TECHNICAL MEMORANDUM

Project: Downtown Off-Street Parking Study

Subject: Supply and Occupancy Survey in June 2016

Date: April 26, 2017

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This memorandum summarizes the methodology and findings of the Downtown Off-Street Parking Study performed for the Seattle Department of Transportation (SDOT) in June 2016. This survey of off-street facilities updates and expands data previously collected by SDOT (2014 Downtown Off-Street Study, 2012 and 2013 off-street parking studies along the Waterfront and in Pioneer Square), and the Puget Sound Regional Council (PSRC) (2010 and 2013 off-street parking studies in the Central Business District, International District, and the Waterfront). These data for the off-street parking facilities together with Seattle's Annual On-Street Parking Study provide a comprehensive account of parking conditions and trends in downtown Seattle.

This memorandum presents the methodology for the off-street parking inventory and data collection, and summarizes parking space type by subarea, rate trends, and parking utilization.

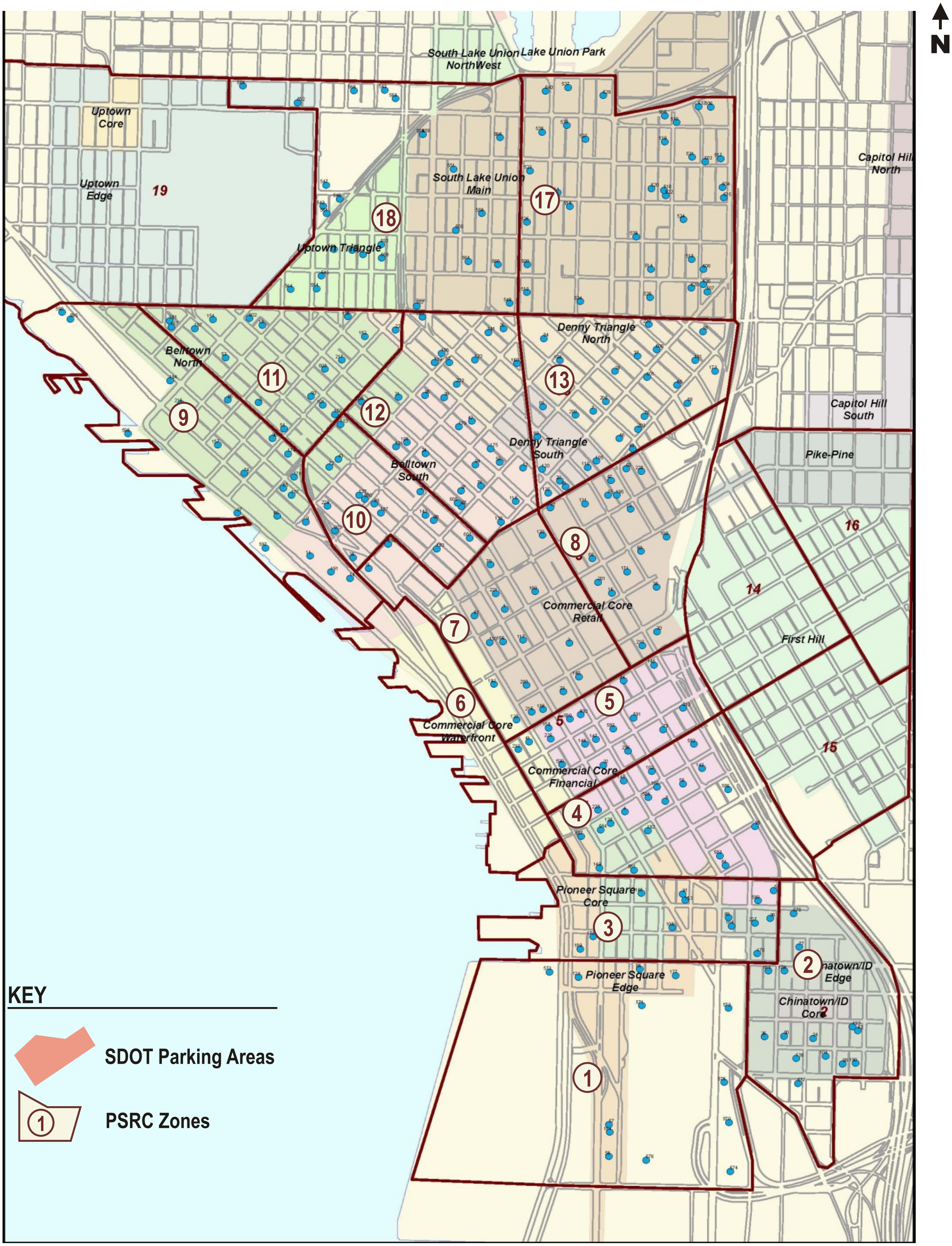
1. Study Area

Figure 1 shows the study area for the 2016 Downtown Off-Street Parking Survey. The boundaries are generally Valley Street to the north, S Royal Brougham Way to the south, Elliott Bay to the west, and Interstate 5 to the east. The study area includes all areas from the 2014 study and extends into the South Lake Union neighborhood north of Denny Way, adding data collection in PSRC Zones 17 and 18. Additional data were collected for several off-street facilities in the Belltown North - Waterfront and Uptown Edge (Northeast) subareas identified on Figure 1. Figure 1 shows both the subareas as defined by SDOT and the Puget Sound Regional Council (PSRC), the latter of which are used by the PSRC when it performs region-wide parking surveys. For this analysis, the subareas were defined as follows:

Core Commercial Areas
- Financial
- Retail
- Waterfront

Outside Core Areas
- Uptown Triangle
- South Lake Union
- Belltown North and South
- Denny Triangle North and South
- Pioneer Square Core and Edge
- Stadium
- Chinatown/ID Core and Edge

Additional Facilities
- Waterfront North
- Uptown Edge (Northeast)



2016 DOWNTOWN OFF-STREET PARKING SURVEY

Figure 1

Parking SubAreas

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This study collected data for 230 garages with a supply of 49,927 publicly available parking spaces. Data collectors were denied entry at several facilities, but the studied supply represents about 95% of all the public parking facilities in the study area and an estimated 93% of the total public off-street parking capacity. Ranging in size from five to 1,500 parking spaces, parking facilities studied included surface lots, small one-story garages, and multi-story garages.

