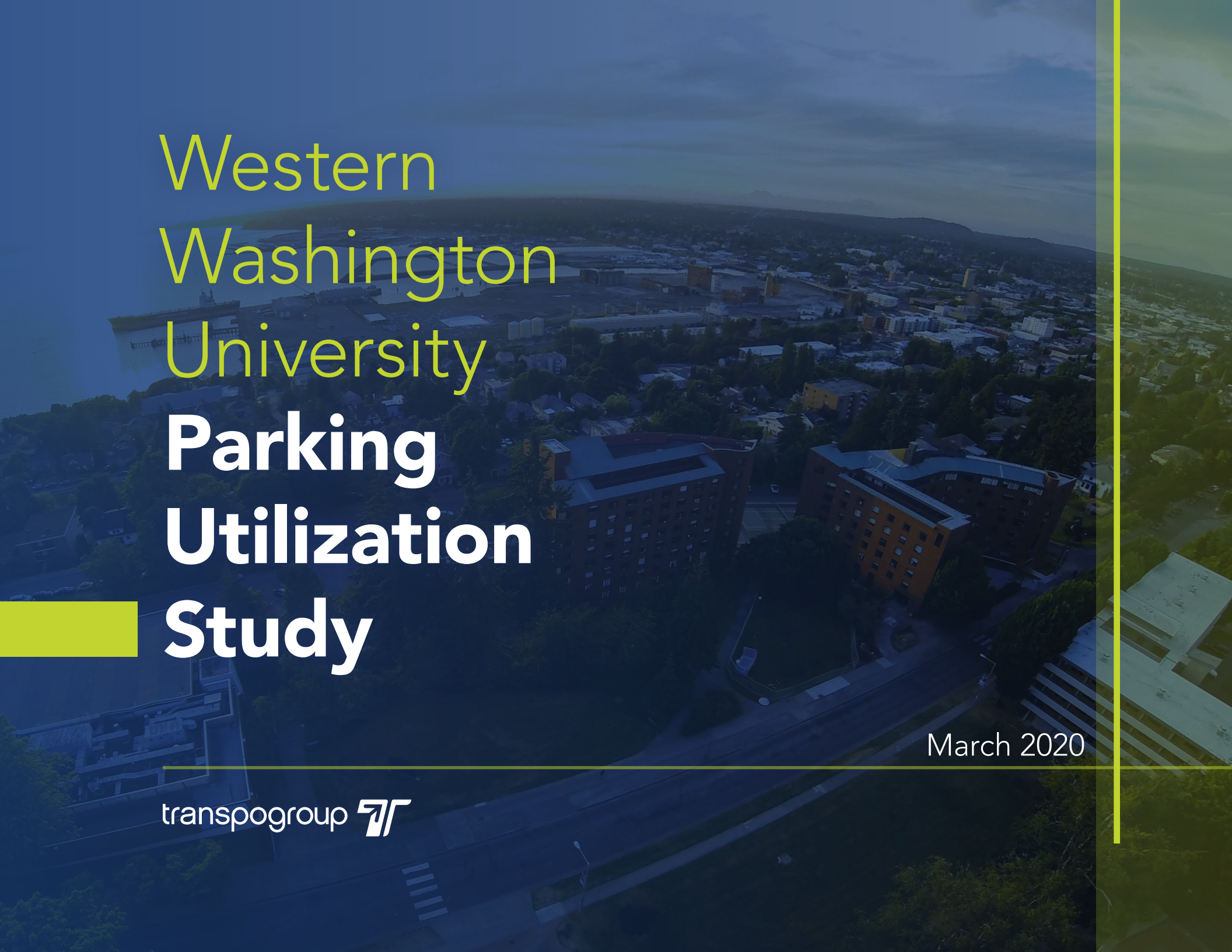


Western Washington University

Parking Utilization Study

March 2020

transpogroup

Prepared for:

Western Washington University

March 2020

Prepared by:

12131 113th Avenue NE #203
Kirkland, WA 98034-7120

Phone: 425-821-3665

Fax: 425-825-8434

www.transpogroup.com

transpogroup
WHAT TRANSPORTATION CAN BE.

Contents

Introduction

The purpose of this Western Washington University (WWU) Parking Utilization Study is to satisfy WWU's agreement with the City to monitor on-campus parking lot utilization rates over time. The study summarizes total campus parking supply and observed occupancy rates for the 2020 count, and also compares the 2020 data with historical data, available from the year 2000. In addition, the study of parking lot utilization at the Lincoln Creek Park and Ride was completed. Utilization associated with this lot has been provided in a separate section and is not included in the on-site analysis.

The total parking supply is defined as the number of available stalls within the study area. The study area includes all parking located on campus as well as campus owned parking lots off campus. A total of 3,229 stalls on campus were included in the survey for this study – designated loading and maintenance stalls were not surveyed. The study does not include motorcycle parking or off-campus parking that may occur on streets or in designated areas such as the Samish drive-in.

Parking occupancy rates are calculated in this report for an average weekday (average of Monday through Thursday observation days), for each individual weekday, for all parking lots and for individual parking lot types. A parking occupancy rate can be defined as the percentage of the parking supply that is observed to be occupied during a given time period. Parking occupancy is reported on an hourly basis.

Methodology

Parking occupancy data was collected for this study by a firm that specializes in traffic data collection. The campus was divided into three areas with three staff members assigned to individual routes through a given area, such that the same person collected data in the same area each day. The data collection staff began their designated routes each hour, on the hour, with counts beginning at 9:00 a.m. each day.

The 2020 parking counts were conducted during the week of January 27th, 2020, which has been identified by WWU as one of the busiest weeks during the school year. Counts were collected from 9:00 a.m. to 5:00 p.m. on Monday, Thursday, and Friday. Twelve-hour counts (9:00 a.m. to 9:00 p.m.) were conducted on Tuesday and Wednesday. Since class schedules often coincide on Mondays and Wednesdays, and again on Tuesdays and Thursdays, the evening counts on a Tuesday and Wednesday represent data from both potential evening class schedules.

