

Memorandum

To: Barbara Lee, City of Seattle

From: Virginia Coffman, Kristen Lohse, and Peter Lagerwey

Date: March 21, 2014

Re: City of Seattle Department of Transportation
Westlake Avenue North Cycle Track
Phase 1: Alternatives Evaluation
Project No. 13-16



Parking Utilization Study

Toole Design Group prepared this memorandum to support the analysis of the Westlake Cycle Track project. This project is exploring the potential to develop a two-way protected bicycle lane along Westlake Avenue North from Lake Union Park at Aloha Street to the start of the Ship Canal Trail, just north of Halladay Street, a section of approximately 1.2 miles in length.

The project is intended to:

- Address safety by providing distinct pathways for bicyclists, pedestrians and motorists.
- Reduce bicycle, vehicle and pedestrians collisions along the roadway and in the parking lot.
- Increase pedestrian safety by separating bicyclists from pedestrians using the east sidewalk.
- Provide parking for and safe access to businesses.
- Serve more users by providing a flat, low-stress facility and an option to existing, less comfortable bicycling routes.
- Improve a high use connector, meeting the City's goal to build a network that puts all residents within a quarter mile of a bike facility.

The parking area (Westlake East Roadway Avenue North) is being studied to evaluate the best way to accommodate dedicated space for bicycles within the corridor, minimize parking impacts, and maintain business access and parking for business/resident needs.

Parking space inventory and occupancy was evaluated in September 2013 for the Westlake Avenue North corridor between Aloha Street and south of the Fremont Bridge approach. The purpose of this study was to determine: (1) the number of on-street and off-street spaces within the corridor, (2) the on-street and off-street parking regulations and rates, (3) the number of parking spaces dedicated to other uses such as loading zones and disabled parking, (4) the number of parking spaces occupied per hour at designated times, (5) parking capacity and utilization in private parking lots accessible through

the eastern right-of-way, and (6) the number of paid parking spaces in private lots on the eastside of the right-of-way. Occupancy was tallied during anticipated peak periods.

General Comments

In summary the study determined the following findings:

- There are 1,271 available parking spaces in the right-of-way along the corridor, 783 free spaces, 404 paid spaces and the remainder unavailable as general parking (loading zones, motorcycle, and disabled parking).
- There are 441 paid parking spaces within private parking lots.
- The rate for paid parking in the street right-of-way is \$1 per hour for up to 7 hours, 9AM-4PM Monday through Friday.
- Parking utilization was highest at the southern and central portions of the corridor.

Data Collection

Data was collected in September 2013 when the boating season is active. Additionally, a range of times were selected to capture both peak and off-peak times based on a combination of SDOT parking staff recommendations and paid parking data. Occupancy tallies were conducted on a Wednesday, Friday and Saturday in the morning, afternoon and evening. One late night count (midnight Friday night/Saturday morning) was conducted to assess residential and long-term parking demands. Occupancy tallies were conducted during the dates and times indicated in **Table 1**.

TABLE 1: DATES AND TIMES OF PARKING STUDY

Friday 9/13/2013			Saturday 9/14/2013			Wednesday 9/18/2013		
7:00 AM	Noon	6:00 PM	Midnight	Noon	6:00 PM	7:00 AM	Noon	6:00 PM

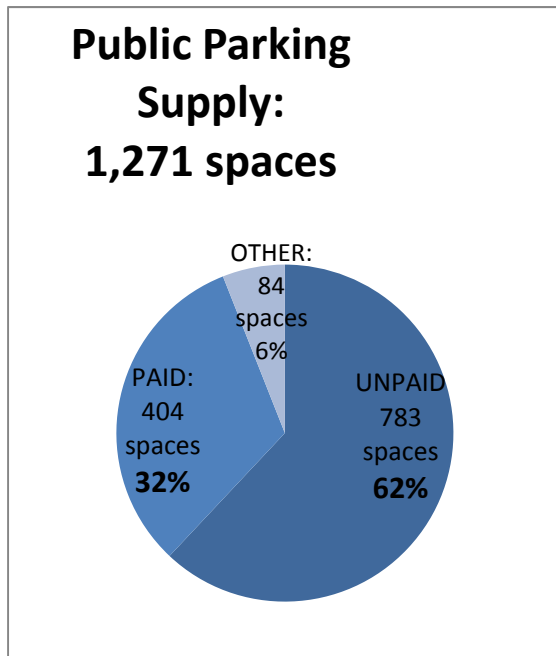
On-street parking along the corridor was divided into block lengths represented by Zones A to M to evaluate the parking inventory and trends in discrete segments. It was important to break the corridor into these zones to understand how the adjacent land use affected parking on a block-by-block basis. The zones are illustrated on a map in Appendix B. The number of paid and free parking spaces and the number of spaces dedicated to specific uses such as a disabled parking, dumpsters and motorcycle parking were recorded. During each time period, occupancy was observed and recorded for each parking space. The total number of spaces in surface lots and garages adjacent to the right-of-way and the occupancy of the publicly available spaces were also recorded.

Summary of Parking Inventory

A complete inventory of the total number of parking spaces along the corridor was completed. This included public parking in the Westlake Avenue North right-of-way and surface lots and garages, both public paid and private paid, lots and garages immediately adjacent to the right-of-way.

The corridor has 1,712 spaces in all; there are 1,271 in the public right of way and 441 spaces on private property reserved for the use of businesses, customers or residents. Of the spaces in the public right-of-way there are 783 unpaid spaces, 404 paid spaces and 83 spaces used for other purposes such as loading zones, motorcycle parking, disabled parking, dumpster storage etc.

The corridor has 1,271 parking spaces in the right-of-way that could be impacted by the project. Free stalls represent 62% of the parking supply, paid stalls represent 32%. Six percent of the stalls are for ADA parking, loading zones, motorcycles, or are used for the storage of dumpsters (dumpsters alone occupy 27 parking spaces or 2% of the total parking supply) and so are not available for public parking.



There are 404 on-street paid parking spaces along the corridor. Paid parking spaces are located on the east side of the parking lot/right-of-way (Westlake East Roadway Avenue North) along the businesses on the shore line. Free parking is located along the west side of the parking lot right adjacent to the Westlake Avenue North roadway. Most of the paid parking spaces do not have time limits before, after or during the 7 hours of paid parking. The cost of parking between 9 AM and 4 PM is \$1 per hour, Monday-Friday. At the north end of the corridor in Zone K, there are 50, 2-hour parking spaces. Table 2 below outlines the amount of parking per zone. Zones B-M are illustrated on the maps in Figure 2 below.

FIGURE 1: PUBLIC PARKING SUPPLY

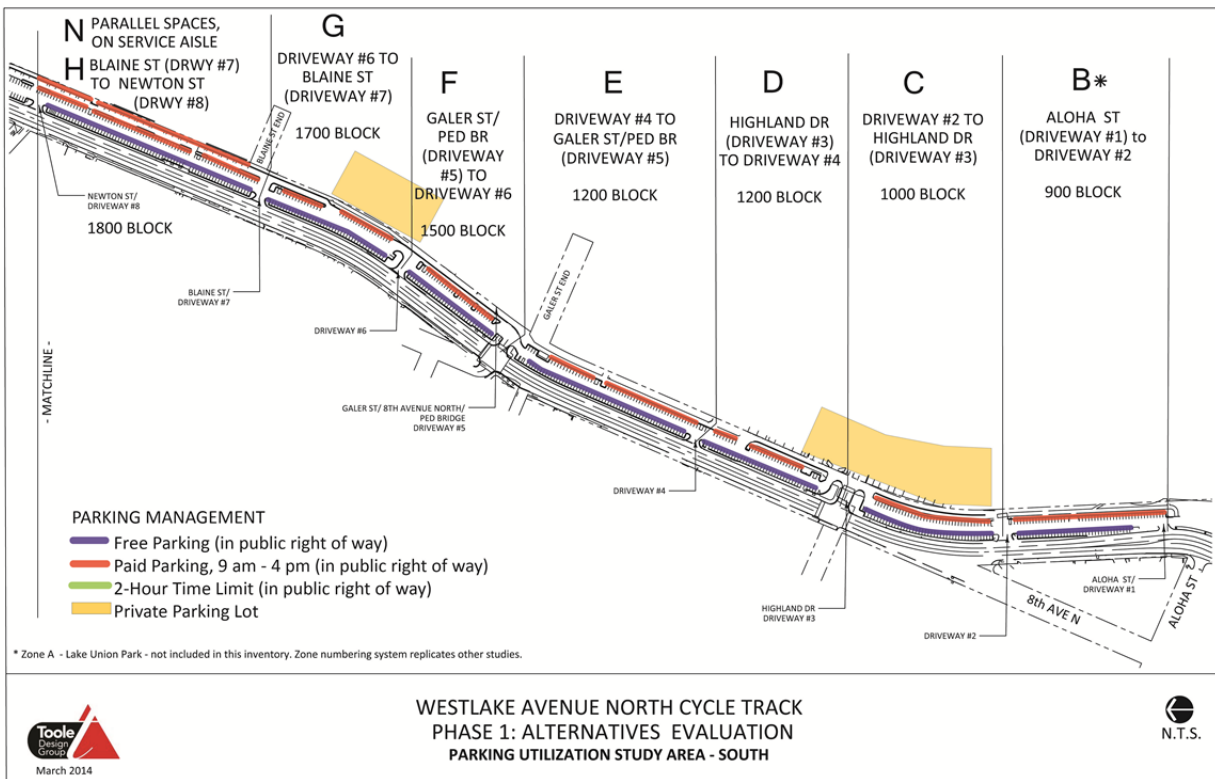
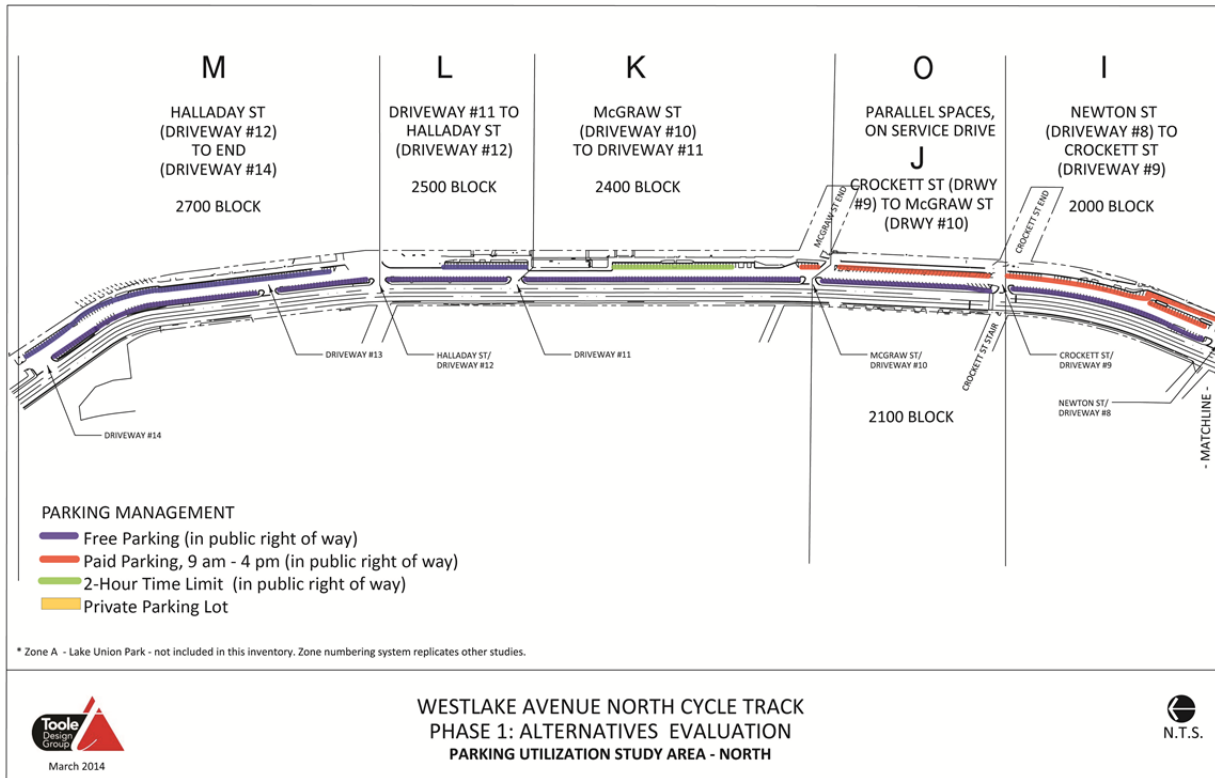


FIGURE 2: WESTLAKE PARKING ZONES MAP

TABLE 2: PARKING INVENTORY PER ZONE

On-street Parking Inventory									
Street Block or Drive Aisle	Zone	Total number of parking spaces per type							Total
		Paid	Free	Load ing Zone	Disabled Parking	Dump -ster	Motorcycle	Other	
Valley St to Aloha St	A*	No existing parking							
Aloha St to 8 th Ave	B	45	37	0	0	0	0	2	84
8 th Ave to Highland Drive	C	36	44	0	0	0	0	0	80
Highland Drive to Driveway (Rock Salt)	D	23	41	0	4	3	0	0	71
Driveway (Rock Salt) to Pedestrian Bridge	E	52	55	1	2	1	0	1	112
Pedestrian Bridge to Driveway at Discovery Yachts	F	26	32	0	2	1	0	0	61
Driveway at Discovery Yachts to Blaine St	G	32	42	1	2	0	0	0	77
Blaine St to Newton St	H	65	64	1	4	4	4	0	142
Drive Aisle from Lake Union Building to Newton St	N	25	0	2	2	0	1	0	30
Newton St to Crockett St	I	33	56	5	2	1	0	2	99
Crockett St to McGraw St	J	40	44	0	2	0	0	0	86
Drive Aisle from Crockett St to McGraw St	O	27	0	2	0	2	0	0	31
McGraw St to Driveway on west side	K	0	131	1	5	6	0	0	143
Driveway on West Side to Holiday	L	0	57	2	1	1	4	0	65
Holiday St to end (Diamond Marina)	M	0	180	0	2	4	4	0	190
TOTALS		404	783	15	28	23	13	5	1271
Percent		32%	62%	1%	2%	2%	1%	0%	

An inventory of off-street parking was also completed. Parking surface lots and garages immediately adjacent to the Westlake Avenue North right-of-way were included in the study. The location of off-street parking within the Westlake Avenue North corridor is shown in the study area maps at the end of the memo. There were 257 paid parking spaces counted as available to the public at the Lake Union Building and AGC Building. Paid parking at the AGC Building is operated by Republic Parking Northwest. Parking is available 24/7. See **Table 3** for rates.

