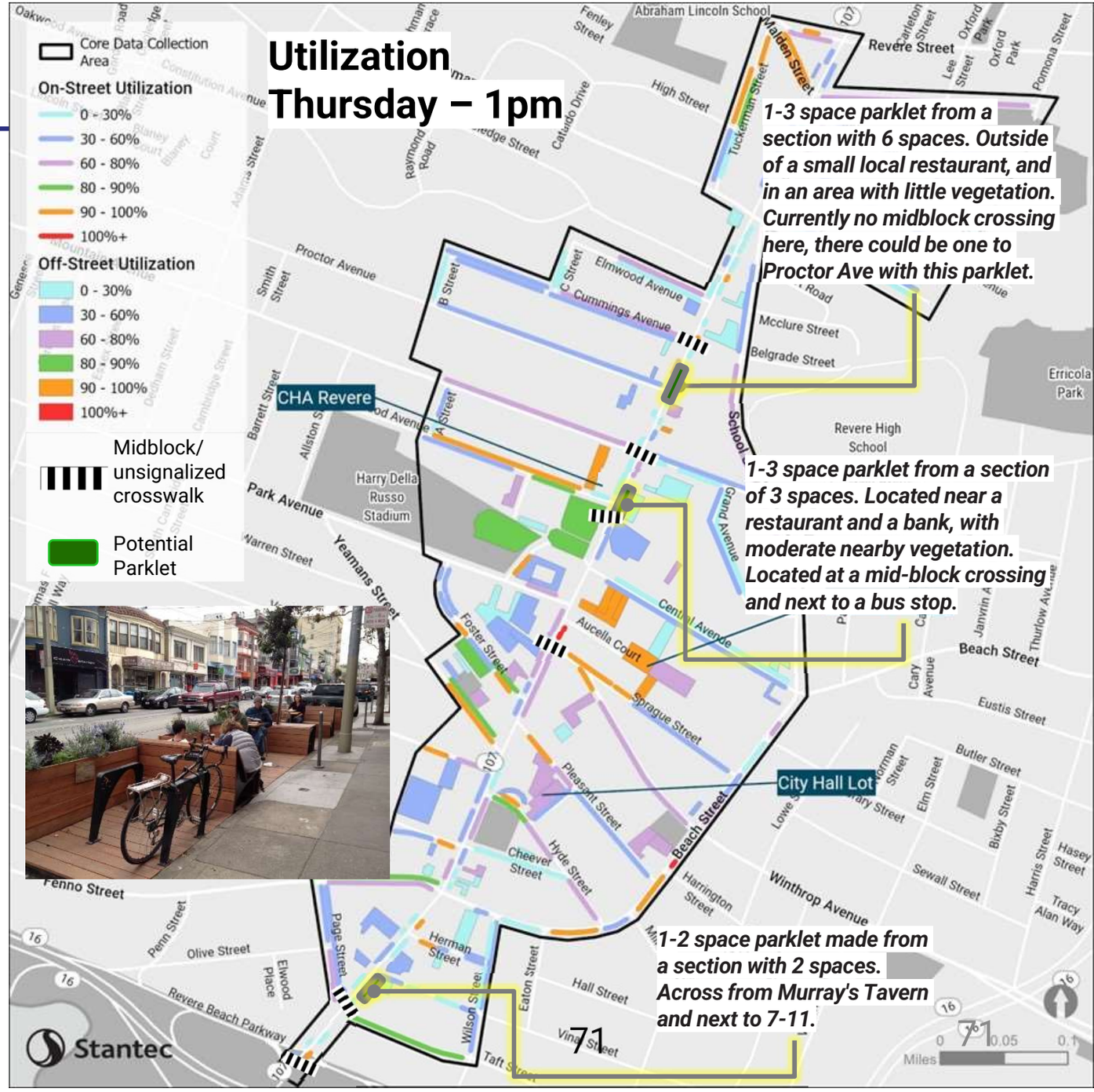
Support development and Master Plan Goals

10

Locations for Parklets

→ Identify locations for parklets, to provide more green space in line with Master Plan goals

What it does: provides opportunity for green space, seating, or other activation for the community.



11

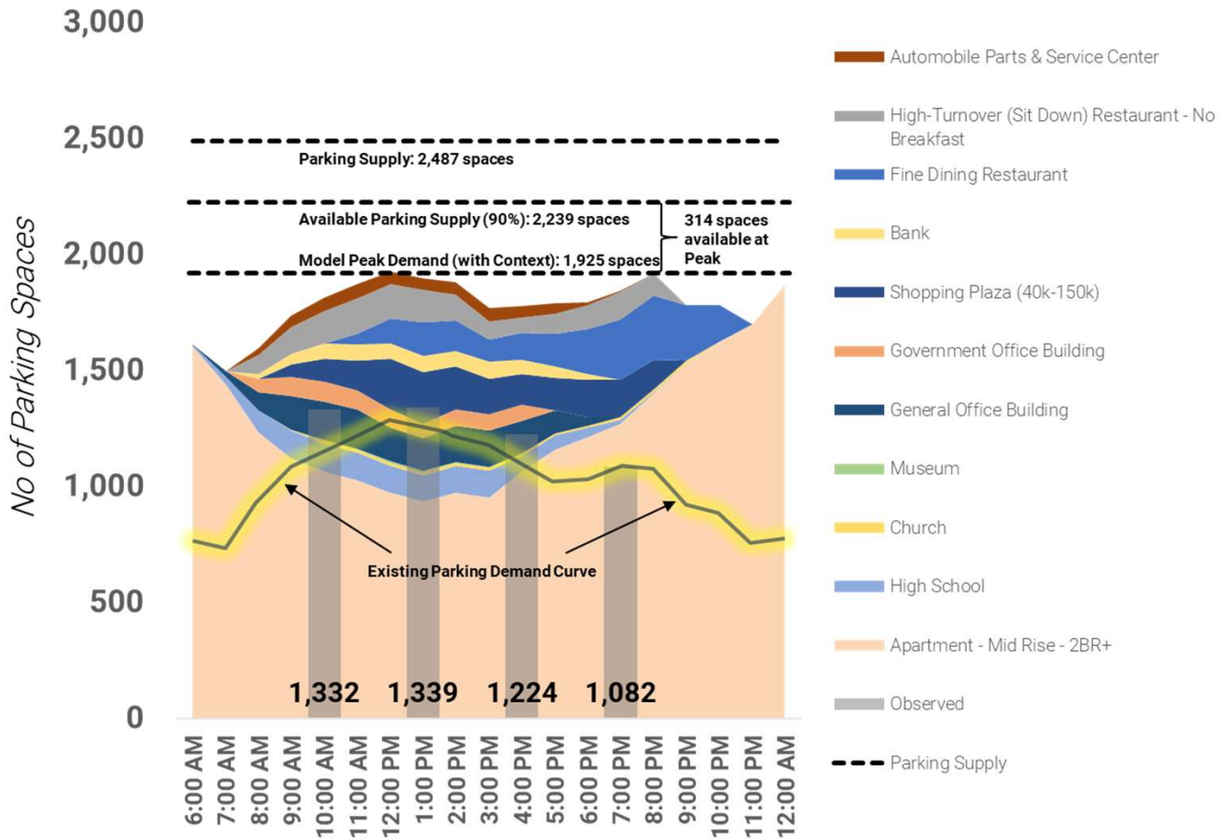
Leveraging Capacity to Support Development