Weather during the week of the study consisted of cool temperatures with periods of rain.

R LOTS	CAPACITY
1R	33
3R	118
4R	81
15R	32
18R	96
20R	40
27R	226
Total	**626**

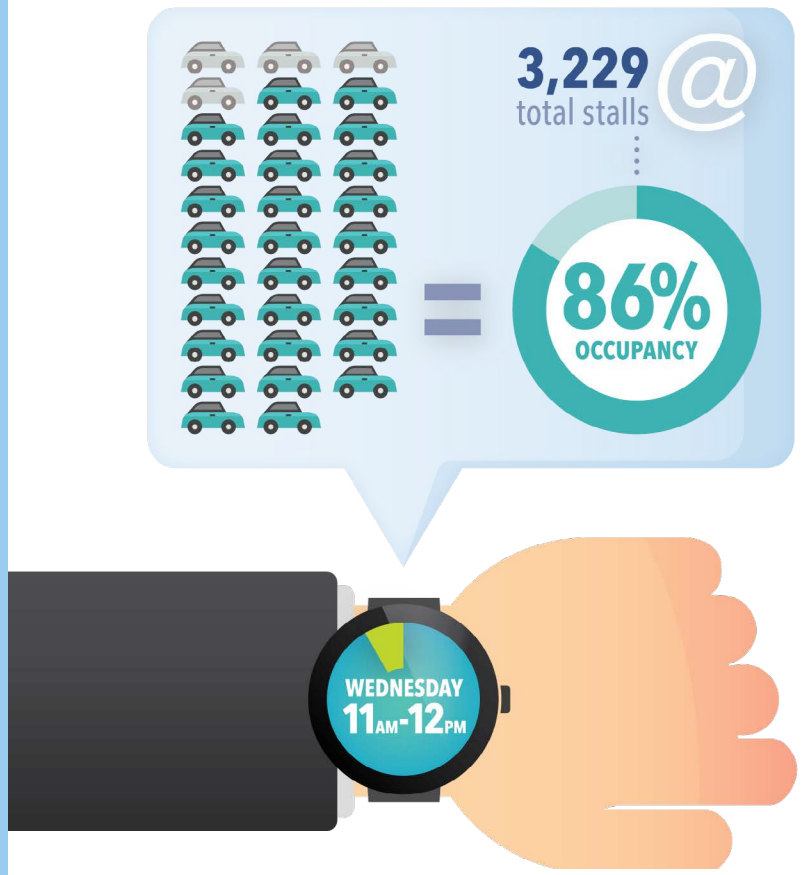
V/C LOTS	CAPACITY
6V	57
23V	26
C (16CR)	1,117
Total	**1,200**

G LOTS	CAPACITY
5G	24
7G	173
8G	26
10G	72
11G	55
12A	319
26 CP	8
13A	31
9G	128
17G	139
19G	99
22G	24
24G	80
25G	18
29G	8
30G	6
32G	80
33G	24
Total	**1,314**

MISC. LOTS	CAPACITY
Armory	8
Edens Service Rd	3
CBS	14
Alumni House	3
Arntzen Ramp	
Bond Hall	7
Fairhaven Service Rd	4
Fuel Dock (10G)	* in 10G
Nash Turnaround	1
Viking Union Service Rd	7
Art Annex (10G)	* in 10G
Ridgeway Service Road	*service vehicles/ ADA only*
VU Dock/VU SRV/Alley	*service vehicles/ ADA only*
Bio Green House	*service vehicles/ ADA only*
ARCHIVES	*service vehicles/ ADA only*
AIC	17
Engineering	25
Total	**89**

Grand Total	**3,229**


Armory
AR
BOULEVARD
4R
6V
N STATE ST
N GARDEN ST
25G
11G
Bond Hall
15R
CBS
9G
HIGHLAND DR
Ridgeway
19G
20R
SV
W COLLEGE WAY
E COLLEGE WAY
16CR
23V
CS
S COLLEGE DR
26CP
29G
12A
FC
Fairhaven
18R
22G
CM
1R
BT
33G
AB
Archives
13A
PP
24G
30G
7G
3R
5G
NA
MA
HG
VC
VU
EH
PA
WL
OM
8G
HS
CH
HH
HU
10G
Red Square
BH
MH
CG
Art Annex
Fuel Dock
FI
SL
SP
RC
CB
ET
Engineering
Artnzen Ramp
BI
AH
Bio Green House
PH
ES
17G
CF
AW
AI
AIC
Sehome Hill Arboretum
27R
Birnam Wood
BILL MCDONALD PKWY
AS
32G
FIELDING AVE
32ND ST
E MAPLE ST
LINCOLN ST
Lincoln Creek Park & Ride
5
ELWOOD AVE
S SAMISH WAY
LEGEND
Parking Lots
WWU Buildings
Water
Parks
Feet
0
500
1,000