TABLE 3: OFF-STREET PARKING RATES

	Weekday Parking Rate Hourly	Weekday Parking Rate Long-Term	Monthly Rate	Avail Space
AGC Building (Republic Parking Northwest)	\$7/hr or \$16 for 24 hours	\$7/hr or \$10 for 24 hours	N/A	153 public 36 reserved
Lake Union Building (Impark)	\$2/hr or \$12 for 24 hours	N/A	\$115-158.25	104 public 93 Reserved
Westlake Union Center*	\$5/hr or \$10 for 10 hours	N/A	\$152	445

*Not included in study. Parking lots and available on-street parking on the west side of Westlake Avenue North were not studied because they are not immediately adjacent to the portion of the right-of-way impacted by the project.

In addition to private paid lots, reserved parking on private property was counted. These spaces included reserved parking spaces at the AGC and Lake Union Building, as well as single and double length parking spaces immediately adjacent to the right-of-way on private property presumably used by adjacent business employee and customer parking. There were 184 of these spaces available. In total there were 441 private parking spaces available along the corridor. **Table 4** summarizes the private parking inventory. With these spaces taken into account there is a total of 1,712 parking spaces available along the corridor. See **Figure 2** for the locations of parking lots on private property.

TABLE 4: PRIVATE PARKING INVENTORY

Private Paid Parking Lot Inventory	
AGC Building	153
Lake Union Building	104
Private Reserved Parking Inventory	
AGC Building	36
Herbert Yachts	30
Lake Union Building	93
Pacific Coast Yacht Services	4
Starbucks	13
Westlake Landing Building	8
Total	441

The Westlake Avenue North corridor between the Fremont Bridge and Aloha Street is also a Restricted Parking Zone (Zone 25). The zone permit allows residents to park for free in either paid or unpaid parking spots for up to 72 hours at a time. A biennial permit costs \$65.00; residents may obtain up to four permits for vehicles registered at their permit-eligible address. Each residential unit is also eligible for one guest permit which costs \$30.00 per two-year permit cycle. If a resident does not have a vehicle, they can purchase one guest permit for \$65.00. Currently there are 176 resident and 79 guest permits issued.

Summary of Parking Occupancy

Parking occupancy along the corridor was recorded at the times shown in Table 1. Parking occupancy data was collected on different days of the week and times of day to capture both peak and off-peak demand. Data was also collected in separate zones to understand how the adjacent land use affected parking.

The following table summarizes the percent occupancy during peak hour, which occurred starting at noon during weekdays when occupancy was highest.

TABLE 5: PARKING OCCUPANCY AT NOON

Zone	Weekday Noon Hour Paid Occupancy	Weekday Noon Hour Free Occupancy	Total Average Weekday Noon Occupancy
A: Broad Street to Aloha Street	N/A	N/A	N/A
B: Aloha Street to 8 th Avenue	96%*	96%	96%
C: 8 th Avenue to Highland Drive	83%	99%	91%
D: Highland Drive to Driveway #4 (Rock Salt)	85%	98%	91%
E: Driveway #4 (Rock Salt) to Galer Street/Pedestrian Bridge	56%	99%	77%
F: Galer Street/Pedestrian Bridge to Driveway #6 at Discovery Yachts	79%	100%	89%
G: Driveway #6 at Discovery Yachts to Blaine Street	56%	92%	74%
H: Blaine Street to Newton Street	66%	99%	82%
N: Drive Aisle from Lake Union Building to Newton Street	47%	N/A	47%
I: Newton Street to Crockett Street	61%	99%	80%
J: Crockett Street to McGraw Street	54%	99%	76%
O: Drive Aisle from Crockett Street to McGraw Street	48%	N/A	48%
K: McGraw Street to Driveway #11	N/A	78%	78%
L: Driveway #11 to Halladay	N/A	43%	43%
M: Halladay Street to end (Diamond Marina)	N/A	55%	55%

* Highlighted blocks are those that are above the city's occupancy targets (70%-85%) in the neighborhood. Note that the City has occupancy targets for paid spots only, not free parking.

Parking occupancy varied along the corridor. Occupancy was higher at the south end of the corridor in Zones B, C and D. Free parking was more occupied than paid parking on most blocks. During the noon hour on weekdays, the free parking in Zones B-J was nearly fully occupied. The most abundant free parking was in Zone M at the northern end of the corridor where on average at noon on weekdays, only 55% of the 180 available stalls were occupied.

Occupancy for the private paid parking lots available to the public was also counted during the same study period. **Table 6** summarizes the findings. During noon on weekdays, occupancy the southern lot at the AGC Building was 46% full and the parking lot at the Lake Union Building was 70% full.

TABLE 6: PRIVATE PARKING OCCUPANCY

		Total spaces	Vehicle Count	% Occupancy
Lake Union Building Parking Lot				
13-Sep Friday	3pm	104	50	48%
13-Sep Friday	5pm	104	17	16%
14-Sep Saturday	10am	104	4	4%
18-Sep Wednesday	Noon	104	73	70%
AGC Lot				
13-Sep Friday	3pm	153	95	62%
13-Sep Friday	5pm	153	85	56%
14-Sep Saturday	10am	153	63	41%
18-Sep Wednesday	Noon	153	71	46%
Total		257		
Average Noon Occupancy				58%

Figures 3 through 11 provide a detailed view of the parking occupancy results per block and show the percentage of occupied paid and unpaid parking spaces for each day and time period. Refer to the parking utilization study area maps at the end of the report (pages 33-34) for location of paid and unpaid parking. Generally speaking, paid parking is represented by the lines on the right side, and unpaid by the lines on the left side. North of McGraw Street all parking is unpaid. The percentage of occupied spaces in public paid parking lots on private property is also illustrated in these figures.

Appendix A includes the raw data presented in the maps.