Stantec

→ Leverage existing parking assets to support new development, in line with Master Plan goals

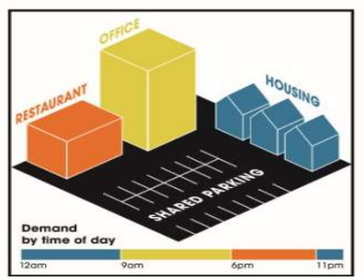
- With nearly half of Study Area parking empty at peak, **significant infill development can occur without new supply**
- A shared parking program to unlock private supply is necessary to accommodate more than a few small projects
- Opportunity to leverage transit-oriented development
- Avoids $Ms of parking structure cost (estimates are $30k per space or more in New England)

What it does: tests whether there is parking capacity for new development without the need to build significant new parking infrastructure.



Future Test Growth Assumptions

Model Land Use	Units
Residential Units (DUs)	1,000
Retail (SQFT)	60,000

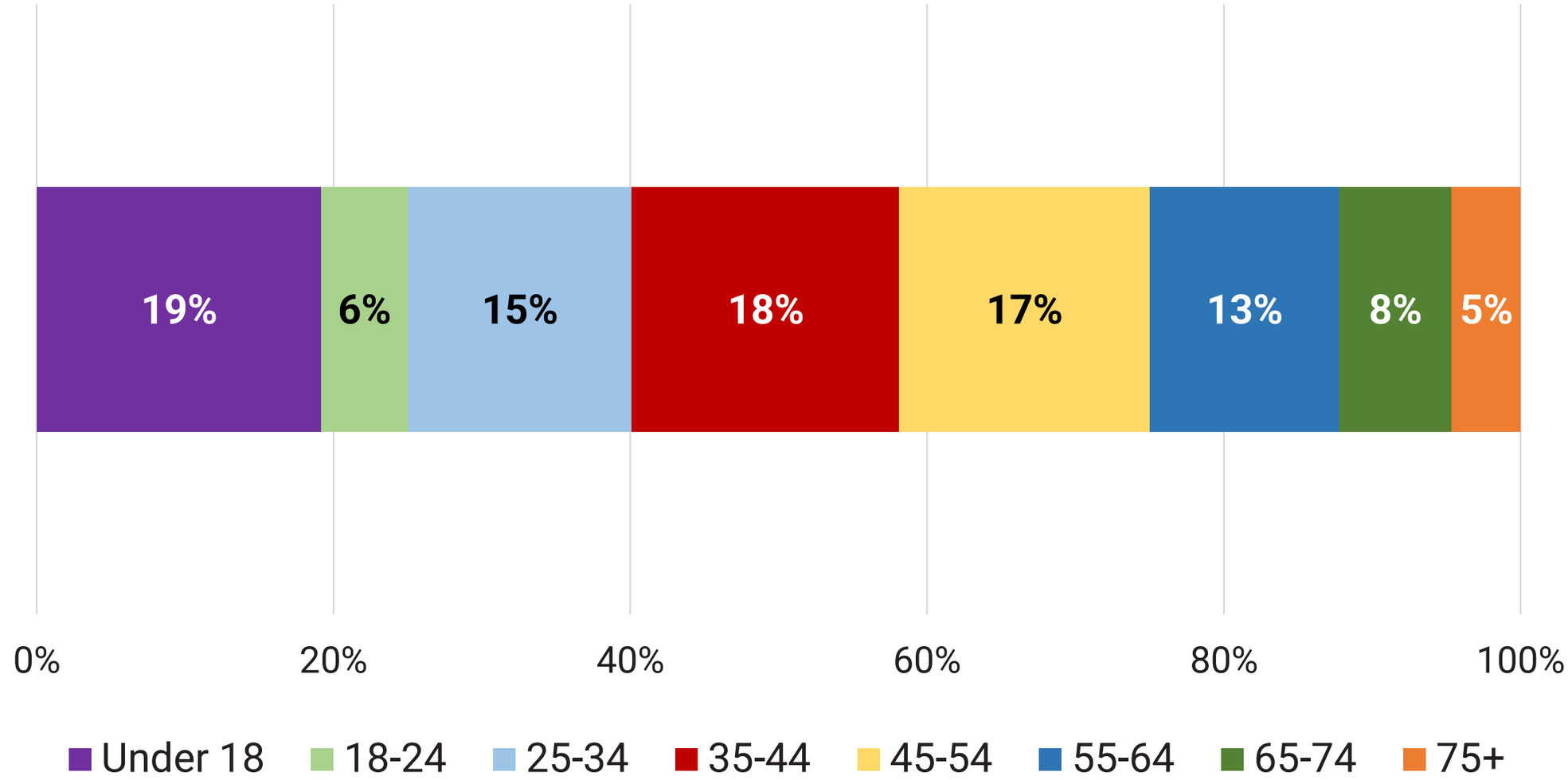


Appendix: Survey Responses

Additional results from the community-based survey

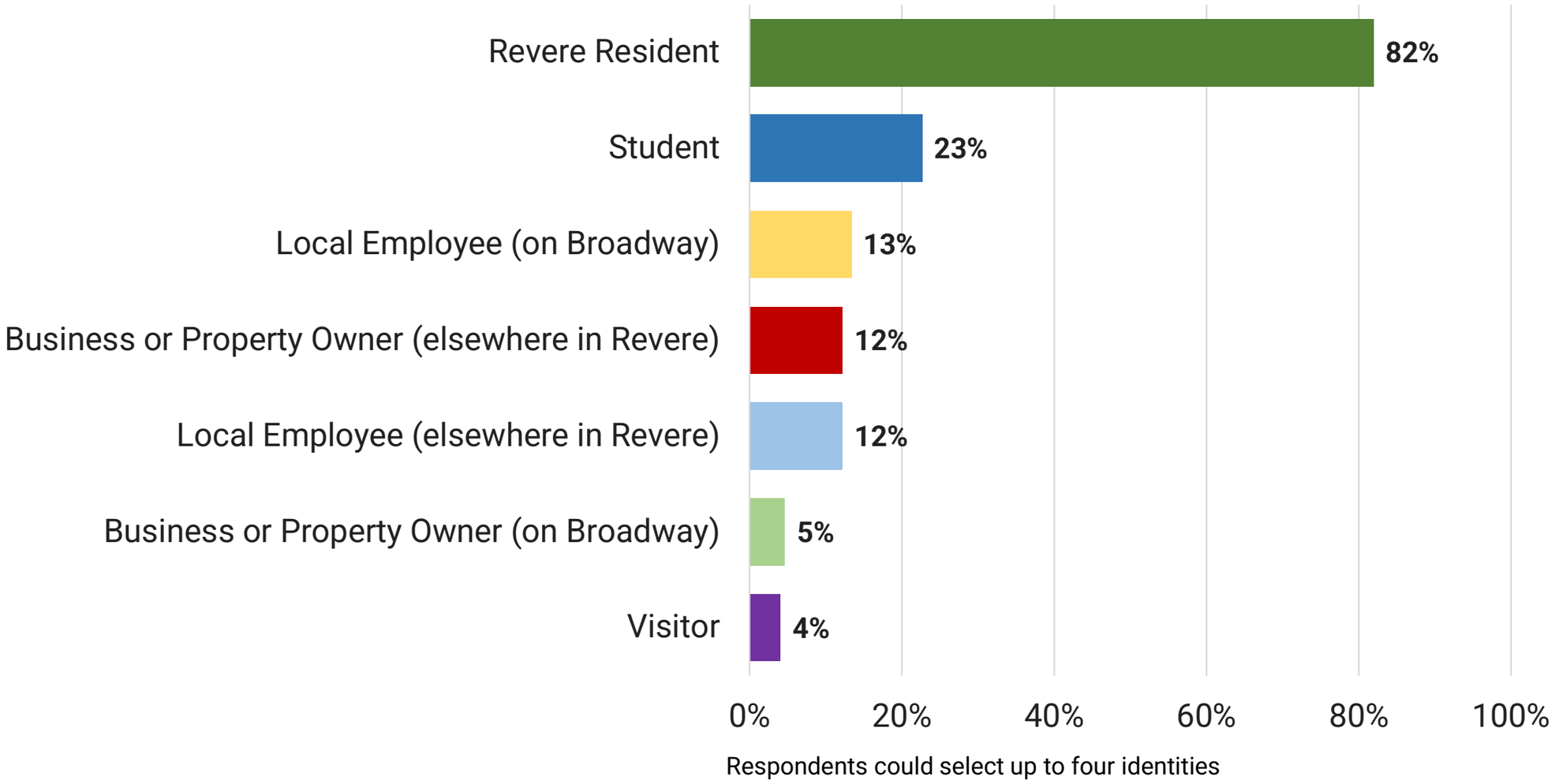
Stantec

What is your age?