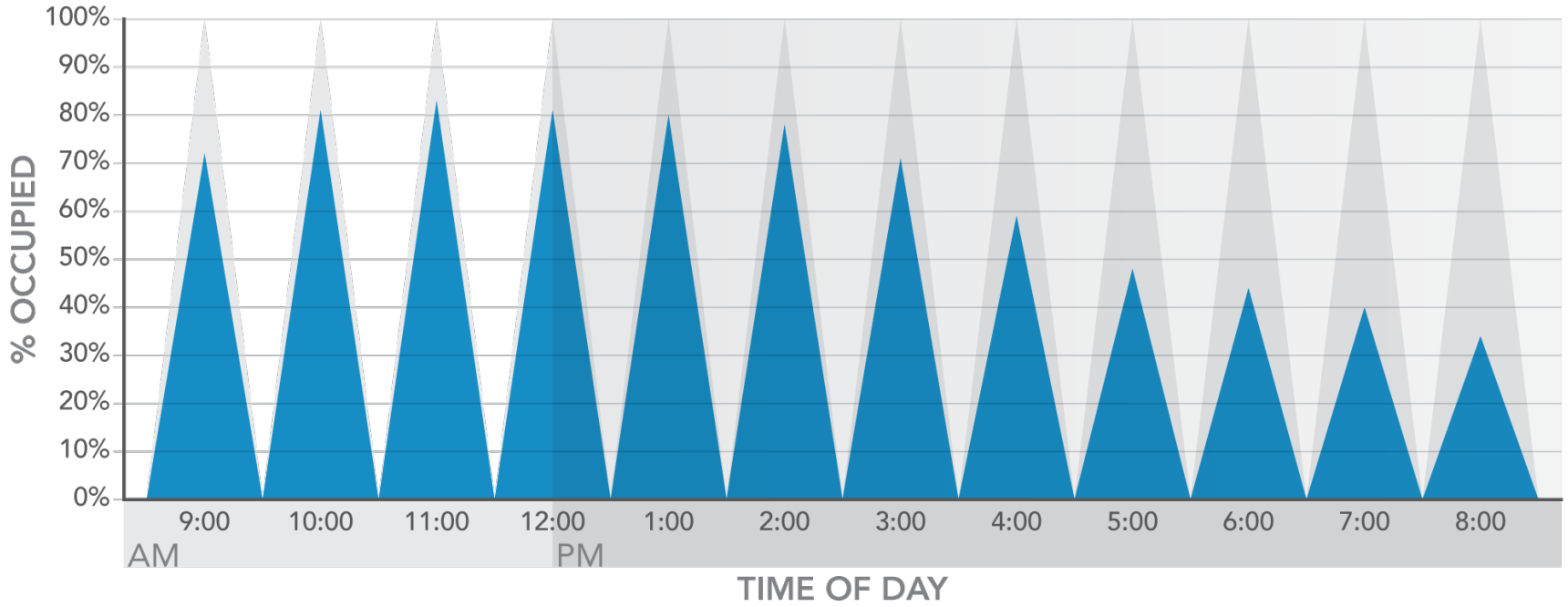


2020 Count Summary

Hourly parking occupancy counts for each individual parking lot on campus were observed during the week of January 27, 2020 and are tabulated by day of week in Appendix A. The total parking supply at the time of the counts (not including motorcycles) for this study was 3,229 stalls.

The day during which the highest parking occupancy was observed was Wednesday, January 29th. The peak hour of the day during which the highest occupancy was observed was 11:00 AM to 12:00 PM; 2,785 parking stalls were observed to be occupied, representing approximately 86 percent of the total parking capacity. The observation of 11:00 AM to 12:00 PM as the peak hour is consistent with observations made in previous years, and has historically occurred on a Wednesday. A more detailed comparison with historic data is presented later in this report.

***Figure 1 Campus Parking** – Average Weekday Hourly Occupancy Rate*



Figures 1 through 6 summarize the results of the 2020 counts. Detailed count data is provided in Appendix A. Figure 1 shows the average weekday occupancy rate of all the parking lots studied (Monday through Friday). The peak occupancy at approximately 83 percent occurs during the 11:00 AM – 12:00 PM time period. During the evening from 5:00 PM to 9:00 PM, less than 50 percent of the stalls are occupied.

Figure 2 illustrates the parking occupancy rate by day of week. The peak hourly occupancy is observed between 11:00 AM to 12:00 PM on every day of the week. The graph illustrates that during that peak time Wednesday; approximately 86 percent of the total WWU campus parking lot supply was observed to be occupied. During the afternoon, after 4:00 p.m. the occupancy rates on Monday through Thursday were observed to be relatively similar. The occupancy rates observed on Friday were lower than other weekdays. During the evening hours observed on Tuesday and Wednesday, the occupancy rate remained at, or below 52 percent.