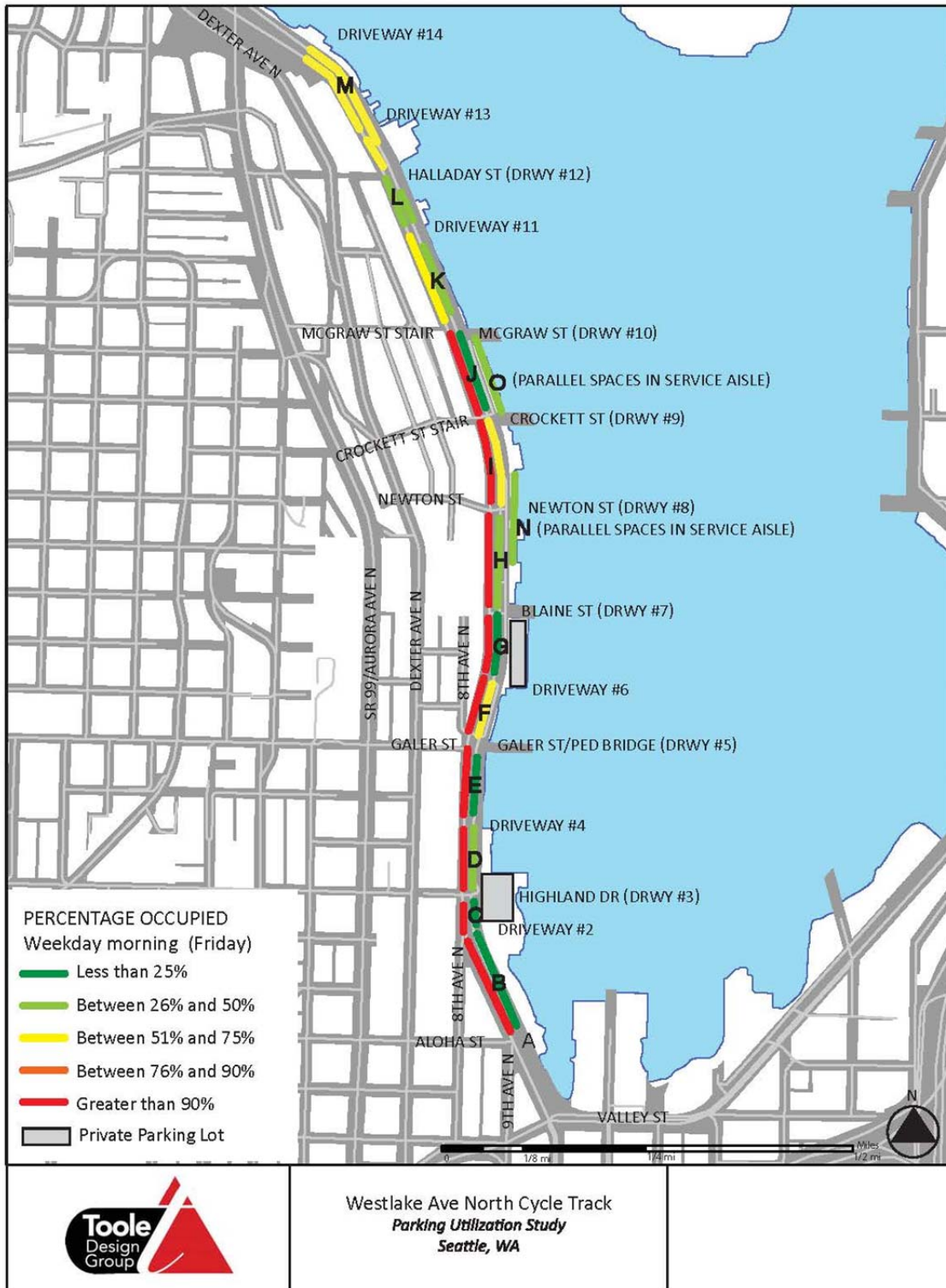


FIGURE 3: OCCUPANCY: FRIDAY 7:00 AM

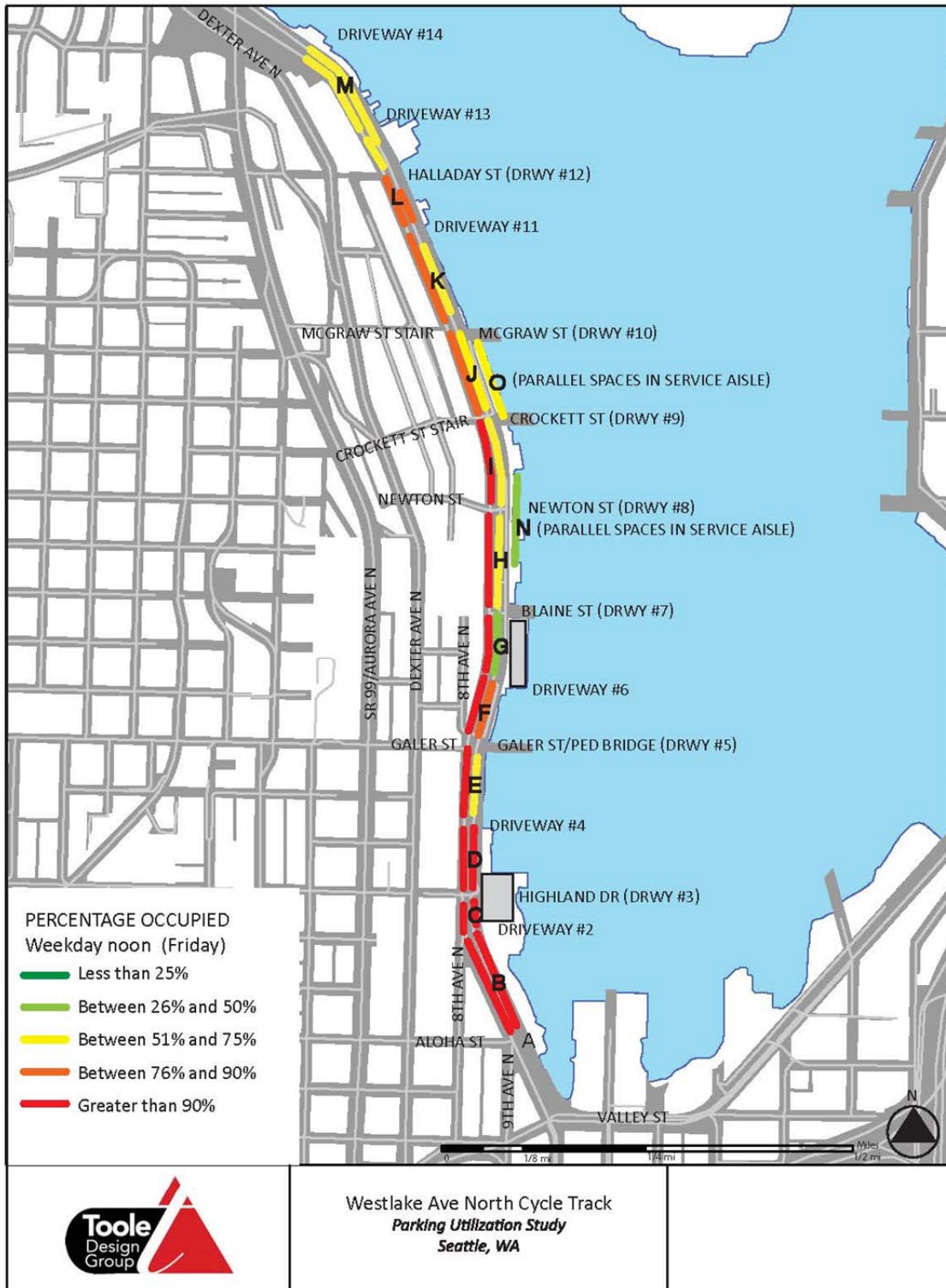


FIGURE 4: OCCUPANCY: FRIDAY NOON

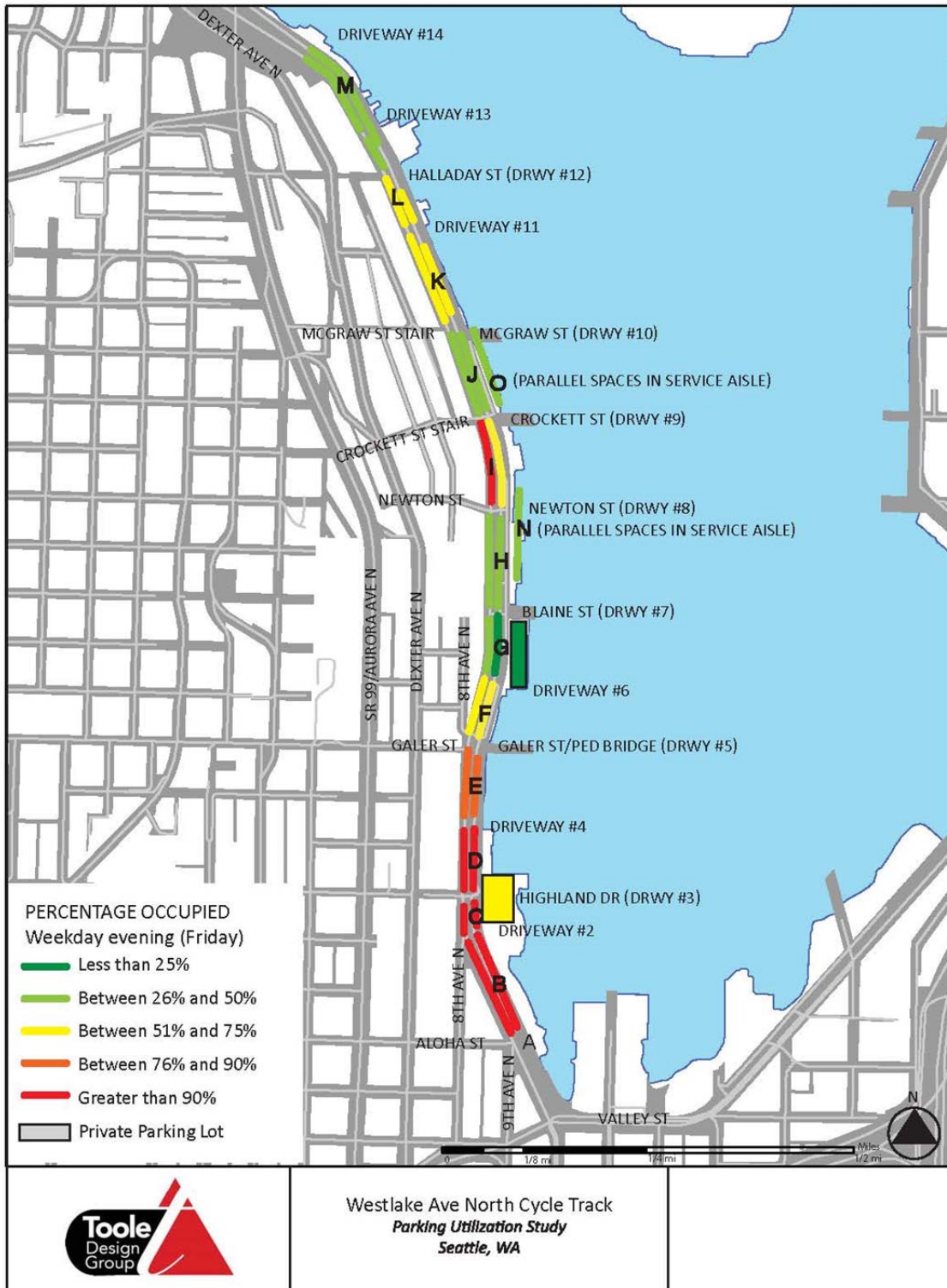


FIGURE 5: OCCUPANCY: FRIDAY 6:00 PM

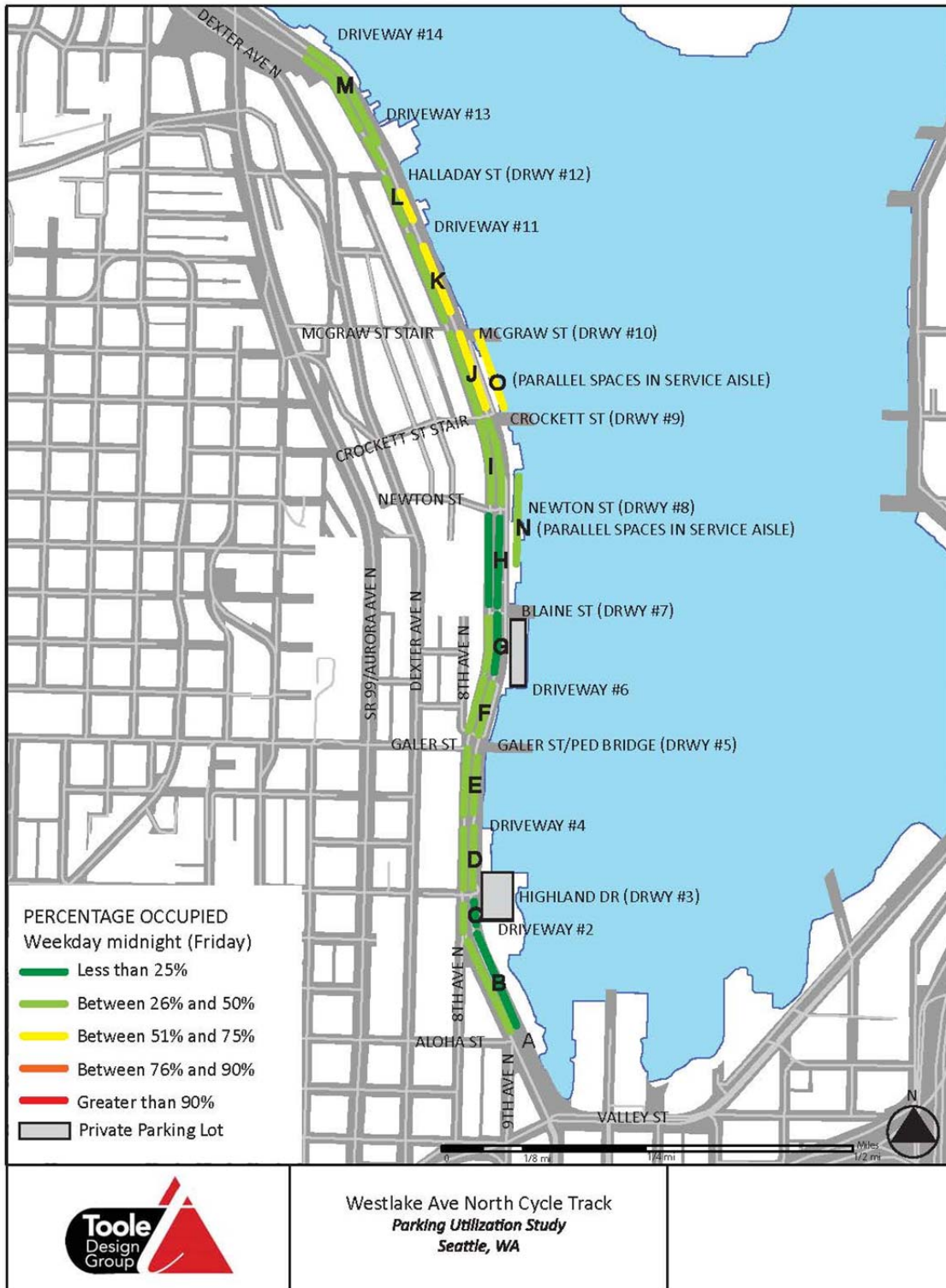


FIGURE 6: OCCUPANCY: FRIDAY MIDNIGHT

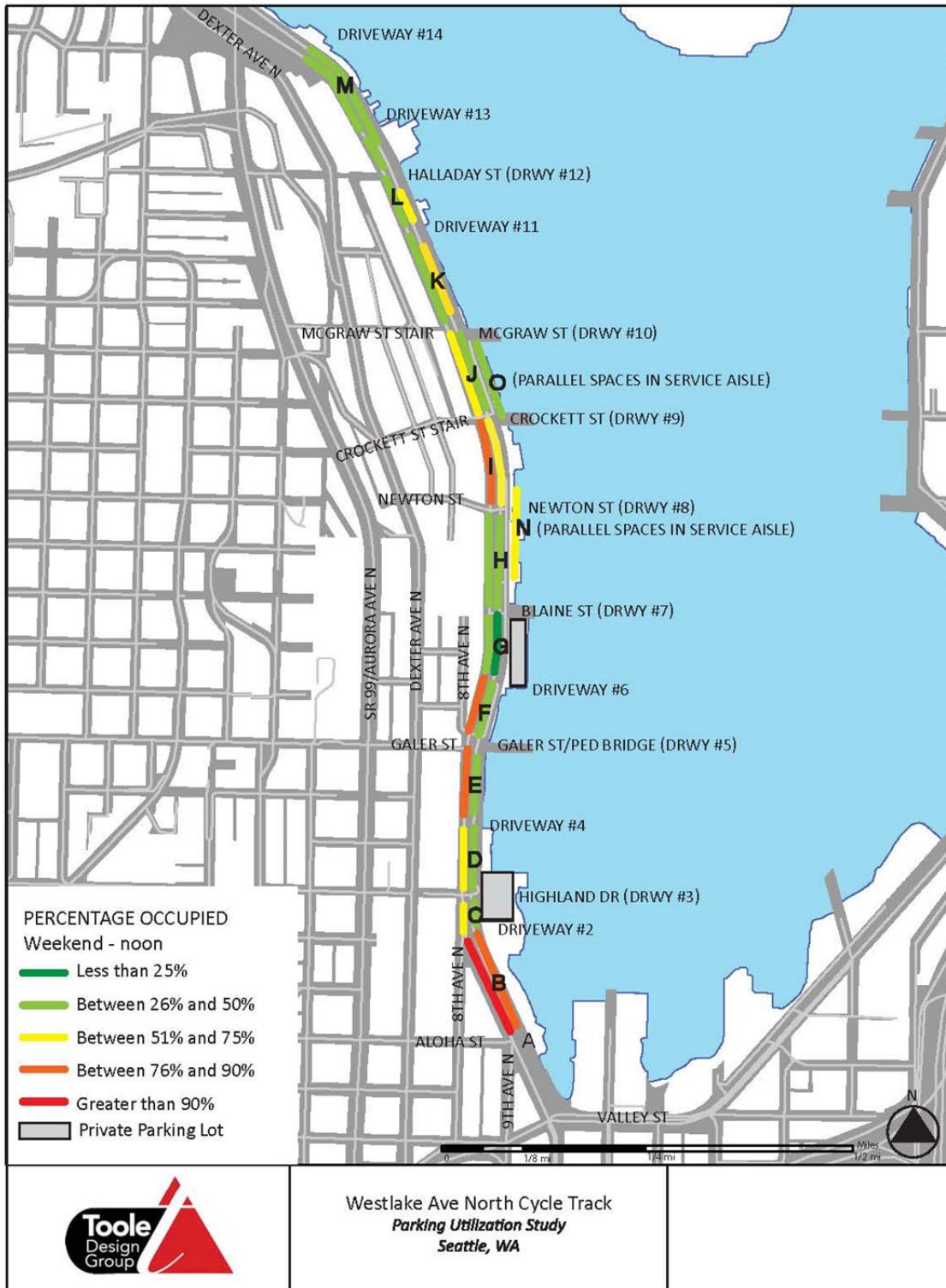


FIGURE 7: OCCUPANCY: SATURDAY NOON