N = 172

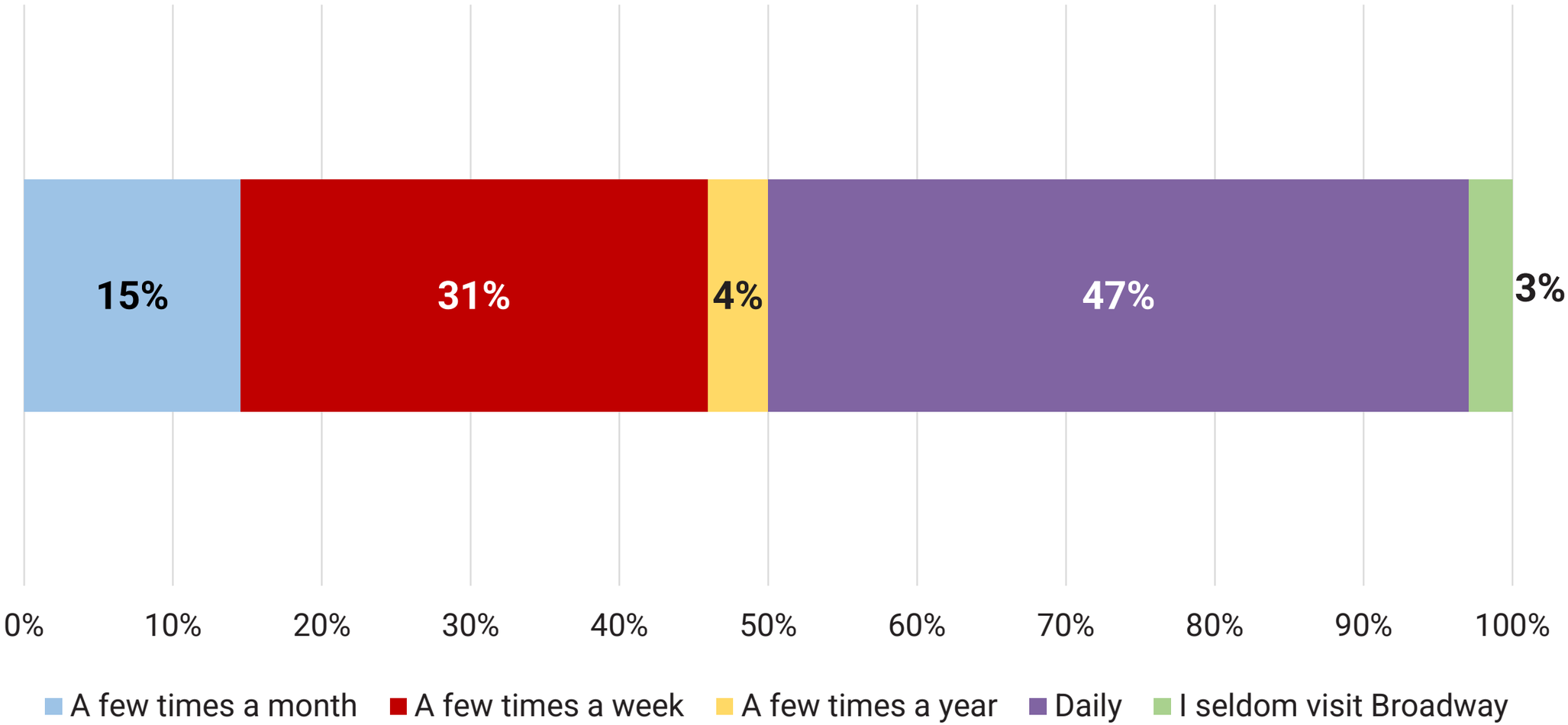
Do you identify as…



Respondents could select up to four identities

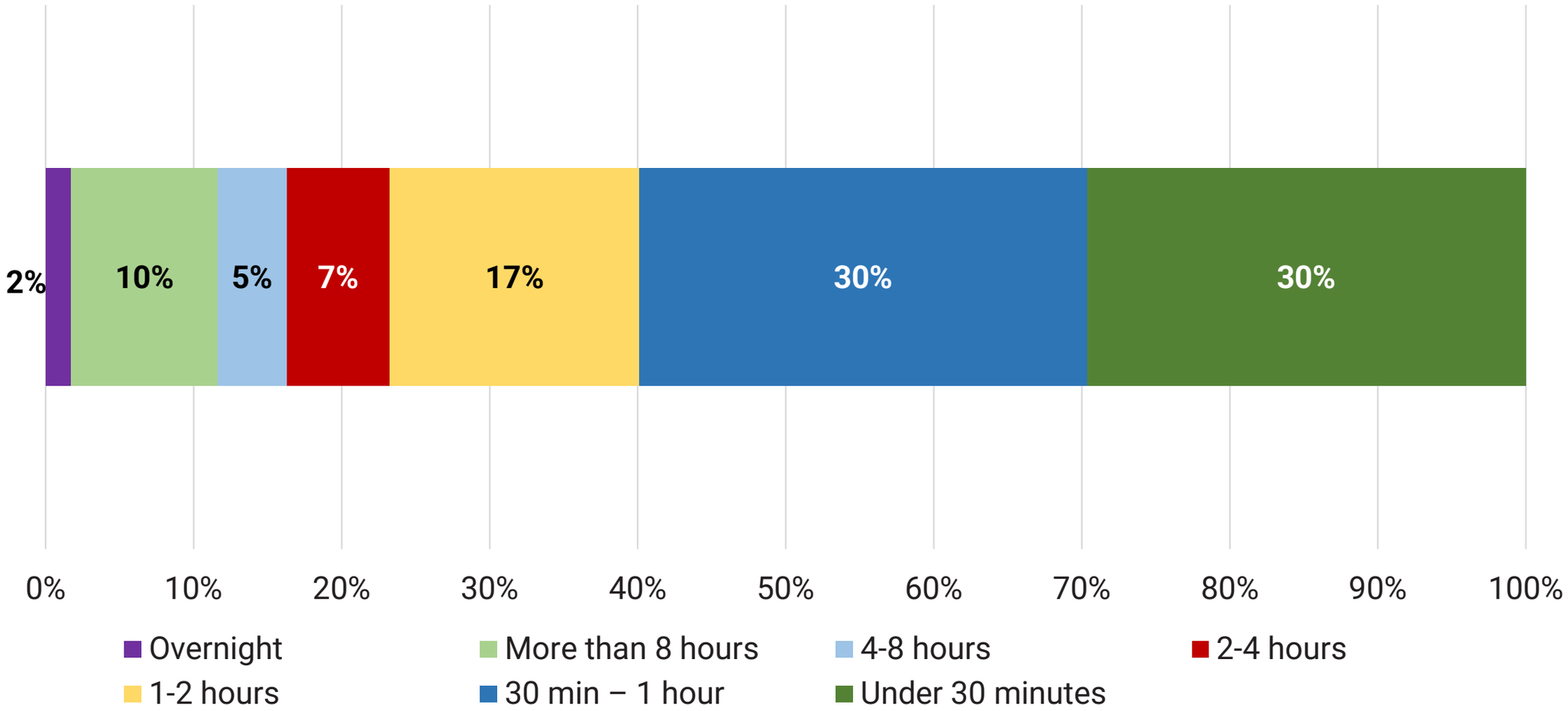
N = 172

How often do you visit Broadway?



