

DRAFT REPORT

RAPIDRIDE ROOSEVELT CORRIDOR CURB SPACE MANAGEMENT STUDY

Prepared for

Seattle Department of Transportation



Seattle
Department of
Transportation

October 2018

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ACRONYMS AND ABBREVIATIONS

CVLZ	commercial vehicle loading zone
PLZ	passenger loading zone
RPZ	restricted parking zone
SDOT	Seattle Department of Transportation
TDM	transportation demand management

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1. INTRODUCTION

Seattle Department of Transportation (SDOT) proposes to improve bus transit with the RapidRide Roosevelt Corridor project from the International District/Chinatown Link light rail station to the Roosevelt Link station. It will provide faster, safer, and more reliable bus service in a heavily used transit corridor in Seattle. Project improvements will be provided in the area north of 3rd Ave and Virginia/Stewart Streets to the northern end of the route and will include:

- 26 new RapidRide stations (13 per direction of travel) from 3rd Ave to NE 65th St with service to 9 existing stations in Downtown Seattle
- New poles and overhead wires added north of the University Bridge to power trolley buses
- A new traction power substation (source of electric power) in the northern portion of the project
- A northern and southern bus layover, where buses would park between runs
- Protected bicycle lanes along 11th/12th Avenues, Eastlake Ave, and Fairview Ave
- Sidewalk improvements to meet Americans with Disabilities Act accessibility requirements
- Paving along sections of 11th and 12th Avenues NE and Eastlake Ave roadways

The southern bus layover would use existing layover space. For the northern bus layover option, the Locally Preferred Alternative is planned for NE 67th St between 12th Ave NE and Roosevelt Way NE on the north side of the street. Two additional routing and layover options are being considered along Roosevelt Way and 12th Ave NE. No improvements are proposed in the area south of 3rd Ave and Virginia/Stewart Streets. However, bus service would use existing RapidRide stations. The effects of RapidRide Roosevelt project on on-street parking and loading zones were evaluated in this study.

2. METHODOLOGY

2.1 Study Area

The study area for curb space management was defined as all the block faces along the RapidRide Roosevelt corridor except for 3rd Ave and Virginia St/Stewart St. Because there are no project improvements in the area south of 3rd Ave and Virginia/Stewart Streets, these streets were not included in the parking study area. The parking study area also includes cross streets and parallel streets one block away (east and west directions) from the RapidRide Roosevelt corridor to account for available parking within a reasonable walking distance to and from the corridor.

To analyze the parking data, the study area was divided into 10 study zones. These zones were generally determined based on the street and parking network within the transportation system. However, it is possible for people to park in one zone to access a destination in another zone. Figure 1 shows the overall study area and zones for the curb space management study.

2.2 On-Street Parking and Loading Zone Data Collection

On-street parking utilization describes the number of vehicles parked (occupancy) in an area compared to the available inventory. It is calculated by dividing the occupancy by the inventory in the area. SDOT provided the inventory and utilization data for paid on-street parking and loading zones in the study area. For unpaid on-street parking areas and off-street parking, the project team performed a parking inventory and occupancy survey.

2.2.1 On-Street Paid Parking and Loading Zone Inventory and Utilization

SDOT provided on-street paid parking and loading zone inventory and utilization data collected as part of the Performance-Based Parking Pricing Program to the project team. Parking data were collected in April and May 2017 on typical weekdays (Tuesday, Wednesday, or Thursday) to represent average parking conditions. Collection dates were chosen to not overlap with significant area events, such as spring break periods for schools, to ensure typical parking conditions were represented.

Definitions

Curb space is the space between the area exclusively used by bikes, cars, buses, streetcars, and trucks (streets) and the area used by pedestrians (sidewalks). Curb space has a variety of flexible transportation uses and other uses, including socializing, using parklets, and patronizing eateries. Because there is a high demand for these spaces, the City's Comprehensive Plan establishes policies that set priorities to manage the use of curb spaces.

A **block face** is defined as one side of a street between two consecutive features intersecting that street. The features can be other streets or boundaries of standard geographic areas.

Complete streets are streets that provide appropriate accommodation for pedestrians, bicyclists, transit riders, and people of all abilities, while promoting safe operation for all users.

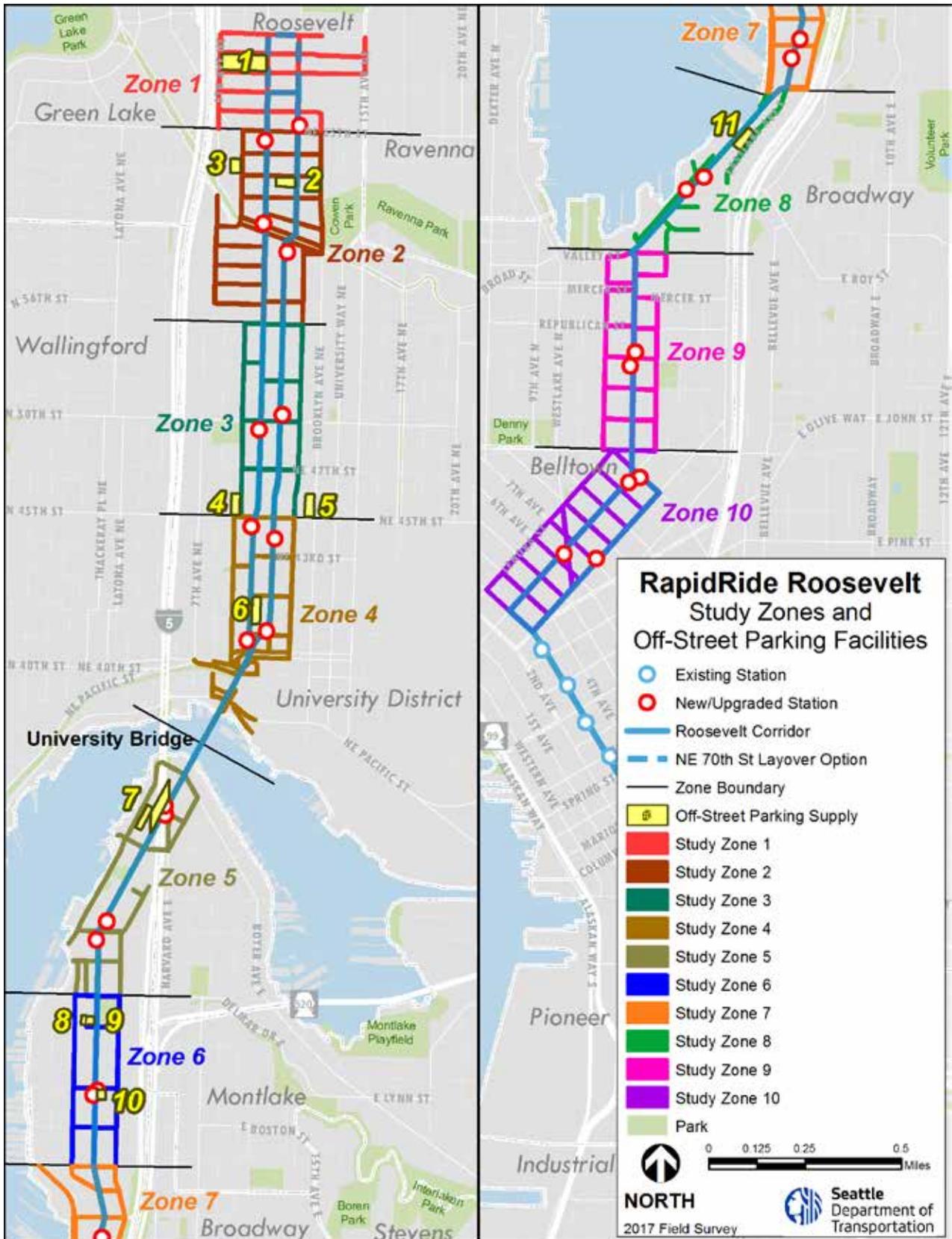


Figure 1. Curb Space Management Study Zones and Studied Off-street Parking Facilities

Hourly occupancy observations were made in the areas from 8 AM to 10 PM. Occupancy was defined as the percent of legal on-street parking spaces in which a vehicle was parked at a given time. SDOT did not formally designate or delineate individual spaces but maintained a space inventory that would exist if spaces were legally marked. These spaces were based on standard parking dimensions and reflected parking restrictions near intersections, driveways, and fire hydrants. Occupancy can be over 100% as vehicles sometimes park close together or partially in illegal areas.

2.2.2 On-Street Unpaid Parking and Loading Zone Inventory and Utilization

An inventory of on-street unpaid parking and loading zones (commercial vehicle loading zones, passenger loading zones) was completed for each block face. Parking inventory was verified in the field using the methodology described in SDOT's Tip 117: Parking Waivers for Accessory Dwelling Units, as recommended by City staff (City of Seattle, 2011).

The following curb space measurements for required clear distances from common street features were used from Tip 117:

- No parking within 15 feet of a fire hydrant on either side
- No parking within 5 feet of a driveway or alley on either side
- No parking within 30 feet of a marked intersection¹
- No parking within 20 feet of an unmarked intersection

The inventory and utilization of on-street unpaid parking was conducted on two non-consecutive weekdays (Thursday, December 7, 2017, and Tuesday, December 12, 2017). The inventory was done for three one-hour time periods each day. Occupancy counts were a one-time count for each of the time slots and did not reflect turnover. At each of the following time slots, the number of spaces occupied was recorded:

- Midday (noon to 1 PM): Parking inventory and occupancy data were collected during this period to capture the parking demand during business hours for on-street parking during weekdays.
- PM Peak (5 PM to 6 PM): Parking inventory and occupancy data were collected during this period to capture the effects of peak parking restrictions during weekdays.
- Late evening (one hour between 8 PM and 10 PM): Parking inventory and occupancy data were collected during this period to determine the overnight parking needs during weekdays.

The locations and signed restrictions of all commercial vehicle loading zones and passenger loading zones were collected along the entire corridor.

The locations of the block faces with paid and unpaid parking within the study area are presented in Attachment A.

¹ *A marked intersection is an intersection where a traffic light, stop sign, or yield sign is installed.

2.3 Off-Street Parking Data Collection

The numbers of parking spaces and the numbers of spaces occupied were surveyed at 11 public paid parking facilities along the corridor, shown on Figure 1. The facilities were selected in coordination with SDOT to represent a sampling of the public off-street parking facilities located close to the main corridor. This information was used to evaluate whether there would be enough parking to meet parking demand after the construction of the project. The parking survey was conducted during two non-consecutive days (Thursday, January 18, 2018, and Tuesday, January 23, 2018) for three one-hour time periods: 1) midday from noon to 1 PM, 2) PM peak from 5 PM to 6 PM, and 3) late evening from 8 PM and 10 PM.

2.4 Eastlake Commercial Area Parking Duration Study

In response to the business community's concerns about parking availability, a parking duration study was conducted for the Eastlake commercial area. The Eastlake commercial area is defined as the area along Eastlake Ave E between E Roanoke St and E Newton St. Many of the businesses in this area do not have dedicated off-street parking for customers, and this area has limited access to additional on-street parking on the adjacent block faces because of the proximity to South Lake Union and I-5.

The purpose of this study was to determine the parking occupancy and the average duration of parking in the commercial area. On-street parking duration was surveyed hourly from 7 AM to 7 PM to represent the peak activity times for businesses in the area. The data were collected on two non-consecutive days (Tuesday, December 12, 2017, and Thursday, December 14, 2017).

3. CITY OF SEATTLE CURB SPACE USE POLICIES

This section discusses the City of Seattle policies for curb space use in the *Seattle 2035 Comprehensive Plan* (City of Seattle, 2017a) and the *Right-of-Way Improvements Manual* (City of Seattle, 2017b).

3.1 City of Seattle Comprehensive Plan

Curb space is part of the public street system and is considered by SDOT a public good available to all users. The use of curb space in Seattle is regulated and managed by SDOT. The City's Comprehensive Plan (Chapter 1) establishes policies to address and balance the competing and diverse needs of transportation to assist in more efficiently moving people and goods, support the vitality of business districts, and create livable neighborhoods. Curb space is considered a flex area or zone by the City of Seattle. Flex zone functions are prioritized based on surrounding land use. In residential areas, the use of curb space is prioritized as follows:

1. Support for modal plan² priorities
2. Access for people
3. Access for commerce
4. Greening
5. Storage
6. Activation

For business or commercial and mixed-use areas such as urban villages, the curb space priorities are as follows:

1. Support for modal plan priorities
2. Access for commerce
3. Access for people
4. Activation
5. Greening
6. Storage

Definitions and examples of these different functions for flex zone use are shown in Table 1.

² Modal planning refers to different modes for transportation (walking, cycling, automobile, public transit, etc.)

Table 1. Definitions and Examples of Functions for Curb Space Use

FUNCTION	DEFINITION	EXAMPLES OF USES
Support for modal plan priorities	Moves people and goods	<ul style="list-style-type: none"> • Sidewalks • Bus or streetcar lanes • Bike lanes • General purpose travel lanes (includes freight) • Right- or left-turn only lanes
Access for People	People arrive at their destination, or transfer between different ways of getting around.	<ul style="list-style-type: none"> • Bus or rail stops • Bike parking • Curb bulbs • Passenger loading zones • Short-term parking • Taxi zones
Access for Commerce	Goods and services reach their customers and markets.	<ul style="list-style-type: none"> • Commercial vehicle loading zone • Truck loading zone
Activation	Offers vibrant social spaces.	<ul style="list-style-type: none"> • Food trucks • Parklets and streateries • Public art • Street festivals
Greening	Enhances aesthetics and environment health.	<ul style="list-style-type: none"> • Plantings <ul style="list-style-type: none"> – Boulevards – Street trees – Planter boxes • Rain gardens and bio-swales
Storage	Provides storage for vehicles or equipment.	<ul style="list-style-type: none"> • Bus layover • Long-term parking • Reserved spaces (e.g., for police or other public use) • Construction

Source: SDOT, 2018

3.2 Seattle Streets Illustrated

Streets Illustrated (City of Seattle, 2017b) is Seattle’s Right-of-Way Improvements Manual and was adopted in 2017. Streets Illustrated provides design guidance and standards for various street type designations and right-of-way within Seattle and is based on a guiding principle of complete streets and balancing the needs of all travel modes and users including pedestrians, bicyclists, transit riders, freight, and motor vehicle drivers. The design guidance provided in Streets Illustrated is consistent with applicable City of Seattle plans and regulations, including the Seattle Comprehensive Plan (City of Seattle, 2017a), the *City of Seattle Standard Specifications for Road, Bridge, and Municipal Construction* (City of Seattle, 2017c), and the Seattle Municipal Code.

4. EXISTING CONDITIONS

4.1 Existing On-Street Parking and Loading Zones Inventory

Table 2 summarizes the total number of parking spaces and loading zones by type (i.e., commercial vehicle loading zones and passenger loading zones) for each of the analysis time periods. The midday and late evening time periods have the same numbers, but the number of spaces in the PM peak is reduced in most of the zones due to existing PM peak period parking restrictions, when parking or stopping are not allowed in order to improve roadway capacity and traffic flow. As shown in Table 2, the existing on-street parking spaces are 4,271 during the PM peak, compared to 4,589 spaces during midday and late evening.

Table 2. Summary of Existing On-Street Parking and Loading Zone Inventory

STUDY ZONE	MIDDAY/LATE EVENING ^a			PM PEAK ^b		
	PARKING ^c	LOADING ZONES		PARKING ^c	LOADING ZONES	
		CVLZ	PLZ		CVLZ	PLZ
1	573	20	6	571	20	6
2	930	21	3	857	14	3
3	538	14	7	538	14	7
4	302	20	11	283	20	8
5	579	11	2	504	9	1
6	506	14	2	442	8	2
7	411	10	0	388	9	0
8	188	2	3	188	2	3
9	283	26	16	260	24	14
10	279	32	50	240	28	45
Total	4,589	170	100	4,271	148	89

^a The inventory is the same for midday and late evening time periods. The inventory includes different types of parking (i.e., time-limited, unrestricted, restricted parking zone [RPZ], and disabled parking).

^b The on-street parking and loading zone inventory is reduced in some locations by peak period parking restrictions.

^c Parking data includes all types of parking – unpaid, paid, time-limited, disabled, etc.

CVLZ = commercial vehicle loading zone

PLZ = passenger loading zone

Figures 2 to 6 show the locations of loading zones along the study corridor. Different types of parking (i.e., time-limited, unrestricted, restricted parking zone [RPZ], and disabled parking) within the study area are shown in Attachment A.