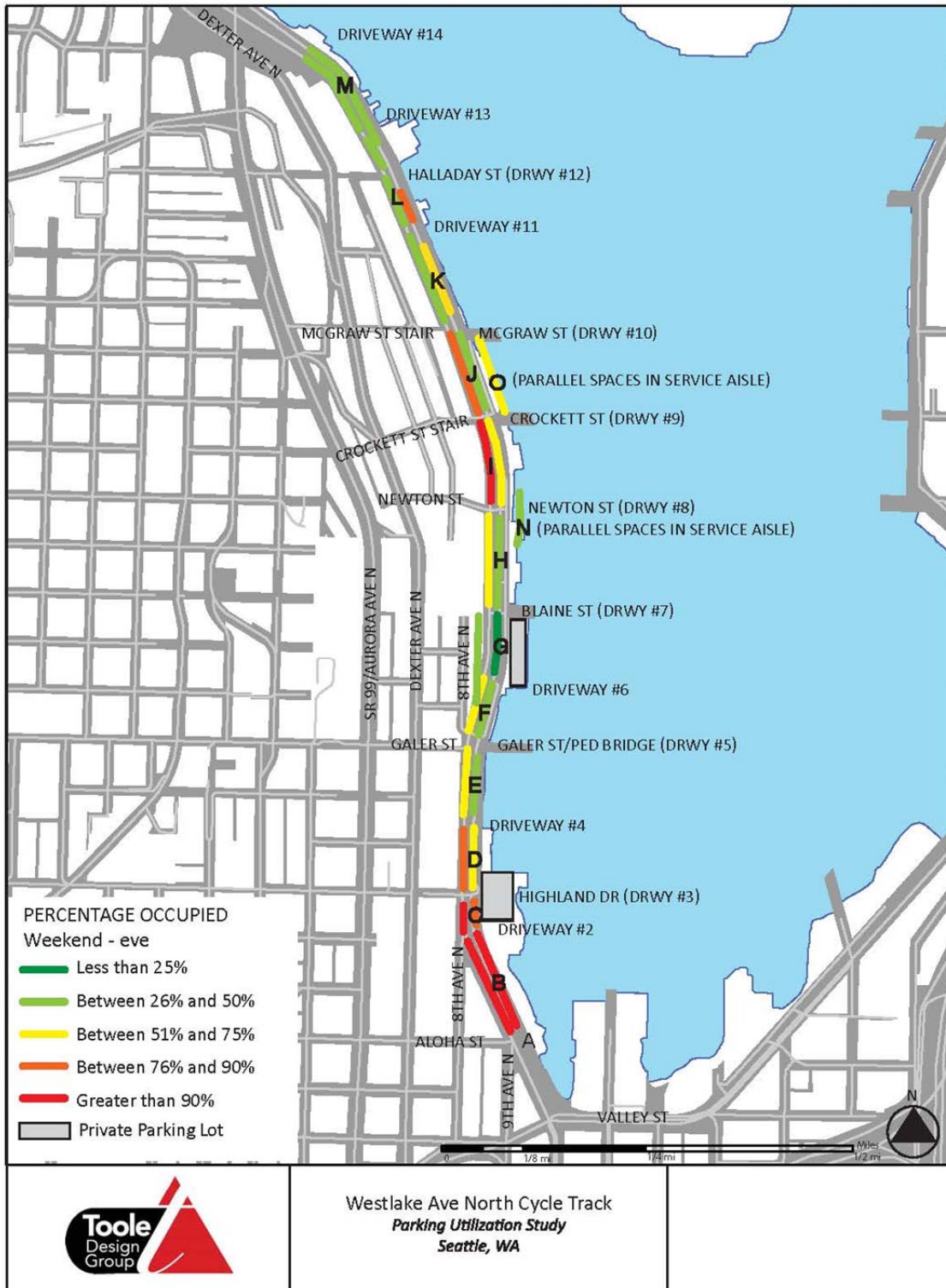


FIGURE 8: OCCUPANCY: SATURDAY 6:00 PM

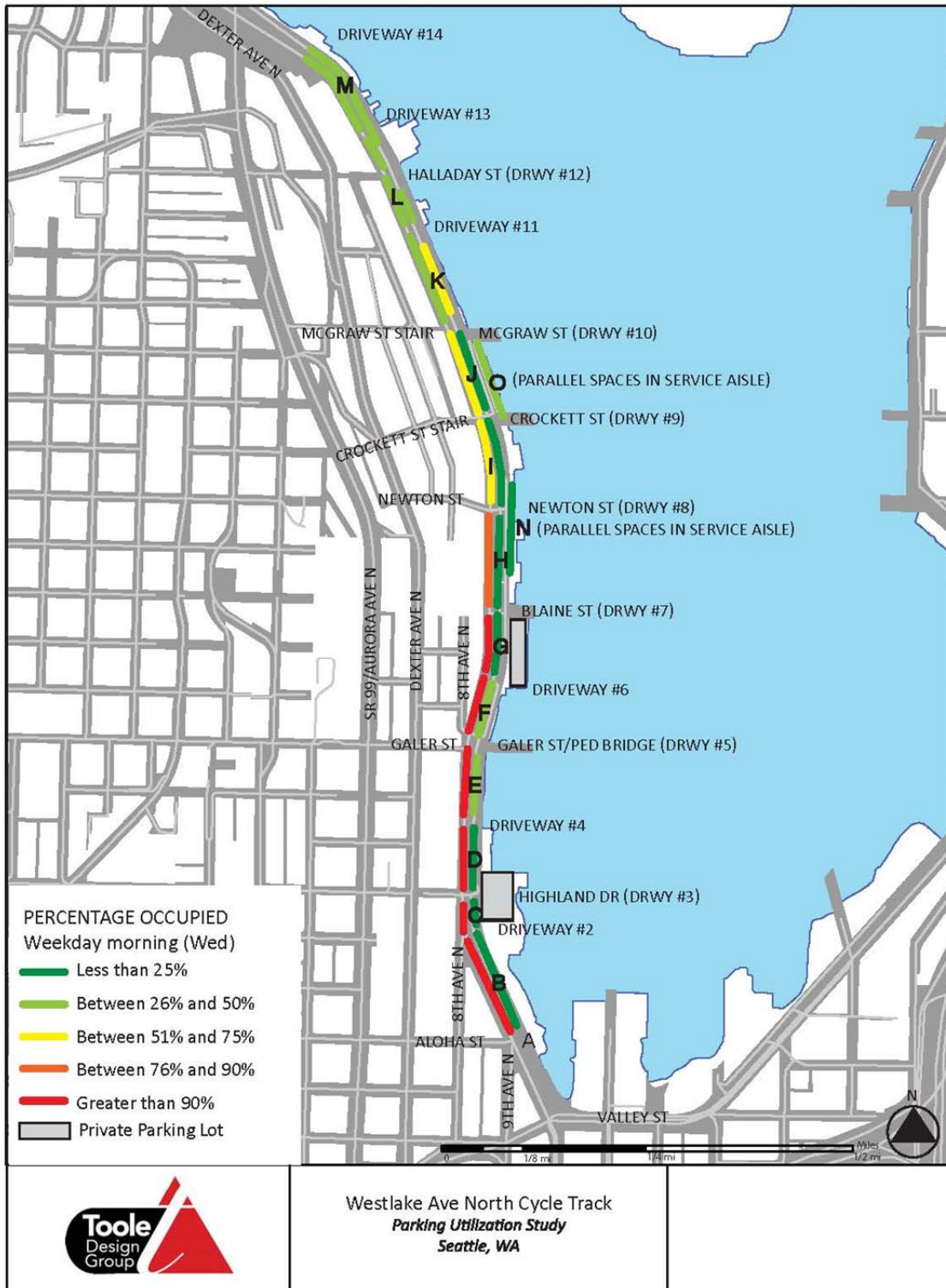


FIGURE 9: OCCUPANCY: WEDNESDAY 7:00 AM

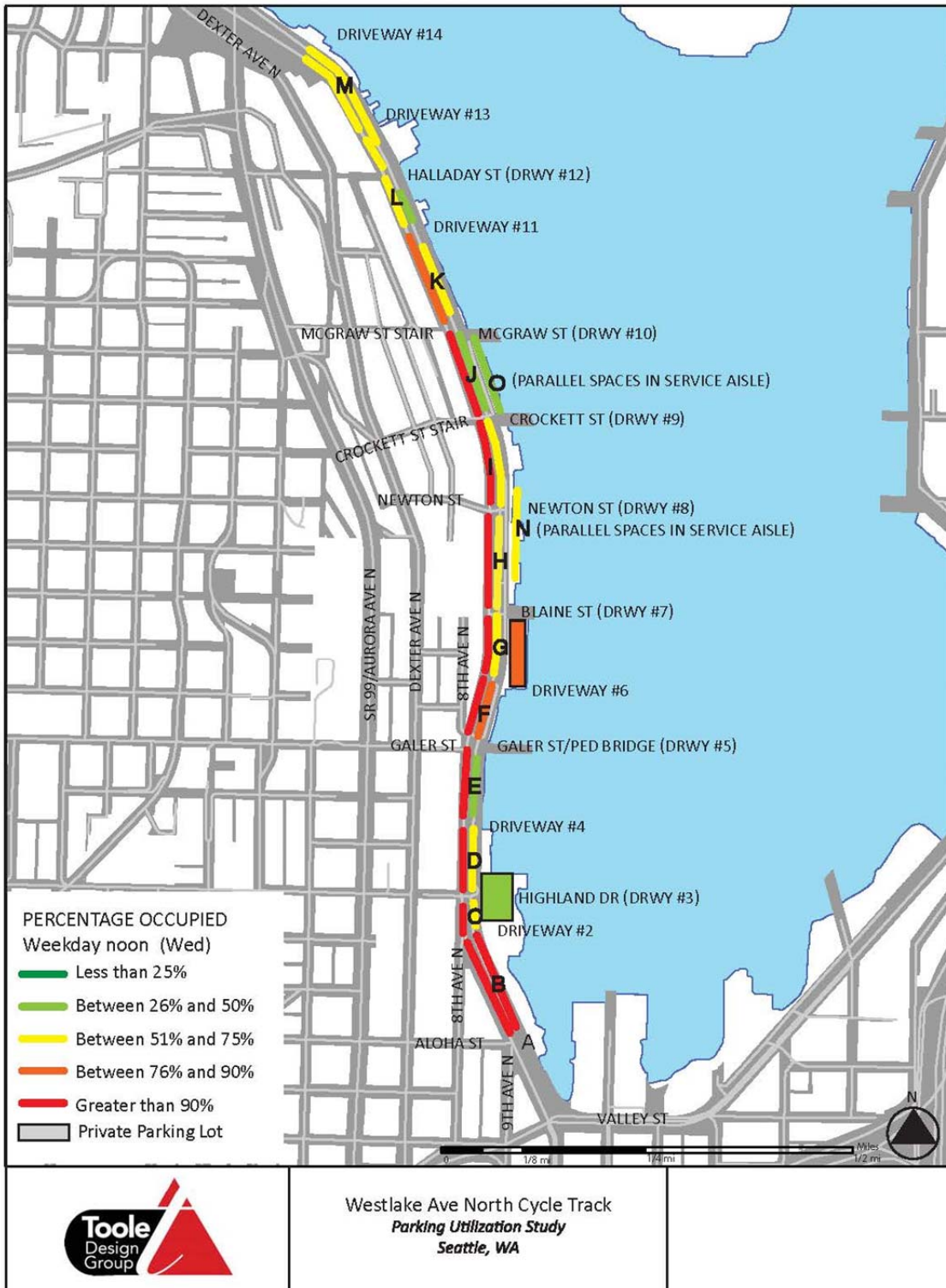


FIGURE 10: OCCUPANCY: WEDNESDAY NOON

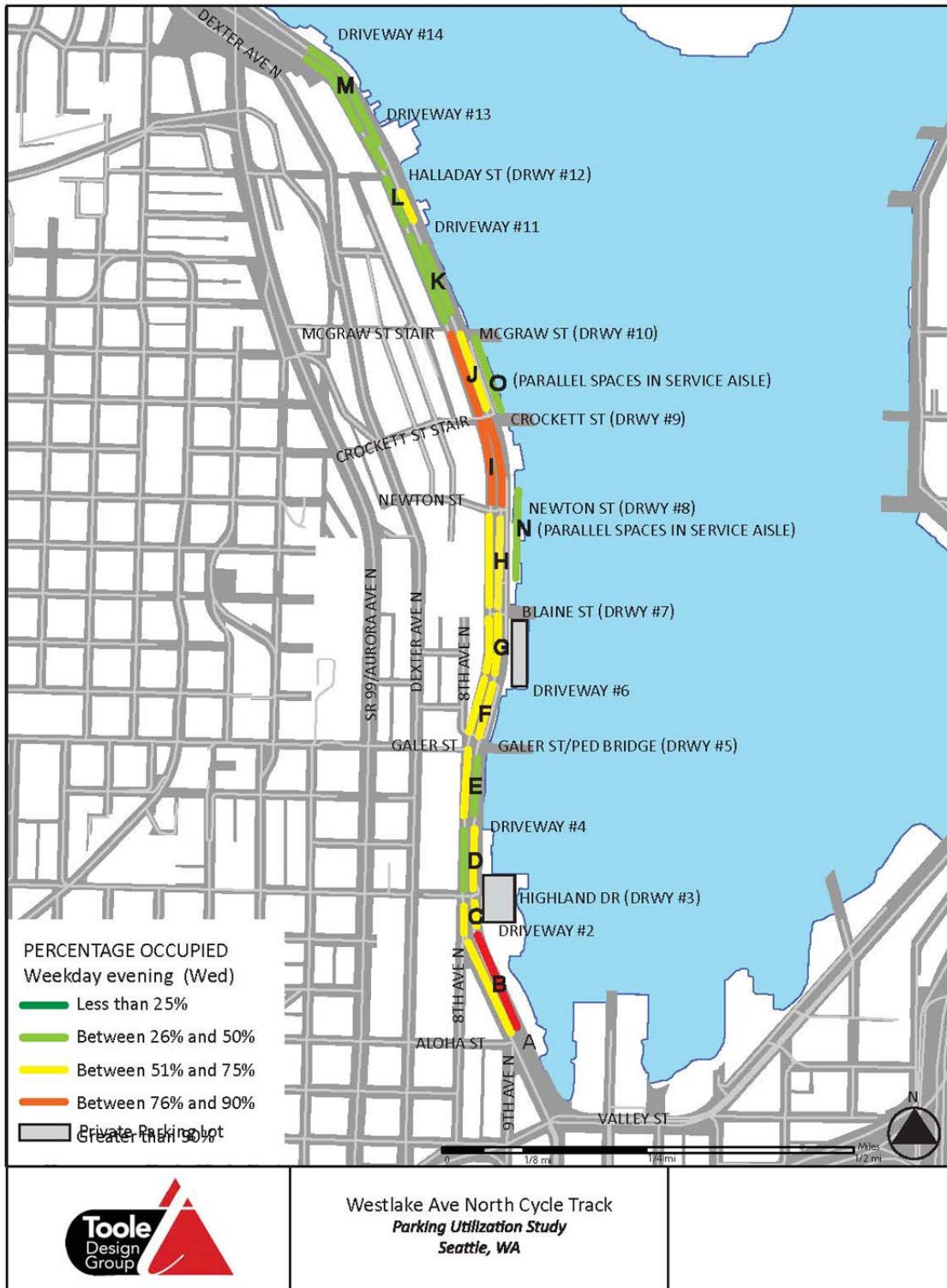


FIGURE 11: OCCUPANCY: WEDNESDAY 6:00 PM

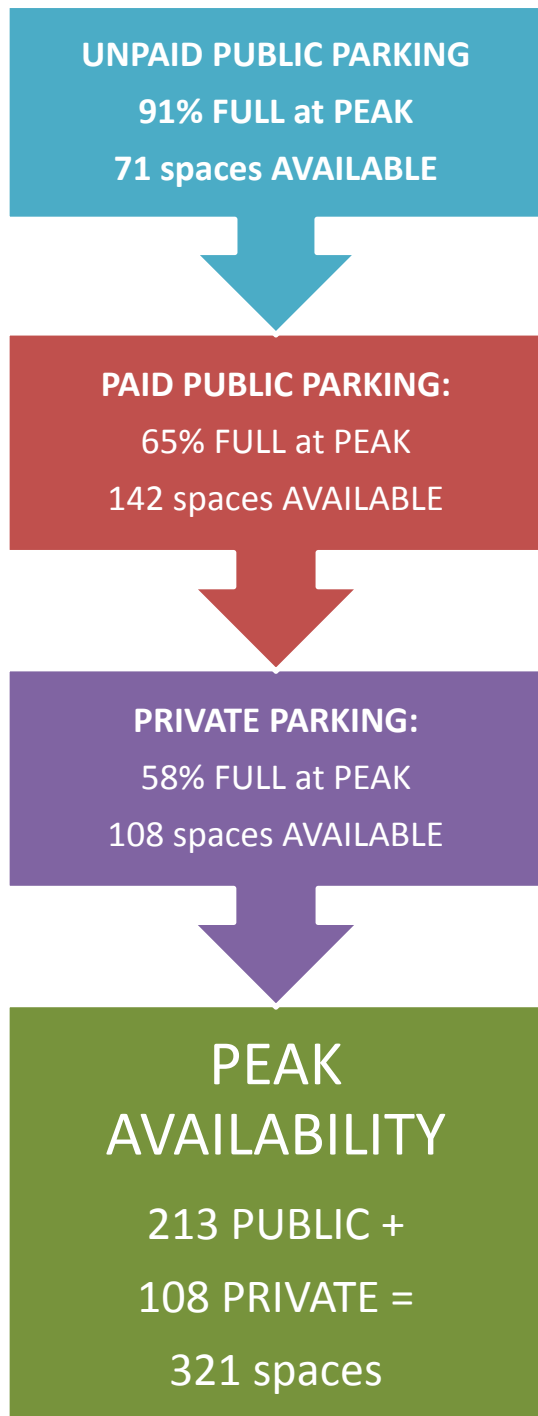


FIGURE 12. CORRIDOR-WIDE PEAK UTILIZATION AND AVAILABILITY.