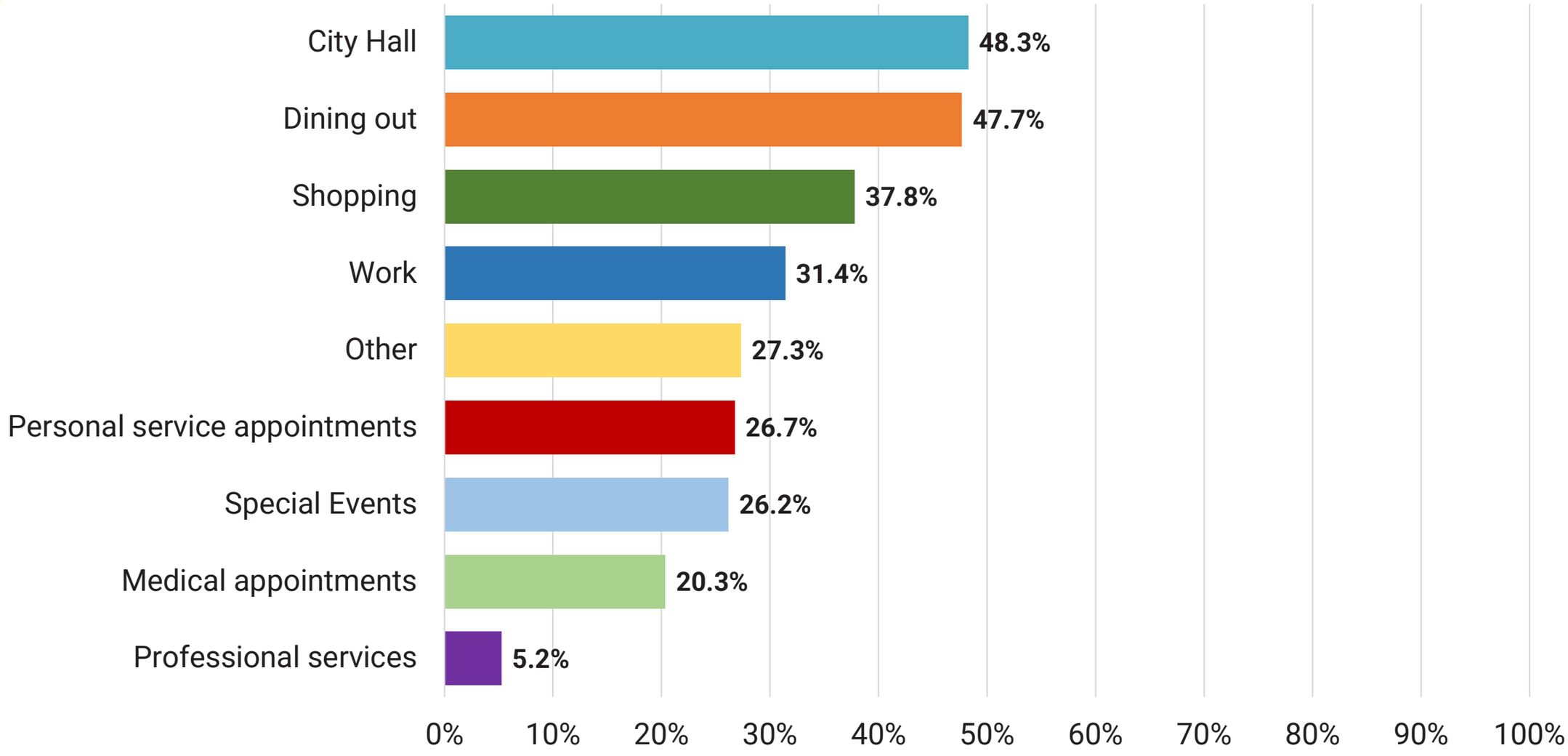
N = 172

How long do you typically visit the Broadway area?



N = 172

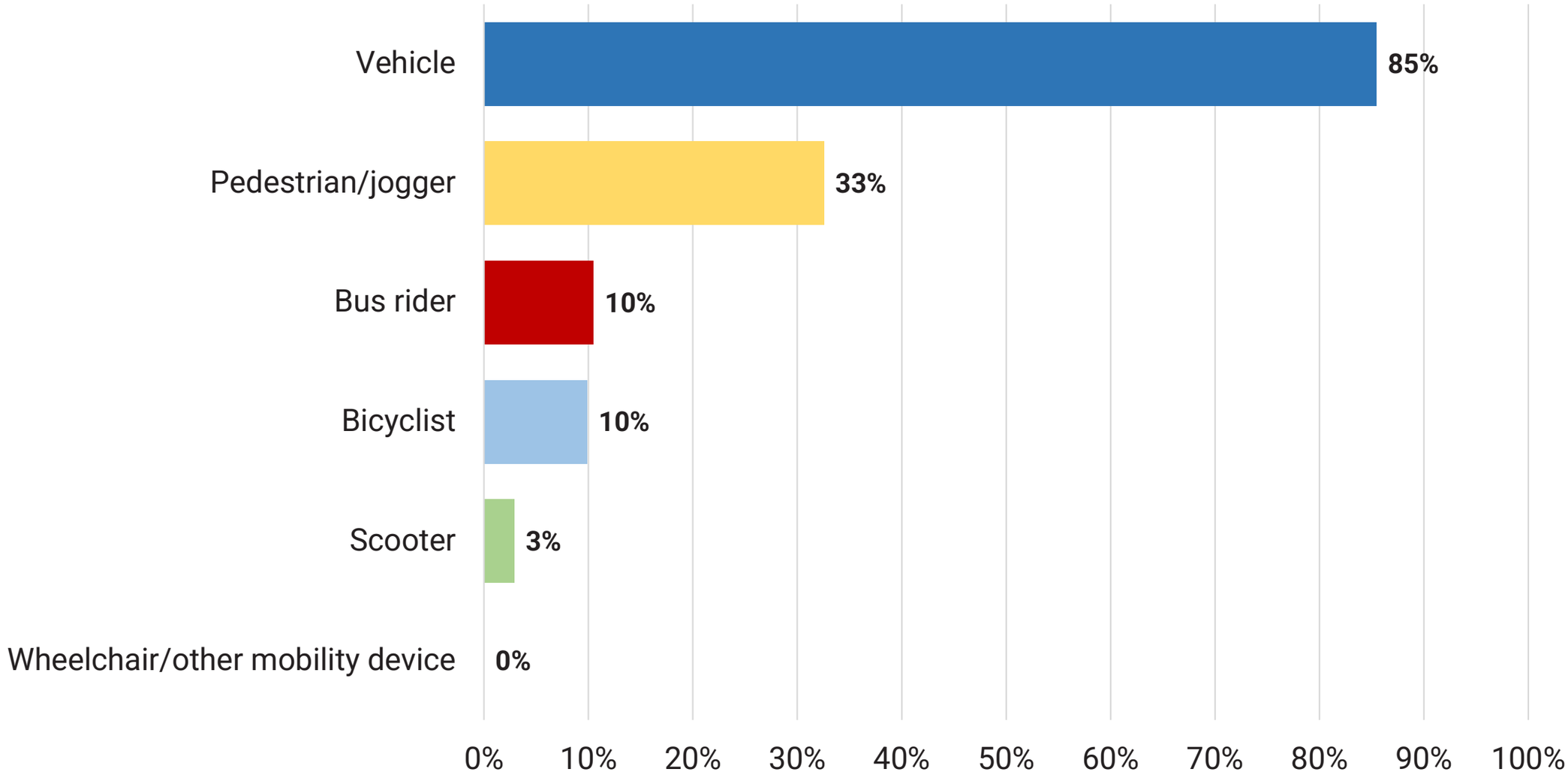
What typically brings you to Broadway?



