



## NW Parking District Parking Assessment and Permit Analysis

# EXECUTIVE SUMMARY

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March 1, 2021

Prepared for:

**City of Portland**

**Bureau of Transportation**

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Portland, OR 97204

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## 1. Introduction

This document summarizes the occupancy and utilization data collection effort completed for the NW Parking Plan District's on-street parking system. Data from this study is compared to observations from data collected over two Tuesdays in October 2019. The study cataloged hourly license plate data for 3,537 parking stalls over a 14-hour study day as well as all permit use (by displayed permit) over the same period. Data was collected over two weekdays in November 2020, between the hours of 7:00 AM and 9:00 PM.

A more detailed look at the study findings can be found in the full report.

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***Though the 2020 parking utilization study revealed a system that is, by and large, operating efficiently, the results are, and should be, heavily caveated through a COVID-19 lens. While findings from the 2020 study are affected by the current pandemic, this is a valuable exercise to better understand how users' behavior has adjusted to these unique circumstances and how that changed parking behavior has impacted system performance in comparison to 2019.***

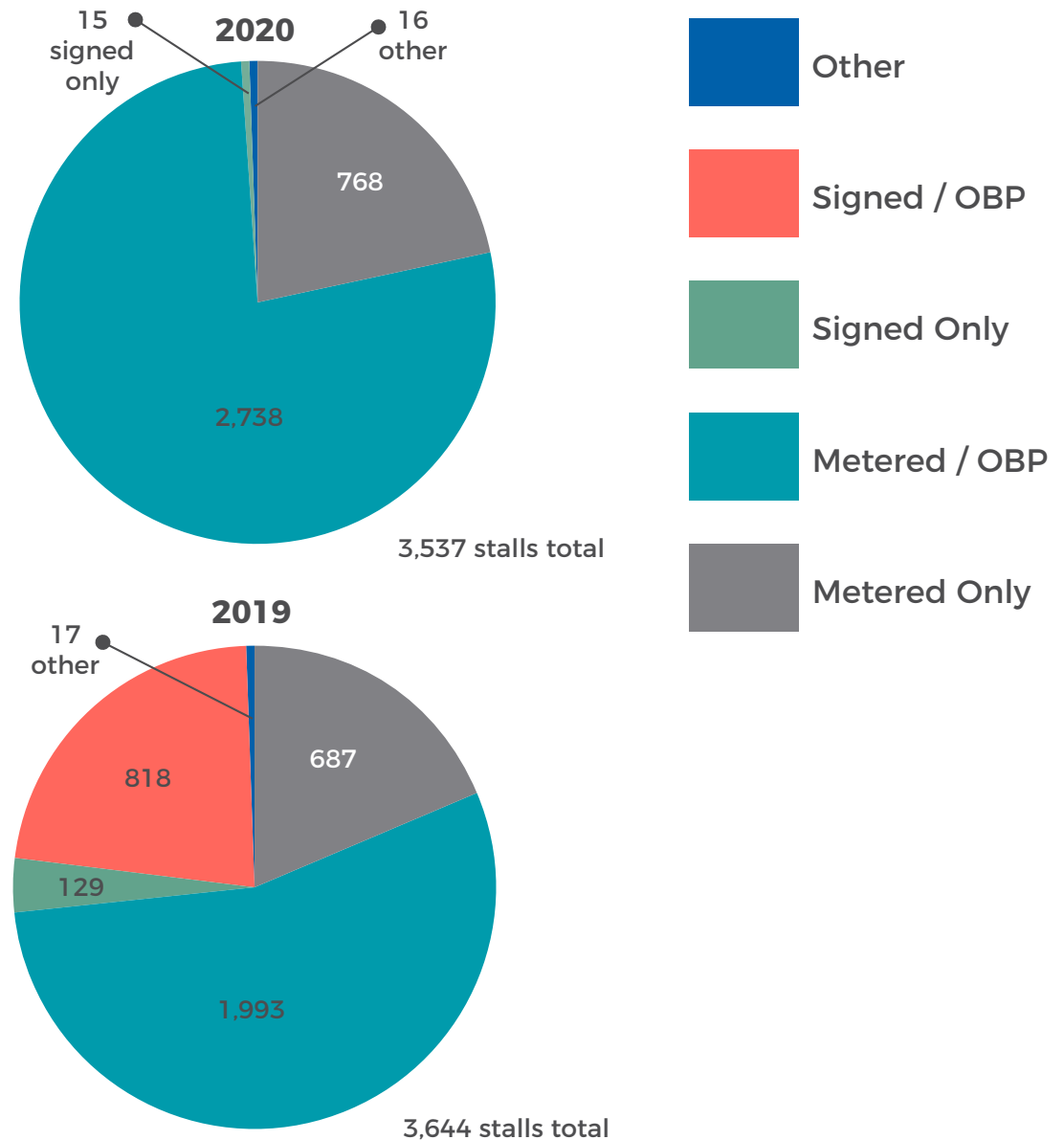
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## 2. Inventory