Summary

Utilization along the corridor during the peak weekday (Wednesday between noon and 1 PM) hour is consistent with past SDOT reports. Based on results from the SDOT 2013 Parking Summary Report, the peak hour for paid parking was from noon to 1PM on weekdays. SDOT found that at noon, the paid public parking occupancy was 76% - within target occupancy range of 70-85%. The Westlake Cycle Track Parking Utilization study found the peak occupancy of paid parking to be 65%.

Figure 12 outlines the overall parking occupancy of the corridor during this study. This provides a snapshot of the difference in utilization between paid and unpaid parking and the anticipated number of parking spaces available during the peak time of year, day and time of day.

The study further broke down parking occupancy by block to understand where parking occupancy was greatest along the Westlake Avenue North corridor. This was also a concern heard from adjacent residents and businesses. At the project open house held on October 28, 2013, many people said that a block-by-block understanding of the corridor was important to understand the micro-activities and impacts to parking that should be taken into consideration when designing a the project.

Paid parking in most blocks fell below target utilization. However, paid parking utilization was highest at the south end of the corridor in Zones B, C, D and F where target utilization was exceeded (see Table 5). The rest of the zones were well below the target occupancy.

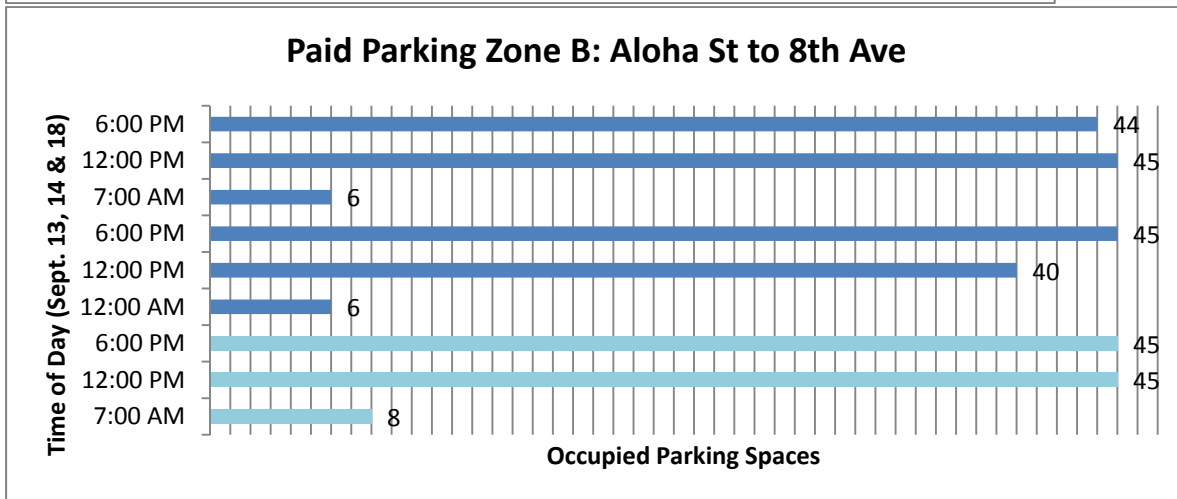
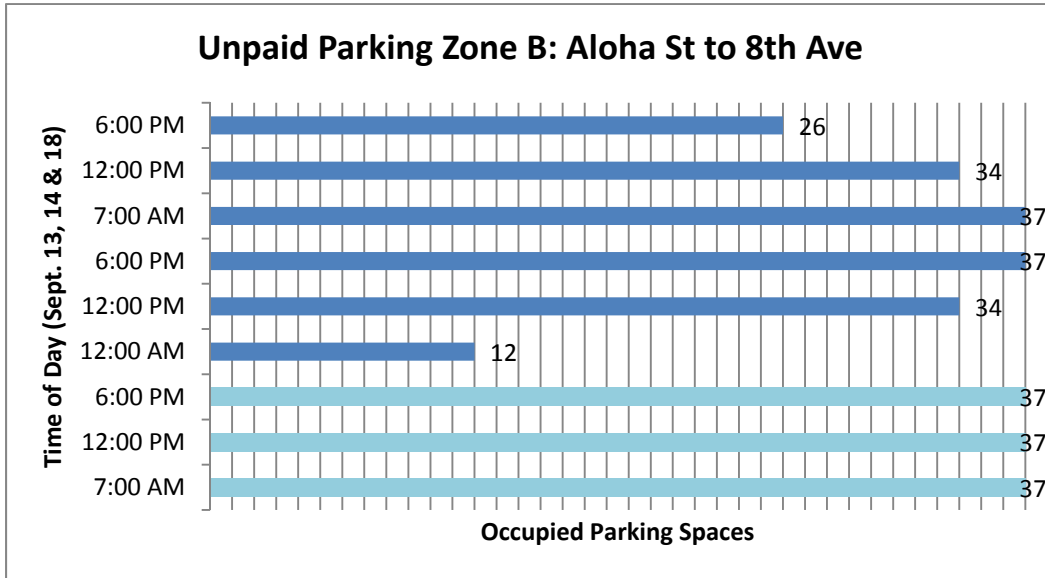
For unpaid parking, at the peak hour, all zones except L and M were very full--almost 100%--in Zones B through J. Private parking lots located at the south-end and mid-corridor had parking available during the peak hour. The AGC Balding parking lot, within a block of Zones B, C and D can accommodate additional paid parking needs at the south end of the corridor.

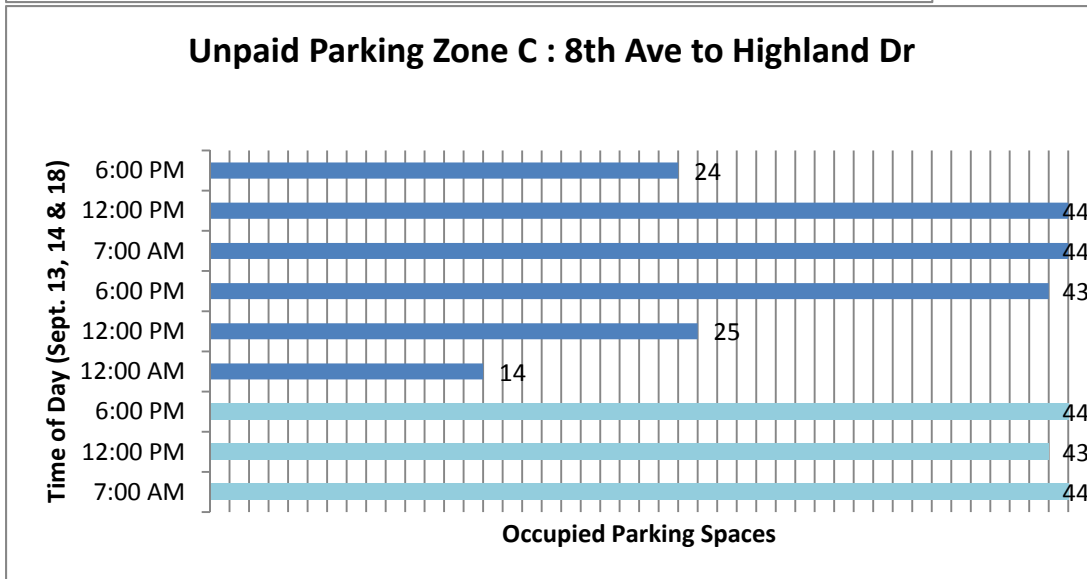
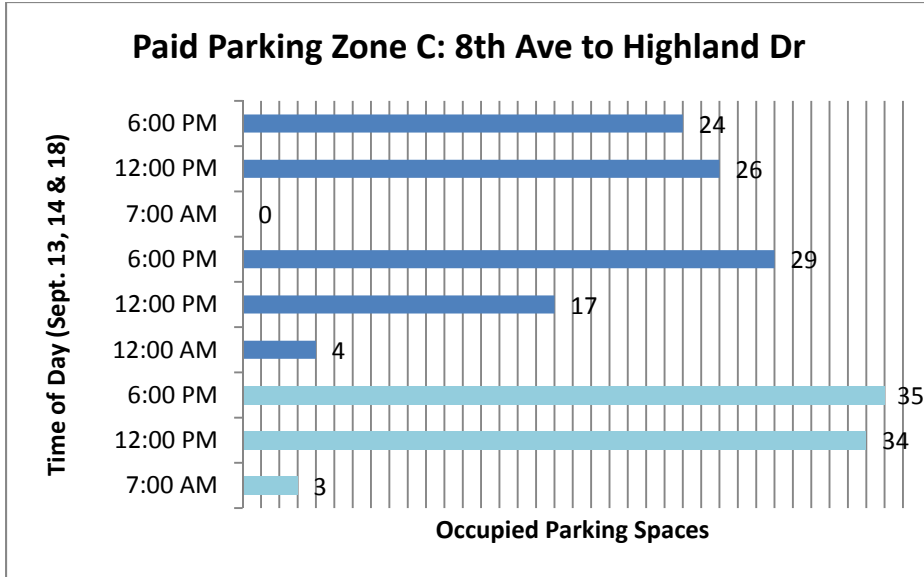
The parking study along with other traffic data gathered along the corridor, stakeholder and public involvement will help to inform the design process. The study of corridor-wide parking utilization shows that while there is high demand for unpaid parking, use of the paid parking supply along parts of the corridor is below the City parking targets. The study found that parking is available along the corridor in free, paid and private parking spaces during peak season, day, and time of day. Private parking lots with lower than on-street parking occupancy are also within reasonable walking distance of high demand

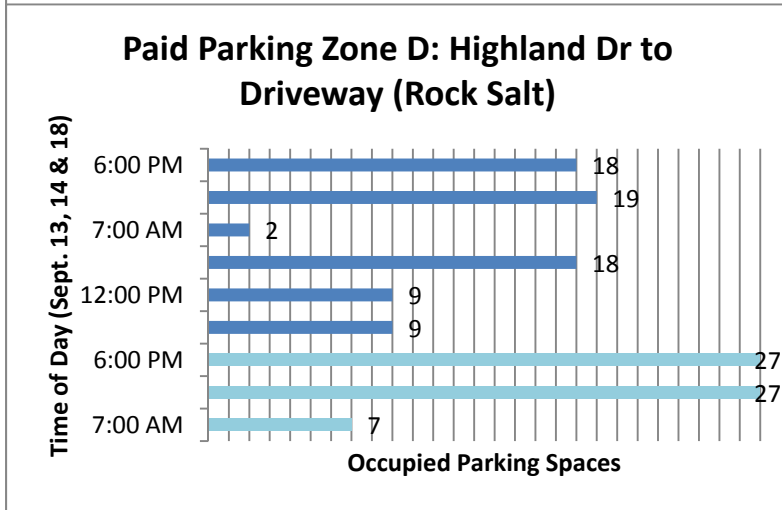
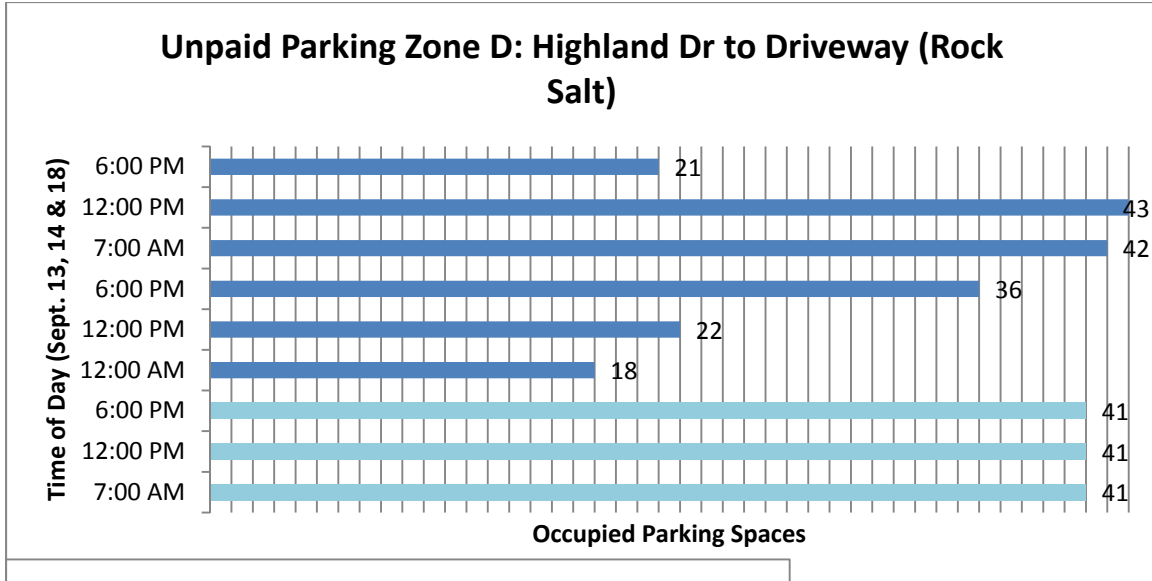
parking areas. Additionally, the study provided an understanding of block-by-block parking needs which will help to inform a balanced approach to changes made within the corridor.