Figure 2. Location of Loading Zones along the Study Corridor in Study Zones 1, 2

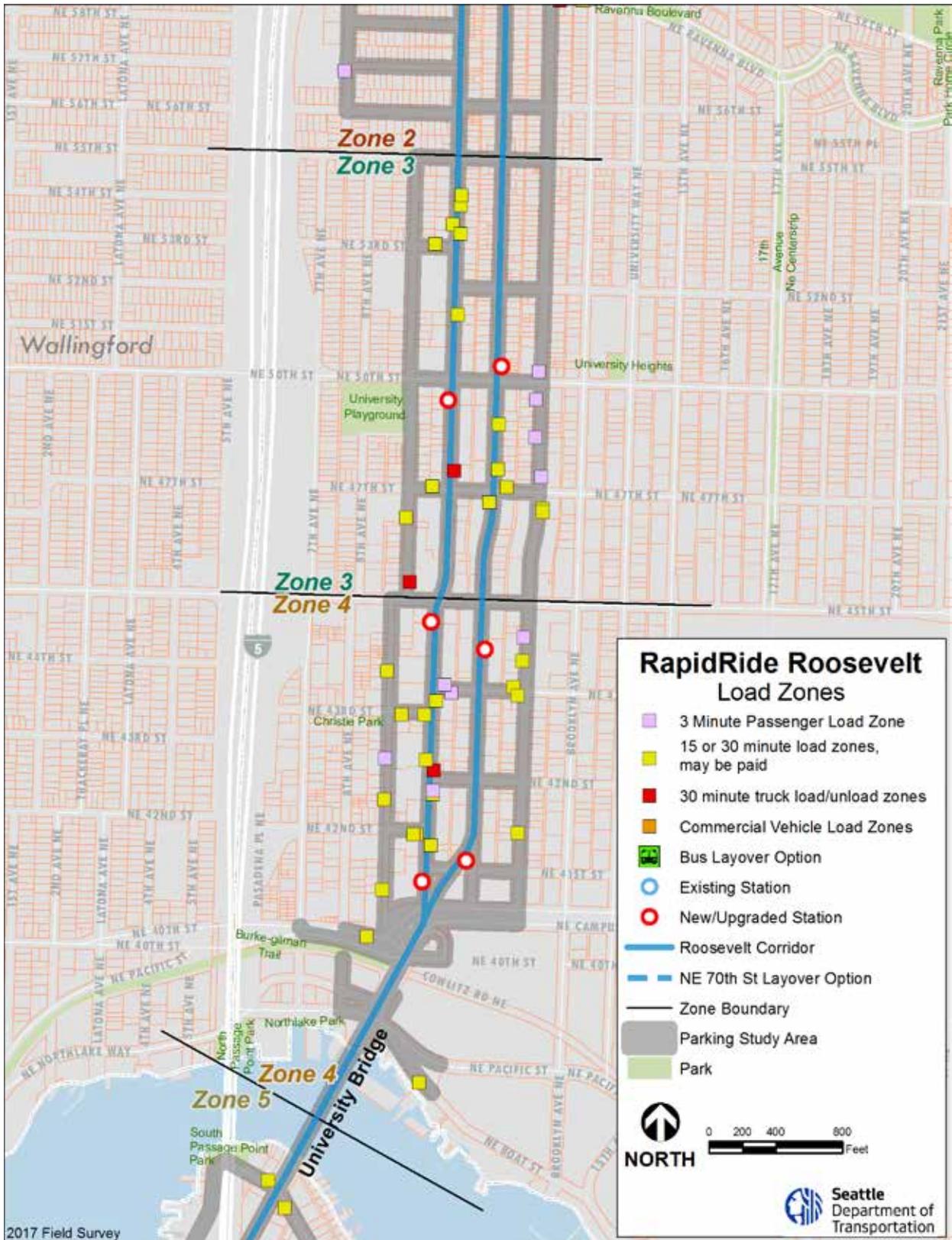


Figure 3. Location of Loading Zones along the Study Corridor in Study Zones 3, 4



Figure 4. Location of Loading Zones along the Study Corridor in Study Zones 5, 6

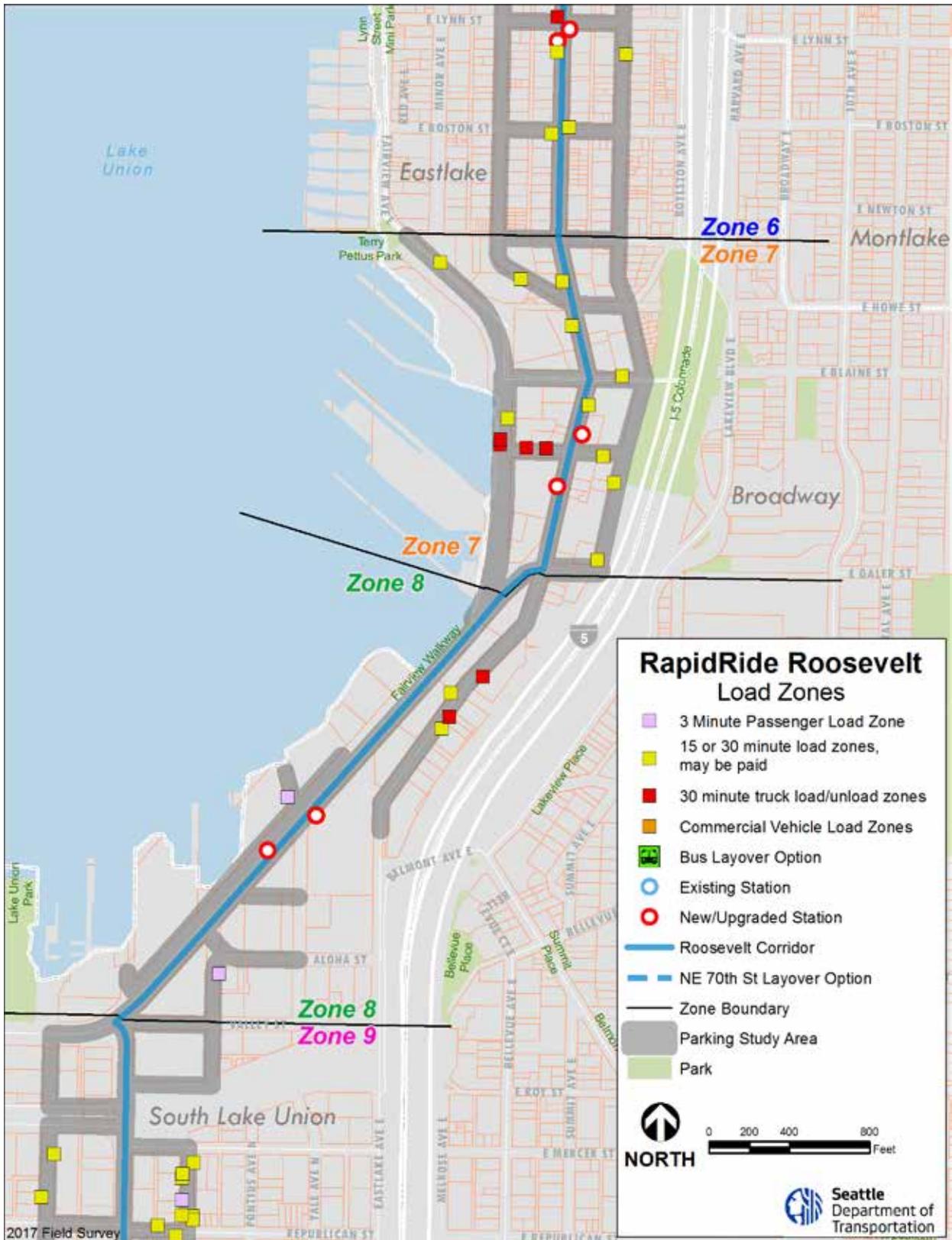


Figure 5. Location of Loading Zones along the Study Corridor in Study Zones 7, 8

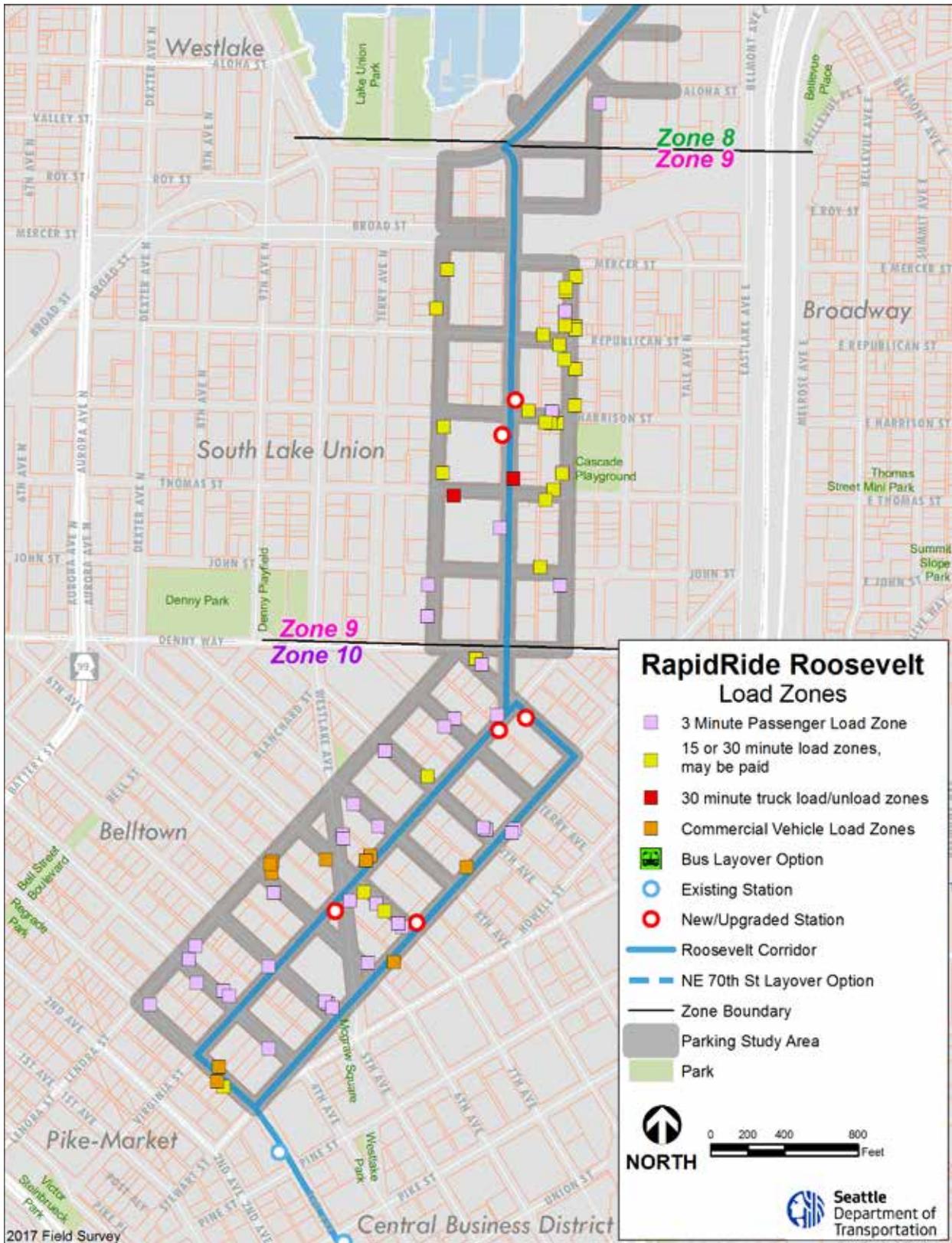


Figure 6. Location of Loading Zones along the Study Corridor in Study Zones 9, 10

4.2 Existing On-Street Parking Occupancy and Utilization

The existing on-street parking utilization percentages for each zone are summarized in Table 3. An occupancy rate of 85% or below is considered to be an acceptable threshold for available parking by the City of Seattle. Utilization rates over 85% generally indicate conditions where people find it difficult to find parking spaces and often result in increased circulation as people look for spaces. Utilization rates over 100% may indicate vehicles parked illegally, closely spaced vehicles, or other similar situations. For loading zones, utilization data were not collected due to the short durations of occupation.

As shown in Table 3, on-street parking utilization was observed as approaching or exceeding the 85% threshold in a number of study zones. During midday, which has the highest demand for on-street parking, zones 1, 4, 5, 7, 9, and 10 have utilization rates equal to or greater than 85%. Attachment A-1 illustrates the figures for parking utilization by block face. The maps highlight where parking demand is greatest.

4.3 Off-Street Parking Inventory and Occupancy

The 11 paid parking facilities selected for the study have a capacity of 596 spaces, with the total capacity of individual facilities ranging from 1 to 158 spaces. As shown in Table 4, these facilities were highly utilized during the midday time period, with six facilities approaching or over 85% full. Utilization rates drop for the PM peak and late evening time periods, with most facilities less than 50% utilized.

Besides these 11 facilities inventoried, the University District (zones 3 and 4) and South Lake Union and Downtown neighborhoods (zones 9 and 10) have numerous other parking facilities within the project corridor that were not inventoried. It is assumed that the overall occupancies in these other parking facilities would be similar to the facilities that were inventoried. These other parking facilities are shown on the off-street parking facilities figures (Figures 7 through 11).

Table 3. Summary of Existing On-Street Parking Inventory and Utilization Rates by Time Period

STUDY ZONE	MIDDAY			PM PEAK			LATE EVENING		
	PARKING	OCCUPANCY	UTILIZATION	PARKING	OCCUPANCY	UTILIZATION	PARKING	OCCUPANCY	UTILIZATION
1	573	540	94%	571	425	74%	573	447	78%
2	930	632	68%	857	644	75%	930	664	71%
3	538	437	81%	538	389	72%	538	422	78%
4	302	299	99%	283	248	88%	302	272	90%
5	579	524	91%	504	415	82%	579	404	70%
6	506	426	84%	442	362	82%	506	398	79%
7	411	415	101%	388	254	65%	411	254	62%
8	188	141	75%	188	80	43%	188	58	31%
9	283	240	85%	260	177	68%	283	173	61%
10	279	258	92%	240	180	75%	279	214	77%
Total	4,589	3,912	85%	4,271	3,174	74%	4,589	3,306	72%

Table 4. Summary of Existing Off-Street Parking Inventory and Utilization

STUDY ZONE	LOT #	INVENTORY	MIDDAY			PM PEAK			EVENING		
			OCCUPANCY	UTILIZATION	AVAILABLE	OCCUPANCY	UTILIZATION	AVAILABLE	OCCUPANCY	UTILIZATION	AVAILABLE
1	1	184	137	74%	47	28	15%	156	26	14%	158
2	2	16	14	84%	2	6	38%	10	3	19%	13
2	3	55	37	67%	18	28	50%	27	22	39%	33
3	4	59	51	86%	8	43	72%	16	37	62%	22
3	5	109	105	96%	4	46	42%	63	28	25%	81
4	6	26	11	42%	15	8	31%	18	6	21%	20
5	7	31	13	40%	18	10	31%	21	7	21%	24
6	8	10	9	85%	1	4	40%	6	4	40%	6
6	9	5	3	60%	2	3	50%	2	1	20%	4
6	10	22	19	84%	3	7	30%	15	3	11%	19
8	11	79	74	93%	5	37	46%	42	17	22%	62
Total		596	473	79%	123	220	37%	376	154	26%	442