N = 172

Respondents could select multiple

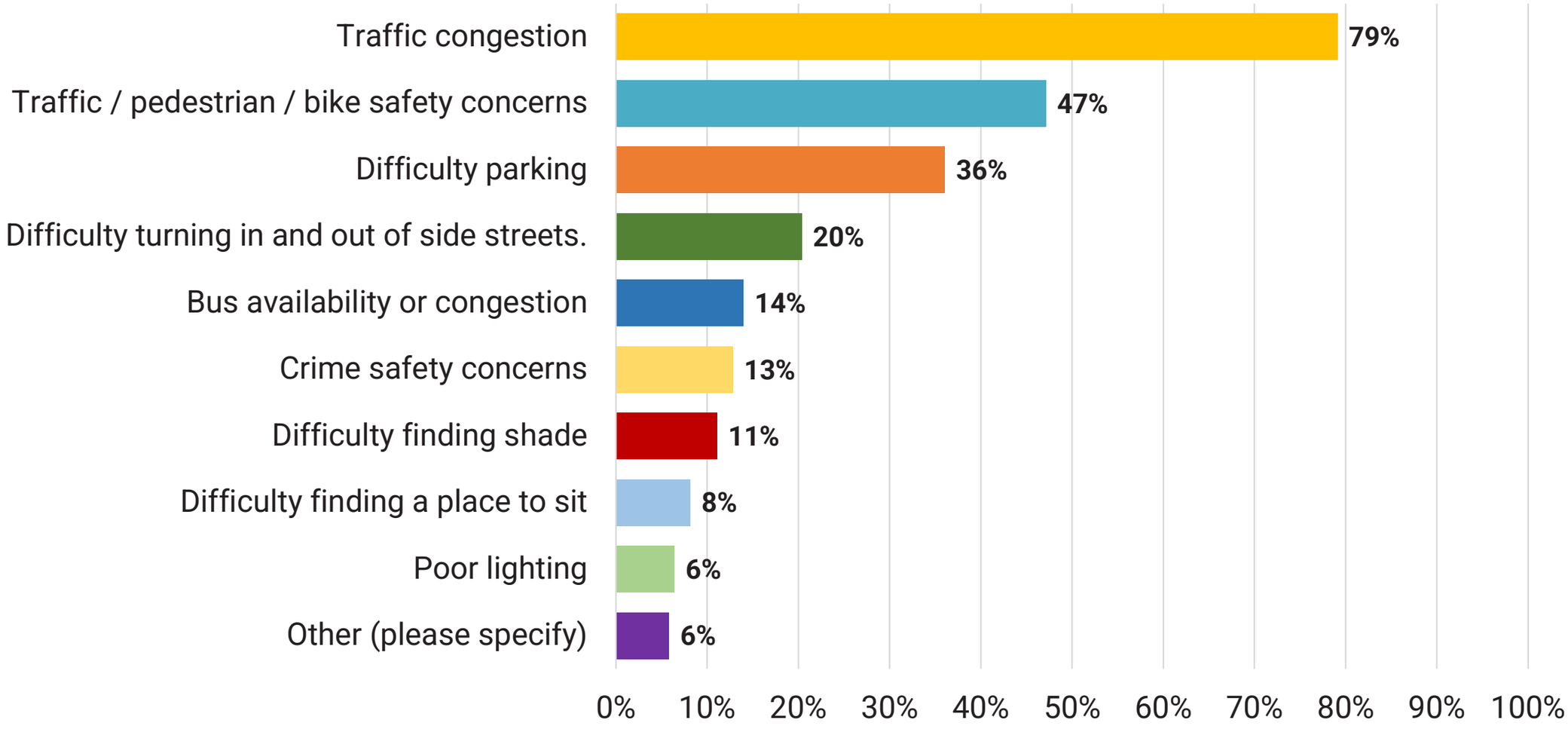
How do you typically travel to Broadway?



Respondents could select up to two

N = 172

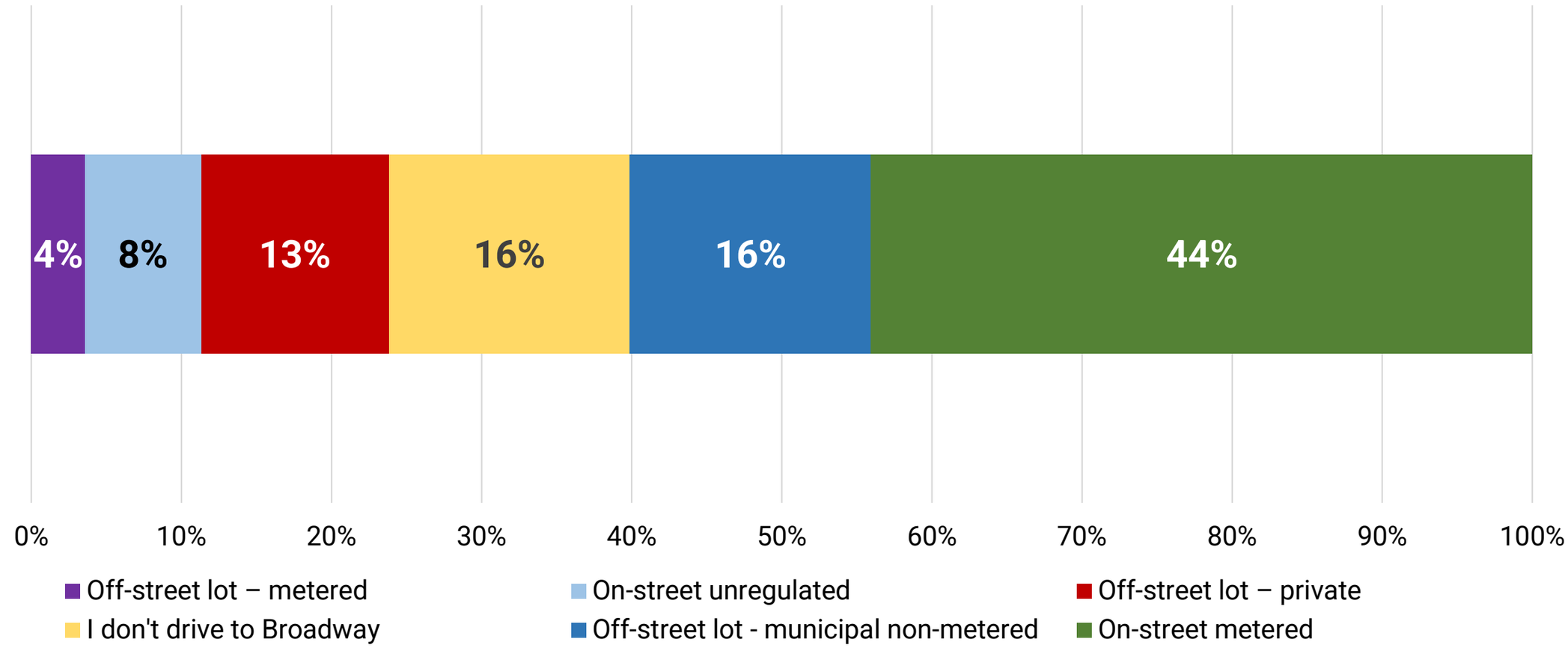
While traveling on or to Broadway, what problems do you encounter?