2. Survey Methodology

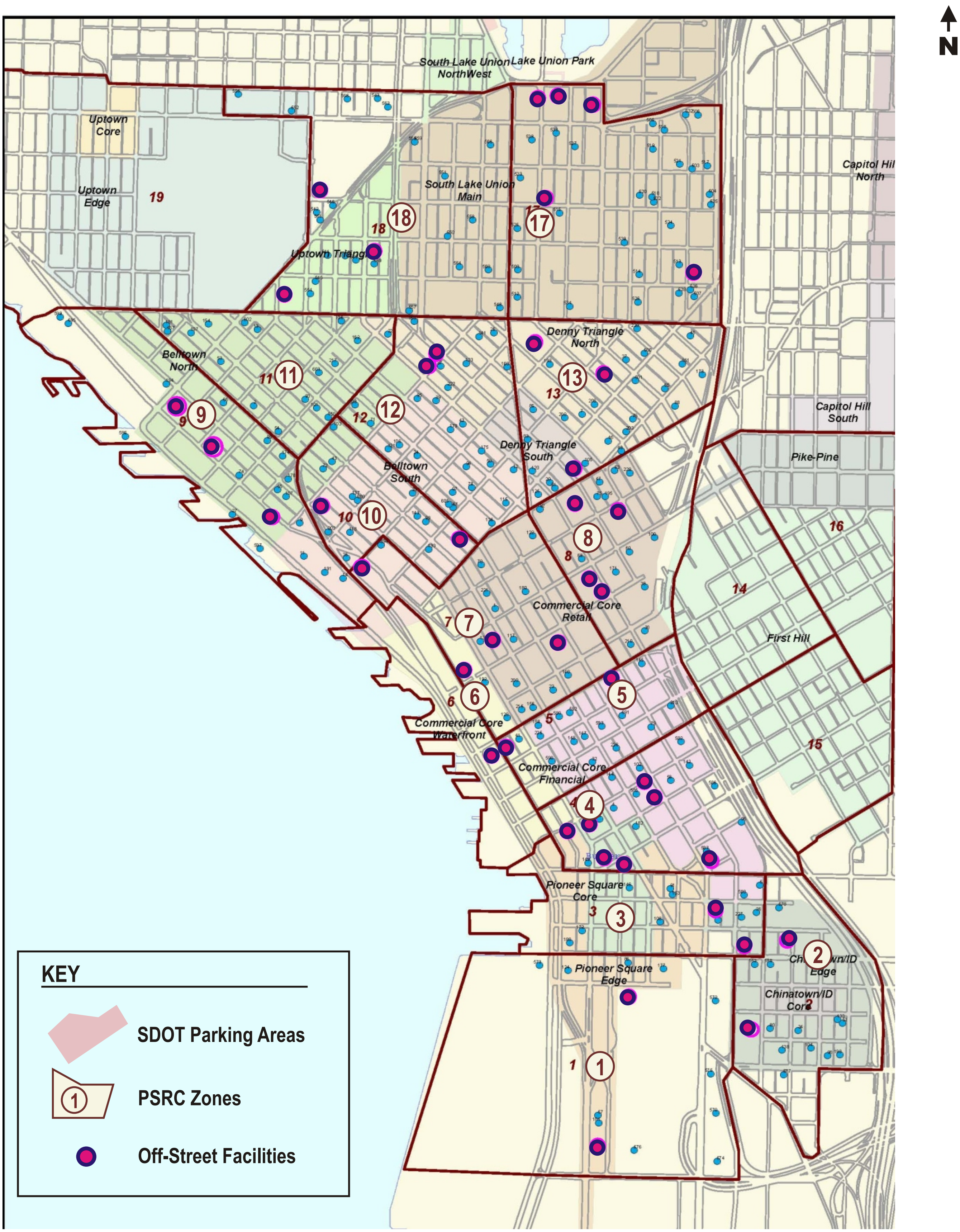
2.1. Parking Areas

Table 1 provides information about the number of facilities and spaces located in each subarea. The comparable PSRC zones are also identified. Table 1 defines the number of facilities and parking spaces that are available for public parking Monday through Friday between the hours of 8:30 A.M. and 6:00 P.M. The number of parking spaces fluctuates on the weekend. Some public facilities are closed and some facilities with parking spaces reserved during the workweek are available to the public in the evenings and on the weekends. During the survey, sections of two surface lots—with a total of 50 parking spaces—were occupied by construction activity. For those facilities, only the supply available on the day of the occupancy counts was included. At two facilities, access was denied but occupancy data were provided by the attendant.

Evening and weekend data collection were performed for a sample of key facilities in each subarea. The off-street sample sites were selected to represent a mix of small and large facilities as well as surface parking lots and garages. These locations are shown in Figure 2. Specific information about each facility is included in the Appendix.

2.2. Changes from 2014

The 2014 study focused on surveying all publicly-available facilities in the Commercial Core and a sample of facilities outside the Commercial Core. The 2016 study performed weekday surveys at all publicly-available off-street facilities in the entire study area, and evening and weekend surveys at a sample of facilities in all areas. A comparison of results for facilities covered by both the 2014 and 2016 surveys are provided in Section 4.