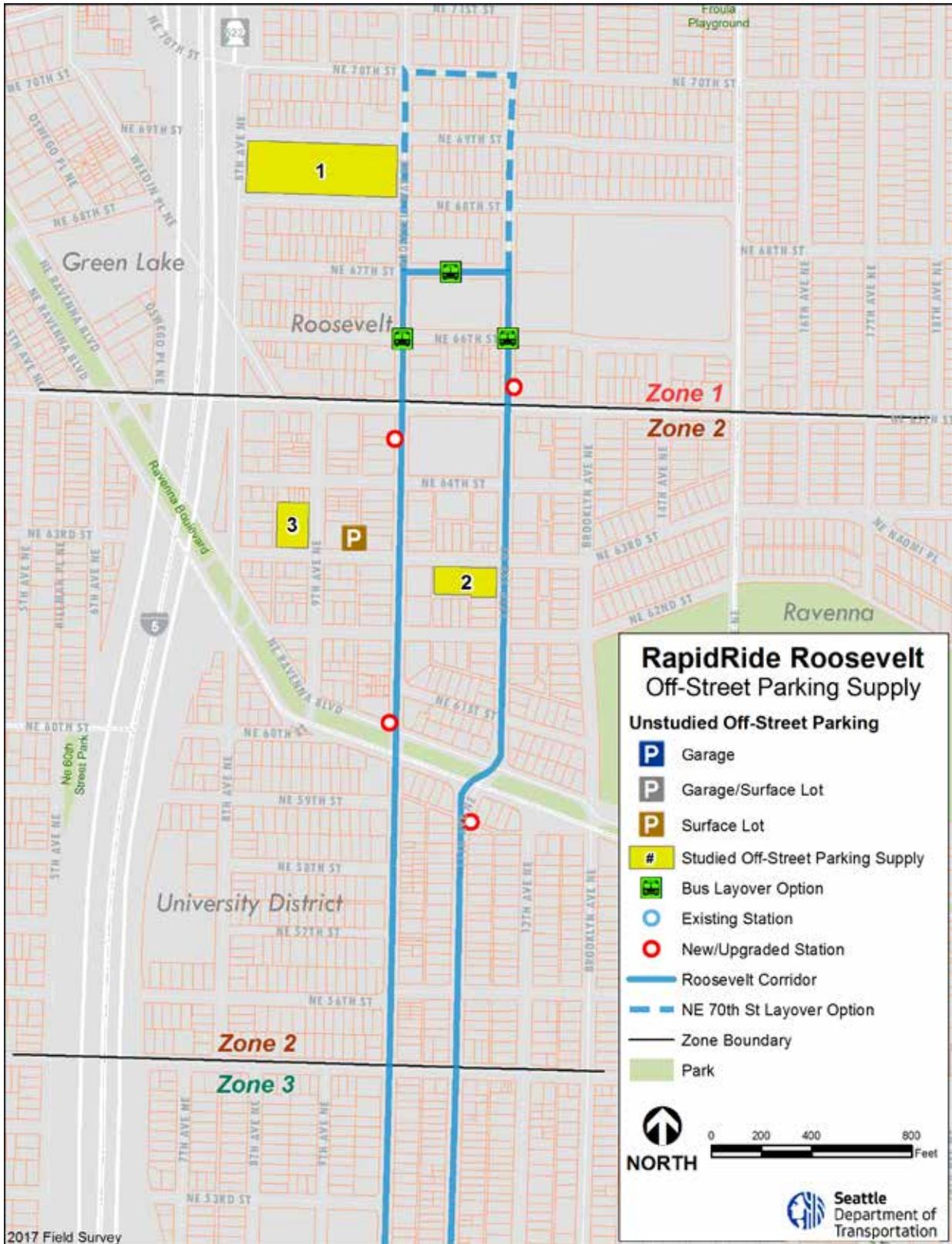


Figure 7. Off-Street Parking Facilities within and Close to the Study Area in Zones 1, 2



Figure 9. Off-Street Parking Facilities within and Close to the Study Area in Zones 5, 6



Figure 11. Off-Street Parking Facilities within and Close to the Study Area in Zones 9, 10

4.4 Eastlake Commercial Area Parking Duration Study

The curb space analysis included a parking duration study for the project corridor through the Eastlake commercial area defined as eight block faces on Eastlake Ave E from E Roanoke St and E Newton St (Table 5 and Figure 12).

Figure 12 provides information on the parking inventory, type of parking for each block face, and the peak period parking restriction (AM Peak: 7-9 AM, PM Peak: 4-6 PM). The presence of Zone 8 RPZ stickers for vehicles on Block Face 4A was also noted, which is important because the duration study provides an understanding of how the parking is being used by land use activities on the corridor.

The results in terms of the average turnover (vehicles per spot) and the average parking duration (hours per spot) for each block face are shown in Table 5. In the study area, the maximum parking duration was observed for block faces with time limited parking restriction (2 hours)—Zones 2, 3, 6, 7—between 6 and 10 hours per spot, indicating illegal parking.

Definitions

Parking turnover - indicates the rate of use of a given parking space and the average number of vehicles parking at a given space or group of spaces during a specified time period (vehicles per spot).

Parking duration - the length of time vehicles are parked in a given space (hours per spot). The higher percentage of the parking being occupied for a longer duration indicates that it is less available for turnover and business patrons.

Table 5. Eastlake Commercial Area Duration Study Average Turnover and Parking Duration

BLOCK FACE NO.	STREET NAMES	PARKING TYPE	AVERAGE TURNOVER (VEH/SPOT)	AVERAGE PARKING DURATION (HR/SPOT)
1A	Eastlake Ave E between E Louisa St and E Roanoke St - west side	Unrestricted	1.9	4.3
1B	Eastlake Ave E between E Louisa St and E Roanoke St - east side	Unrestricted	2.0	4.1
2A	Eastlake Ave E between E Lynn St and E Louisa St - west side	Time Limited (2 hour)	2.4	3.4
2B	Eastlake Ave E between E Lynn St and E Louisa St - east side	Time Limited (2 hour)	2.7	2.0
3A	Eastlake Ave E between E Boston St and E Lynn St - west side	Time Limited (2 hour)	3.3	1.8
3B	Eastlake Ave E between E Boston St and E Lynn St - east side	Time Limited (2 hour)	1.7	2.4
4A	Eastlake Ave E between E Newton St and E Boston St - west side	RPZ Time Limited (2 hour)	1.8	3.4
4B	Eastlake Ave E between E Newton St and E Boston St - east side	Unrestricted	1.4	4.0

The parking duration survey noted the length of time cars were parked in the Eastlake commercial area in the 12-hour period from 7 AM to 7 PM. The durations that vehicles were parked varied by inventory type. The results are summarized in Table 6. The results show that approximately 16% of cars were parked in time-limited parking for longer than 2 hours. For unrestricted parking spaces, more than half of the cars were parked for 2 hours or more, and the average parking time was approximately 4 hours. For RPZs, more than half of the cars were parked for 2 hours or more and the average parking time was approximately 6 hours.

Table 6. Summary of Average Length of Stay along Eastlake Commercial Area for Different Types of On-street Parking

TIME INTERVALS (HOURS)	TOTAL % (NUMBER OF CARS PARKED)	TIME-LIMITED	UNRESTRICTED	RPZ	OTHER
<1	42% (145)	29%	12%	<1%	<1%
1-2	20% (68)	14%	6%	<1%	<1%
2-3	9% (29)	5%	3%	0%	<1%
3-4	3%(12)	2%	1%	0%	<1%
4-5	6% (19)	3%	2%	0%	<1%
5-6	3% (13)	1%	3%	0%	0%
6-7	5% (17)	2%	4%	0%	<1%
7-8	6% (21)	2%	4%	<1%	0%
8-9	4% (14)	2%	2%	<1%	0%
9-10	2% (5)	<1%	1%	0%	0%
10-11	0% (0)	0%	0%	0%	0%
11-12	0% (0)	0%	0%	0%	0%
Total	100% (342)	60%	38%	1%	1%



Figure 12. Eastlake Commercial Area Parking Inventory and Type of Parking per Block Face

According to the Seattle Municipal Code, short-term parking is defined as parking for less than 4 hours (SMC 23.84A.030). In the study area, 26% of the cars were long-term parkers. Figure 13 shows the long-term and short-term parker percentages.

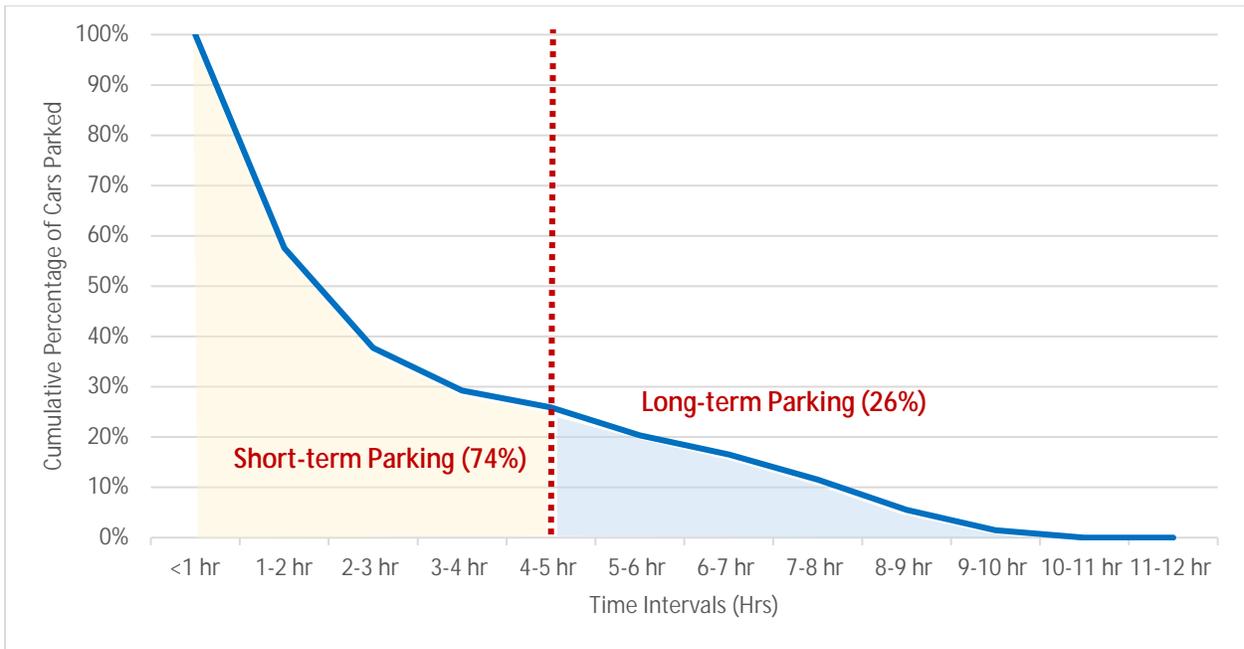


Figure 13. Percentage of Long-term and Short-term Parking during Eastlake Commercial Area Parking Duration Study

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5. RESULTS

The project proposes to provide enhanced multimodal transportation system improvements, which will include providing dedicated space for transit and bicycle activities in many parts of the corridor. This would result in a change in curb space use following the City of Seattle priorities for managing curb space/flex zone functions based on surrounding land uses along this corridor. The following summarizes changes that would occur with the RapidRide Roosevelt project.

5.1 On-street Parking Inventory and Loading Zone Change

The on-street parking and loading zone inventory along portions of the RapidRide Roosevelt corridor would be reduced by the project; the project would not impact off-street parking facilities. Table 7 summarizes the proposed changes in the parking inventory from the existing conditions for each parking study zone and time period.

Table 7. Summary of Change in Future On-Street Parking Inventory by Type

STUDY ZONE	MIDDAY/LATE EVENING PERIOD ^a			PM PEAK PERIOD ^b		
	PARKING	LOADING ZONES		PARKING	LOADING ZONES	
		CVLZ	PLZ		CVLZ	PLZ
1 ^c	-15 (-3%)	0 (0%)	0 (0%)	-15 (-3%)	0 (0%)	0 (0%)
2	-67 (-7%)	-3 (-14%)	0 (0%)	-45 (-5%)	-1 (-7%)	0 (0%)
3	-107 (-20%)	-2 (-14%)	-1 (-14%)	-107 (-20%)	-2 (-14%)	-1 (-14%)
4	-52 (-17%)	-2 (-10%)	-4 (-36%)	-33 (-12%)	-2 (-10%)	-1 (-13%)
5	-144 (-25%)	-5 (-45%)	-2 (-100%)	-69 (-14%)	-3 (-33%)	-1 (-100%)
6	-142 (-28%)	-10 (-71%)	-2 (-100%)	-78 (-18%)	-4 (-50%)	-2 (-100%)
7	-38 (-9%)	-3 (-3%)	0 (0%)	-15 (-4%)	-2 (-22%)	0 (0%)
8	-70 (-37%)	0 (0%)	0 (0%)	-70 (-37%)	0 (0%)	0 (0%)
9	-21 (-7%)	-4 (-15%)	-3 (-19%)	-6 (-2%)	-3 (-13%)	-1 (-7%)
10	-43 (-15%)	-5 (-16%)	-12 (-24%)	-33 (-14%)	-4 (-14%)	-9 (-20%)
Total	-699 (-15%)	-34 (-20%)	-24 (-24%)	-471 (-11%)	-21 (-14%)	-15 (-17%)

Note: Negative numbers show the number of parking spots that would be removed.

^a The inventory is the same for midday and late evening time periods.

^b The PM peak period has less inventory than in other times of the day due to peak period parking restrictions.

^c Zone 1 parking assumes the preferred north-end layover option utilizing NE 67th St. The other north-end layover options would each remove 16 parking stalls.

CVLZ = commercial vehicle loading zone

PLZ = passenger loading zone

Because the parking inventory changes by time of day due to curb space controls, the reduction in on-street parking inventory would vary by time of day. For example, the on-street parking spaces would be reduced by 471 during the PM peak, compared to 699 spaces during midday and late evening. This is because current PM peak parking controls already restrict on-street parking in parts of the corridor.

As shown in Table 7, 699 on-street parking would be removed as a result of the RapidRide Roosevelt project along the corridor. None of these parking spaces are marked for exclusive use by vehicles with a disabled parking permit. The locations of the disabled parking spots in the study area are shown on the maps in Attachment A-3.

Table 7 also shows that loading zones are reduced by 58 (34 CVLZs and 24 PLZs) during midday and late evening. Most of the zones would have a few commercial vehicle and passenger loading zones removed except Zones 6 and 10, which would have 10 CVLZs removed and between 9 and 12 PLZs removed, respectively, depending on the time zone. The removal of these loading zones would be addressed and relocated as feasible by the City of Seattle.

Regarding north-end layover options, 15 on-street parking spaces would be removed with the preferred location along NE 67th St. The two other north-end layover options would each result in the removal of 16 on-street parking stalls on either Roosevelt Way or 12th Ave. None of the parking spaces removed are commercial or passenger vehicle loading zones. However, one school bus zone (1 PM to 4 PM) would be affected by implementing the third alternative for the north-end bus layover along 12th Ave NE.

6. SUMMARY AND NEXT STEPS

The RapidRide Roosevelt project would improve transit service and offer new and upgraded pedestrian and bicycle facilities to provide alternatives to driving and parking in the corridor. The project is planning to provide frequent, all-day transit service that would have shorter travel times and better reliability that would attract new transit riders.

Within the Roosevelt, University District, South Lake Union, and Downtown neighborhoods (zones 1 through 4 and zones 8 through 10), additional parking strategies would not be proposed as either the parking removed is not substantial or there is available parking (on-street or off-street) to accommodate the loss of the parking removed by the project, as identified in Tables 3, 4, and 7. Along the entire project corridor, the City would relocate potential loading zones near the removed loading zone areas, where feasible, to facilitate deliveries and other functions for those activities.

Within the Eastlake neighborhood (zones 5 through 7), the project would remove all the on-street parking and loading zones along Eastlake Ave E between Fairview Ave N and Fuhrman Ave E. The Eastlake commercial area is constrained by limited on-street parking on the adjacent block faces and the fact that, unlike the other study zones, there are relatively few off-street parking facilities that would provide additional parking options. Results of the parking duration study in Eastlake commercial area show that about 25% of the vehicles parked on Eastlake Ave E (zone 6) are parking long-term (over 4 hours). These longer-term parked vehicles most likely belong to employees or residents in the area.

Beyond the relocation of loading zones throughout the project corridor, the City would coordinate with the Eastlake neighborhood on parking strategies, which may include:

- Working with the businesses and neighborhood to communicate the parking regulations and the available commute options.
- Consider seeking funding to establish a transportation demand management (TDM) program, like the "Let's Go!"³ program recently implemented in the University District, as a way to work with the community (residents and business) on TDM strategies to reduce the parking demand.
- Considering adjustments to the RPZ to better ease parking congestion in the residential area and better balance needs of all curb space users in the area.
- Facilitating a discussion, and if desired, seeking funding to work with private businesses that may be interested, or able to, allow parking lots to be shared parking for other uses.

The City will evaluate the costs, timing, issues, and opportunities with these potential mitigation strategies throughout the rest of the project design and development.

³ <http://sdotblog.seattle.gov/2018/05/16/save-your-seat-at-the-next-u-district-lets-go-transit-talk-may-24/>

7. REFERENCES

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Seattle Department of Transportation (SDOT). 2018. Flex Zone/Curb Use Priorities in Seattle. <https://www.seattle.gov/transportation/projects-and-programs/programs/parking-program/parking-regulations/flex-zone/curb-use-priorities-in-seattle>.