- There are **3,537 stalls** within the data collection area (107 fewer stalls than 2019), representing 65%<sup>1</sup> of all on-street parking stalls within the NW District.
- Of the **3,506** metered stalls, **2,738 stalls** are designated as metered/Or-By-Permit (OBP) stalls and **768** are metered only.
- Of the signed/time-limited stalls, zero (0) stalls are designated as signed/OBP stalls in 2020, the result of metering 818 stalls that were signed in 2019. Today, only 15 stalls are signed only.
- Approximately **92% of all parking** within the data collection area is designated as 4 Hour parking (3,265 stalls).

<sup>1</sup> RWC completed a parking inventory of the entire NW Parking District in October 2020. During that inventory, a total of 5,409 stalls were cataloged throughout the district. A full breakout of those inventory findings can be found in Appendix A of the full report.

### Stall Inventory Within Data Collection Area

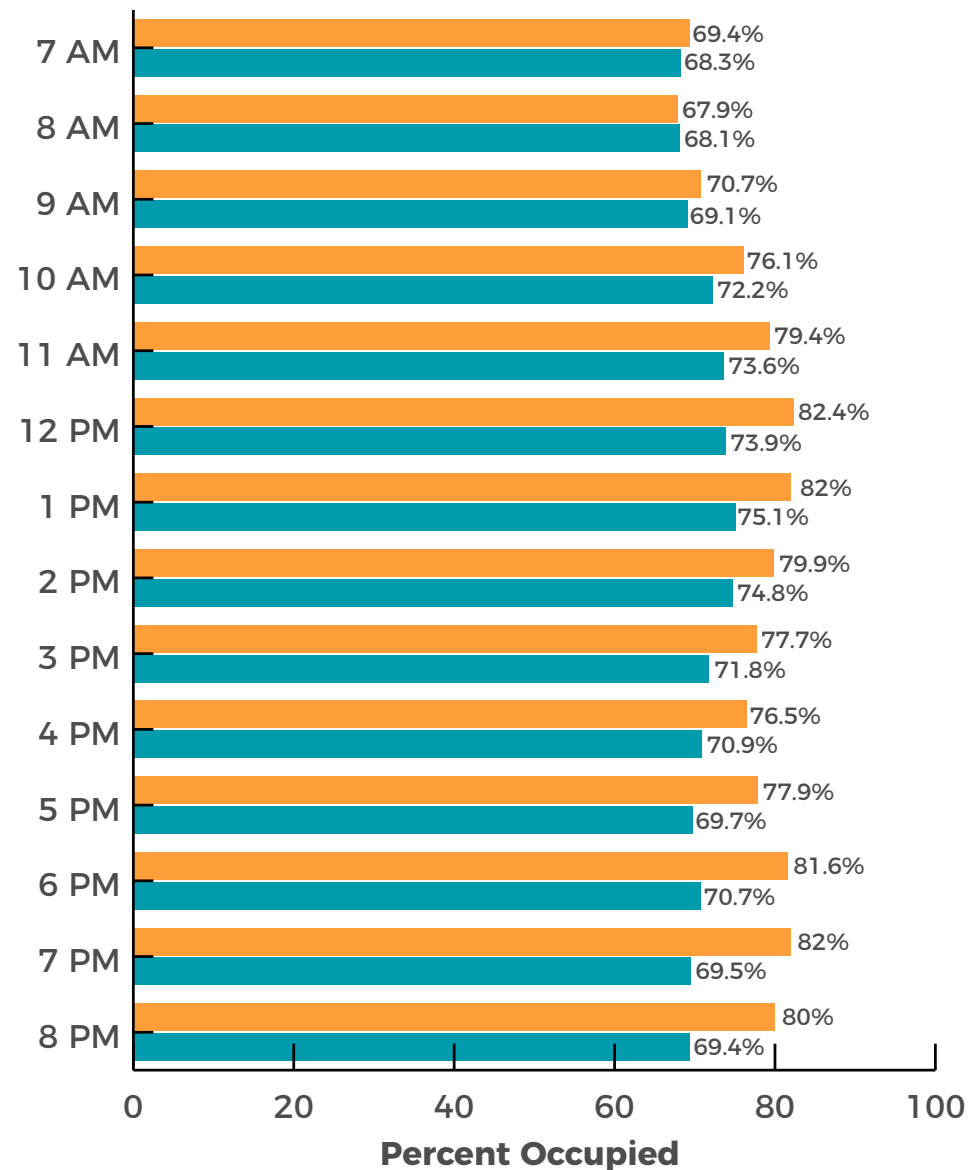


### 3. Occupancy

- With a peak hour occupancy rate of 75.1%, **almost 2 in every 5 block faces in the study area** are constrained in 2020 (although occupancies in 13 of the 14 hours measured were lower in 2020 compared to 2019).
- At the peak hour (1:00 PM), the overall peak hour occupancy rate for the entire 3,537-stall study was much lower in 2020 (75.1%) compared to the peak occupancy observed in 2019 (82.4%).

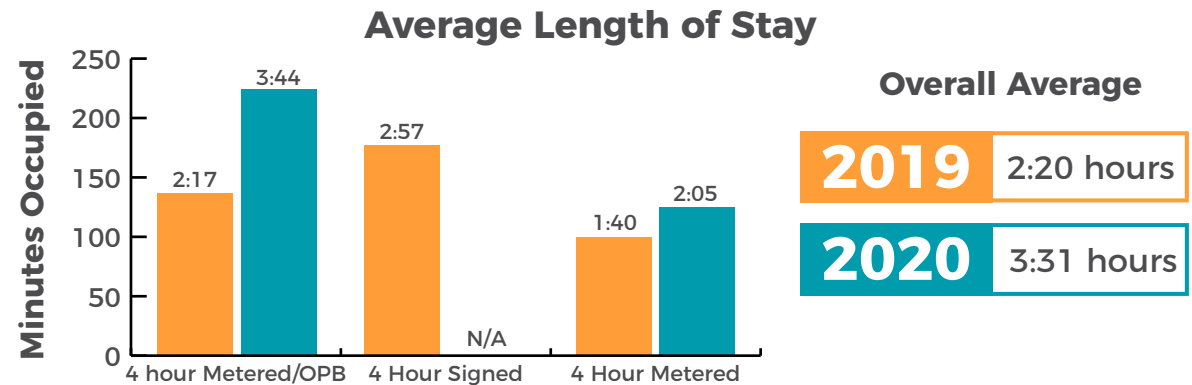
<b>2019</b>	3,644 stalls counted
<b>2020</b>	3,537 stalls counted