Figure 2 *Campus Parking: Hourly Occupancy by Day of Week*

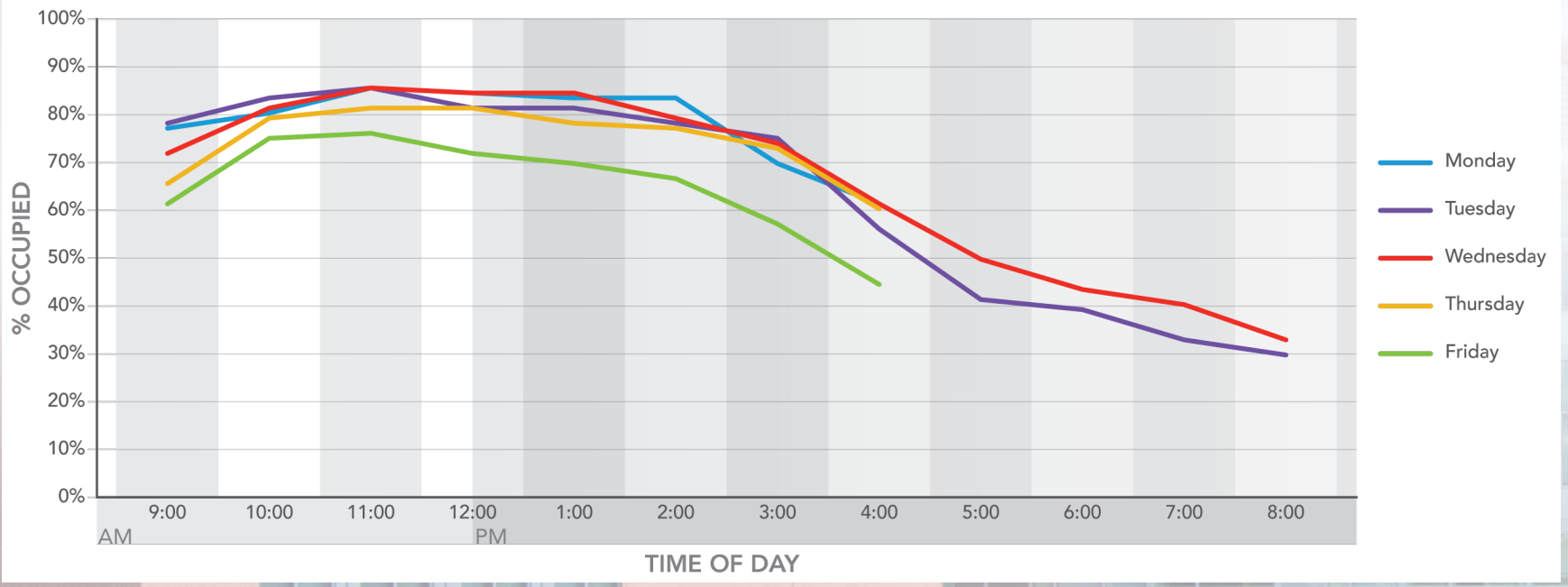


Figure 3 shows the average weekday parking occupancy by lot type - "R", "G" and "V/C". In general, R lots are designated for residential student permits, G lots are designated for staff and visitor permits are also sold to a few G lots, and V/C lots include assigned non-resident student parking and short-term visitor parking. As shown in Figure 3, both the R and G lot types are below 85 percent capacity throughout the day, while the V/C lot types reach 93 percent capacity during the 11:00 am – 12:00 pm hour. The R lots are occupied approximately 76 to 83 percent throughout the day, the G lots are occupied approximately 62 to 81 percent during the daytime hours (9:00 AM to 5:00 PM) and less than 36 percent during the evening hours (after 5:00 PM), and the V/C lots are occupied approximately 52 to 93 percent during the daytime hours (9:00 AM to 5:00 PM) and less than 46 percent during the evening hours (after 5:00 PM).

Figure 3 *Average Weekday Hourly Occupancy by Parking Lot Type*

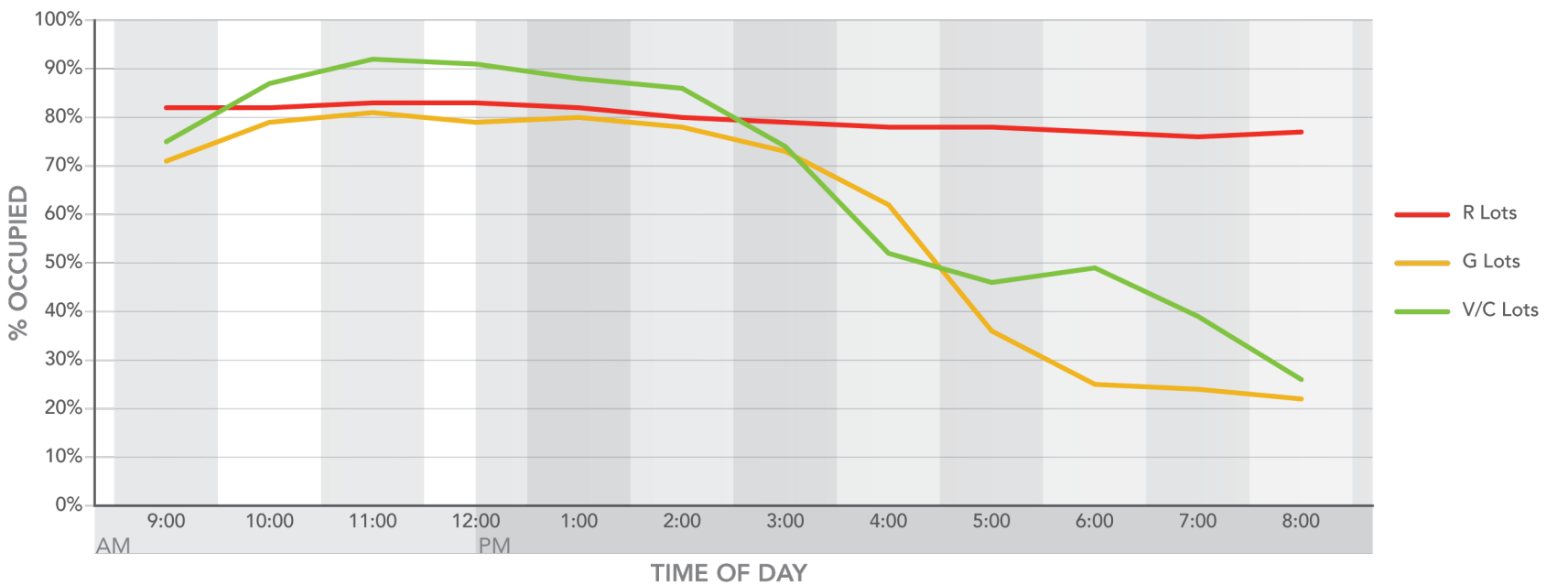
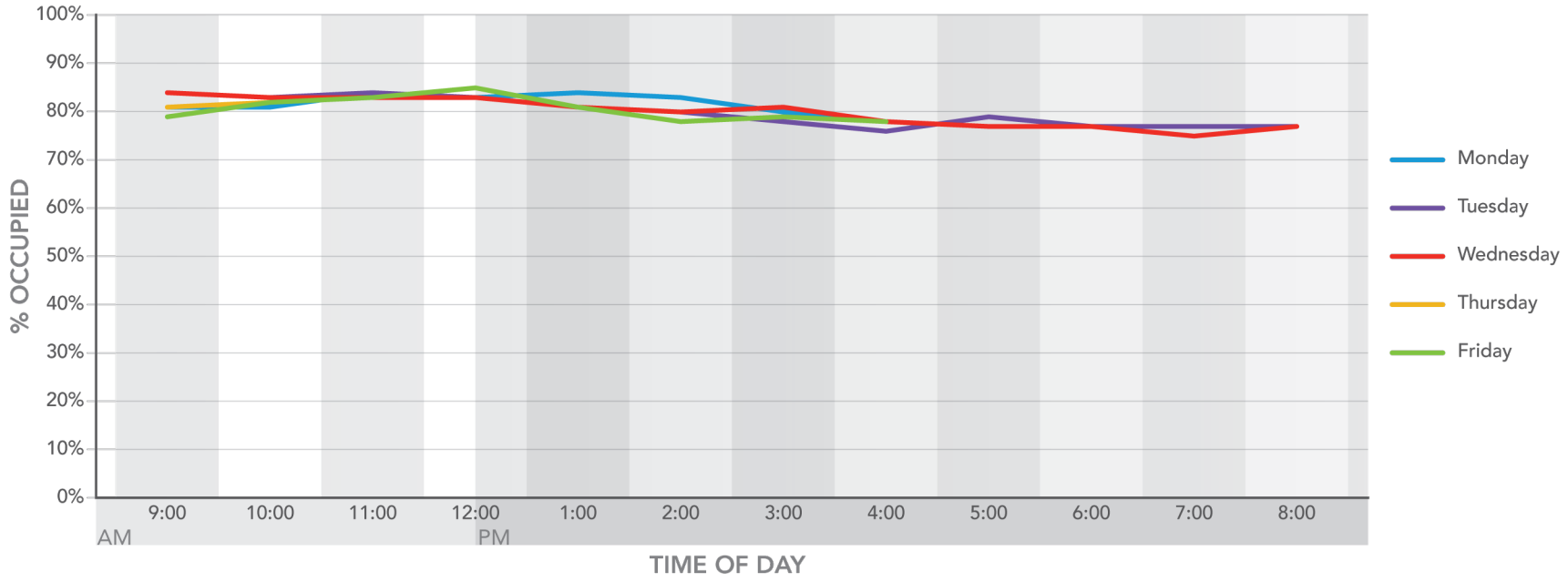