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Attachment A
Parking Maps

**ATTACHMENT A-1
ON-STREET PARKING EXISTING
UTILIZATION MAPS**

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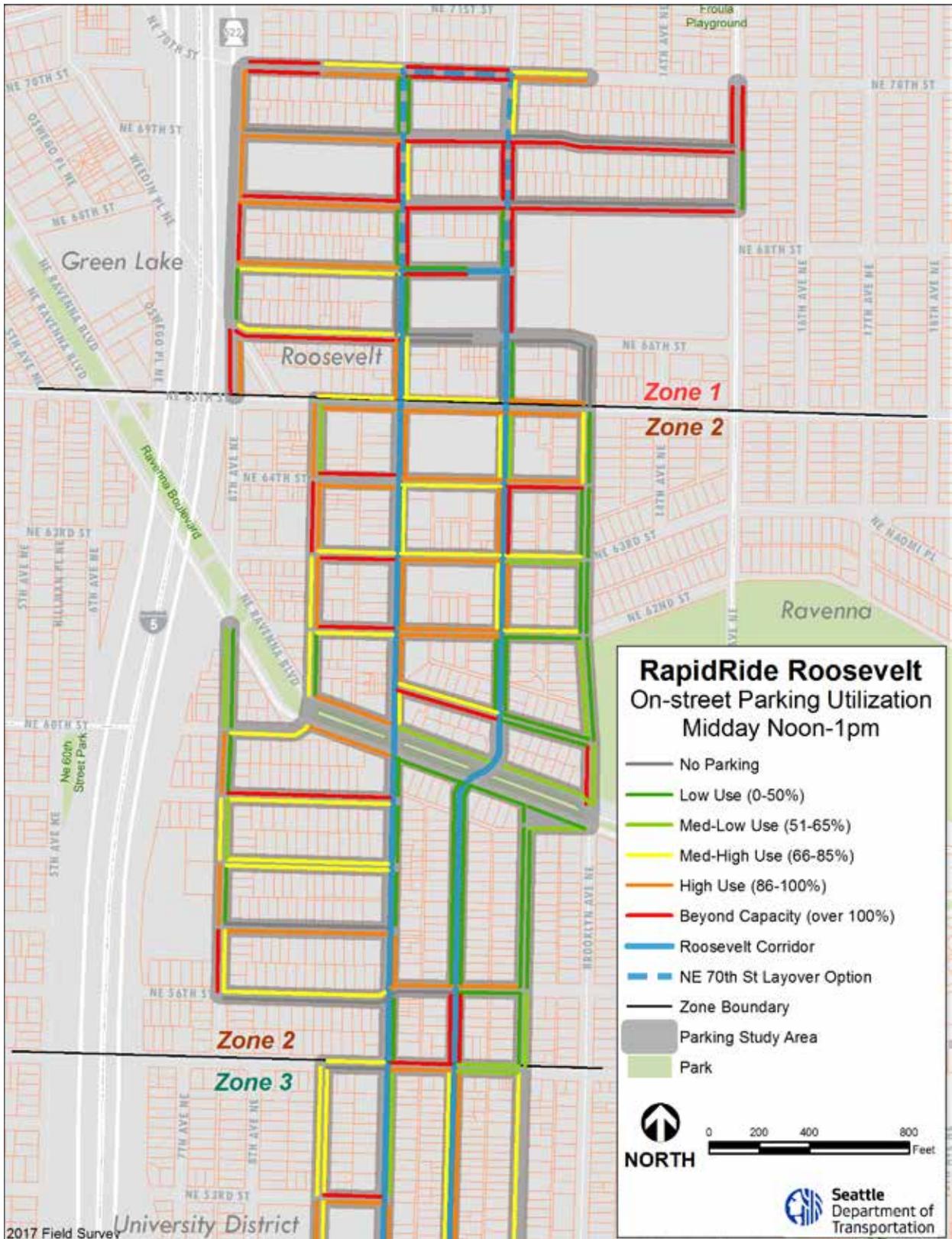