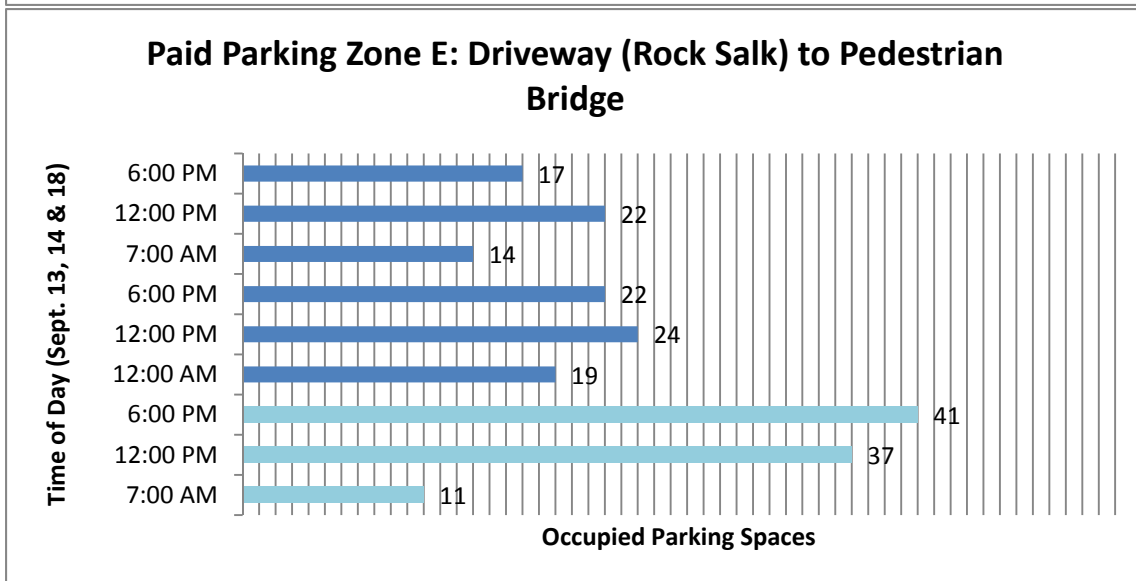
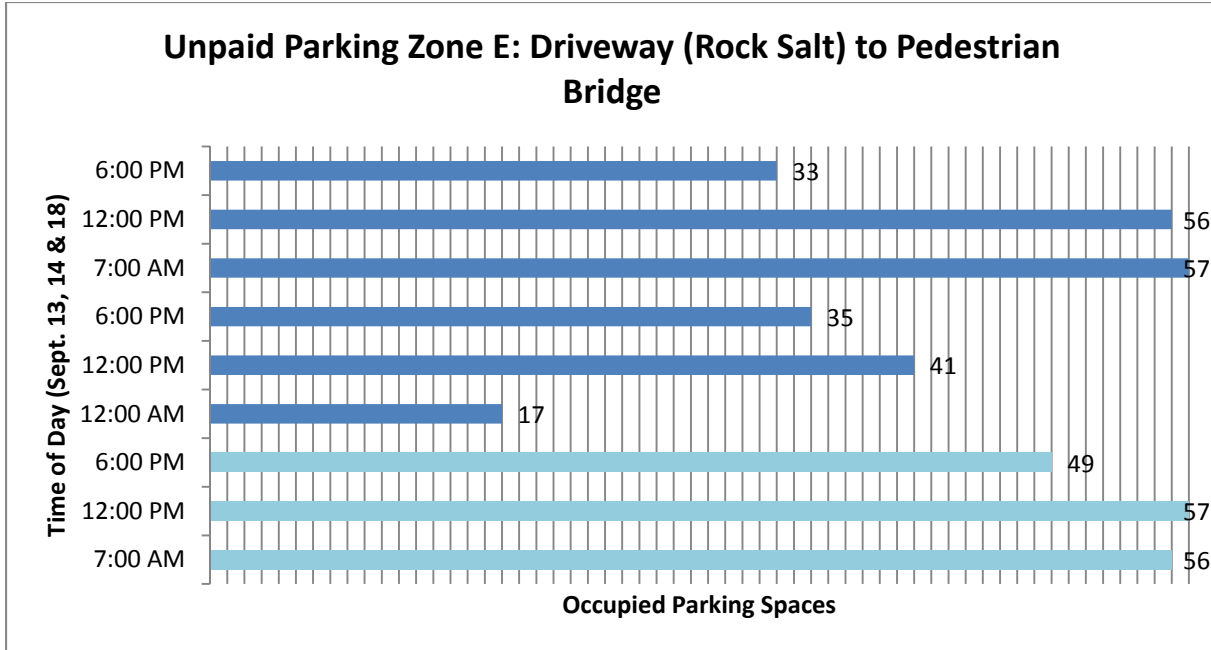
Appendix A

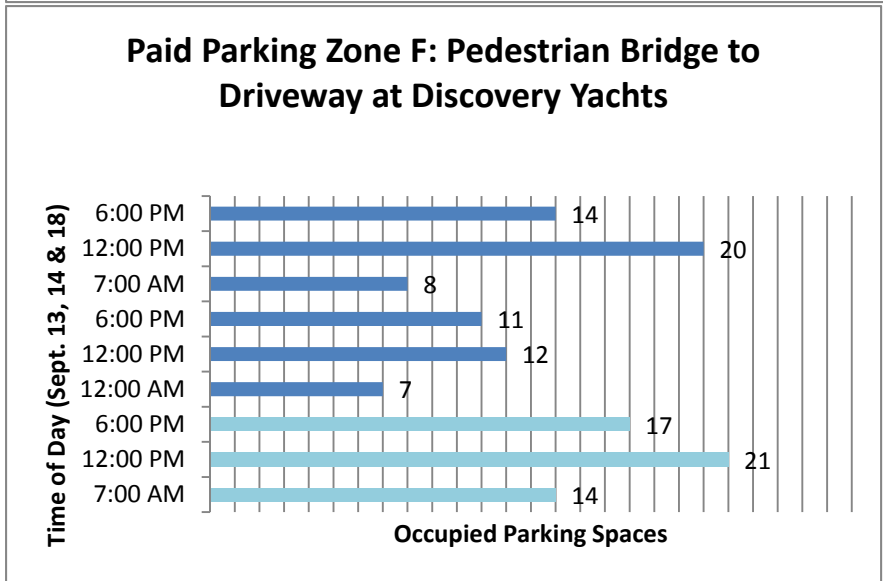
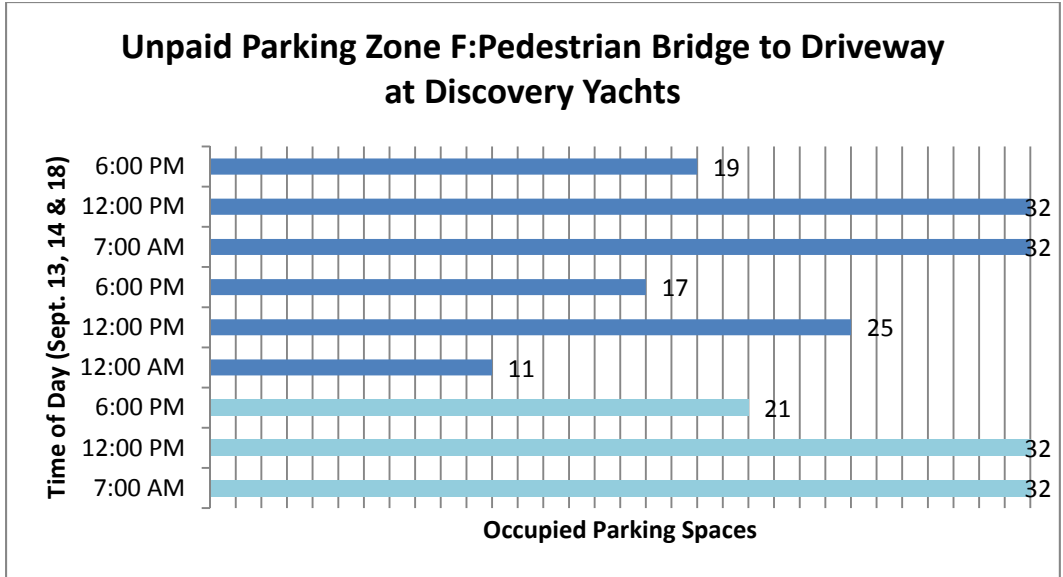
The following figures provide the raw occupancy data collected in the paid and unpaid parking areas along the Westlake corridor. Each chart shows the total number of parking spaces occupied per time. This includes all occupiable spaces including load zones, disabled parking and motorcycle parking but not spaces occupied by dumpsters. Weekday (dark blue) and weekend (light blue) times are distinguished.

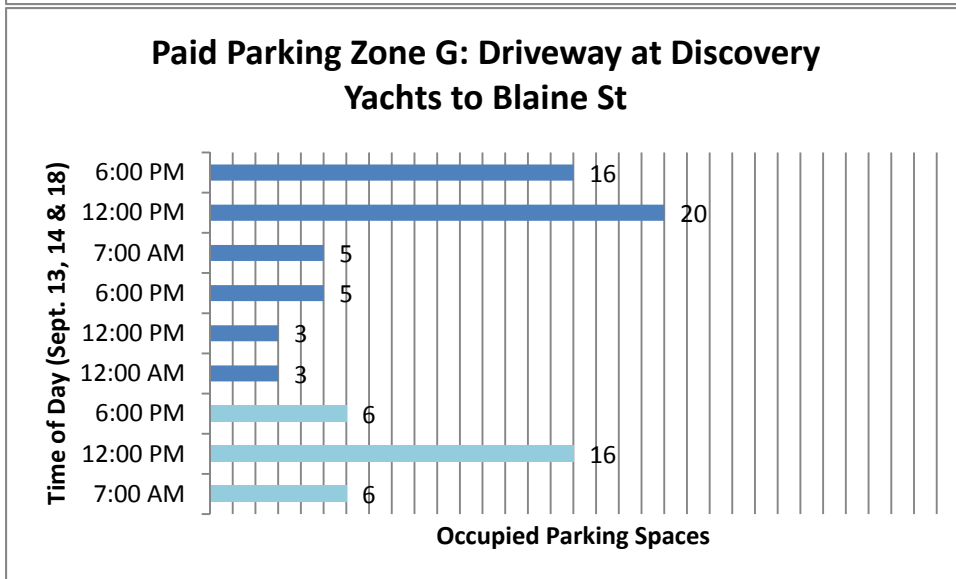
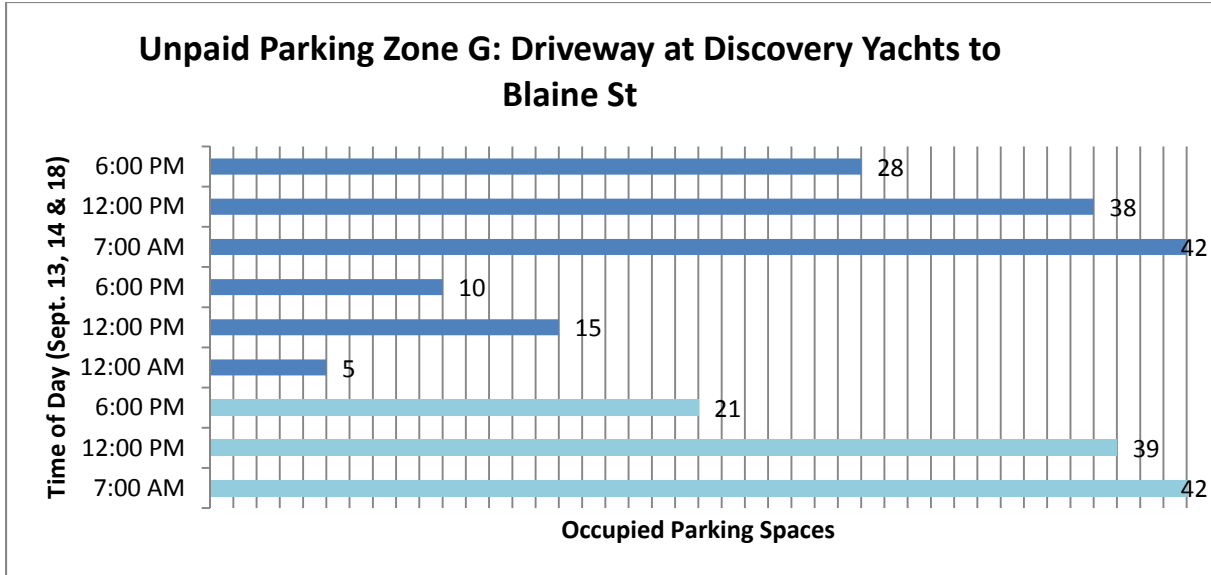