Figure 4 *R Lots: Hourly Occupancy by Day of Week*



Figures 4 through 6 display the observed occupancy by day of week for each lot type – R, G and V/C. Figure 4 shows observed hourly occupancy rates for R lots. Approximately 19 percent (626 stalls) of the campus parking supply is designated R. Observed occupancy rates in the R lots peaked at 85 percent during the week of observations.

Figure 5 *G Lots: Hourly Occupancy by Day of Week*

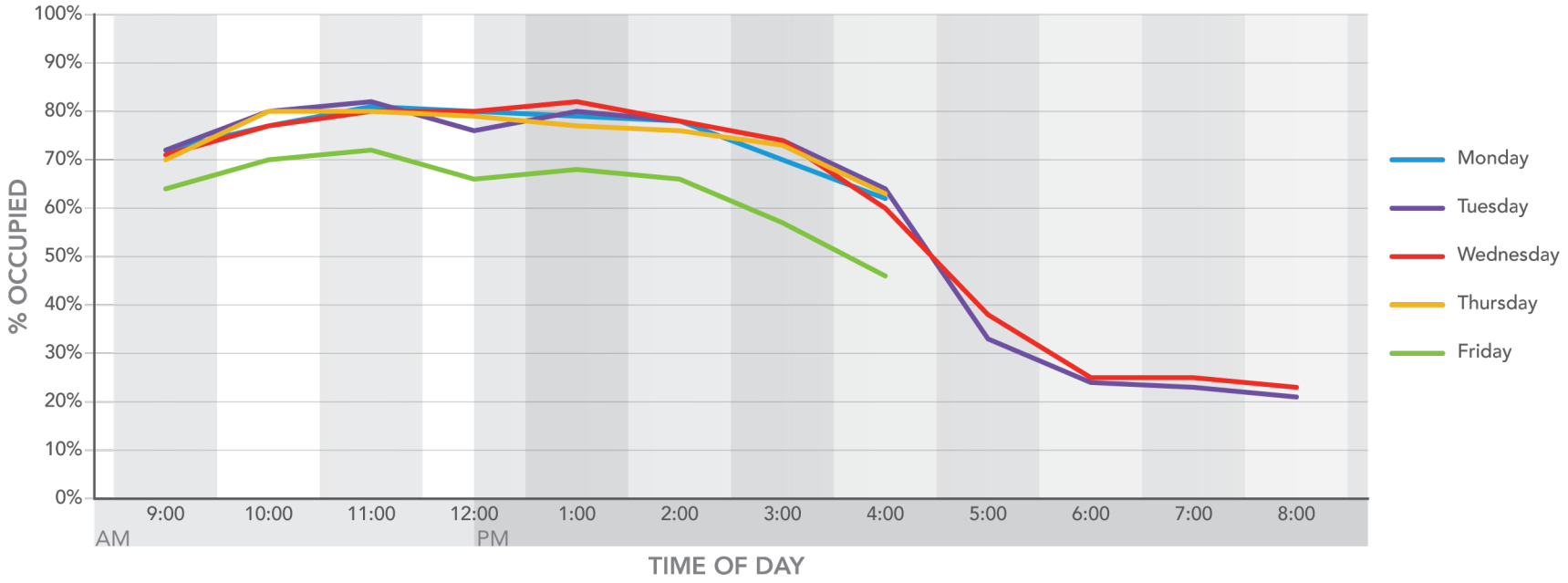


Figure 5 shows observed hourly occupancy rates for G lots. Approximately 41 percent of the campus parking supply (1,314 stalls) is allocated to the G lots. Observed occupancy rates in these lots do not exceed 83 percent on any of the observed days.