Occupancy by Hour

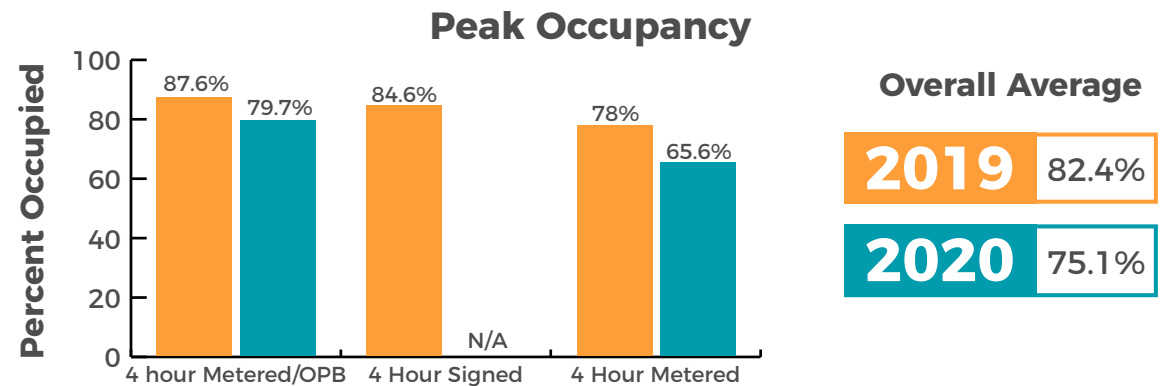


## 4. Utilization

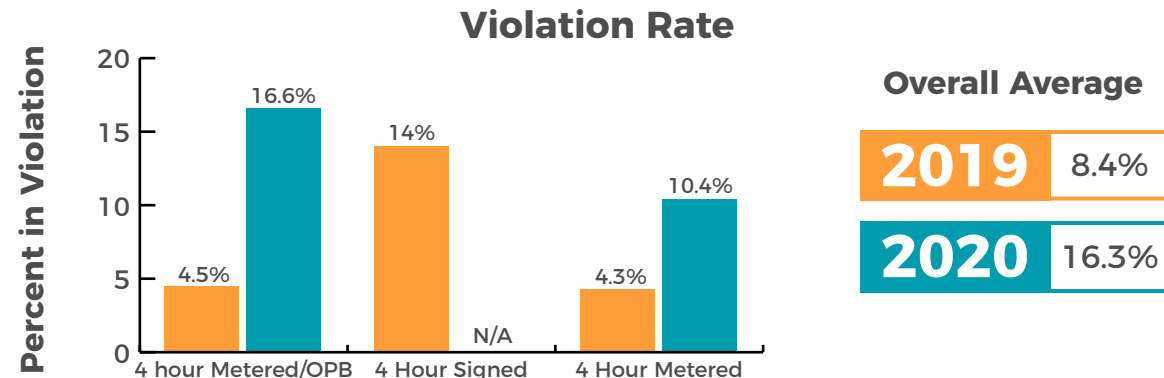
- The average length of stay over the 14-hour survey (excluding permit users) increased greatly from 2 hours and 20 minutes (2019) to **3 hours and 31 minutes** (2020).



- Peak hour occupancies in 4 Hour metered/OBP stalls (2,735 stalls) decreased from 87.6% in 2019 to **79.7%** in 2020. Peak hour occupancies in 4 Hour metered stalls (530 stalls) decreased from 78.0% in 2019 to **65.6%** in 2020.



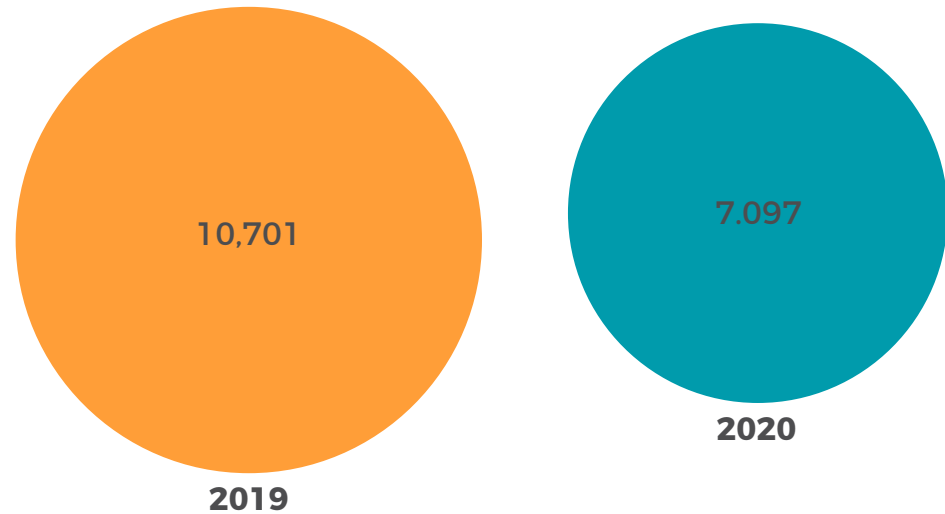
- Overall violation rates increased**, rising from 8.4% (2019) to a combined 16.3% for all surveyed stalls (2020). This is significantly higher than industry best practice standards for effective enforcement.