N = 172

Respondents could select up to three

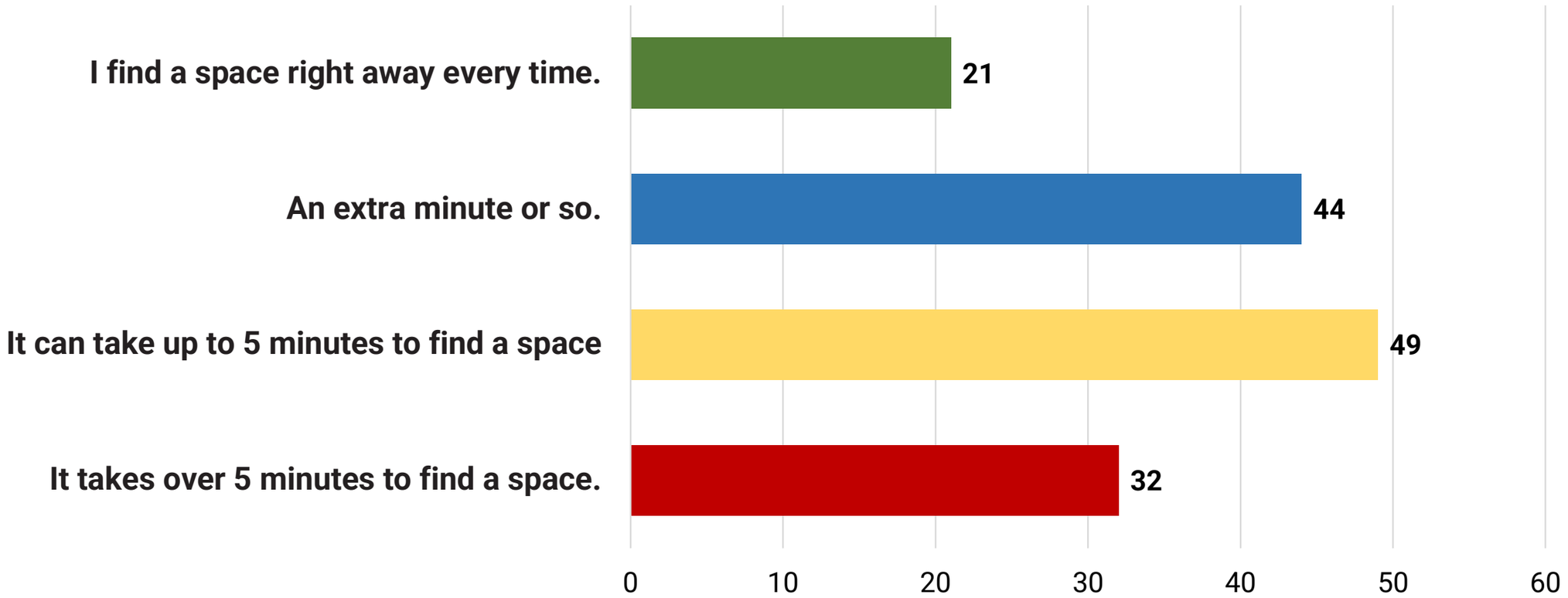
If driving to Broadway, where did you park the most recent time you visited?