2016 DOWNTOWN OFF-STREET PARKING SURVEY

Figure 2
Locations of Off-Street Facilities For Weekend Data Collection

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Table 1. Downtown Off-Street Parking Areas

Core Commercial Areas	Comparable PSRC Zones	Number of Off-Street Parking Facilities			Number of Parking Spaces		
		Available [a]	Inventoried [b]	% Inventoried	Available [a]	Inventoried [b]	% Inventoried
Financial	4, 5	31	28	91%	8,536	8,165	96%
Retail	7, 8	34	34	100%	12,197	12,197	100%
Waterfront	6	10	10	100%	2,000	2,000	100%
Total Commercial Core		*75*	*72*	*96%*	*22,733*	*22,362*	*98%*
Outside Core Areas							
Uptown Triangle	18	6	6	100%	629	629	100%
South Lake Union [c]	17,18	33	27	82%	6,867	3,406	50%
Belltown North	9,11	23	23	100%	3,832	3,832	100%
Belltown South	10, 12	28	28	100%	3,347	3,347	100%
Denny Triangle North	12, 13	24	23	96%	4,294	4,264	99%
Denny Triangle South	13	7	7	100%	1,710	1,710	100%
Pioneer Square Core	3, 4	6	6	100%	1,294	1,294	100%
Pioneer Square Edge	1, 3	12	12	100%	2,721	2,721	100%
Stadium	1	4	4	100%	2,734	2,734	100%
Chinatown/ID Core [d]	2	0	0	0%	0	0	0%
Chinatown/ID Edge	2, 3	13	13	100%	813	813	100%
Total for Areas Outside Core		*156*	*149*	*96%*	*28,241*	*24,750*	*88%*
Additional Facilities							
Belltown North - Waterfront	9	3	2	67%	359	330	92%
Uptown Edge (Northeast)	18	7	7	100%	2,485	2,485	100%
Total for Additional Facilities		*10*	*9*	*90%*	*2,844*	*2,815*	*99%*
Total All Areas		241	230	95%	53,818	49,927	93%

Source: Heffron Transportation, Inc., August 2016.

a. 'Number of Facilities Surveyed' includes off-street facilities accessible to the public during the workday between 8:30 A.M. and 6:00 P.M.

b. Some garages were secured or access was denied by garage management.

c. Six garages in buildings occupied by Amazon could not be accessed due to security. The total supply, 3,461 spaces, at these garages was not field checked.

d. There were no public off-street facilities identified by SDOT in the Chinatown/ID Core area; existing facilities in this neighborhood are typically reserved for business-specific customers.

2.3. Data Collection

Parking occupancy counts were performed over a four-week period between June 1, 2016 and June 24, 2016 during the following times:

- Weekday: Monday through Thursday, mornings between 8:45 A.M. and 12:00 P.M., and afternoons between 12:45 P.M. and 3:30 P.M.
- Weekend Evenings: Friday evening between 6:00 P.M. and 8:00 P.M.
- Weekends: Saturday afternoons between 11:30 A.M. and 2:30 P.M.

In addition, the parking supply of each garage was confirmed, and data were collected regarding hours of operation, rates, and parking space attributes. Detailed data collected for this study are available in external databases and spreadsheets.

3. Survey Results

The parking survey data were compiled to show various metrics for each of the sixteen subareas. The following tables summarize the results and show:

Table 2. Off-Street Parking Occupancy Survey Results, Weekday Data – This table summarizes parking utilization for each subarea during the weekday periods. Parking utilization is defined as the number of parked vehicles divided by the number of available parking spaces.

Table 3. Off-Street Parking Occupancy Survey Results, Weekend Data – This table summarizes parking utilization for the evening and weekend periods. The locations of the 12 facilities included in the sample are shown on Figure 2. Some off-street facilities are closed during the evenings and weekends; thus, the number of available parking spaces fluctuates between survey time periods.

Table 4. Average Rates for Off-Street Parking – This table summarizes the average posted parking rates for each subarea for various lengths of stays. Posted rates do not apply to customers who may have a monthly parking pass.

Table 5. Parking by Type of Space – This table summarizes the various types of spaces that were designated in the surveyed garages.

Table 6. Utilization by Type of Space – This table summarizes parking utilization by type of space.

Table 2. Off-Street Parking Occupancy Survey Results – Weekday Data

Core Commercial Areas	Number of Facilities Surveyed [a]	Number of Available Spaces [b]	Weekdays – Morning % Utilized	Weekdays – Morning Unused Spaces [c]	Weekdays – Afternoon % Utilized	Weekdays – Afternoon Unused Spaces [c]
Financial	28	8,165	77%	1,854	74%	2,261
Retail	34	12,197 [e]	64%	4,358	69%	3,796
Waterfront	10	2,000	68%	643	69%	627
Total Commercial Core	*72*	*22,362*	*69%*	*6,855*	*71%*	*6,684*
Areas outside Core						
South Lake Union	27	3,406	55%	1,545	62%	1,280
Uptown Triangle	6	629	61%	243	70%	190
Belltown North	23	3,832	68%	1,230	69%	1,197
Belltown South	28	3,347	68%	1,078	75%	842
Denny Triangle North	23	4,264 [e]	67%	1,428	68%	1,356
Denny Triangle South	7	1,710	74%	445	74%	449
Pioneer Square Core	6	1,294	83%	221	84%	204
Pioneer Square Edge	12	2,721	70%	816	73%	742
Stadium	4	2,734	41%	1,611	47%	1,462
Chinatown/ID Core [d]	0	--	--	--	--	--
Chinatown/ID Edge	13	813	62%	313	64%	293
Total for Subareas Outside Core	*149*	*24,827*	*64%*	*8,930*	*68%*	*8,015*
Additional Facilities						
Belltown North - Waterfront	2	330	69%	102	70%	100
Uptown Edge (Northeast)	7	2,485	35%	1,610	39%	1,517
Total for Additional Facilities	*9*	*2,815*	*39%*	*1,712*	*43%*	*1,617*
Total All Areas	230	49,927	65%	17,497	67%	16,316

Source: Heffron Transportation, Inc., June 2016.

a. 'Number of Facilities Surveyed' includes off-street facilities accessible to the public during the workday between 8:30 A.M. and 6:00 P.M.

b. 'Available Spaces' indicate total supply for the surveyed facilities.

c. Unused spaces represent the number of spaces where vehicles are not parked.

d. There were no public off-street facilities identified by SDOT in the Chinatown/ID Core area.

e. The available spaces in these facilities reflect the actual supply observed in the field. Some surface lot spaces were blocked by construction.