Figure A-1. Midday On-street Parking Utilization in Zones 1, 2

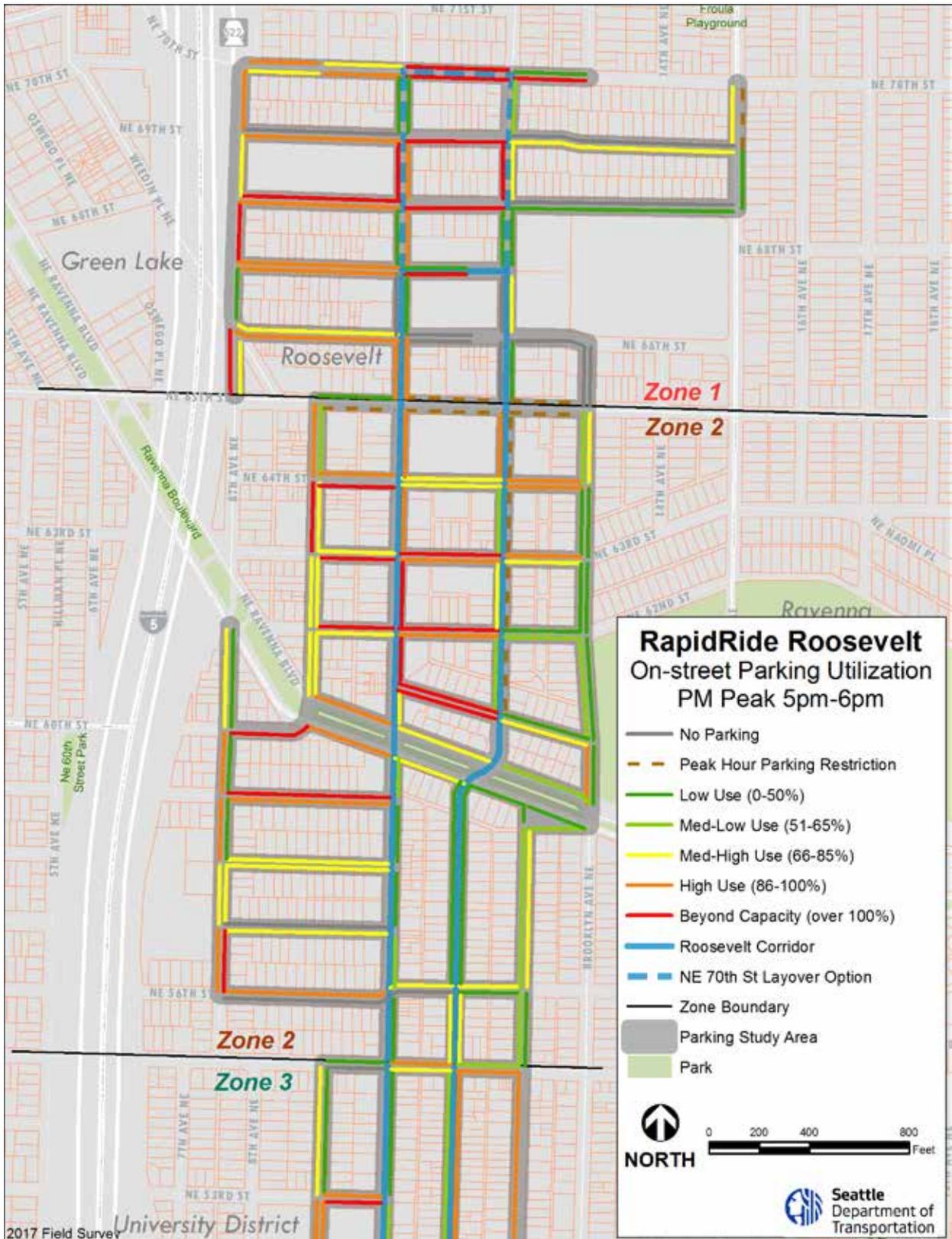


Figure A-2. PM Peak On-street Parking Utilization in Zones 1, 2

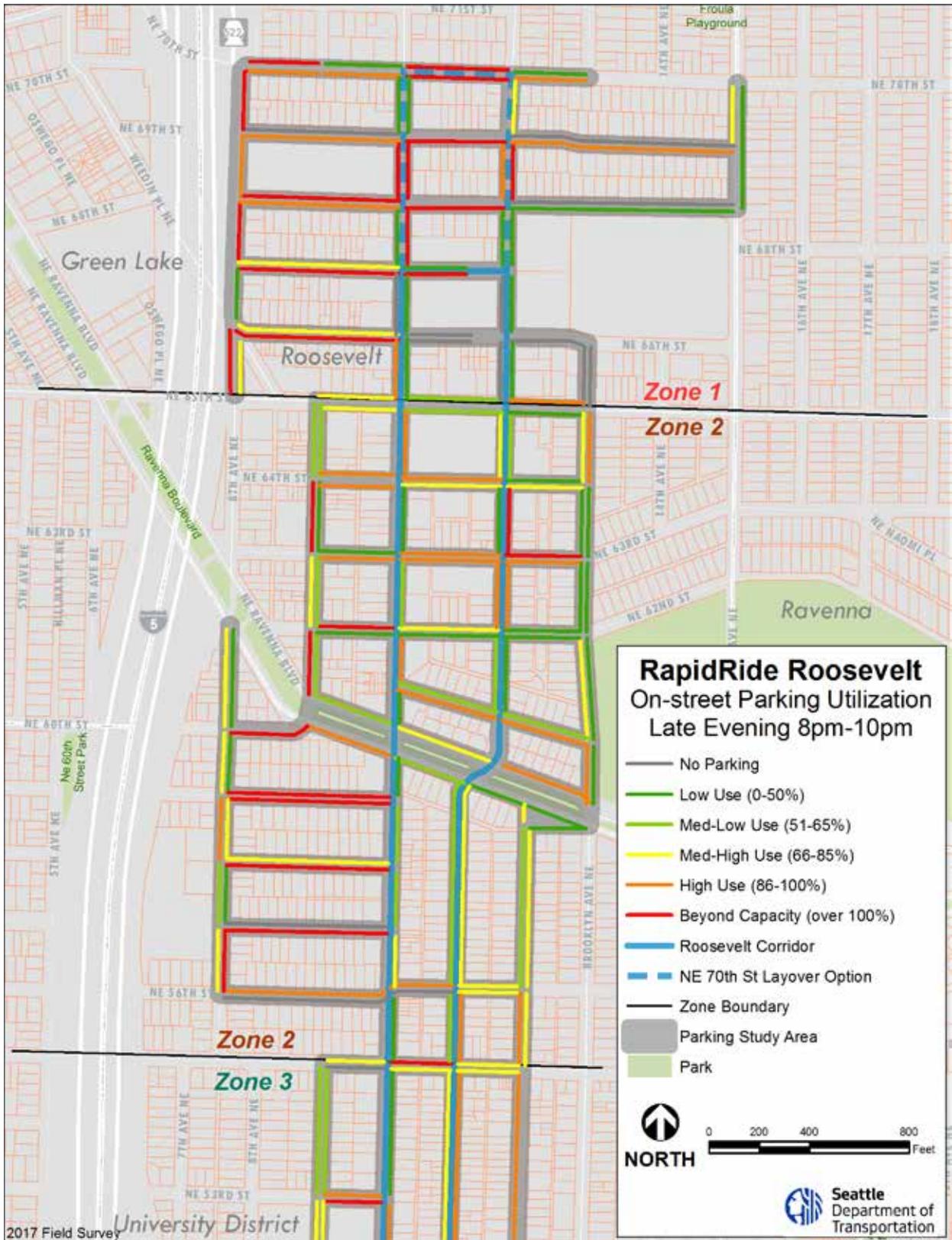


Figure A-3. Late Evening On-street Parking Utilization in Zones 1, 2

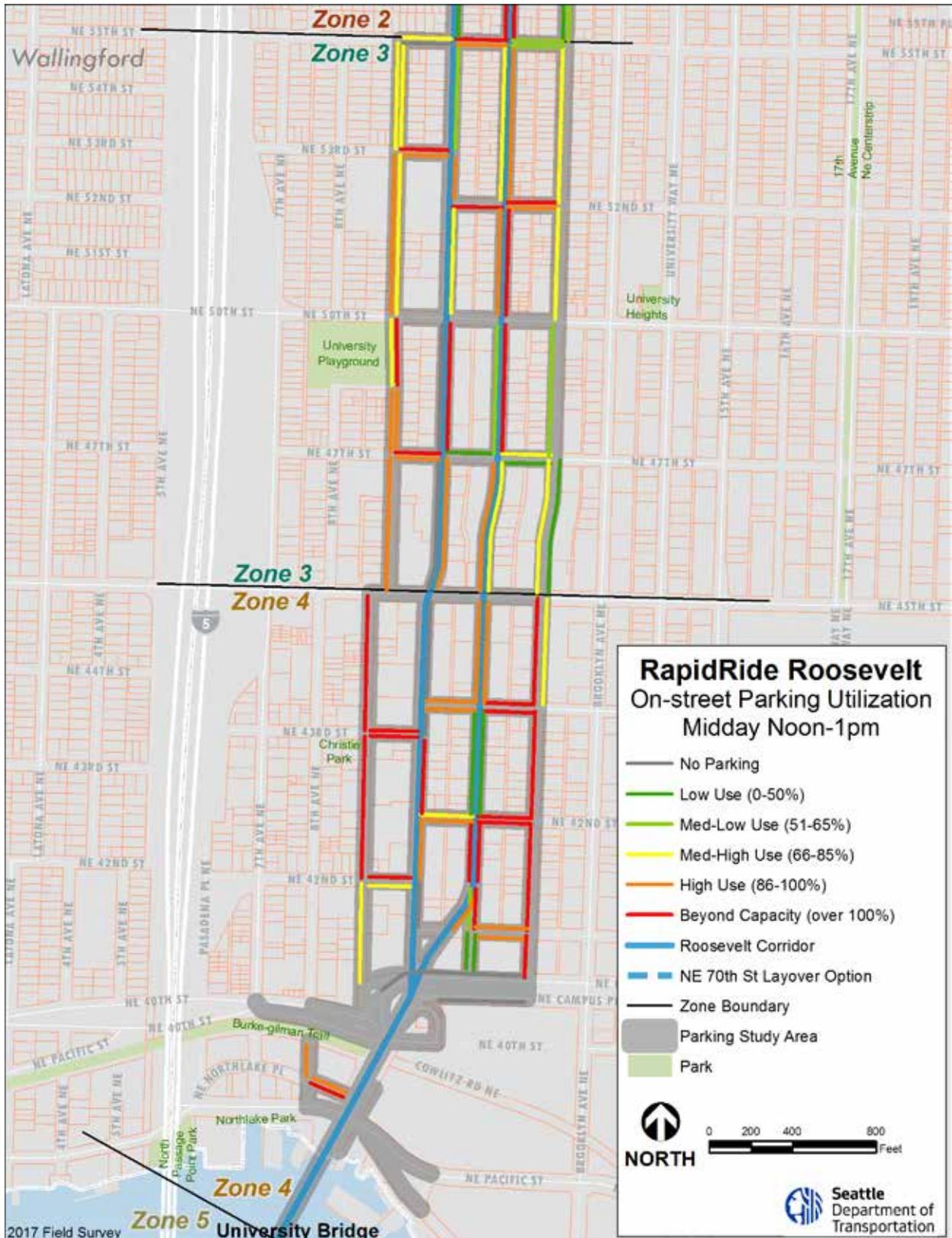


Figure A-4. Midday On-street Parking Utilization in Zones 3, 4

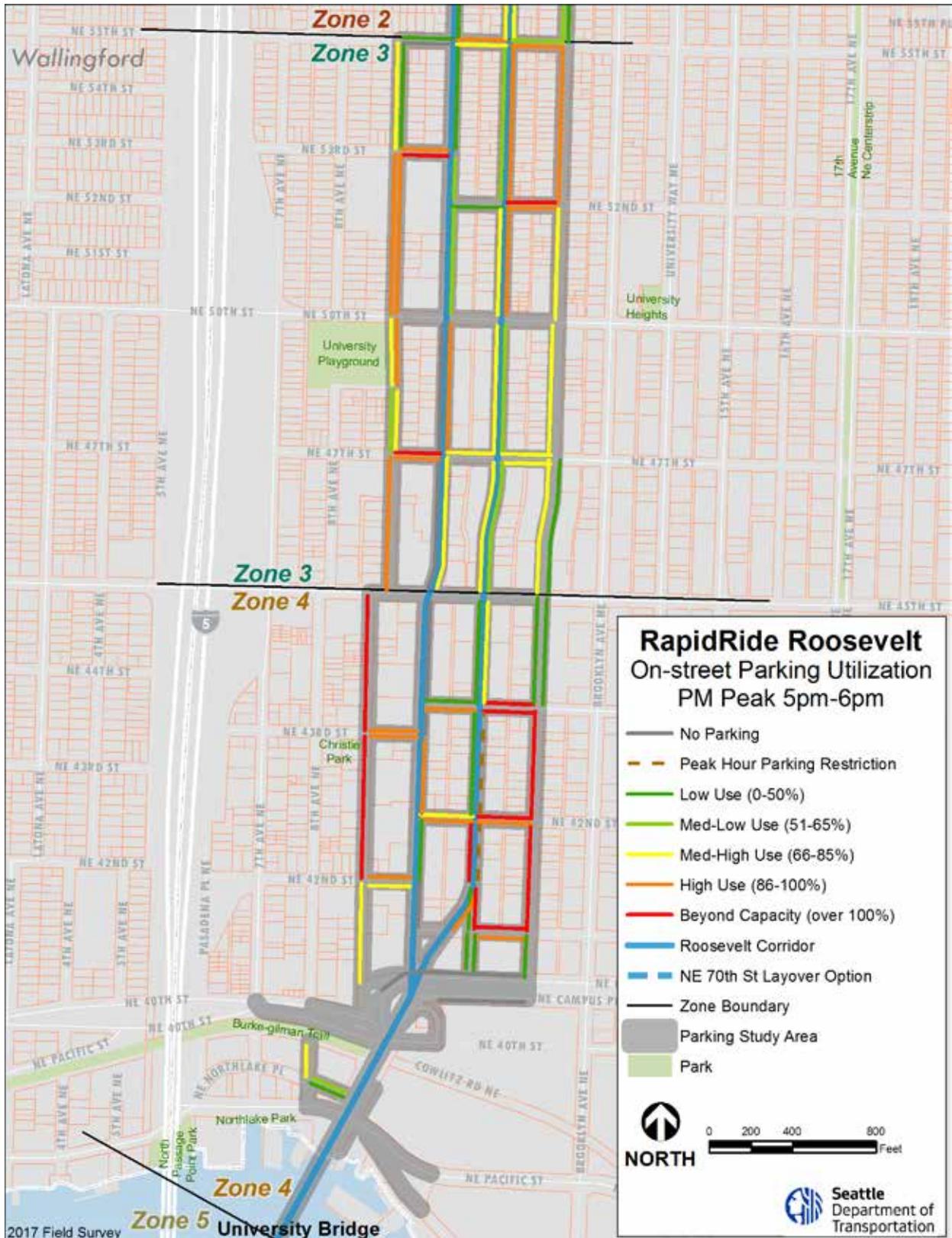


Figure A-5. PM Peak On-street Parking Utilization in Zones 3, 4

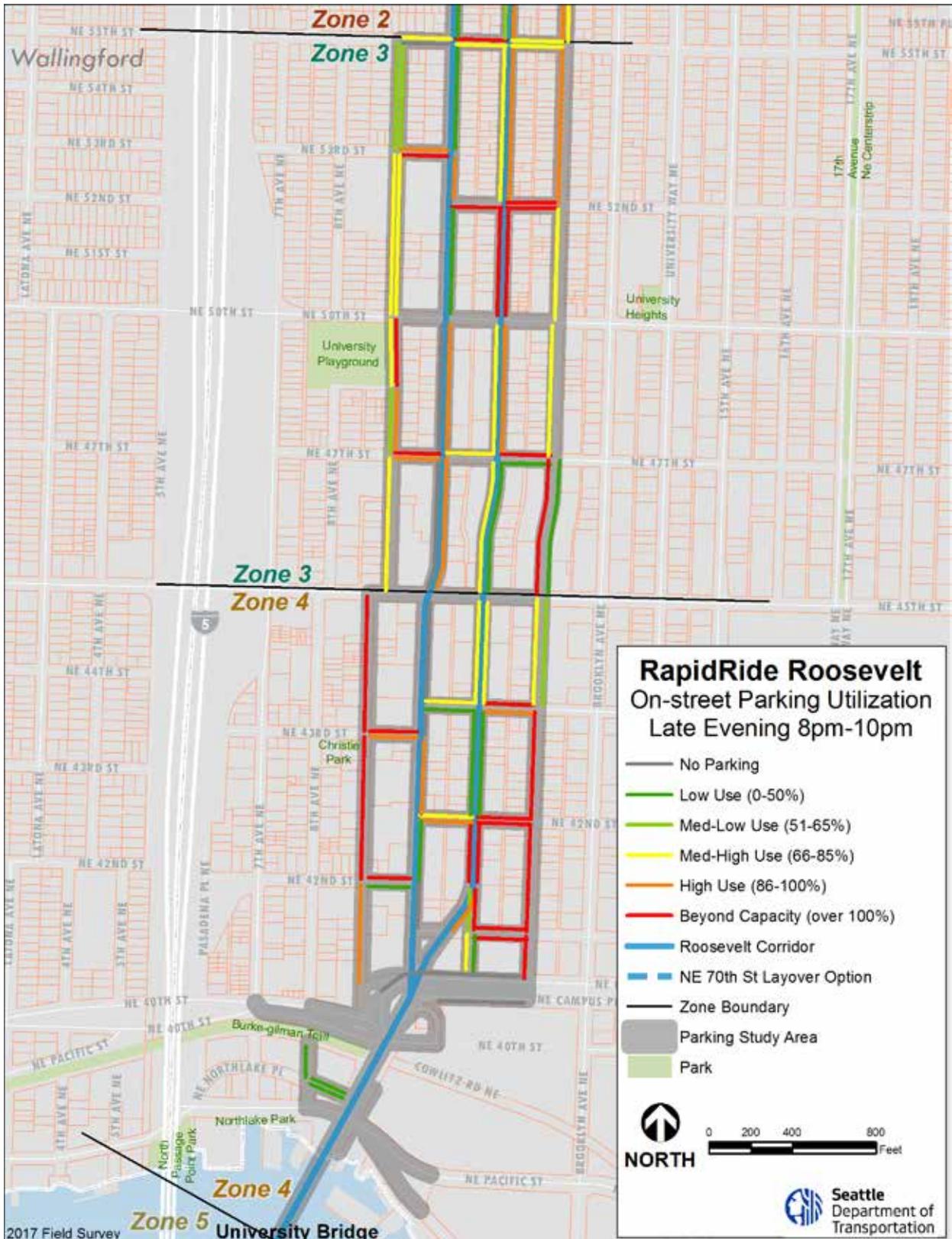


Figure A-6. Late Evening On-street Parking Utilization in Zones 3, 4

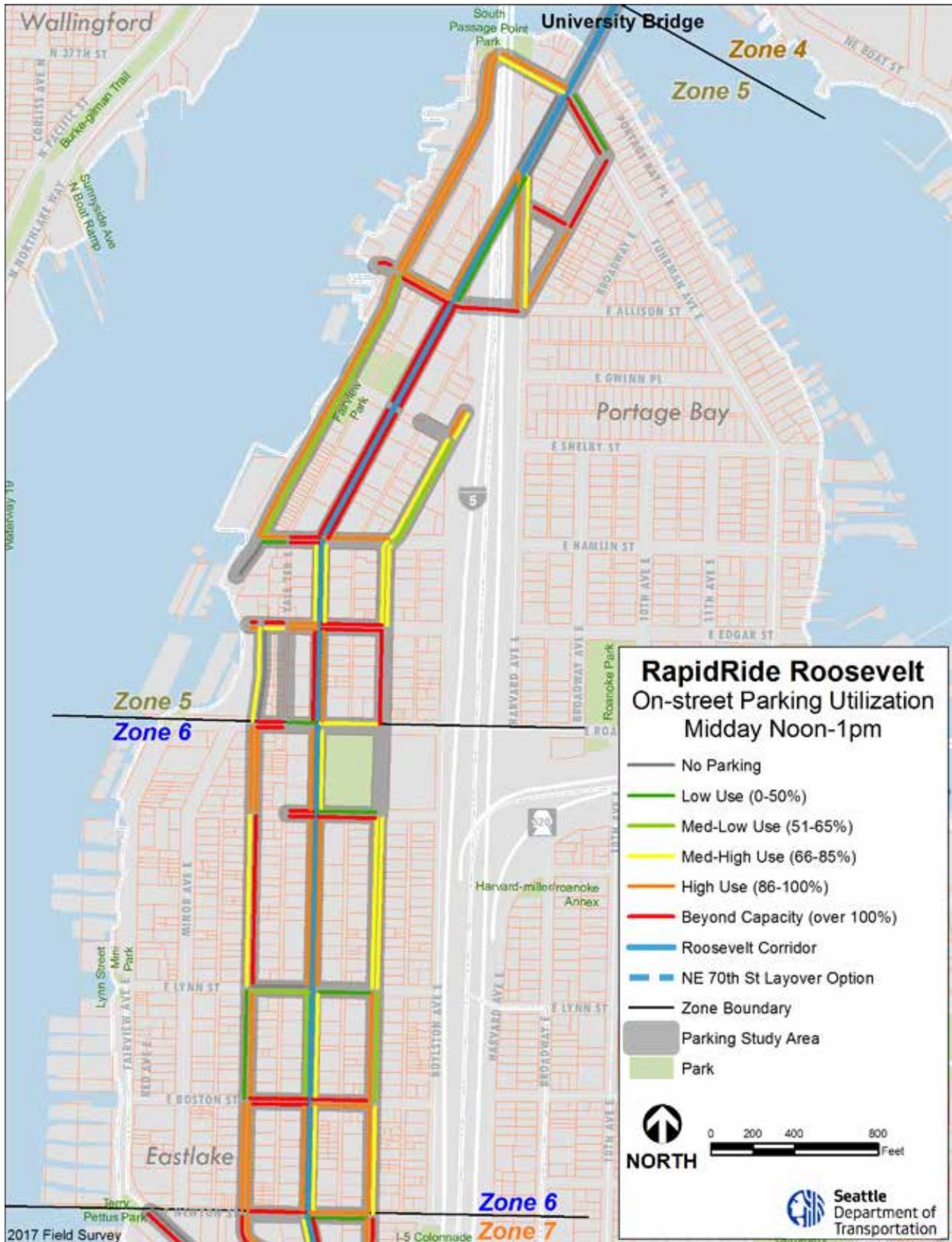


Figure A-7. Middy On-street Parking Utilization in Zones 5, 6

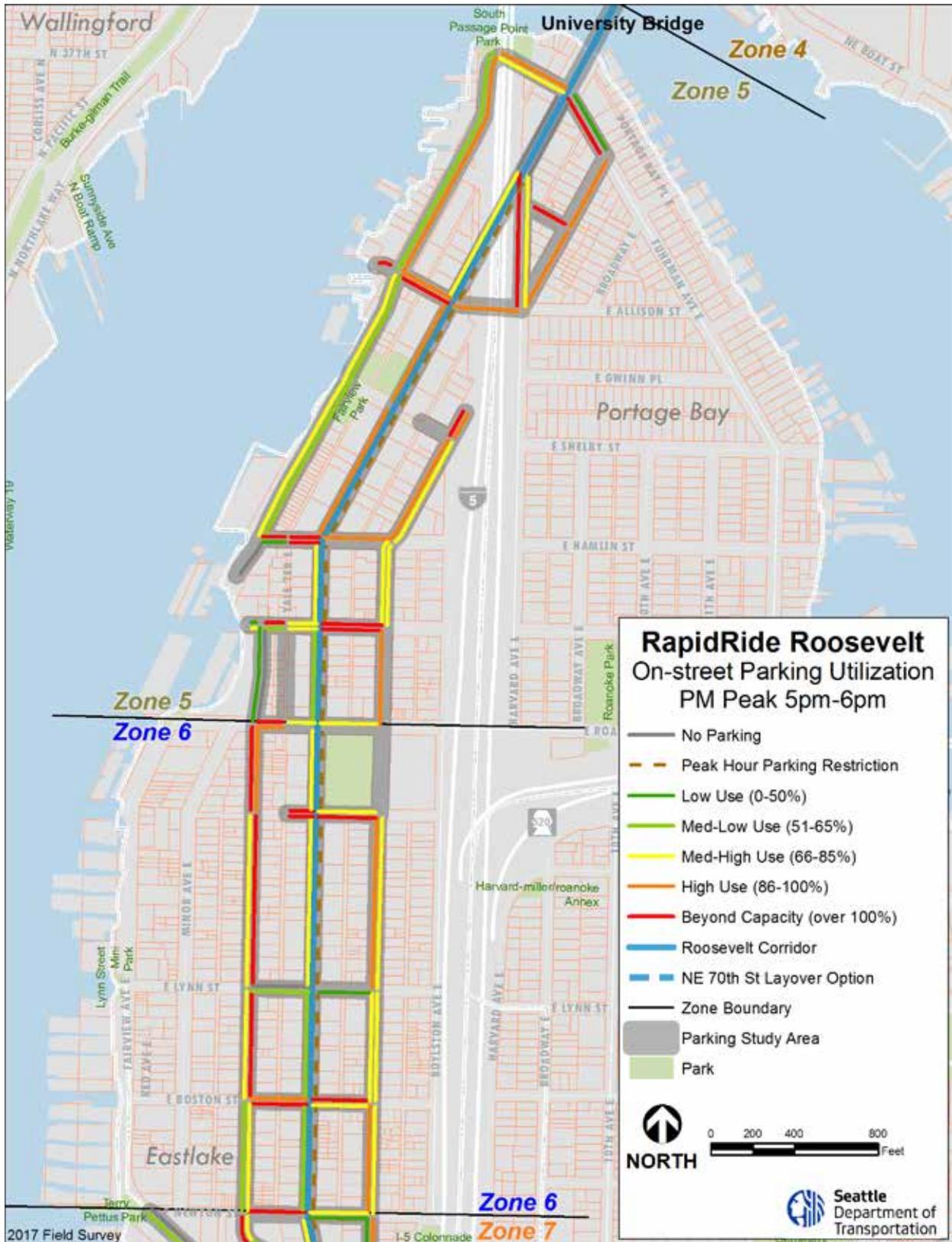