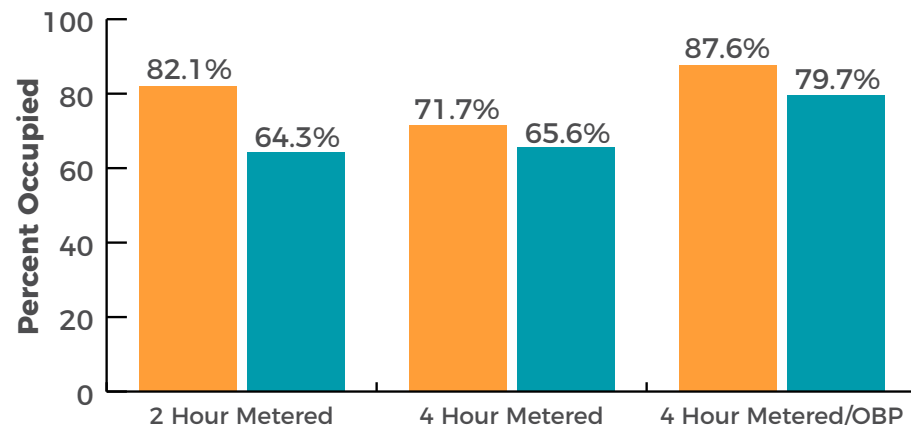
## 5. Other Use Characteristics

- The total number of unique vehicle trips declined significantly from 10,701 in 2019 to 7,097 in 2020, a decrease of 33.7%, or 3,604 unique vehicles.
- 2 Hour metered stalls have an average length of stay that exceeds 2 hours for non-permit users, contrasting with 2019 (1 hour and 28 minutes).
- 2 Hour metered stalls maintain a much lower occupancy rate of 64.3% compared to 82.1% in 2019 during the peak hour.
- 4 Hour metered stalls are operating at a moderate rate. Occupancy during 2020's peak hour is 65.6% compared to 71.7% in 2019.
- At the peak hour in 4 Hour metered/OBP stalls (79.7% occupied), 33.7% were non-permit users. High permit use may conflict with visitor needs; however, occupancies are no longer constrained as compared to 2019 (87.6%).

### Unique Vehicle Trips



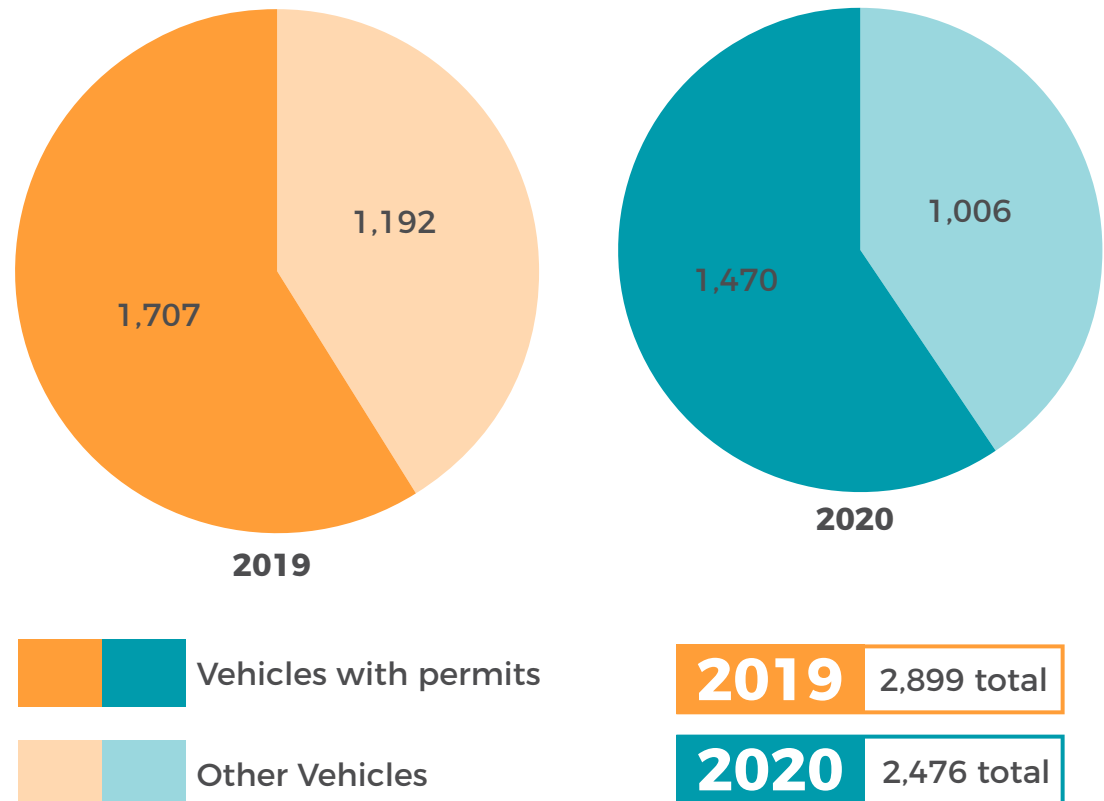
### Occupancy Rate by Stall Type (At Peak)