Figure 6 *V/C Lots: Hourly Occupancy by Day of Week*

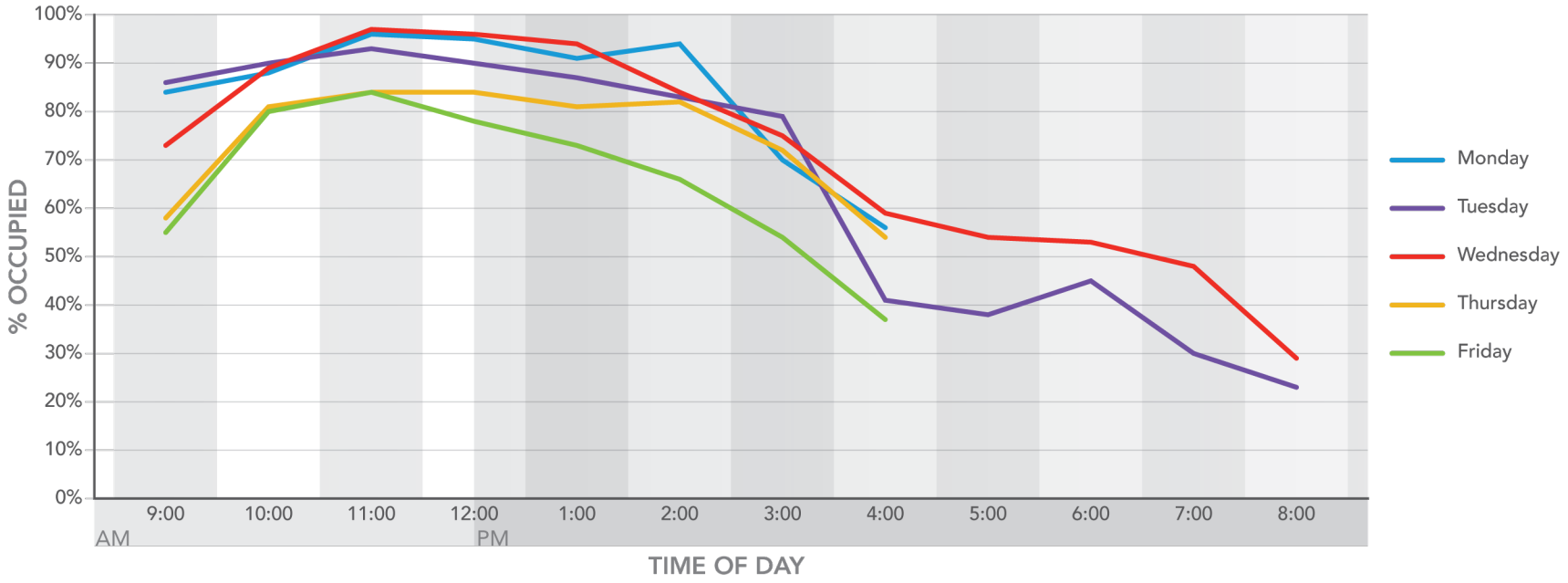


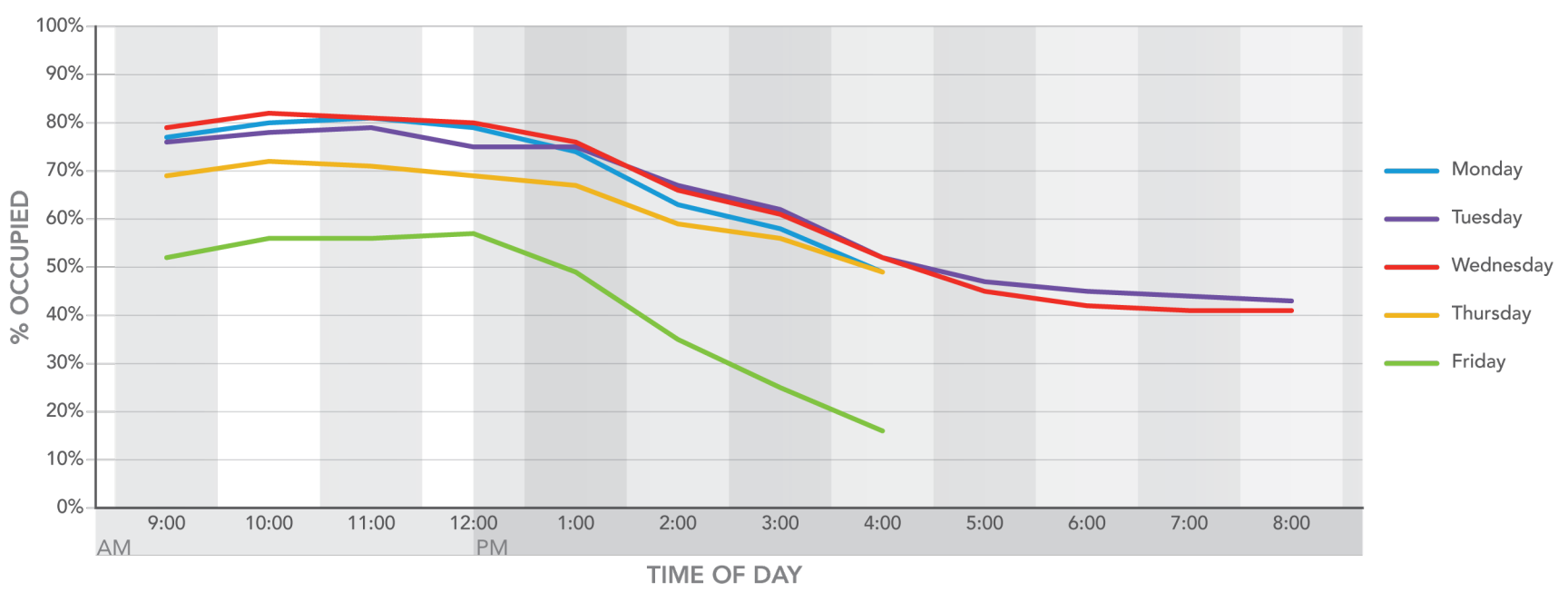
Figure 6 shows observed hourly occupancy rates for V/C lots. Approximately 37 percent of the campus parking supply (1,200 stalls) is allocated to V/C lots. Occupancy rates in these lots do not exceed 97 percent on any of the days observed.


younglife

Lincoln Creek Park and Ride

In addition to other study lots, the Lincoln Creek Park and Ride lot was observed hourly, consistent with the on campus study. The parking occupancy counts were observed during the week of January 27, 2020 and are tabulated by day of week. The total parking supply at the time of the counts was approximately 510 stalls. A summary of the observations and utilization is provided in Appendix B. Figure 7 shows the observed hourly occupancy rates. As shown in Figure 7, parking trends were similar for each day of the week with daytime utilization ranging between approximately 16 percent and 82 percent. Parking utilization was highest on Wednesday between 10:00 AM and 11:00 AM with approximately 82 percent parking utilization.