Table 3. Off-Street Parking Occupancy Survey Results – Weekend Data

Core Commercial	Weekend Evenings				Saturday Midday			
	Number of Facilities Surveyed [a]	Number of Available Spaces [a]	% Utilized	Unused Spaces [b]	Number of Facilities Surveyed	Number of Available spaces [a]	% Utilized	Unused Spaces [b]
Commercial Financial	4	814	26%	600	4	814	29%	580
Retail	6	4,103	42%	2,393	6	4,103	42%	2,397
Waterfront	3	773	41%	459	2 [c]	652	67%	218
TOTAL	12	5,690	39%	3,452	12	5,569	43%	3,195
Areas outside Core								
South Lake Union	6	1,517	17%	1,252	6	1,517	16%	1,267
Uptown Triangle	2	518	38%	323	2	518	42%	300
Belltown North	3	2,159	29%	1,538	3	2,159	32%	1,478
Belltown South	3	539	30%	375	3	539	50%	268
Denny Triangle North	4	943	17%	785	4	943	25%	704
Denny Triangle South	1	597	10%	537	1	597	10%	537
Pioneer Square Core	3	829	29%	590	3	829	31%	573
Pioneer Square Edge	3	1,318	33%	878	3	1,318	30%	924
Stadium	0	--	--	--	0	--	--	--
Chinatown/ID Core [d]	--	--	--	--	--	--	--	--
Chinatown/ID Edge	4	520	51%	253	4	520	63%	190
TOTAL	30	8,940	27%	6,531	30	8,940	30%	6,241
Additional Facilities								
Belltown North - Waterfront	0	0	0	0	0	0	0	0
Uptown Edge (Northeast)	1	841	27%	610	1	841	35%	548
TOTAL	1	841	27%	610	1	841	35%	548

Source: Heffron Transportation, Inc., June 2016.

a. Weekend and evening surveys were performed for a sample of all parking facilities. Available spaces indicate the total supply for the facilities surveyed.

b. Unused spaces represent the number of spaces where vehicles are not parked.

c. Attendant would not permit counts on Saturday midday at one of the facilities.

d. There were no public off-street facilities identified by SDOT in the Chinatown/ID Core area

Table 4. Average Rates for Weekday Off-Street Parking

Commercial Core Area	Number of Facilities [a]	Average Parking Rate				Early Bird Program [b]	
		2-Hour	4 Hour	All Day	Overnight	% Offering Early Bird	Average Early-Bird Rate
Financial	29	$15.23	$22.33	$32.75	$26.39	52%	$14.21
Retail	33	$12.77	$19.33	$30.60	$32.04	53%	$18.26
Waterfront	10	$10.32	$18.53	$29.94	$40.75	60%	$13.04
Areas outside Core							
Uptown Triangle	6	$8.40	$14.87	$19.38	none	67%	$7.14
South Lake Union	24	$7.53	$13.67	$19.89	$15.27	7%	$6.74
Belltown North	23	$7.06	$12.76	$19.02	$14.62	48%	$9.43
Belltown South	27	$11.27	$16.48	$24.26	$22.56	44%	$14.99
Denny North	23	$10.65	$16.73	$26.37	$21.39	52%	$14.92
Denny South	7	$11.71	$18.29	$27.73	$27.43	57%	$15.25
Pioneer Square Core	6	$12.33	$19.17	$36.00	$10.33	83%	$16.30
Pioneer Square Edge	11	$11.64	$19.45	$28.00	$18.75	36%	$15.19
Stadium	4	$7.75	$11.25	$16.75	None	75%	$11.67
Chinatown/ID Edge	13	$8.10	$12.05	$18.95	$12.06	31%	$11.69
Additional Facilities							
Belltown North - Waterfront	2	$9.00	$13.50	$20.50	$24.00	0%	--
Uptown Edge (Northeast)	7	$8.86	$12.86	$11.60	$7.00	0%	--

Source: Heffron Transportation, Inc., June 2016

a. Number of Facilities indicates facilities with posted rates.

b. Applies to customers who arrive before a set time in the morning and typically park all day.