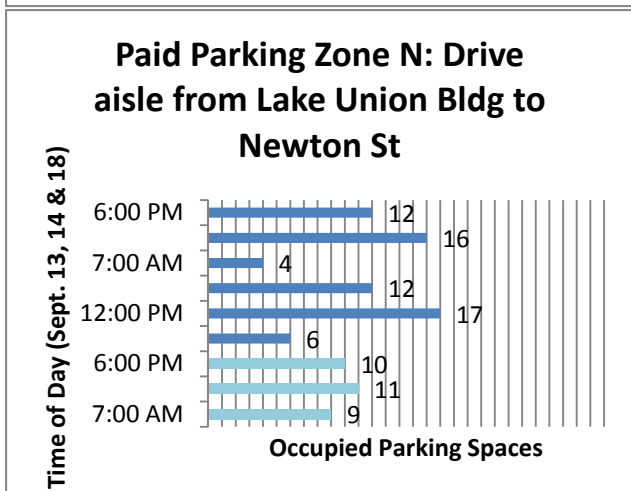
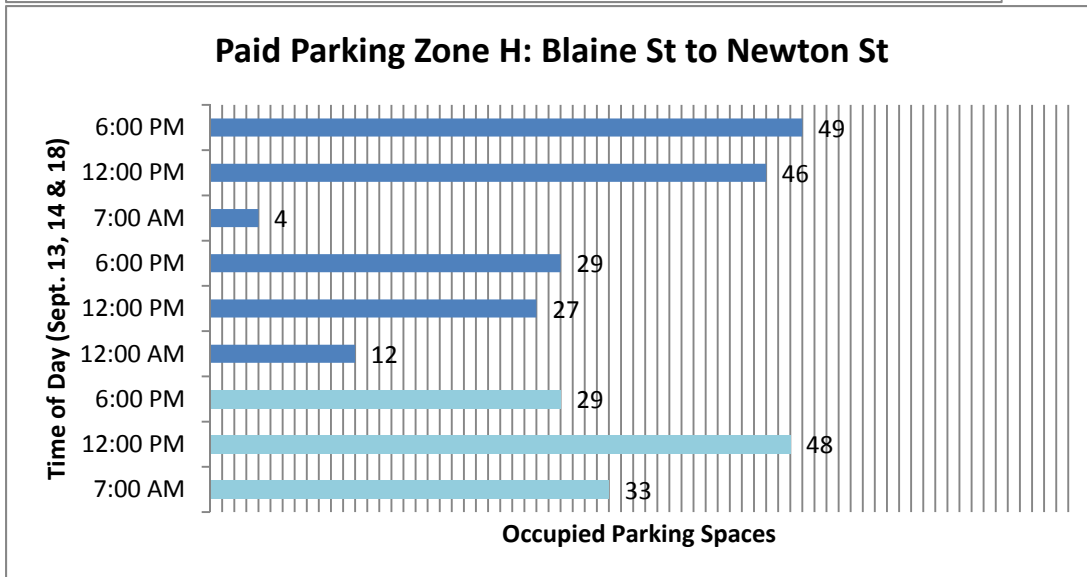
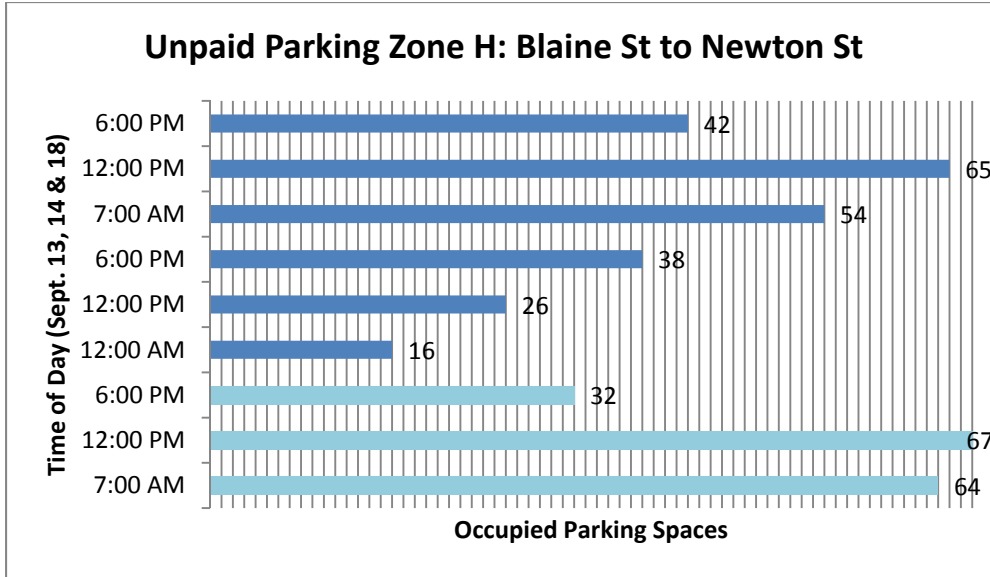


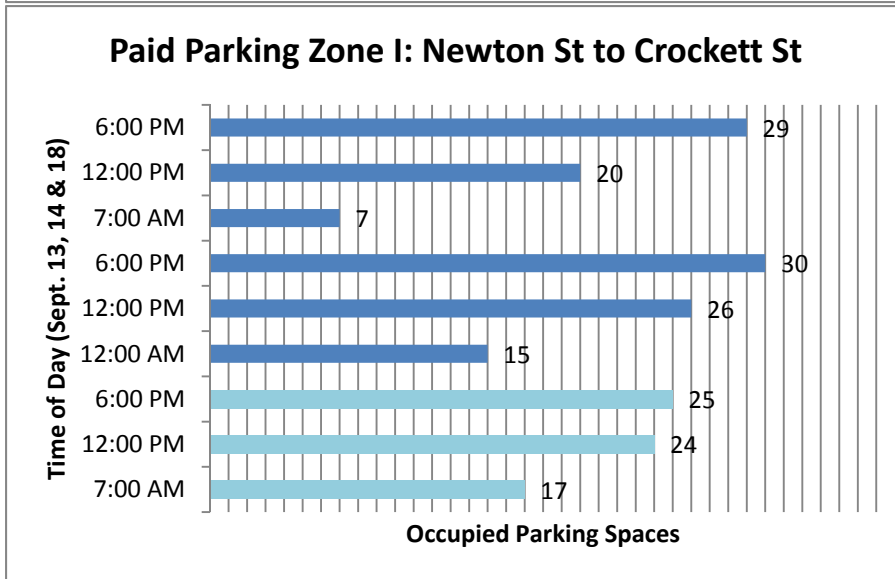
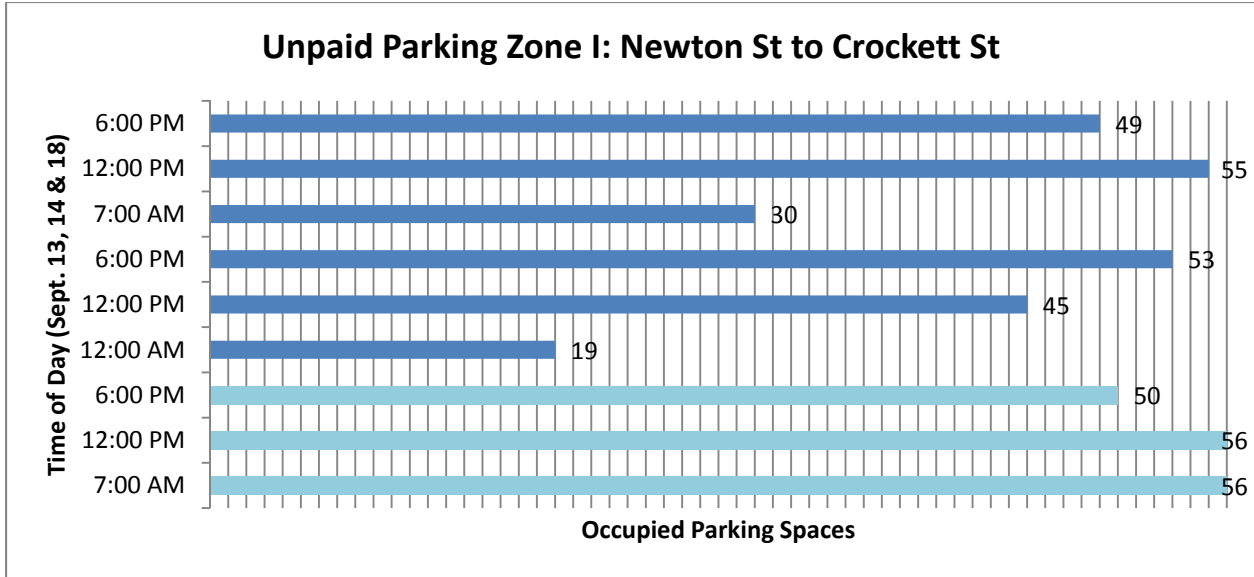


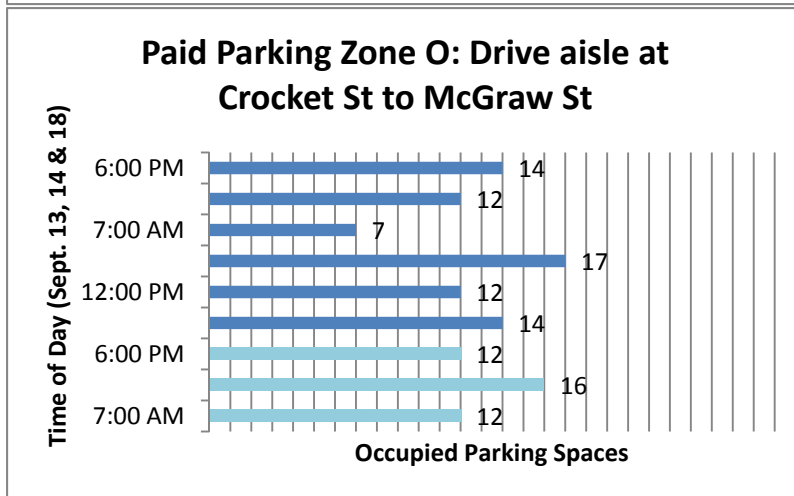
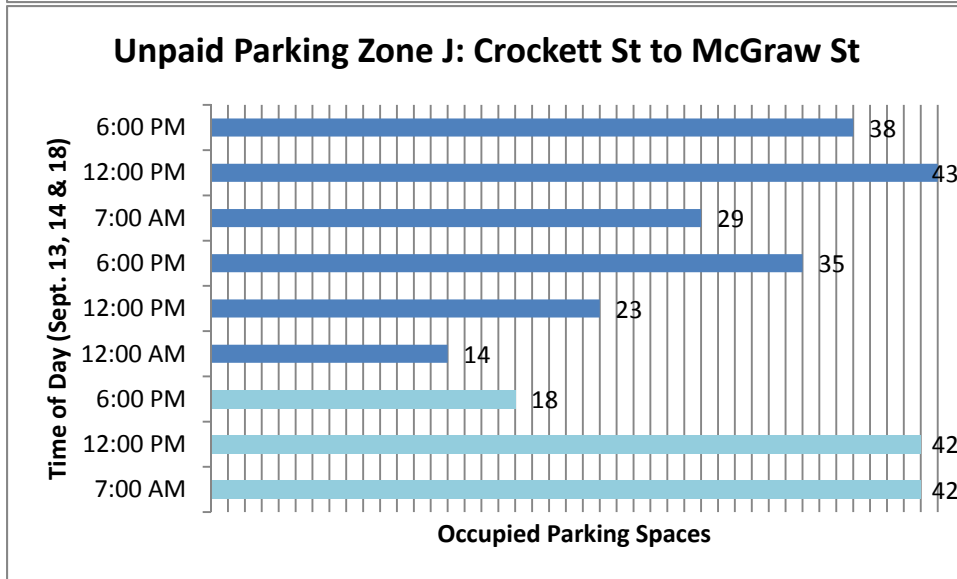
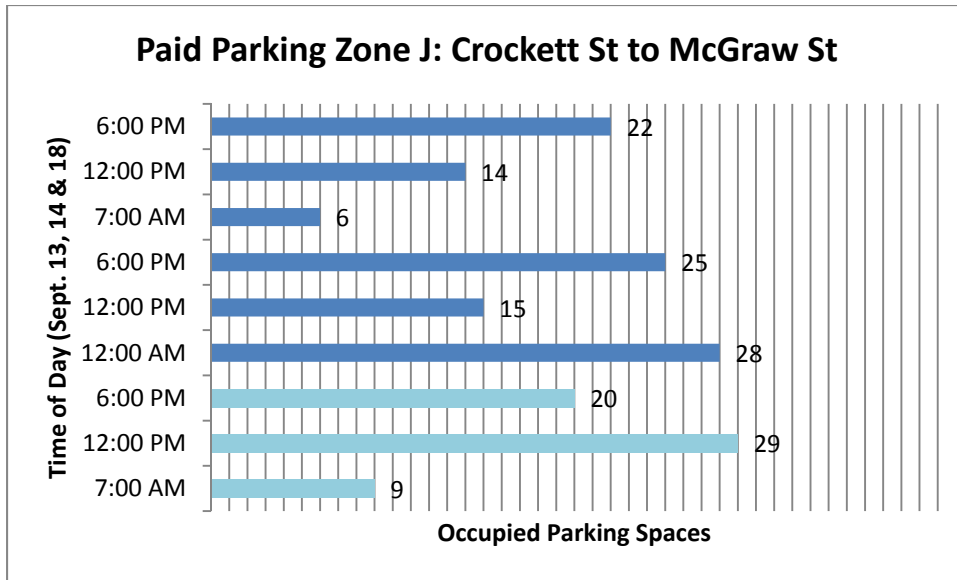


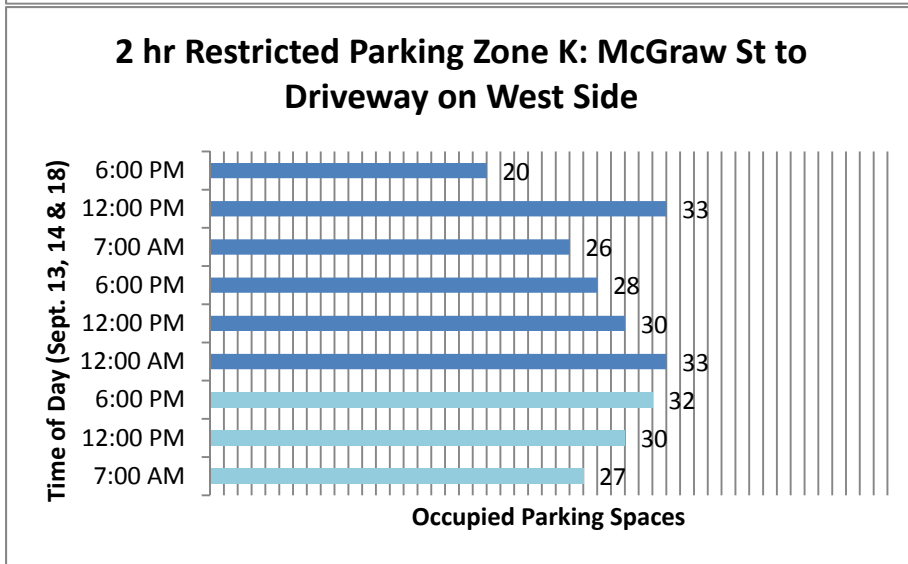
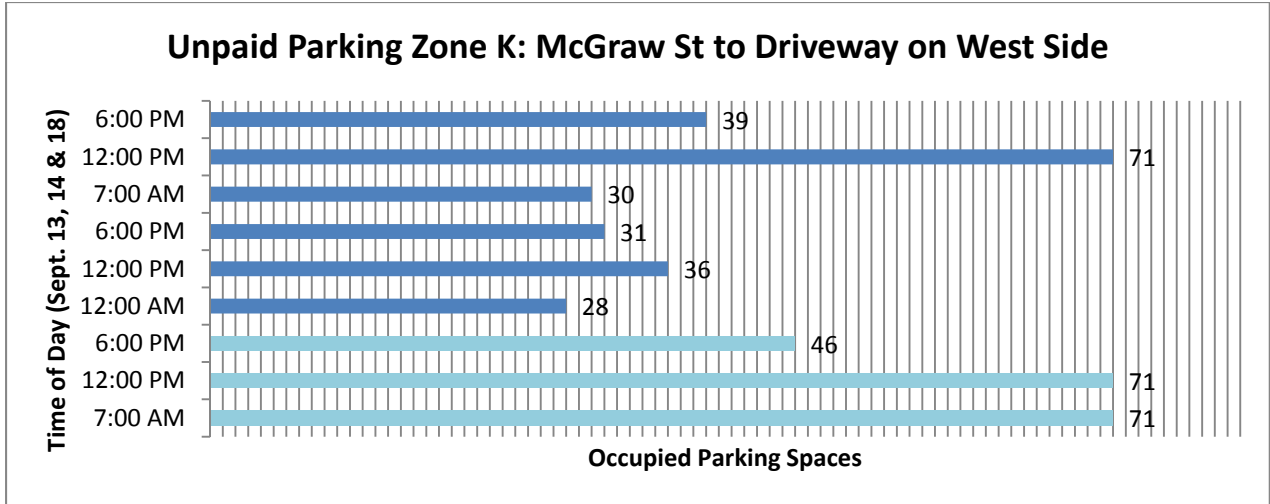