Figure 7 *Lincoln Creek Park and Ride: Daily Parking Utilization*



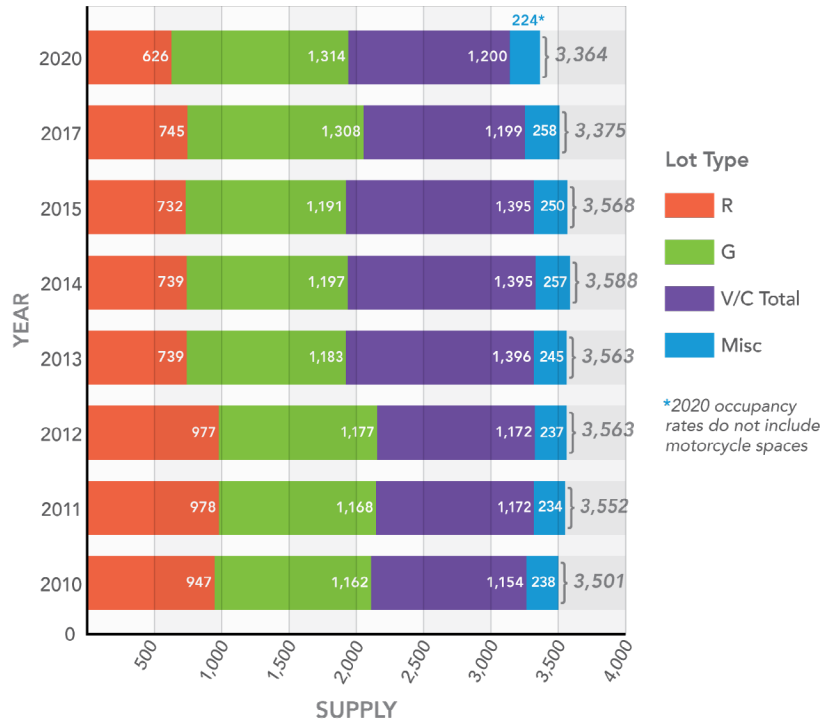
Count Comparison with Prior Years

Comparative historical parking occupancy data has been collected at WWU since 2000. Changes in parking supply and in observed peak occupancy rates observed over the past 10 years are summarized in this section. Hourly occupancy is compared by day and lot type. Historic data is reported based on the *Western Washington University 2017 Parking Utilization Study* (The Transpo Group, Inc., January 2018).

Parking Supply

As the WWU campus has grown and changed over the years, the total parking supply has also fluctuated. The total campus parking supply by parking lot type for the previous ten years is shown in Table 1. A detailed breakdown of parking supply by type for each of the parking lots in the WWU campus for all years is included in the Appendix. Over this same time period, the resident and non-resident student populations at WWU have increased from approximately 11,000 in 2000 to over 15,000 full-time-equivalents. It is noteworthy that according to WTA, transit service and ridership has increased over this time period. WWU has also

Figure 8 *Parking Supply Comparison*



provided approximately 510 off-site parking stalls at Lincoln Creek Transportation Center (LCTC). Transit service from LCTC is provided by Whatcom Transportation Authority (WTA).

Occupancy Rates

The average weekday hourly occupancy rates for 2020 were summarized in Figure 1. Figure 9 compares the 2020 data with the previous ten years. The weekday occupancy patterns have remained similar throughout the 2010-2020 study period, with parking occupancy peaking in the late morning. The 2020 shows an increase in occupancy rates as compared to 2017. Since the parking supply has varied by year, comparisons are made based on rates, rather than actual number of stalls. All supporting data tables are provided in Appendix C.