Figure A-8. PM Peak On-street Parking Utilization in Zones 5, 6

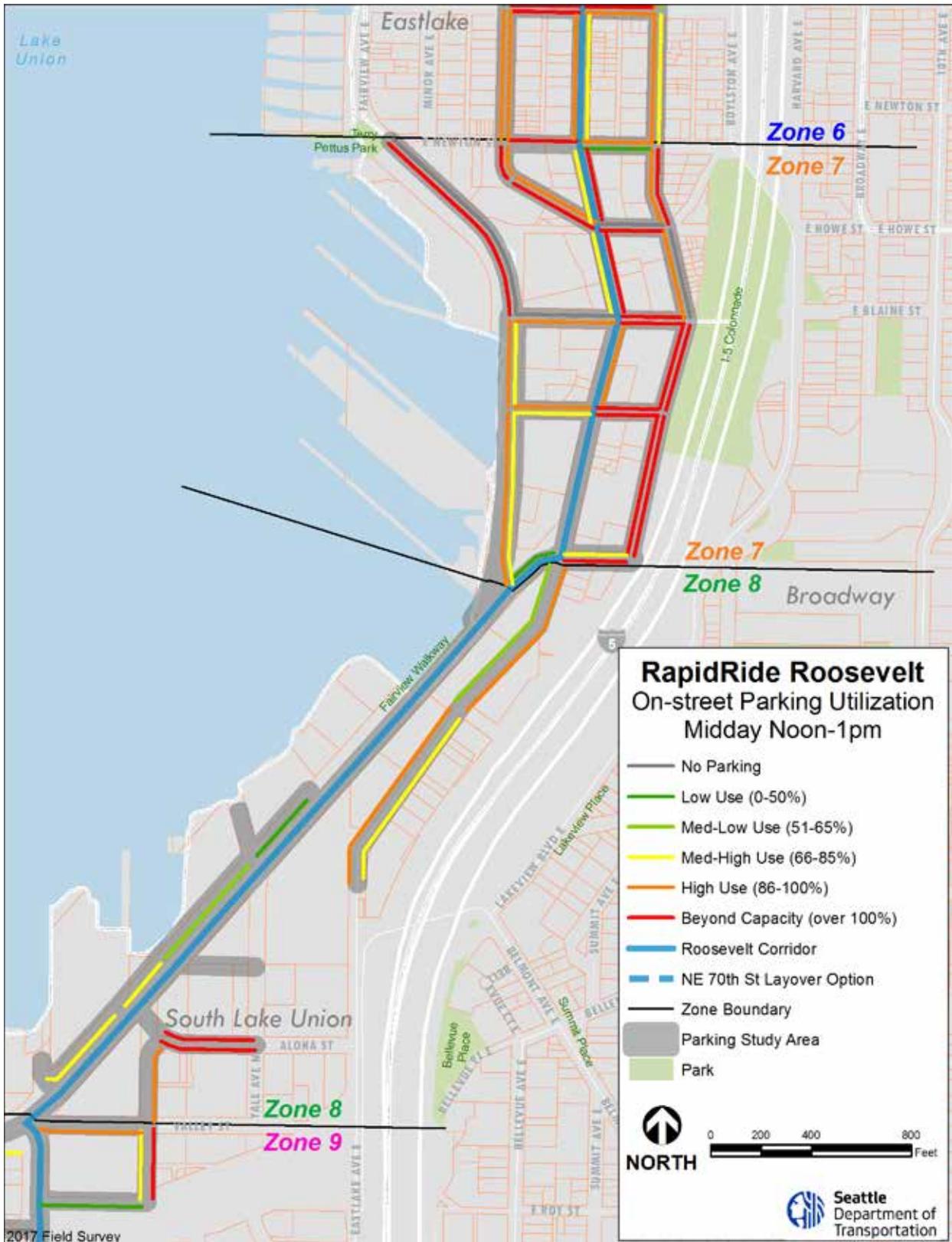


Figure A-10. Midday On-street Parking Utilization in Zones 7, 8



Figure A-11. PM Peak On-street Parking Utilization in Zones 7, 8



Figure A-12. Late Evening On-street Parking Utilization in Zones 7, 8

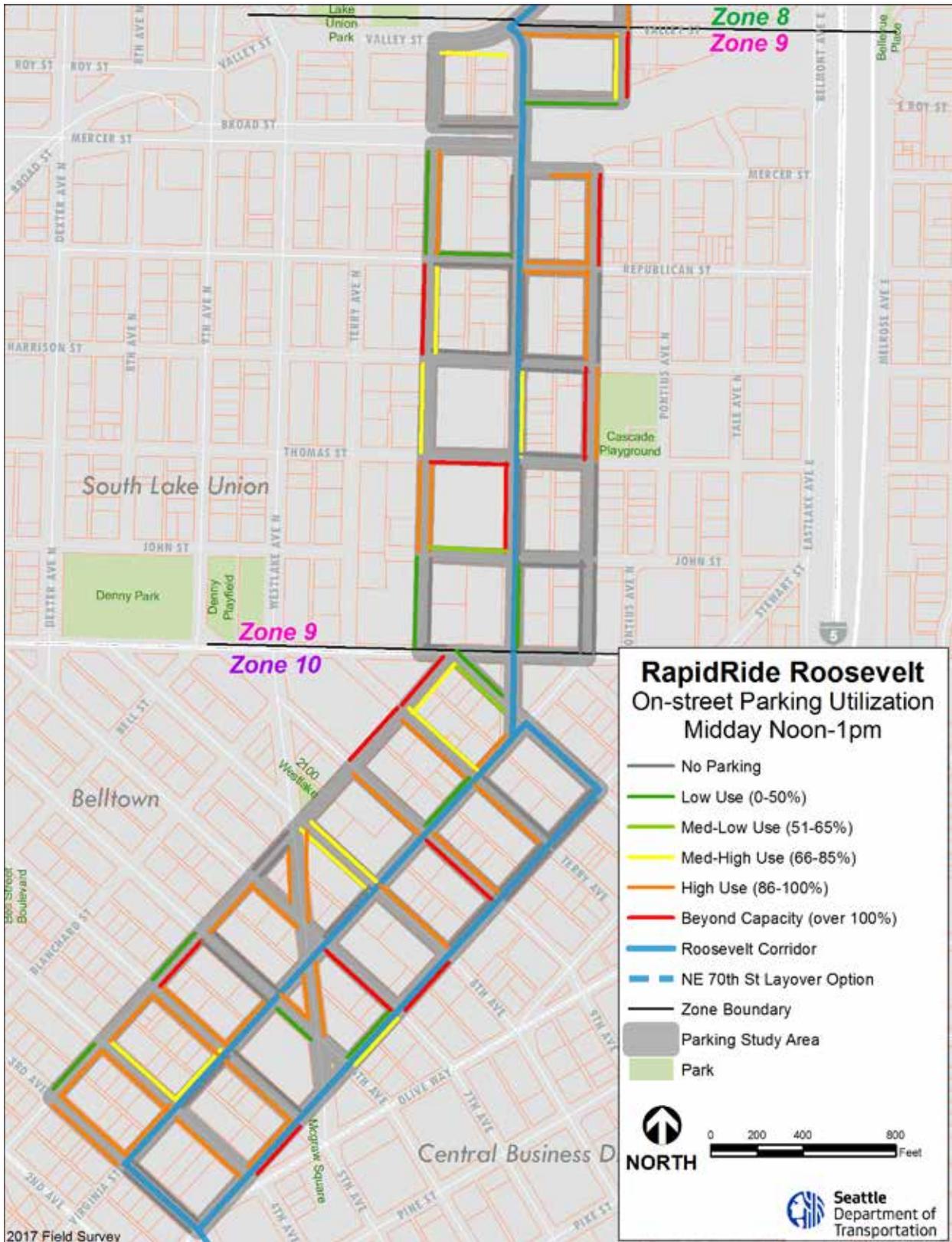


Figure A-13. Middy On-street Parking Utilization in Zones 9, 10

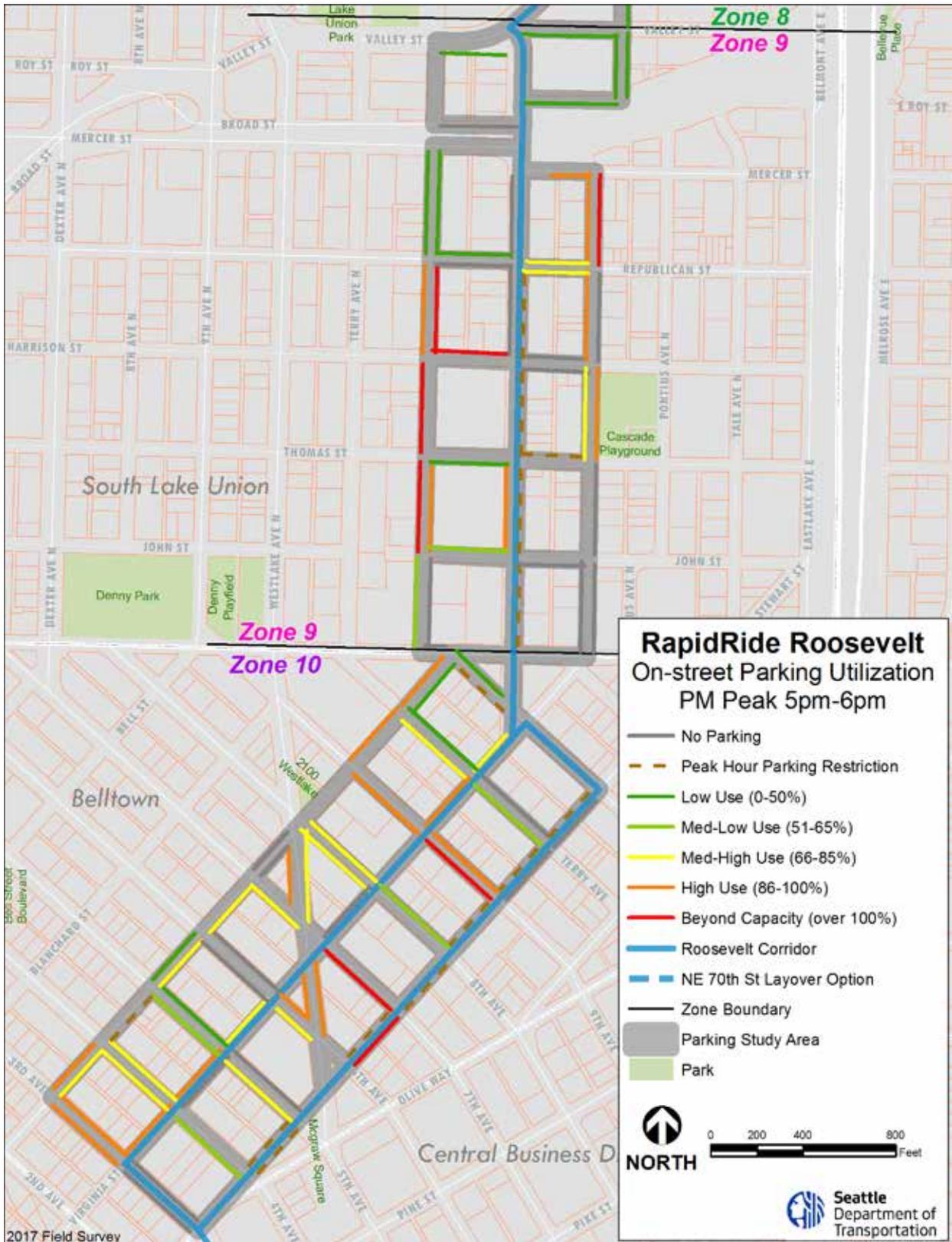


Figure A-14. PM Peak On-street Parking Utilization in Zones 9, 10

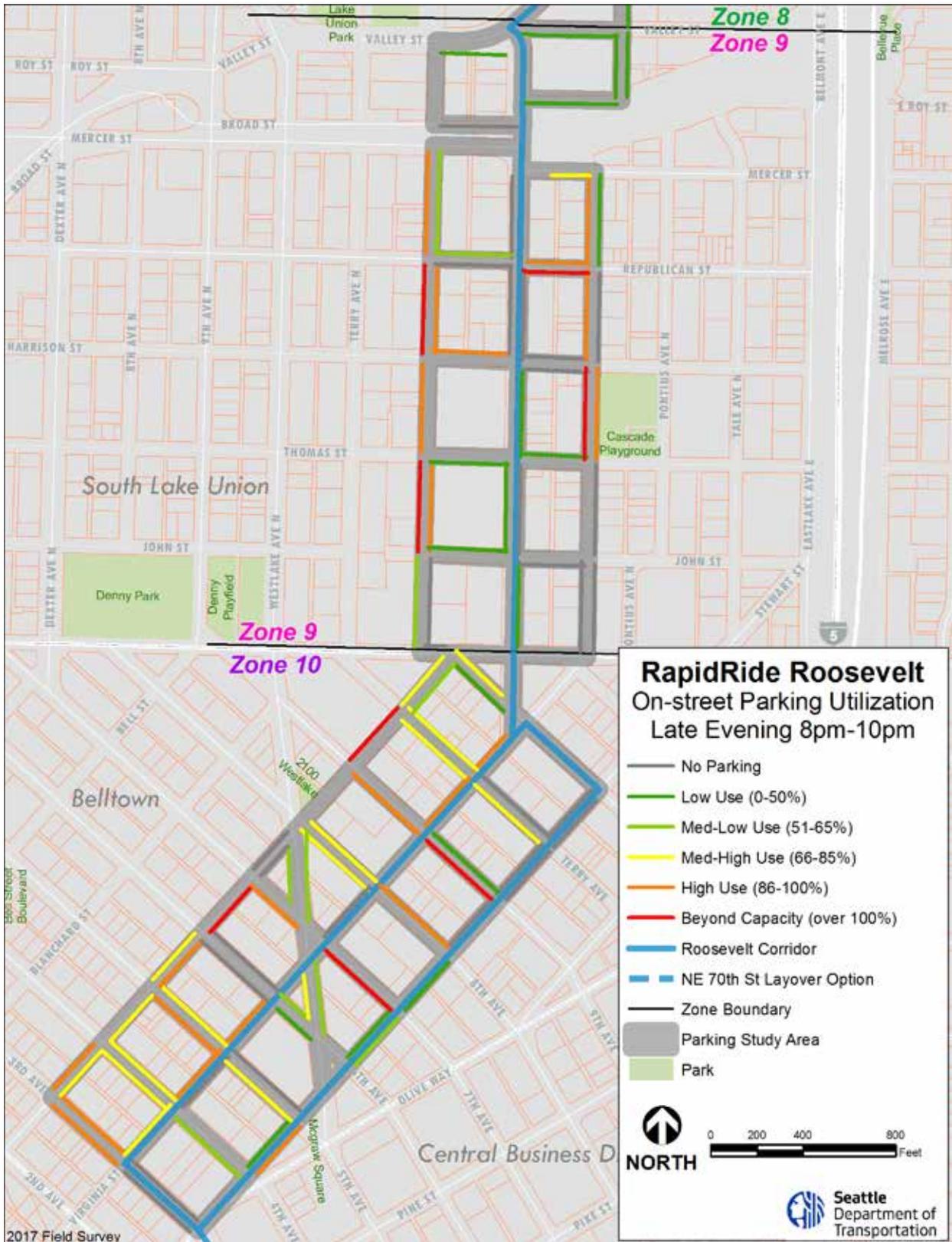


Figure A-15. Late Evening On-street Parking Utilization in Zones 9, 10

ATTACHMENT A-2

PAID/UNPAID ON-STREET PARKING MAP

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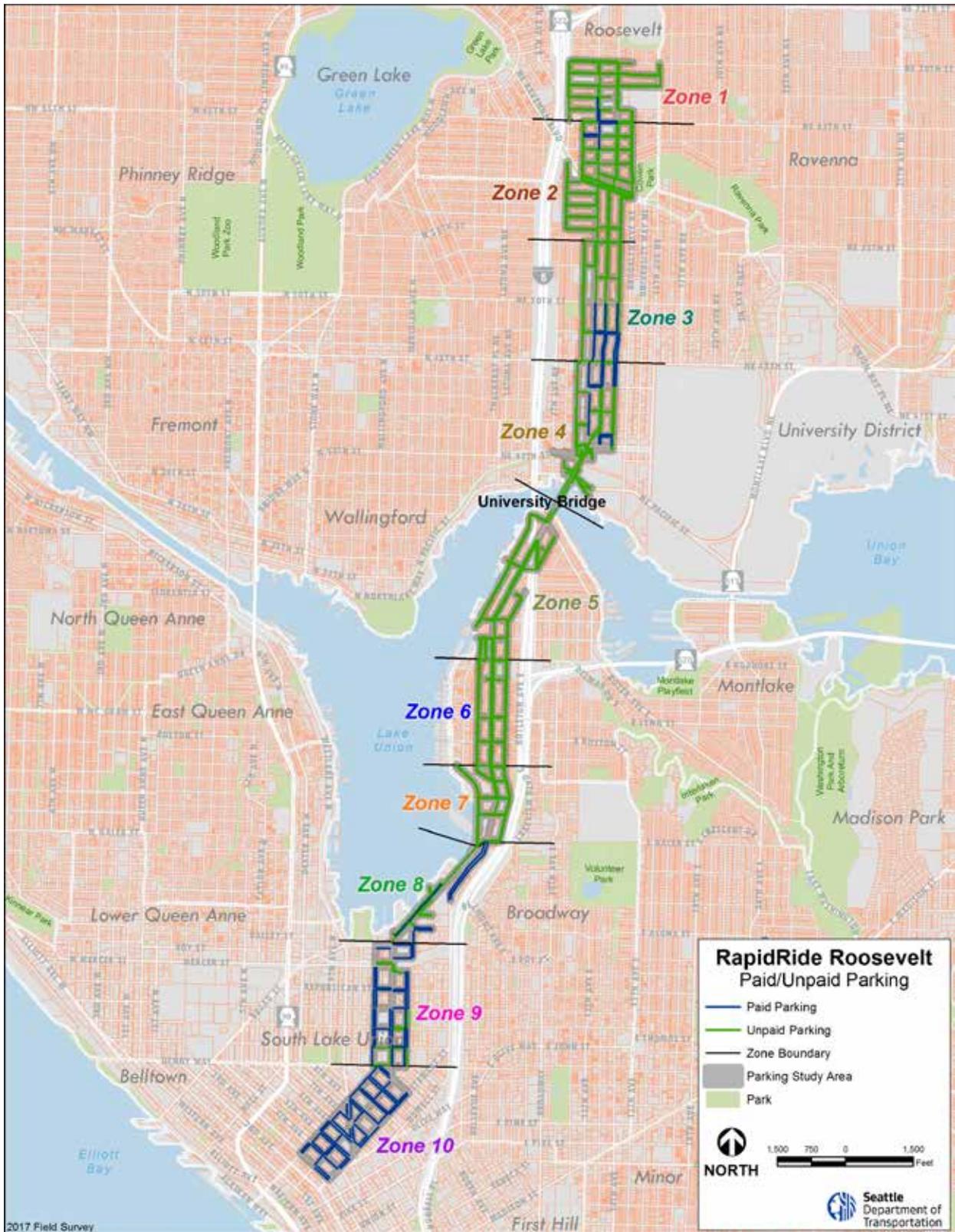