Table 5. Parking by Type of Space

	All Space Types [a]		EV Stations		Disabled		Carpool		Vanpool		Load/Unload		Carshare		Valet		Reserved	
Commercial Core	Number of Facilities	Total Spaces	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total	Spaces	% of Total
Financial	26	7,665	44	0.5%	156	2.0%	26	0.3%	2	0.0%	20	0.3%	9	0.1%	864	11.3%	1,016	13.3%
Retail	34	12,067	45	0.4%	212	1.8%	84	0.7%	13	0.1%	38	0.3%	17	0.1%	461	3.8%	647	5.4%
Waterfront	10	2,000	2	0.1%	33	1.7%	0	0.0%	0	0.0%	4	0.2%	10	0.5%	73	3.7%	62	3.1%
Areas Outside Core																		
Uptown Triangle	6	706	0	0.0%	16	2.5%	2	0.3%	0	0.0%	0	0.0%	4	0.6%	28	4.5%	70	11.1%
South Lake Union	27	3,406	15	0.4%	81	2.4%	0	0.0%	58	1.7%	9	0.3%	4	0.1%	0	0.0%	514	15.1%
Belltown North	26	3,832	0	0.0%	79	2.1%	4	0.1%	0	0.0%	0	0.0%	17	0.4%	192	5.0%	156	4.1%
Belltown South	30	3,347	7	0.2%	54	1.6%	2	0.1%	0	0.0%	8	0.2%	19	0.6%	95	2.8%	166	5.0%
Denny North	23	4,264	14	2.0%	87	2.0%	114	2.7%	0	0.0%	0	0.0%	9	0.2%	59	1.4%	131	3.1%
Denny South	7	1,710	5	0.3%	42	2.5%	0	0.0%	17	1.0%	4	0.2%	2	0.1%	0	0.0%	363	21.2%
Pioneer Square Core	6	1,294	2	0.1%	25	1.9%	0	0.0%	0	0.0%	0	0.0%	8	0.6%	234	18.1%	128	9.9%
Pioneer Square Edge	12	2,721	16	0.6%	50	1.8%	20	0.7%	40	1.5%	0	0.0%	6	0.2%	200	7.4%	112	4.1%
Stadium	4	2,734	5	0.2%	46	1.7%	0	0.0%	4	0.1%	6	0.2%	0	0.0%	0	0.0%	189	6.9%
Chinatown/ID Edge	13	813	0	0.0%	16	2.0%	10	1.2%	0	0.0%	0	0.0%	4	0.5%	0	0.0%	72	8.9%
Additional Facilities																		
Belltown North - Waterfront	2	330	0	0.0%	7	2.1%	0	0.0%	0	0.0%	2	0.6%	0	0.0%	0	0.0%	27	8.2%
Uptown Edge (Northeast)	7	2,485	3	0.1%	70	2.8%	0	0.0%	5	0.2%	0	0.0%	3	0.1%	0	0.0%	56	2.3%

Source: Heffron Transportation, Inc., June 2016.

a. Number of facilities surveyed. Facilities were not included if space type information was not available or data collectors were not permitted to count occupancy.

Table 6. Utilization by Type of Parking Space

	Percent Utilization by Space Type																			
	All Space Types [a]		EV Stations		Disabled		Carpool		Vanpool		Load/Unload		Carshare		Valet		Reserved			
Commercial Core	# of Facilities	Total Spaces	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon		
Financial	26	7,665	57%	66%	42%	46%	85%	19%	0%	0%	5%	0%	67%	44%	85%	64%	74%	58%		
Retail	34	12,067	33%	36%	35%	45%	35%	61%	100%	100%	45%	39%	59%	64%	61%	25%	47%	43%		
Waterfront	10	2,000	0%	0%	21%	39%	-- [b]	--	--	--	0%	0%	90%	70%	41%	0%	21%	18%		
Areas Outside Core																				
Uptown Triangle	6	706	--	--	0%	0%	100%	100%	--	--	--	--	50%	50%	0%	0%	27%	26%		
South Lake Union	27	3,406	67%	67%	11%	17%	--	--	88%	88%	11%	0%	50%	50%	--	--	54%	65%		
Belltown North	26	3,832	--	--	8%	5%	0%	0%	--	--	--	--	6%	6%	0%	0%	36%	33%		
Belltown South	30	3,347	29%	0%	26%	11%	100%	100%	--	--	0%	0%	84%	26%	77%	39%	57%	31%		
Denny North	23	4,264	29%	79%	20%	13%	60%	61%	--	--	--	--	56%	56%	25%	31%	47%	71%		
Denny South	7	1,710	60%	60%	33%	36%	--	--	65%	76%	0%	50%	100%	100%	--	--	91%	91%		
Pioneer Square Core	6	1,294	0%	0%	28%	32%	--	--	--	--	--	--	25%	38%	78%	74%	48%	55%		
Pioneer Square Edge	12	2,721	63%	75%	28%	32%	0%	0%	0%	0%	--	--	50%	67%	54%	53%	84%	77%		
Stadium	4	2,734	80%	40%	15%	28%	--	--	75%	25%	33%	17%	--	--	--	--	78%	72%		
Chinatown/ID Edge	13	813	--	--	50%	50%	0%	0%	--	--	--	--	75%	100%	--	--	65%	71%		
Additional Facilities																				
Belltown North - Waterfront	2	330	100%	67%	43%	43%	--	--	100%	100%	--	--	67%	100%	--	--	32%	50%		
Uptown Edge (Northeast)	7	2,485	--	--	43%	43%	--	--	--	--	100%	0%	--	--	--	--	78%	63%		

Source: Heffron Transportation, Inc., June 2016.

a. Number of facilities surveyed. Facilities were not included if space type information was not available or data collectors were not permitted to count occupancy.

b. '—' indicates that there was no available supply of that particular space type.

4. Comparison of 2014 and 2016 Survey Results

As mentioned previously, the 2016 Off-Street Parking Survey was an updated and expanded version of the 2014 Off-Street Survey. To assess changes in supply and occupancy between the two study years, a comparison of facilities that were surveyed in both years was performed. In total, 98 facilities with over 30,000 parking spaces were surveyed in both the 2014 and 2016 studies. Table 7, Figure 3, and Figure 4 shown below summarize the following information:

Table 7. Comparison of Off-Street Parking Supply and Occupancy – This table compares parking supply and occupancy for facilities that were surveyed in both 2014 and 2016. Overall, the parking supply in the 98 facilities decreased by about 0.1% between the two years. The occupancy decreased by 3.6% during the morning period and by 5.5% during the afternoon. The decreased occupancy inside the Commercial Core area was slightly less than outside of the Commercial Core area.