## 6. Permit Use

- The 2020 peak hour for permit use occurs between **11:00 AM and 12:00 PM when 1,470 permits were displayed** in the study area. At that hour, a total of 2,476 vehicles were parked (423 fewer vehicles than 2019).
- The total number of **on-street permits displayed during the peak hour for permit use decreased notably in 2020.** Aggregated, the decrease is about 13.9%: 1,470 permits in 2020 compared to 1,707 in 2019.
- Permits account for **more than half of occupied parking stalls for 12 of the 14 survey hours**, reaching a high of 62.2% at 8:00 AM.

Vehicles During Peak Hour (11 AM-12 PM)

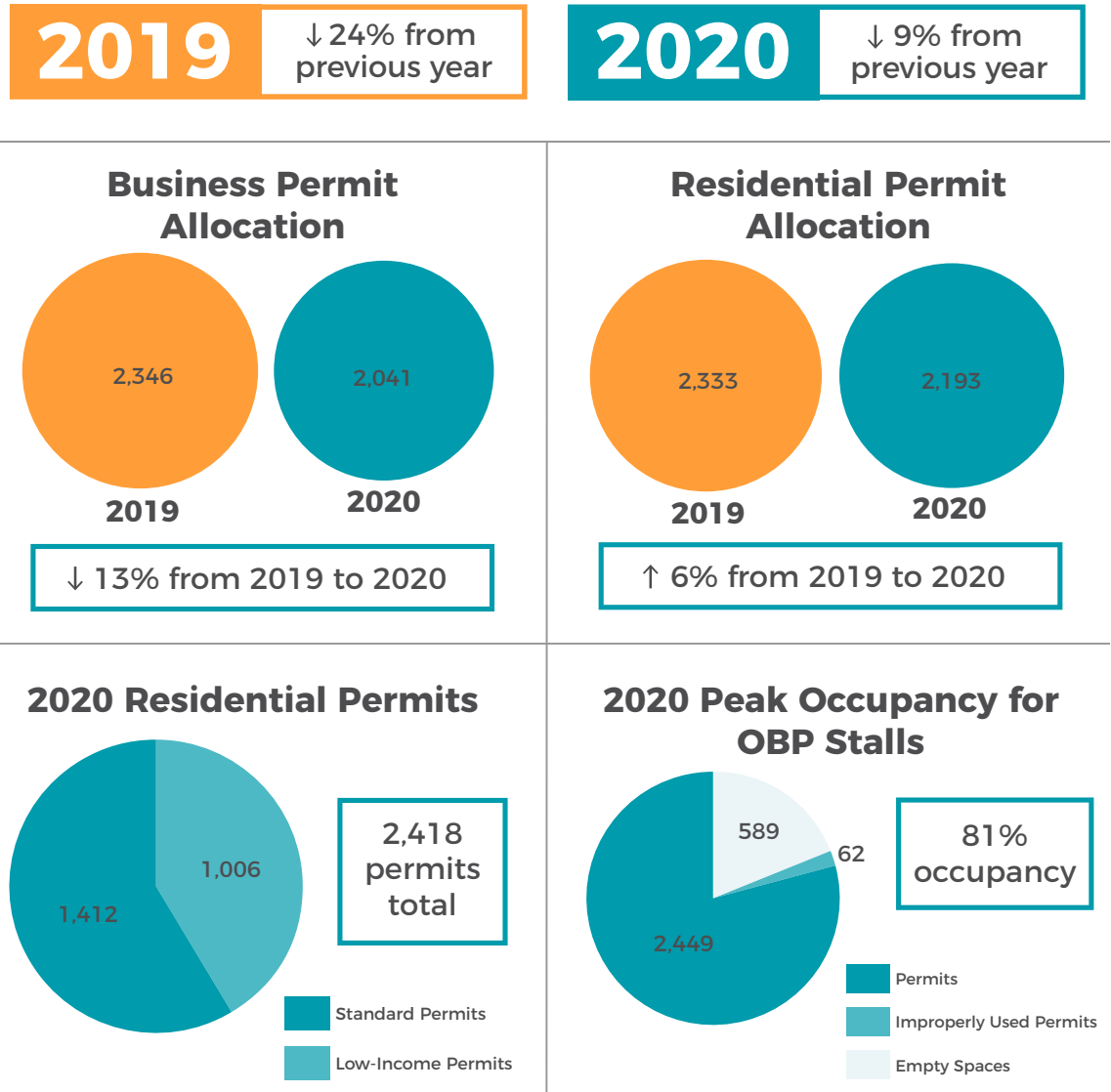




## 7. Permit Assessment

- Parking permit allocations decreased a modest 9% overall compared to 2019 (24% decrease from 2018 to 2019).
  - Not surprisingly, because of COVID-19, business permit allocations dropped nearly 13% (305 permits) compared to 2019.
  - Distribution of residential permits decreased by nearly 6% (a difference of 140 permits), compared to 2019.
- Of the 2,418 residential permits allocated in 2020, **1,006 (42%) were income-based permits**.
- The effective **“peak occupancy”** rate for OBP stalls is 81%. This figure includes the 62 permits improperly using non-permitted stalls; peak occupancy would be 79% without the addition of improperly used permits. This is the first time peak occupancy in OBP stalls has fallen below 85% since monitoring began (2016).