Figure A-16. Paid/Unpaid On-street Parking

ATTACHMENT A-3
DISABLED ON-STREET PARKING MAP

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Figure A-17. Disabled On-street Parking in Zones 1, 2

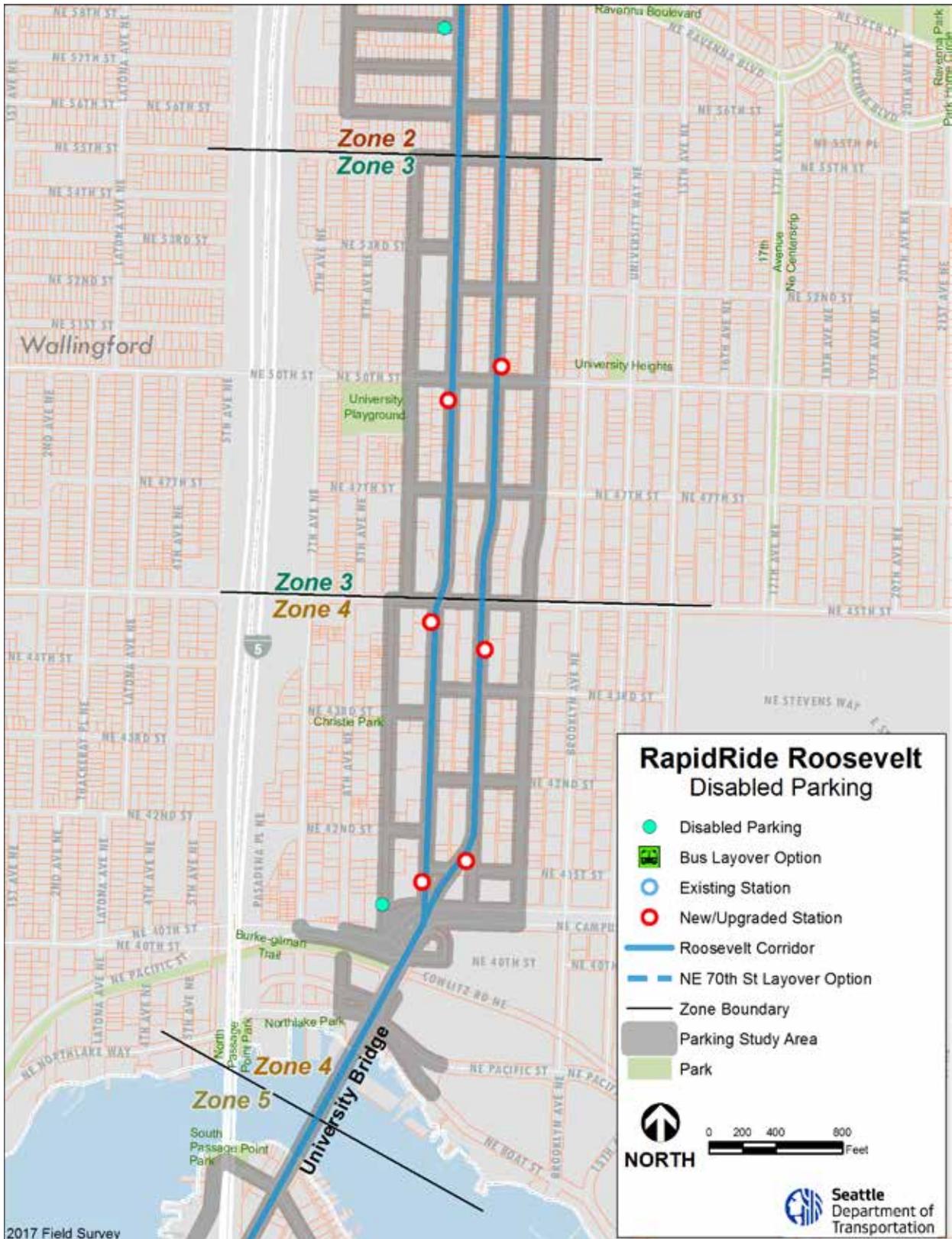


Figure A-18. Disabled On-street Parking in Zones 3, 4



Figure A-19 Disabled On-street Parking in Zones 5, 6



Figure A-20. Disabled On-street Parking in Zones 7, 8

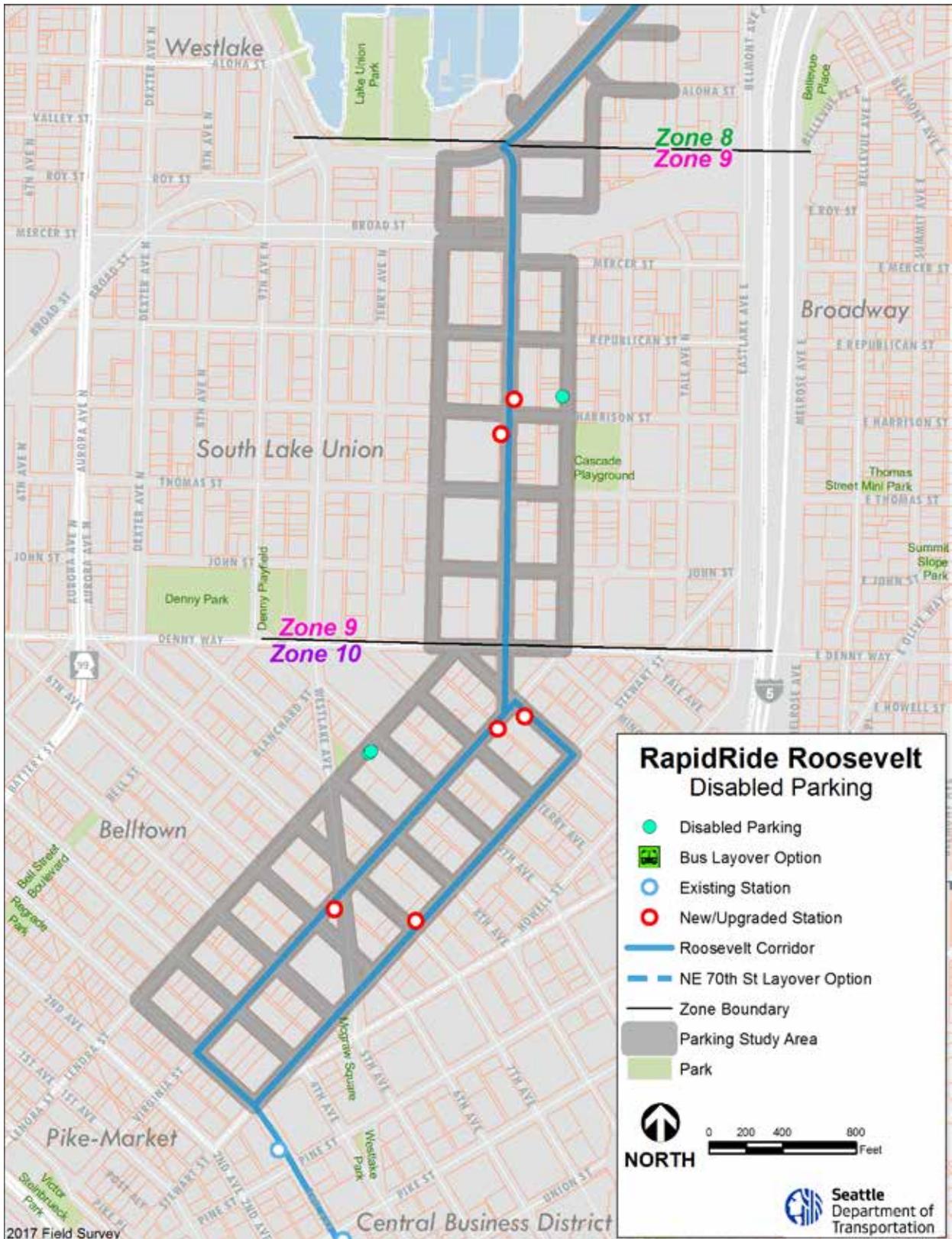


Figure A-21. Disabled On-street Parking in Zones 9, 10

**ATTACHMENT A-4
RESTRICTED PARKING ZONE AND TIME-
LIMITED ON-STREET PARKING MAP**

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Figure A-22. Restricted Parking Zone and Time Limited On-street Parking in Zones 1, 2

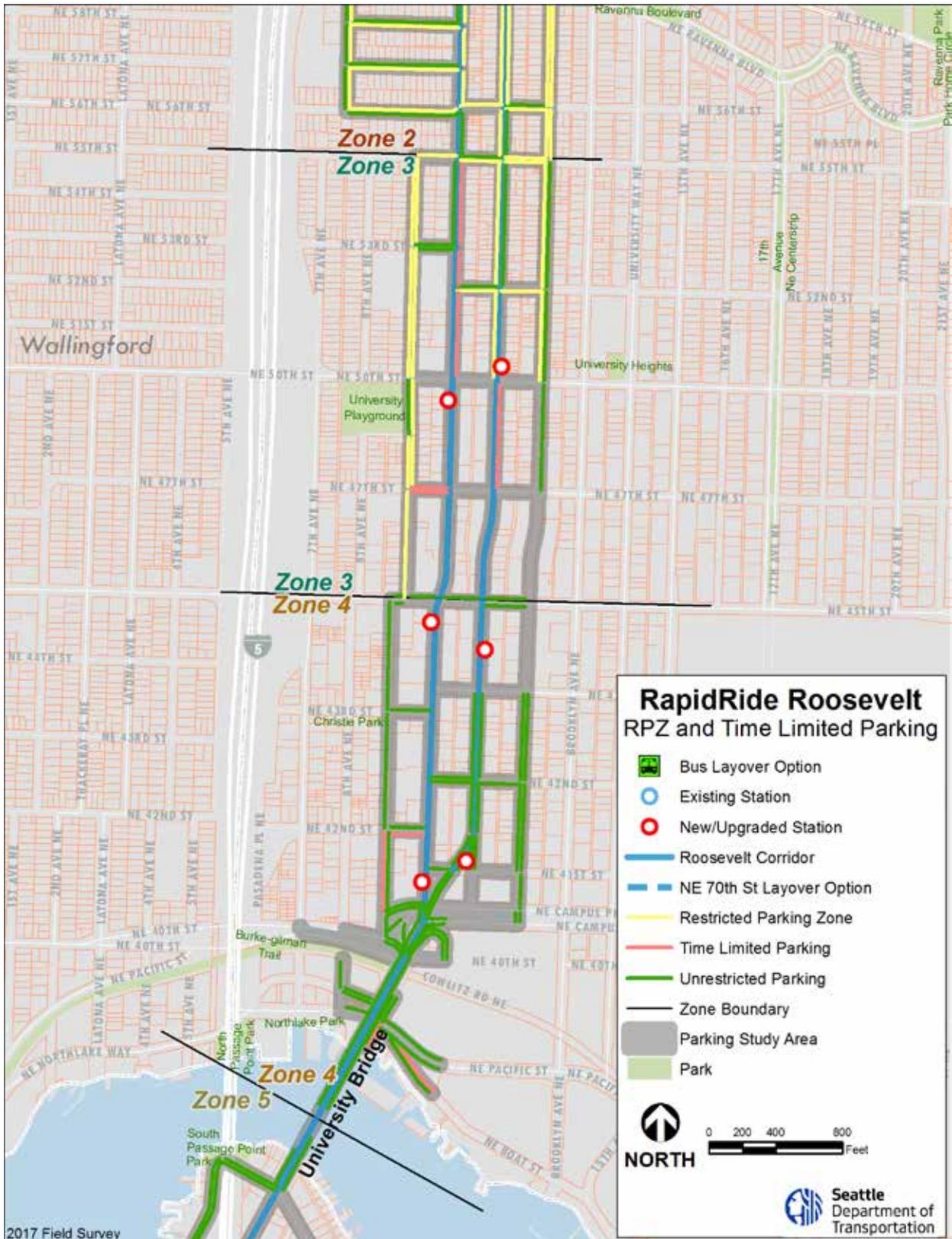


Figure A-23. Restricted Parking Zone and Time Limited On-street Parking in Zones 3, 4



Figure A-24. Restricted Parking Zone and Time Limited On-street Parking in Zones 5, 6



Figure A-25. Restricted Parking Zone and Time Limited On-street Parking in Zones 7, 8

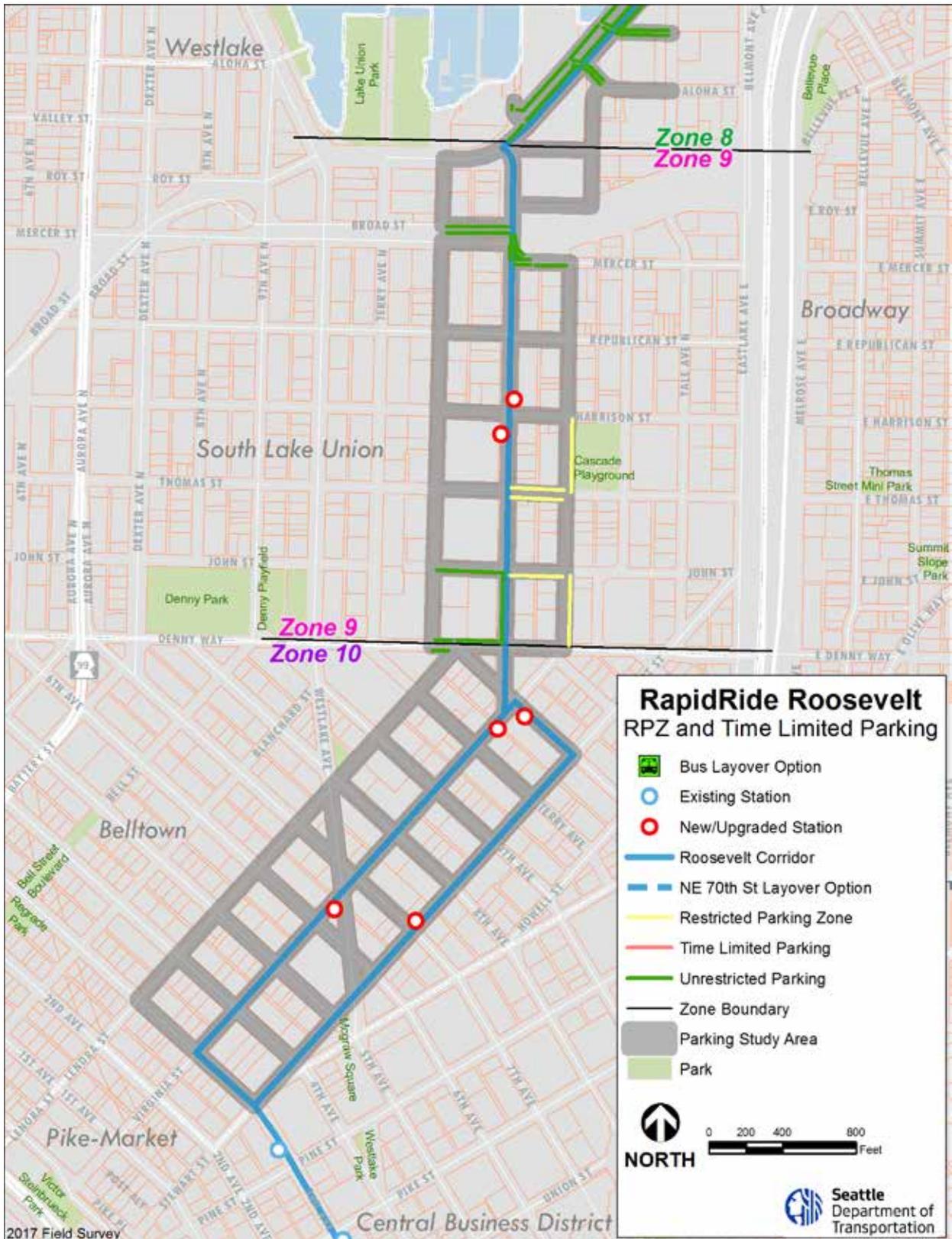


Figure A-26. Restricted Parking Zone and Time Limited On-street Parking in Zones 9, 10

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Attachment B
Eastlake Commercial Area
Duration Study Utilization Rates
per Block Face

ATTACHMENT B – EASTLAKE COMMERCIAL AREADURATION STUDY
UTILIZATION RATES PER BLOCK FACE

Tables B-1 through B-8 show the hourly utilization by block face. The effects of peak-period parking restrictions can be seen as 0% or close to 0% (i.e., illegally parked vehicles) utilization factor for peak periods for some of the block faces.