Table 8. **Supply Reduction Between 2014 and 2016 –** This table summarizes facilities that were counted in 2014 but no longer existed in 2016. These facilities may currently be under construction or replaced by new construction in the future that includes garage parking. Between 2014 and 2016 eleven (11) facilities with a total of 756 spaces were removed. The majority of the spaces removed were located in the Commercial Core subareas.

Figure 3. Commercial Core Utilization: 2014 and 2016 Comparison – This chart compares the utilization of off-street parking spaces in the Commercial Core for facilities that were surveyed in both 2014 and 2016. A shown, except for morning utilization in the Financial Subarea, there has been an overall decrease in utilization in all subareas of the Commercial Core. As previously noted, the parking supply changed very little; therefore, it is reasonable to compare the utilization rates by subarea.

Figure 4. **Outside the Commercial Core Utilization: 2014 and 2016 Comparison –** This chart compares the utilization of off-street parking spaces outside the Commercial Core for facilities that were surveyed in both 2014 and 2016. In 2014, South Lake Union, Uptown Triangle, Belltown North - Waterfront, Uptown Edge (Northeast), and Stadium were not included in the survey. These subareas are not included in Figure 4.

Table 7. Comparison of 2014 and 2016 Off-Street Parking Supply and Occupancy

Core Commercial Areas	Number of Facilities [a]	Parking Supply 2014	Parking Supply 2016	Morning Occupancy 2014	Morning Occupancy 2016	Afternoon Occupancy 2014	Afternoon Occupancy 2016
Financial	21	6,603	6,612	5,041	5,333	5,150	4,978
Retail	30	11,656	11,615	8,219	7,473	8,518	8,038
Waterfront	10	2,000	2,000	1,383	1,357	1,517	1,373
Total Commercial Core	*61*	*20,259*	*20,227*	*14,643*	*14,163*	*15,185*	*14,389*
% Change			*-0.2%*		*-3.2%*		*-5.2%*
Areas Outside Core							
Belltown North	6	2,653	2,619	1,616	1,807	1,664	1,788
Belltown South	10	2,062	2,111	1,627	1,364	1,633	1,526
Denny Triangle North	8	2,103	2,103	1,357	1,097	1,567	1,321
Denny Triangle South	2	677	677	574	454	570	432
Pioneer Square Core	3	803	783	439	656	592	684
Pioneer Square Edge	5	1,357	1,357	997	900	1,096	967
Chinatown/ID Core [d]	0	0	0	0	0	0	0
Chinatown/ID Edge	3	472	472	219	264	313	275
Total Outside Core	*37*	*10,127*	*10,122*	*6,829*	*6,542*	*7,435*	*6,993*
% Change			*-0.05%*		*-4.2%*		*-5.9%*
Total All Areas	98	30,386	30,349	21,472	20,705	22,620	21,382
% Change			*-0.1%*		*-3.6%*		*-5.5%*

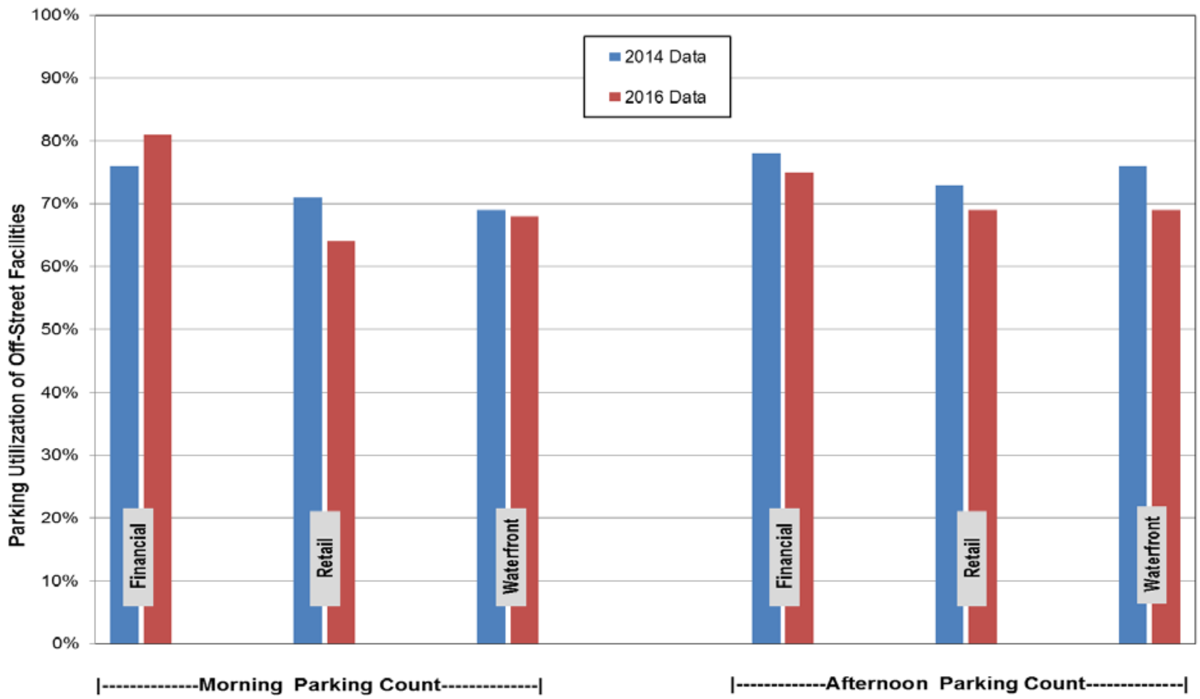
Source: Heffron Transportation, Inc., June 2016.
a. 'Number of Facilities Surveyed' includes off-street facilities accessible to the public during the workday between 8:30 A.M. and 6:00 P.M.