N = 172

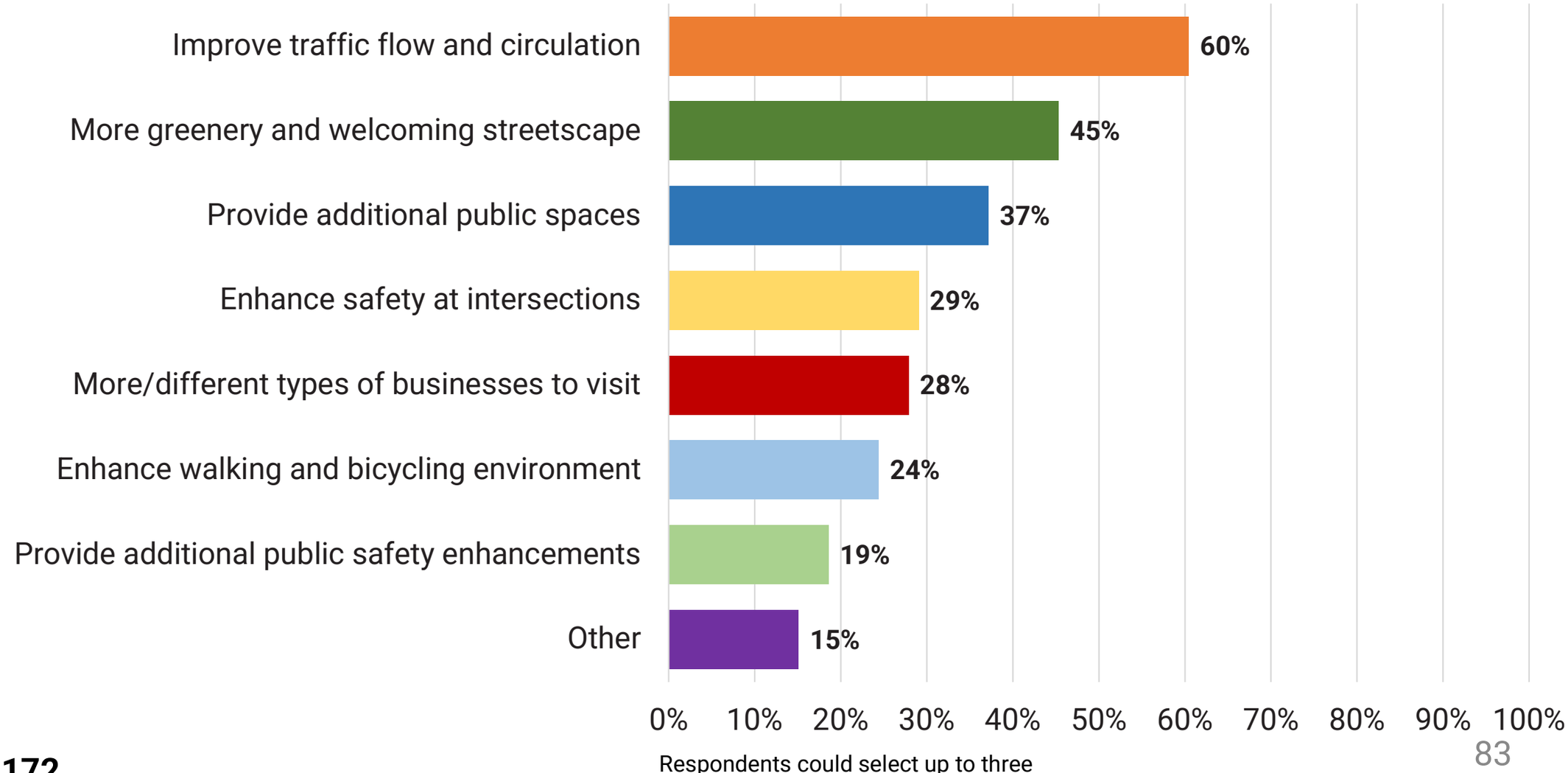
Respondents could select up to one

How long does it take to find a parking space in the Broadway area, on the most recent time you visited?



N = 172

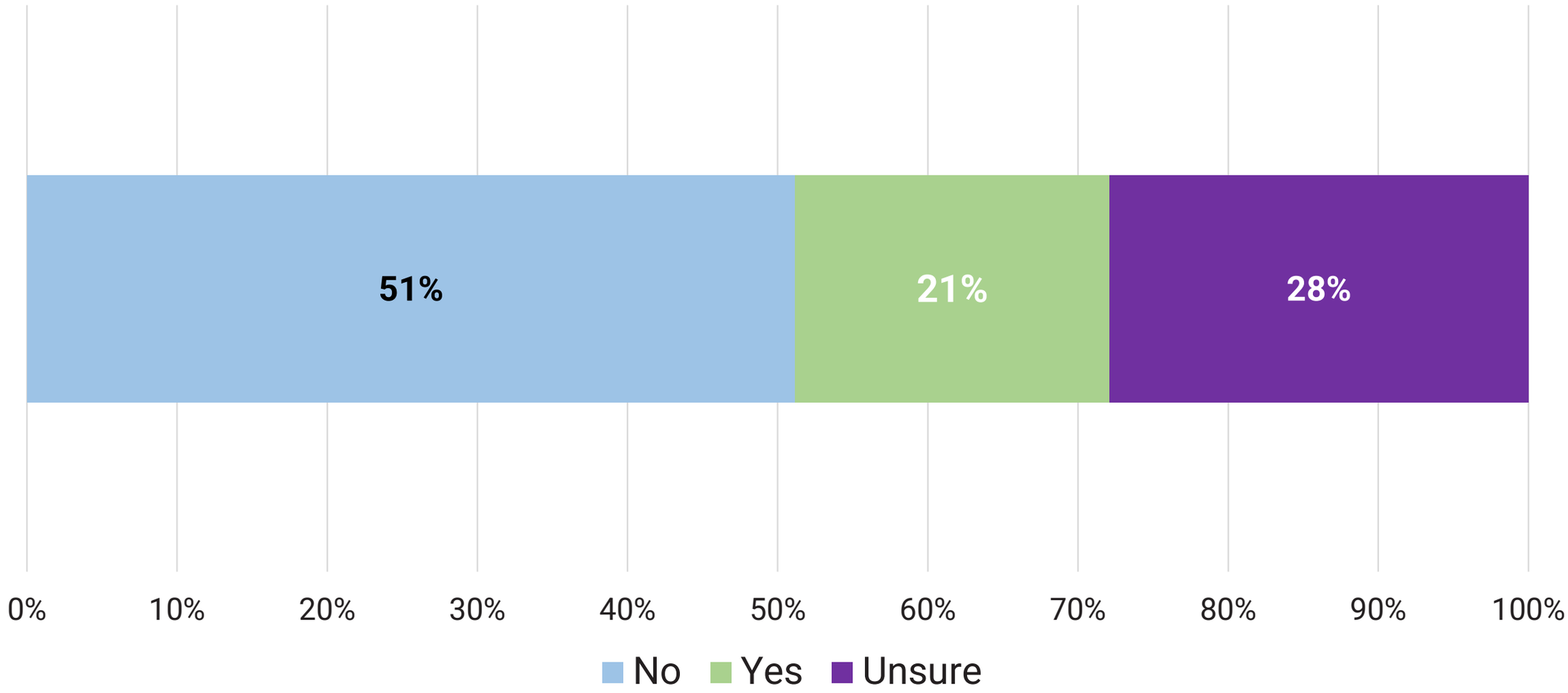
Indicate the improvements you would like to see implemented



Respondents could select up to three

N = 172

Do you feel there is enough publicly accessible open space along Broadway?



N = 172