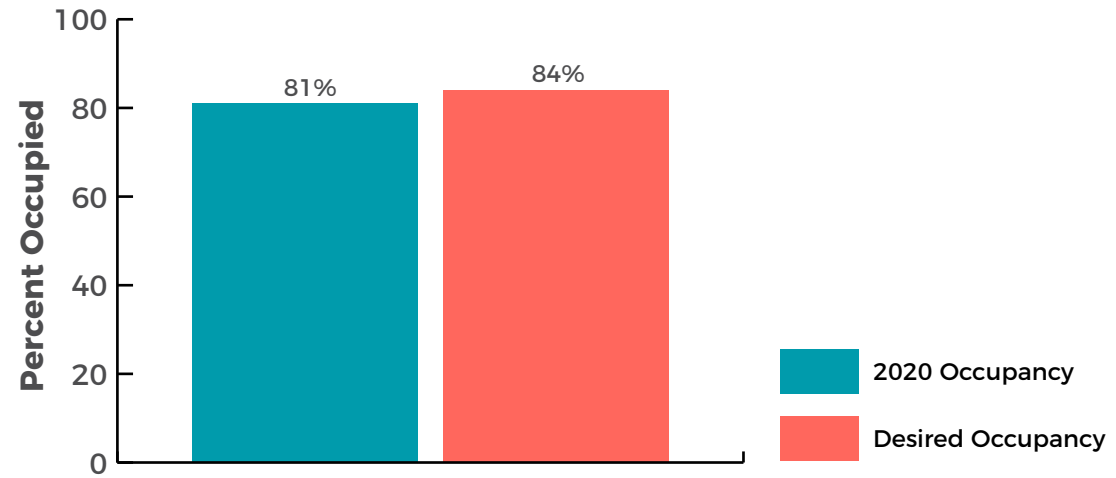
### Permit Allocation Rate



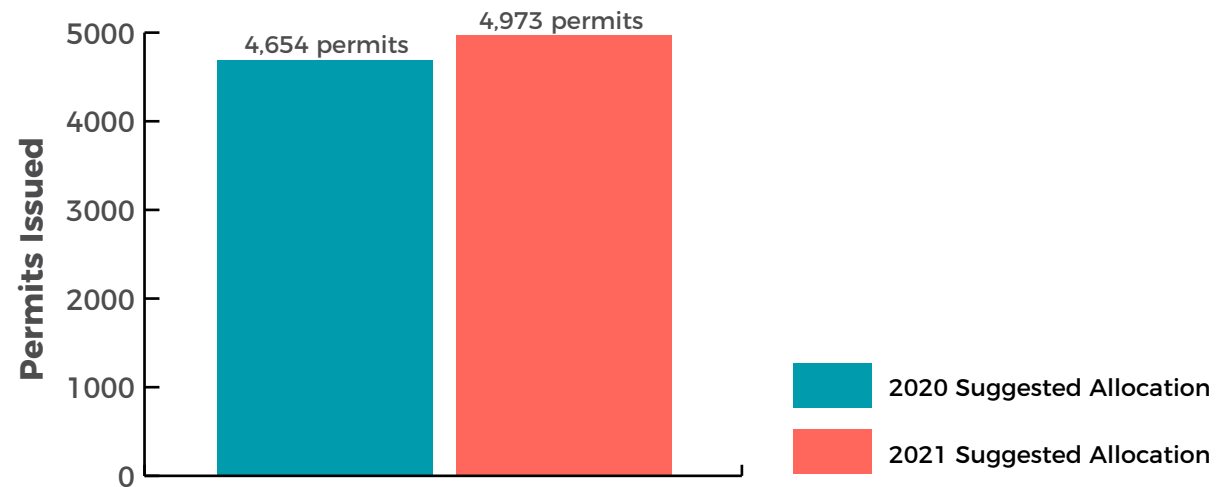


- Based on current peak hour occupancies, **no additional reductions in permits would need to be made to achieve desired occupancy, 84%**, in OBP stalls. According to this assessment, an additional 140 could still be allocated while still achieving optimal occupancy.
- To support this finding, PBOT should decrease the total number of permits allocated to 4,654 over the present distribution. This is 37 fewer than was recommended in 2019.

**2020 Occupancy vs.  
Desired Occupancy**



**2021 Suggested Allocation vs.  
2020 Suggested Allocation**



## 8. Summary and Key Recommendations

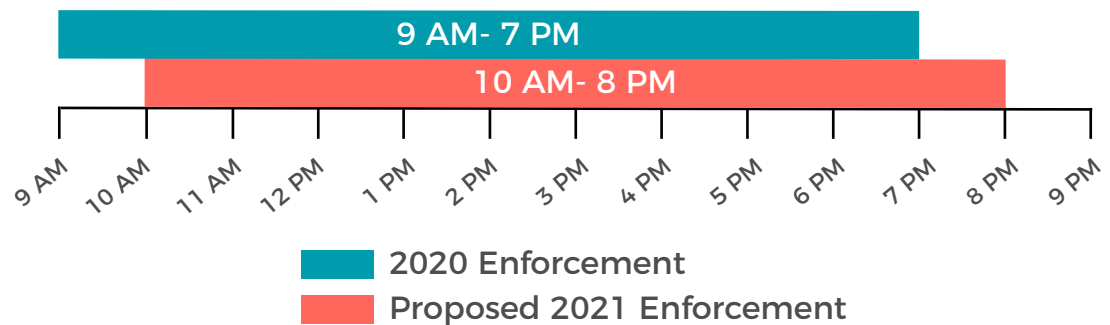
- **Change definition of long-term meters in NW to stays of more than 2 hours.** This will make it unlawful to add time to high-turnover, 2 Hour meters.
- Minor adjustments to stall reformatting
- **Eliminate 1 Hour Signed stalls** (5 of them)
- **Eliminate outlier No Limit stalls** (16 of them)

### Permit Allocation Target

**2021**

**4,600**

### Parking Enforcement Hours



Shift enforcement hours to target high occupancy periods more effectively

2020



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Last Updated: March 15, 2021

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## 1.0 Executive Summary