Table 8. Supply Reduction between 2014 and 2016 Parking Surveys

Core Commercial Areas	Number of Facilities Eliminated	Number of Spaces Eliminated
Financial	1	70
Retail	2	162
Waterfront	2	150
Total Commercial Core	*5*	*382*
Areas Outside Core		
Belltown North	None Identified	--
Belltown South	1	77
Denny Triangle North	1	121
Denny Triangle South	None Identified	--
Pioneer Square Core	1	130
Pioneer Square Edge	2	22
Chinatown/ID Core [d]	--	--
Chinatown/ID Edge	1	24
Total Outside Core	*6*	*374*
Total All Areas	*11*	756

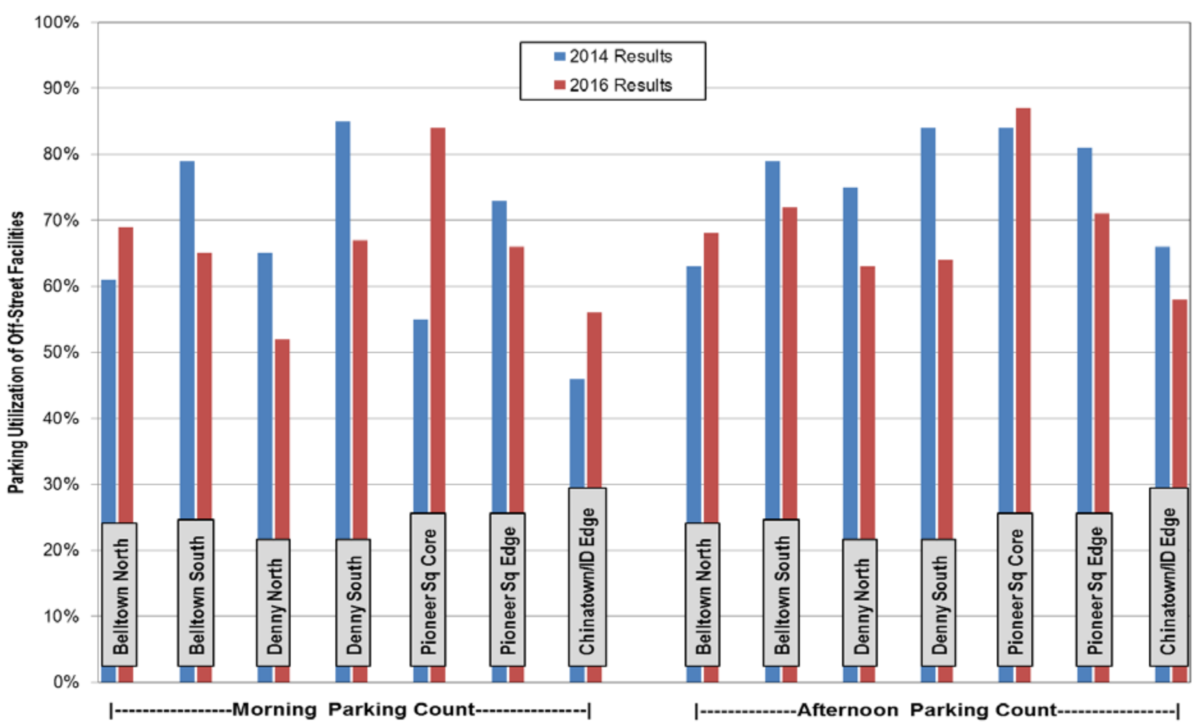
Source: Heffron Transportation, Inc., June 2016.
Note: Facilities that were not surveyed in 2014 but were identified as not existing in 2016 are not included.

Figure 3. Commercial Core Utilization: 2014 and 2016 Comparison



Source: Data collected by Heffron Transportation, Inc. in June 2014 and June 2016.

Figure 4. Outside Commercial Core Utilization: 2014 and 2016 Comparison



Source: Heffron Transportation, Inc., June 2016.

Facilities surveyed in both 2014 and 2016 showed a decrease in parking occupancy over the two-year period. Overall, parking occupancy during the afternoon period decreased by about 5%. Outside of the Commercial Core area, two subareas experienced increased occupancy: Belltown North (+7.5%) and Pioneer Square Core Subarea (+15.5%). The parking supply in these two subareas also decreased slightly between 2014 and 2016, which likely factors into the increased utilization rates shown in Figure 4. The highest increase in occupancy occurred in Pioneer Square during the morning period, which is likely related to increased daytime employment in or near the neighborhood. Morning occupancy in that neighborhood is now similar to afternoon occupancy.

5. Off-Street Facilities with CTR and TMP Requirements

As part of the 2016 Downtown Off-Street Study, additional data related to carpool and vanpool parking supply and occupancy were collected for buildings that have Transportation Management Plans (TMP) and/or are occupied by Commute Trip Reduction (CTR) affected employers. TMPs are imposed by the City of Seattle as part of the building permitting and environmental review process under the State Environmental Policy Act (SEPA), and CTR is a state requirement that applies to businesses with more than 100 employees. The goal of both is to reduce single-occupant vehicle commute trips.

One tool often used to reduce trips is to encourage use of carpooling and vanpooling, and providing reserved spaces for carpool and vanpool vehicles. A TMP, which is applied as part of the permit to construct the building, can have requirements for a specific number of designated carpool or vanpool spaces. Facilities occupied by a CTR-affected employer may provide carpool spaces even if it was not a specific permit requirement. Of the 57 facilities in the study area that are subject to a TMP or are occupied by CTR-affected employers, only 11 are identified as required to designate carpool and vanpool spaces by their TMPs. Of those, eight provide no carpool or vanpool parking on site. Thirteen of the surveyed facilities provide some designated carpool or vanpool parking, meaning ten of the facilities provide carpool parking even though it is not required.