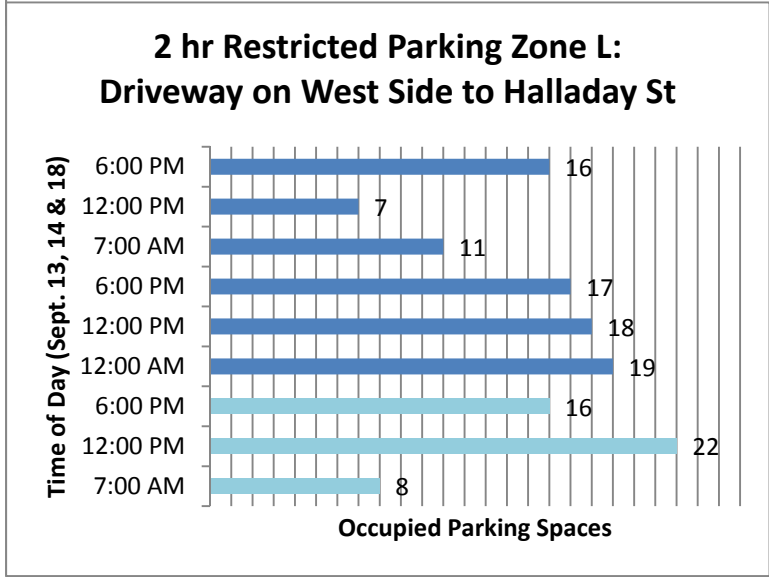
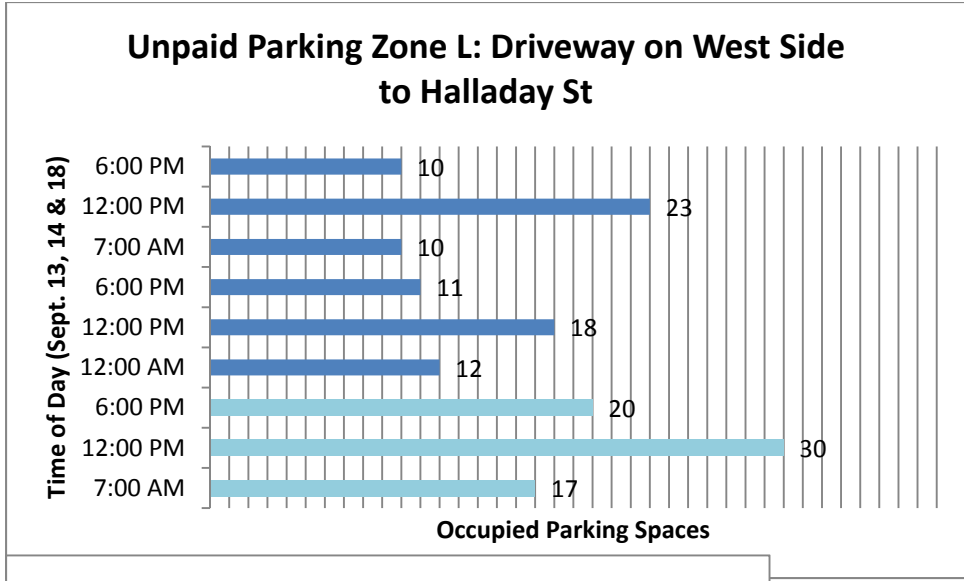


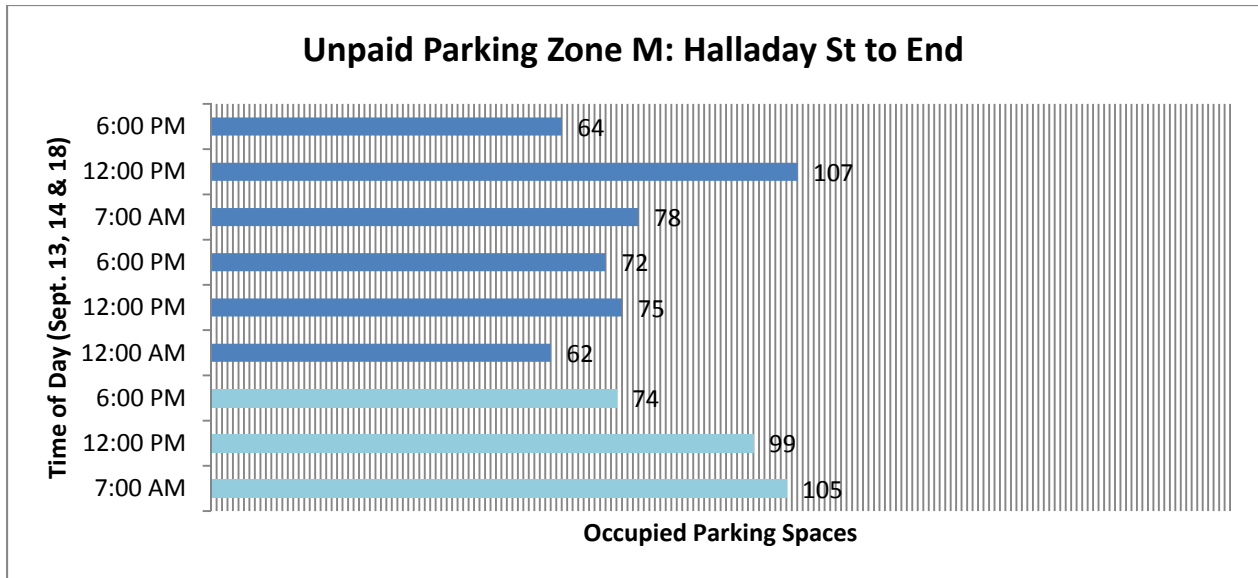






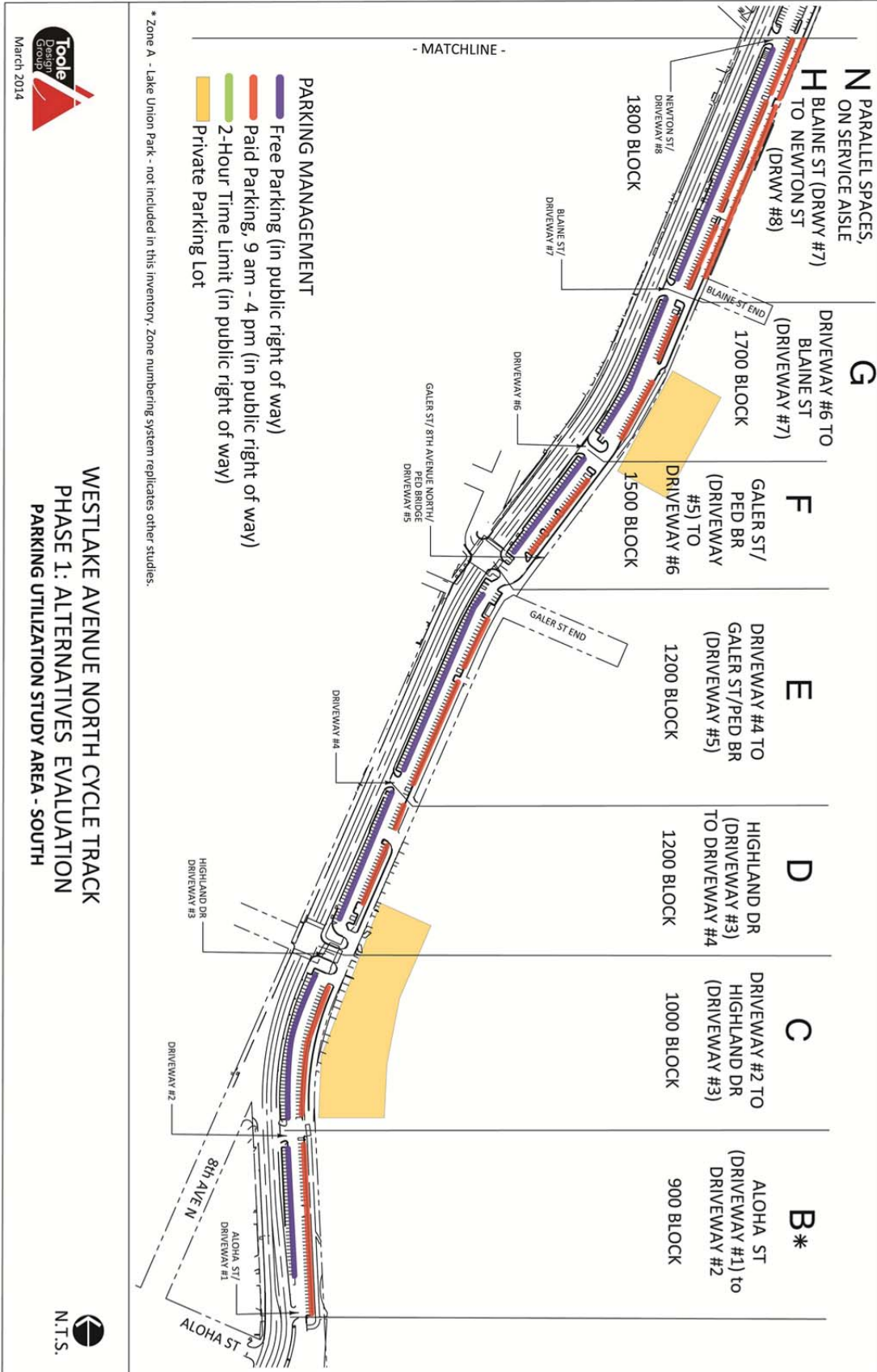


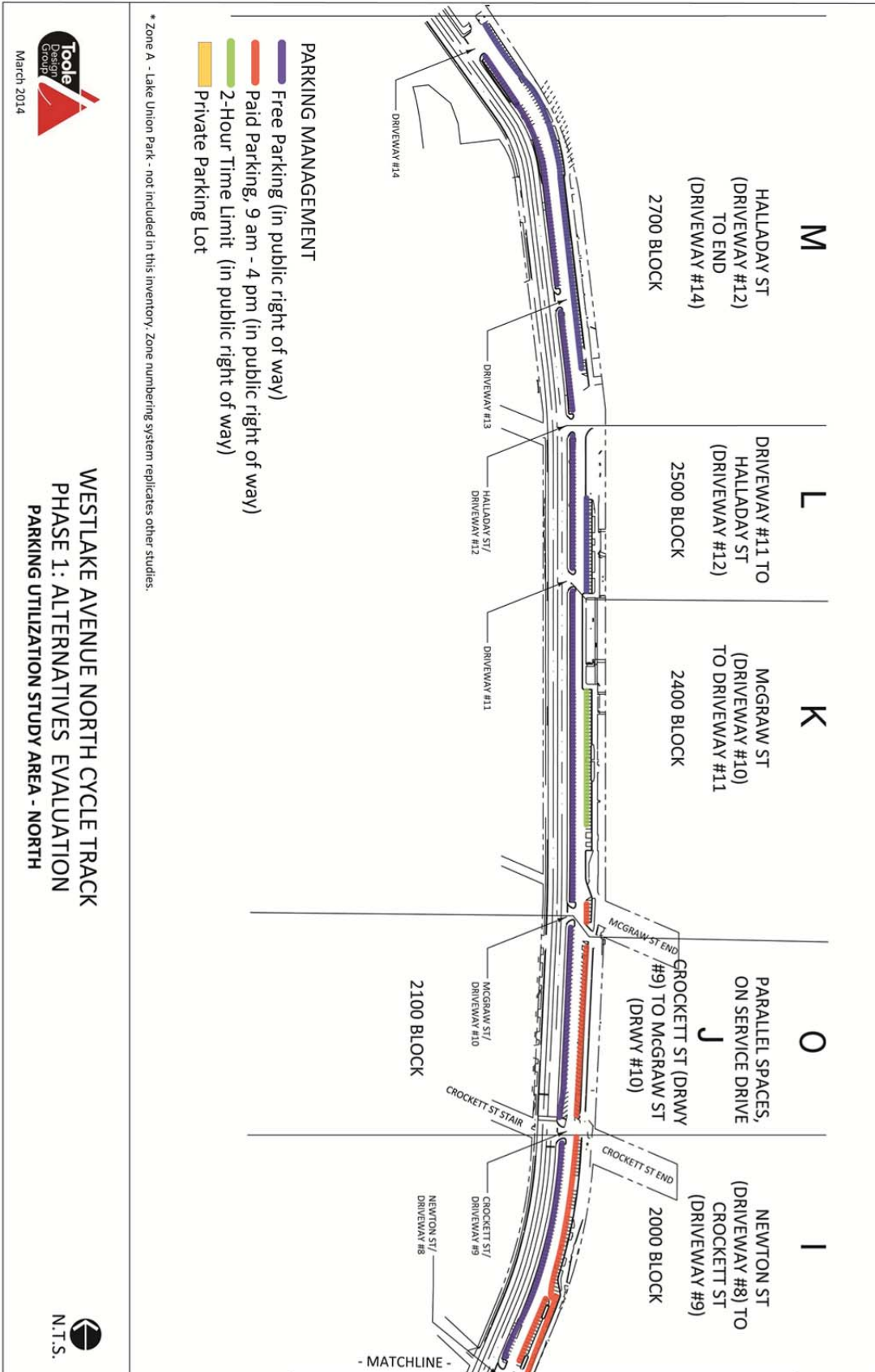




Appendix B

The Westlake Avenue North cycle track parking utilization study areas are defined in the following maps.





March 2014

WESTLAKE AVENUE NORTH CYCLE TRACK
PHASE 1: ALTERNATIVES EVALUATION
PARKING UTILIZATION STUDY AREA - NORTH