Figure 9 Average Weekday Parking Occupancy Rate Comparison 2010-2020

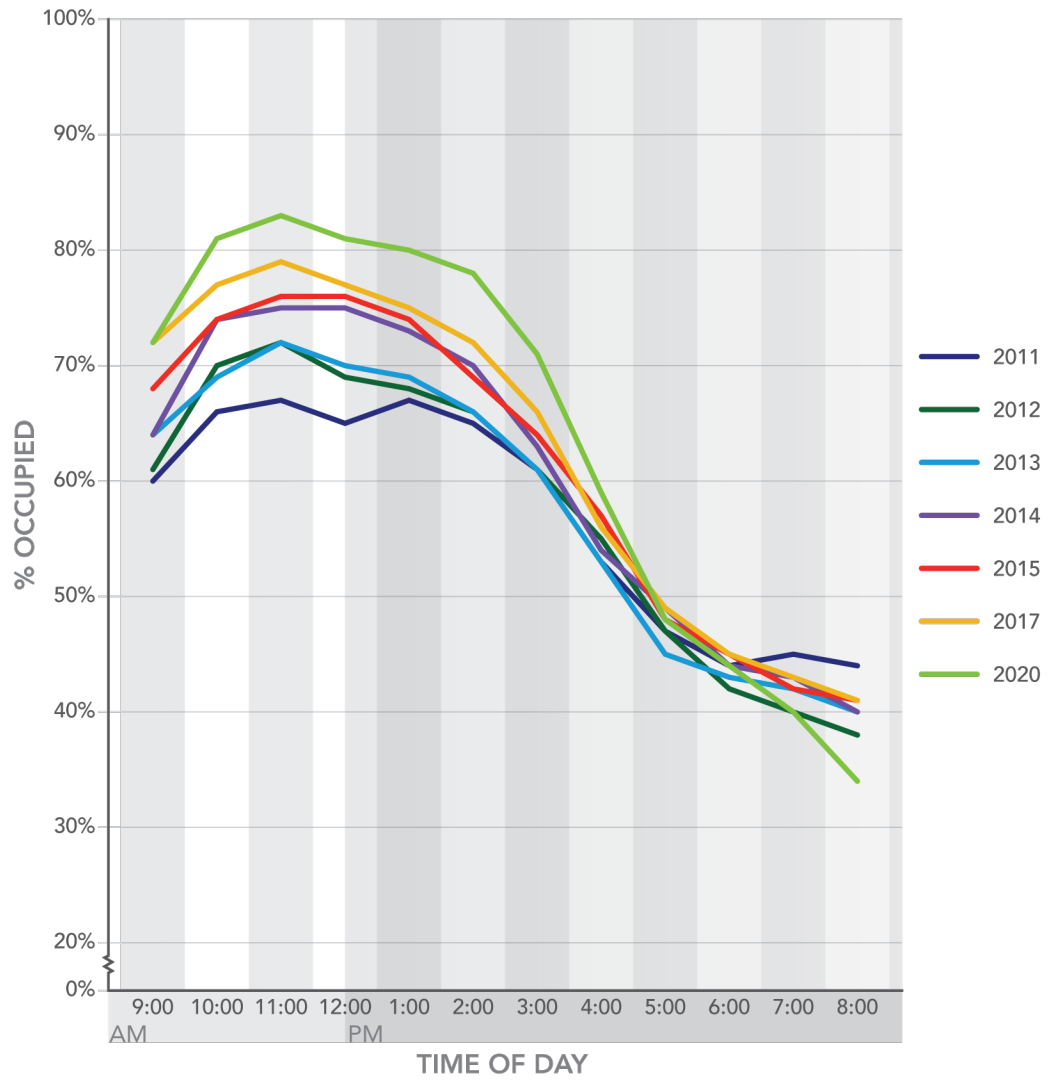


Figure 10 *Peak Hourly Occupancy Comparison (2010 – 2020)*

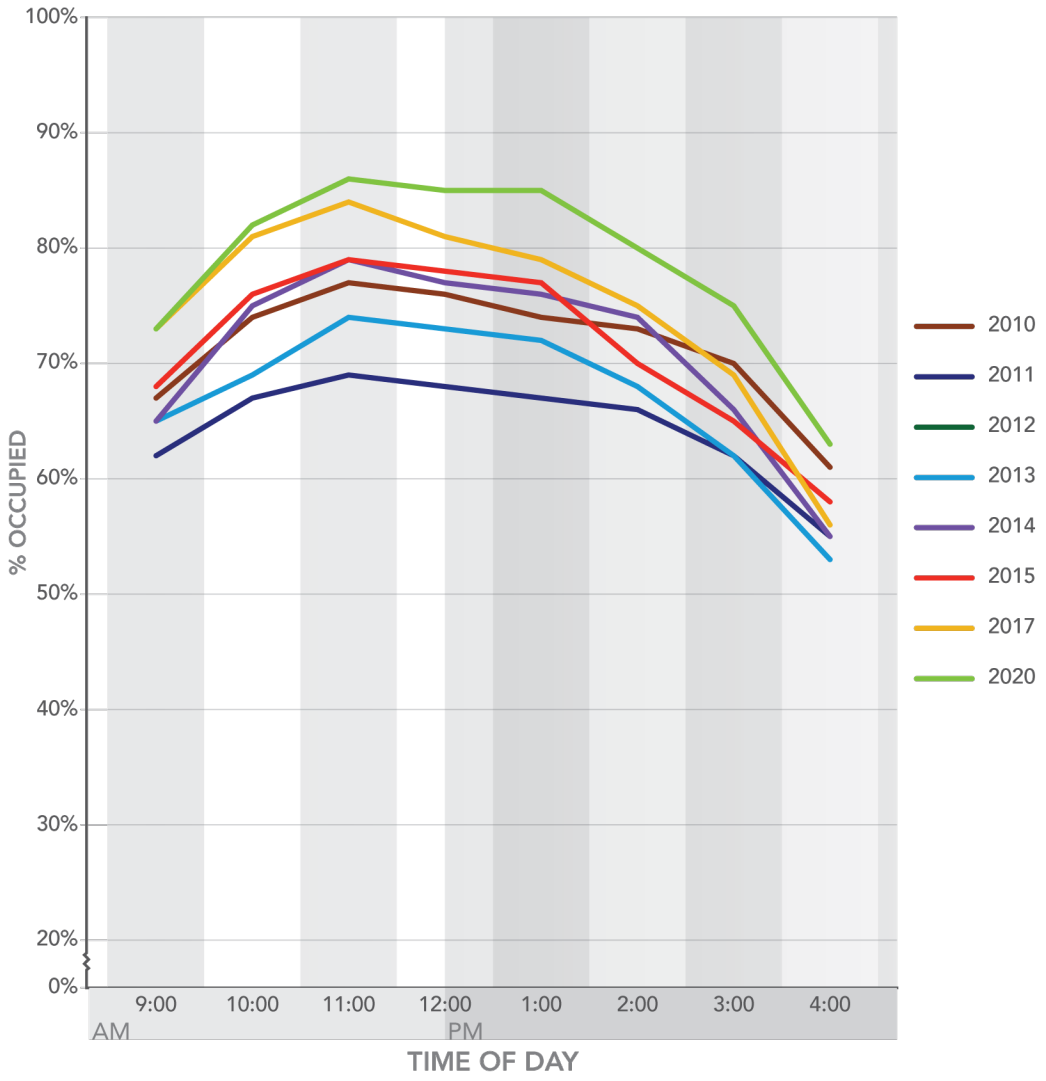


Figure 10 illustrates the hourly occupancy rates on the peak day, which has historically been on Wednesday. Evening data was not available for all years, so is not included. The peak observed parking occupancy rate on campus during the last 10 years was highest in 2020, at approximately 85 percent.

Figures 11 illustrates the average weekday evening occupancy rates for evening observation periods from the counts conducted since the year 2010. Counts have traditionally been collected on either a Monday or Wednesday and either a Tuesday or Thursday. The Tuesday/Thursday data show a very slight trend of a higher occupancy by a few percent. Since the difference is minor, results for Monday/Wednesday data and Tuesday/Thursday data have been averaged and the corresponding weekday

evening parking occupancy rates are shown in Figure 11. The figure shows that evening occupancy rates are below 45 percent for 2020.

The parking supply for WWU campus parking lots was observed to be occupied at a peak of approximately 86 percent during the 11:00 a.m. to 12:00 p.m. time period on Wednesday, January 29th, 2020. The data observed during the 2020 count exhibited trends that were higher than those observed over the last couple of years.

Data tables for 2020 and prior year counts are provided in the Appendices. Individual lot occupancies can be found in these tables and may be used for future campus parking planning.

Figure 11 *Weekday Average Evening Parking Occupancy Rate Comparison*