Facilities that are subject to a TMP or CTR plan were identified by SDOT.[1] The number of carpool and vanpool spaces at each of those facilities was collected along with utilization of those spaces. Since some of these spaces may convert to regular spaces after 10:30 A.M., occupancy was observed during the morning between 9:00 A.M. and 10:30 A.M.

The morning occupancy at off-street facilities in the study area that have either CTR or TMP plans are summarized in Table 9. As shown, two subareas, Waterfront and Chinatown/ID Edge, have no TMP or CTR-affected facilities. Of the total 250 carpool parking spaces in the study area, 48% were utilized. Of the 121 vanpool parking spaces, 60% were utilized. Table 10 summarizes the utilization of carpool and vanpool spaces based on the type of plan (i.e., TMP or CTR.) The highest utilization of carpool spaces, 61%, occurred in the afternoon at facilities with TMPs. The highest utilization of vanpool spaces, 94%, occurred in the morning at facilities with TMPs. The lowest carpool and vanpool utilization rates were in facilities with both TMP and CTR plans.

[1] Database that matched CTR/TMP requirements and off-site parking by address, SDOT, October 2016.

Table 9. Off-Street Parking Occupancy for Carpool and Vanpool Spaces – Morning Peak Period

Core Commercial Areas	Number of facilities with CTR or TMP [a]	# with TMP requirement for carpool spaces [b]	Carpool		Vanpool	
			Reserved Spaces [c]	% Utilized [d]	Reserved Spaces [c]	% Utilized [d]
Financial	13	2	26	85%	2	0.0%
Retail	17	5	84	35%	13	100%
Waterfront	0	0	--	--	--	--
Total Commercial Core	*30*	*7*	*110*	*46%*	*15*	*87%*
Areas outside Core						
South Lake Union	6	0	0	--	49	90%
Uptown Triangle	1	0	2	100%	0	--
Belltown North	4	1	4	0%	0	--
Belltown South	1	0	0	--	0	--
Denny Triangle North	8	2	114	60%	0	--
Denny Triangle South	4	0	0	--	17	65%
Pioneer Square Core	1	0	0	--	0	--
Pioneer Square Edge	2	0	20	--	40	0%
Chinatown/ID Core [d]	0	0	--	--	--	--
Chinatown/ID Edge	0	0	--	--	--	--
Total for Subareas Outside Core	*27*	*4*	*140*	*50%*	*106*	*57%*
Additional Facilities						
Belltown North - Waterfront	0	0	--	--	--	--
Uptown Edge (Northeast)	0	0	--	--	--	--
Total for Additional Facilities	*0*	*0*	--	--	--	--
Total All Areas	57	11	250	48%	121	60%

Source: Heffron Transportation, Inc., June 2016.

a. Facilities with a TMP or CTR-affected businesses were identified by SDOT.

b. Based on TMP program reports as compiled in the SDOT Database of Individual TMP Element Requirements, updated June 2016.

c. "Reserved Spaces' indicate those that were reserved for a carpool or vanpool prior to 10:30 A.M. These do not reflect the total number of spaces required by the TMPs.

d. Occupancy surveyed between 9:00 and 10:30 A.M. on weekdays.

Table 10. Utilization of Carpool and Vanpool Spaces by Type of Plan

Plan Type	Number of Facilities [a]	Number of Spaces		Morning Utilization		Afternoon Utilization	
		Carpool	Vanpool	Carpool	Vanpool	Carpool	Vanpool
CTR	27	7	49	0%	90%	0%	92%
TMP	16	114	17	60%	94%	61%	76%
CTR and TMP	14	129	55	41%	24%	45%	24%

Source: Heffron Transportation, Inc., June 2016.

a. Facilities with a TMP or CTR-affected businesses were identified by SDOT.

b. 'Available Spaces' indicate those that were reserved for a carpool or vanpool prior to 10:30 A.M.

There are a few off-street facilities in the study area that have carpool and/or vanpool spaces even though no TMP or CTR plan is associated with the facility. Belltown South, Chinatown/ID, Stadium, and Uptown Edge (Northeast) each have one facility with such carpool and/or vanpool spaces. There are two facilities in South Lake Union with such vanpool spaces.

6. Findings

The following summarizes the findings of the 2016 Downtown Off-Street Parking Study. Comparisons between the 2014 and 2016 studies are included. Future studies could help identify if the variations in utilization rates represent trends.

- Weekday parking utilization in the Commercial Core ranged from 68% to 77% in 2016. Similar to the 2014 study, the Financial Subarea experienced the highest utilization.

- Facilities that were surveyed in both 2014 and 2016 showed an overall 5% decrease in parking occupancy over the two-year period. Outside of the Commercial Core Area, two subareas experienced increased occupancy: Belltown North (+7.5%) and Pioneer Square Core Subarea (+15.5%).

- In both 2014 and 2016, weekend and evening utilization was much lower than the weekday utilization for all areas. In 2016, peak weekend utilization occurred along the Waterfront, which was 67% utilized. The second highest utilization on a weekend afternoon, 63%, occurred in the Chinatown/ID Edge Subarea. All other areas had weekend utilization rates of 50% or below.

- In both 2014 and 2016, the cost to park in the Commercial Core, both for the short-term (2 hours) and all-day, was highest in the Financial Subarea. In 2016, the 2- and 4-hour rates increased between \$0.50 and \$1.75 on average in the Commercial Core. The lowest rate increases were in the Retail Subarea, and the highest rate increases were in the Waterfront Subarea. Outside the Commercial Core, the 2-hour and 4-hour rates generally increased between \$0.50 and \$2.00 in all subareas.