Table B-1. Hourly Utilization - Eastlake Ave E between E Roanoke St and E Louisa St West Side (Block Face 1A)

Time 1	Supply	Occupancy	Utilization
7:00 AM	16	1	3%-
8:00 AM	16	0.0	0%-
9:00 AM	16	11	66%
10:00 AM	16	14.0	88%
11:00 AM	16	15.0	94%
12:00 PM	16	15.0	94%
1:00 PM	16	15	91%
2:00 PM	16	15.0	94%
3:00 PM	16	14.0	88%
4:00 PM	16	14	84%
5:00 PM	16	13	78%
6:00 PM	16	12.0	75%

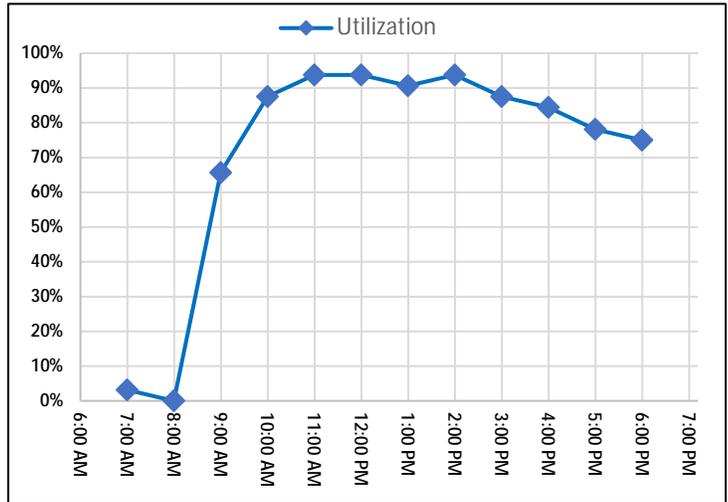
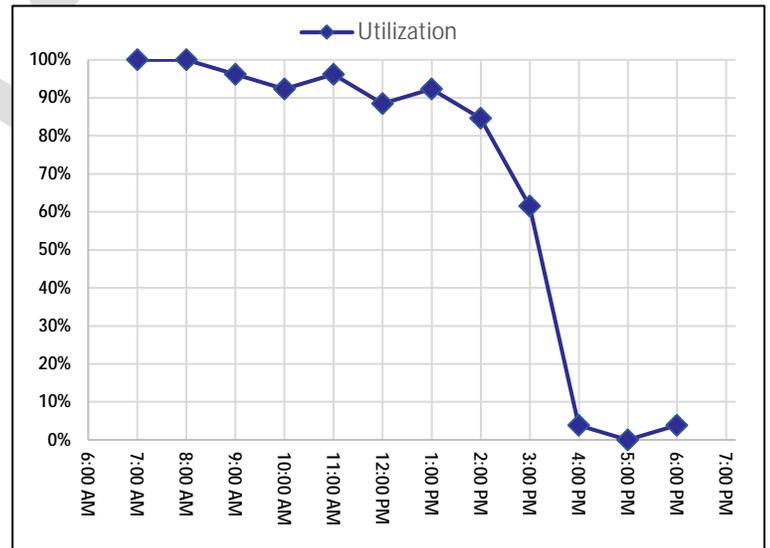


Table B-2. Hourly Utilization - Eastlake Ave E between E Louisa St and E Roanoke St East Side (Block Face 1B)

Time 8	Supply	Occupancy	Utilization
7:00 AM	13	13.0	100%
8:00 AM	13	13.0	100%
9:00 AM	13	13	96%
10:00 AM	13	12.0	92%
11:00 AM	13	13	96%
12:00 PM	13	12	88%
1:00 PM	13	12.0	92%
2:00 PM	13	11.0	85%
3:00 PM	13	8.0	62%
4:00 PM	0	1	4%
5:00 PM	0	0.0	0%
6:00 PM	13	1	4%



ATTACHMENT B – EASTLAKE COMMERCIAL AREADURATION STUDY
UTILIZATION RATES PER BLOCK FACE

Table B-3. Hourly Utilization - Eastlake Ave E between E Louisa St and E Lynn St West Side (Block Face 2A)

Time 2	Supply	Occupancy	Utilization
7:00 AM	0	0.0	0%
8:00 AM	0	0.0	0%
9:00 AM	25	19	74%
10:00 AM	25	23	90%
11:00 AM	25	22.0	88%
12:00 PM	25	22	86%
1:00 PM	25	23.0	92%
2:00 PM	25	24	94%
3:00 PM	25	24	94%
4:00 PM	25	21.0	84%
5:00 PM	25	18.0	72%
6:00 PM	25	17.0	68%

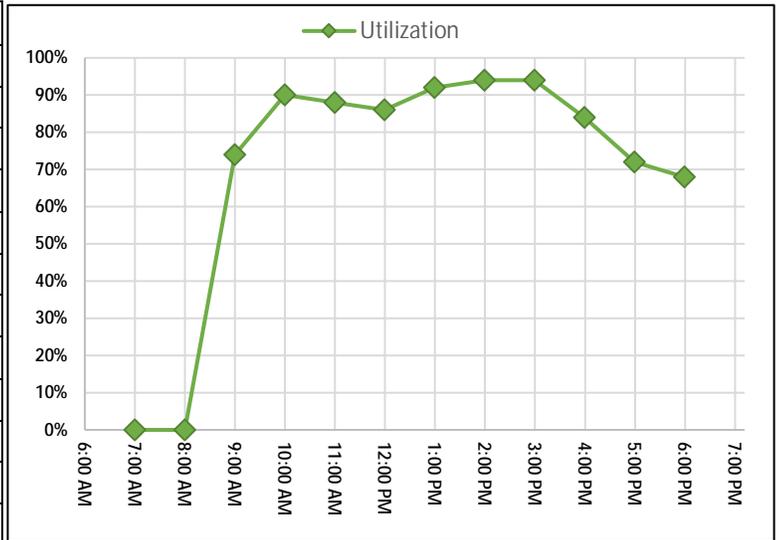
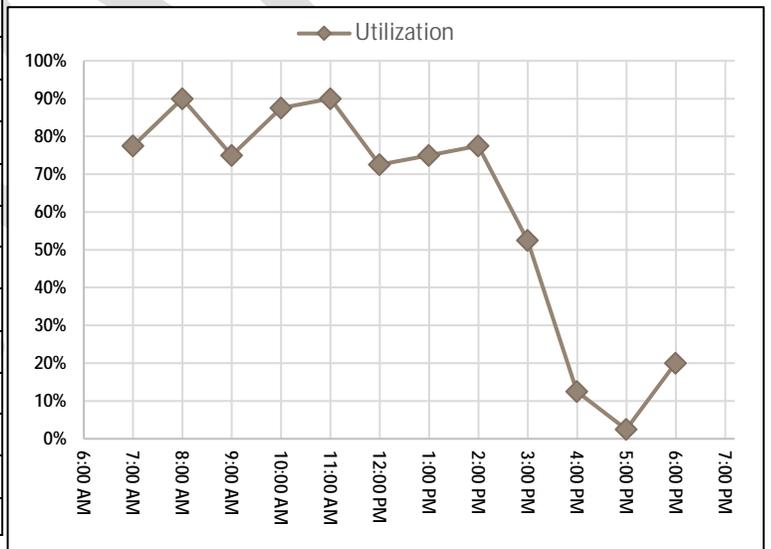


Table B-4. Hourly Utilization - Eastlake Ave E between E Lynn St and E Louisa St East Side (Block Face 2B)

Time 7	Supply	Occupancy	Utilization
7:00 AM	20	16	78%
8:00 AM	20	18.0	90%
9:00 AM	20	15.0	75%
10:00 AM	20	18	88%
11:00 AM	20	18.0	90%
12:00 PM	20	15	73%
1:00 PM	20	15.0	75%
2:00 PM	20	16	78%
3:00 PM	20	11	53%
4:00 PM	0	3*	13%
5:00 PM	0	1*	3%
6:00 PM	20	4.0	20%



*Occupancy greater than zero during peak period parking restriction shows that the cars were illegally parked.

ATTACHMENT B – EASTLAKE COMMERCIAL AREADURATION STUDY
UTILIZATION RATES PER BLOCK FACE

Table B-5. Hourly Utilization - Eastlake Ave E between E Lynn St and E Boston St West Side (Block Face 3A)

Time 3	Supply	Occupancy	Utilization
7:00 AM	0	0.0	0%
8:00 AM	0	0.0	0%
9:00 AM	16	4.0	25%
10:00 AM	16	7.0	44%
11:00 AM	16	10.0	63%
12:00 PM	16	12	72%
1:00 PM	16	11.0	69%
2:00 PM	16	12	72%
3:00 PM	16	10.0	63%
4:00 PM	16	13.0	81%
5:00 PM	16	11.0	69%
6:00 PM	16	12.0	75%

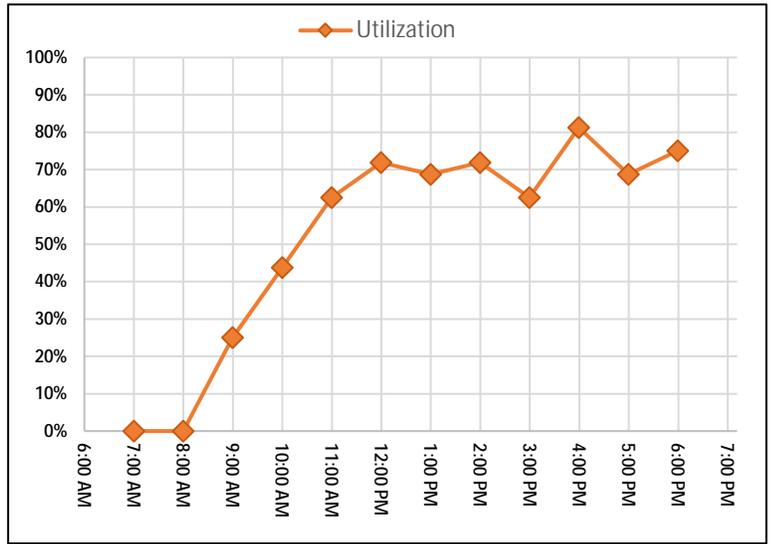
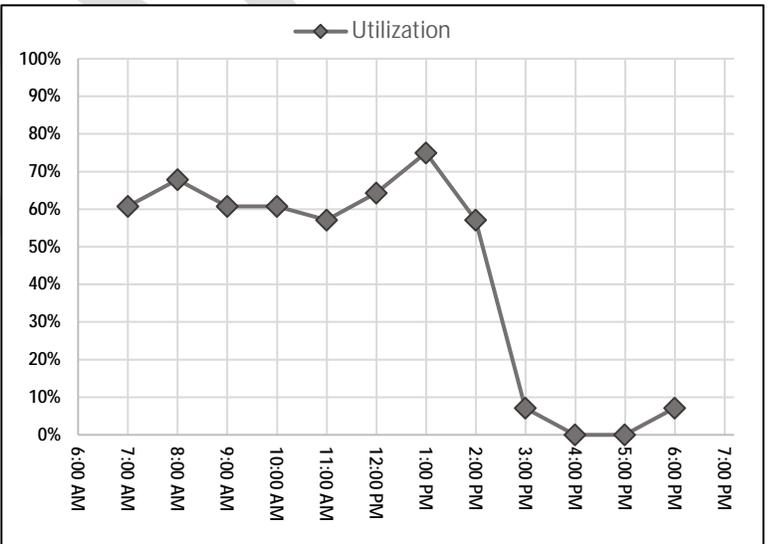


Table B-6. Hourly Utilization - Eastlake Ave E between E Boston St and E Lynn St East Side (Block Face 3B)

Time 6	Supply	Occupancy	Utilization
7:00 AM	14	9	61%
8:00 AM	14	10	68%
9:00 AM	14	9	61%
10:00 AM	14	9	61%
11:00 AM	14	8.0	57%
12:00 PM	14	9.0	64%
1:00 PM	14	11	75%
2:00 PM	14	8.0	57%
3:00 PM	0	1.0*	7%
4:00 PM	0	0.0	0%
5:00 PM	0	0.0	0%
6:00 PM	14	1.0	7%



*Occupancy greater than zero during peak period parking restriction shows that the cars were illegally parked.

ATTACHMENT B – EASTLAKE COMMERCIAL AREADURATION STUDY
UTILIZATION RATES PER BLOCK FACE

Table B-7. Hourly Utilization - Eastlake Ave E between E Boston St and E Newton St West Side (Block Face 4A)

Time 4	Supply	Occupancy	Utilization
7:00 AM	21	1	2%
8:00 AM	21	0.0	0%
9:00 AM	21	6	26%
10:00 AM	21	12.0	57%
11:00 AM	21	12.0	57%
12:00 PM	21	18.0	86%
1:00 PM	21	17.0	81%
2:00 PM	21	15	69%
3:00 PM	21	12	55%
4:00 PM	21	12.0	57%
5:00 PM	21	12	55%
6:00 PM	21	11.0	52%

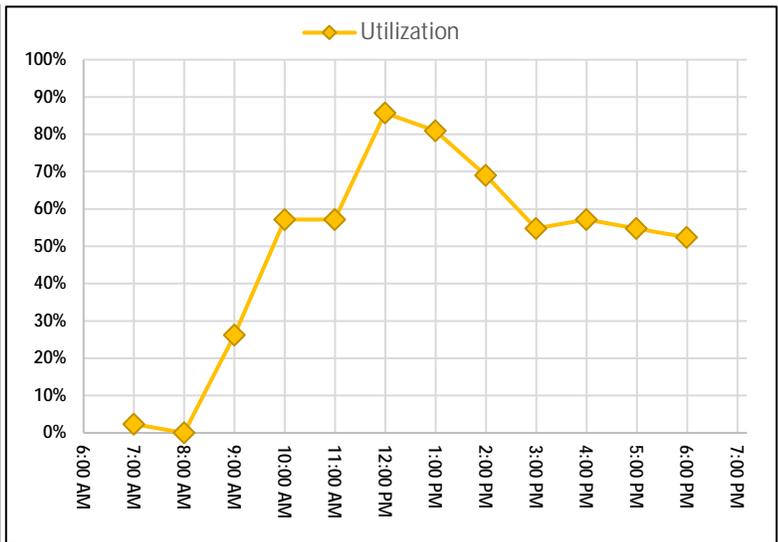
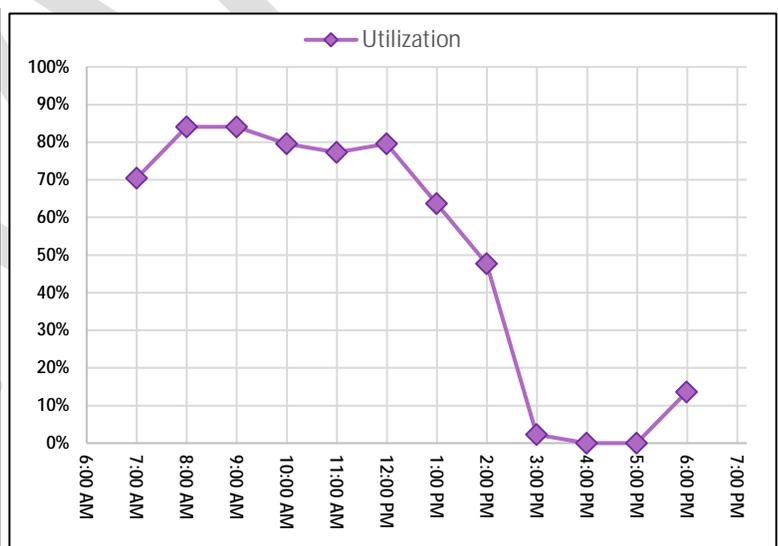


Table B-8. Eastlake Ave E between E Newton St and E Boston St East Side (Block Face 4B)

Time 5	Supply	Occupancy	Utilization
7:00 AM	22	15.5	70%
8:00 AM	22	18.5	84%
9:00 AM	22	18.5	84%
10:00 AM	22	17.5	80%
11:00 AM	22	17.0	77%
12:00 PM	22	17.5	80%
1:00 PM	22	14.0	64%
2:00 PM	22	10.5	48%
3:00 PM	0	1 *	2%
4:00 PM	0	0.0	0%
5:00 PM	0	0.0	0%
6:00 PM	22	3.0	14%



*Occupancy greater than zero during peak period parking restriction shows that the cars were illegally parked.