### 1.1. Introduction

This section summarizes the occupancy and utilization data collection effort completed for the on-street parking system within the NW Parking Plan District. Data was collected over two weekdays in November 2020, between the hours of 7:00 AM and 9:00 PM. Data from this study is compared to observations from data collected over two Tuesdays in October 2019. The study cataloged hourly license plate data for 3,537 parking stalls over a 14-hour study day as well as all permit use (by displayed permit) over the same period.

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*Though the 2020 parking utilization study revealed a system that is, by in-large, operating efficiently, the results are, and should be, heavily caveated through a 2020 COVID-19 lens. While findings from the 2020 study are affected by the current pandemic, this is a valuable exercise to better understand how users have adjusted to these unique circumstances and how that changed parking behavior when contrasted to system performance in 2019.*

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*A more detailed look at the study findings can be found in Section 2.0 of this report.*

### 1.2. Inventory

- There are **3,537 stalls** within the data collection area (107 fewer stalls than 2019), representing 65%<sup>1</sup> of all on-street parking stalls within the NW District.
- Of the **3,506** metered stalls, **2,738 stalls** are designated as metered/Or-By-Permit (OBP) stalls and **768** are metered only.
- Of the signed/time-limited stalls, **zero (0) stalls** are designated as signed/OBP stalls in 2020, the result of metering 818 stalls that were signed in 2019. Today, only **15** stalls are signed only.
- Approximately **92% of all parking** within the data collection area is designated as 4 Hour parking (3,265 stalls).

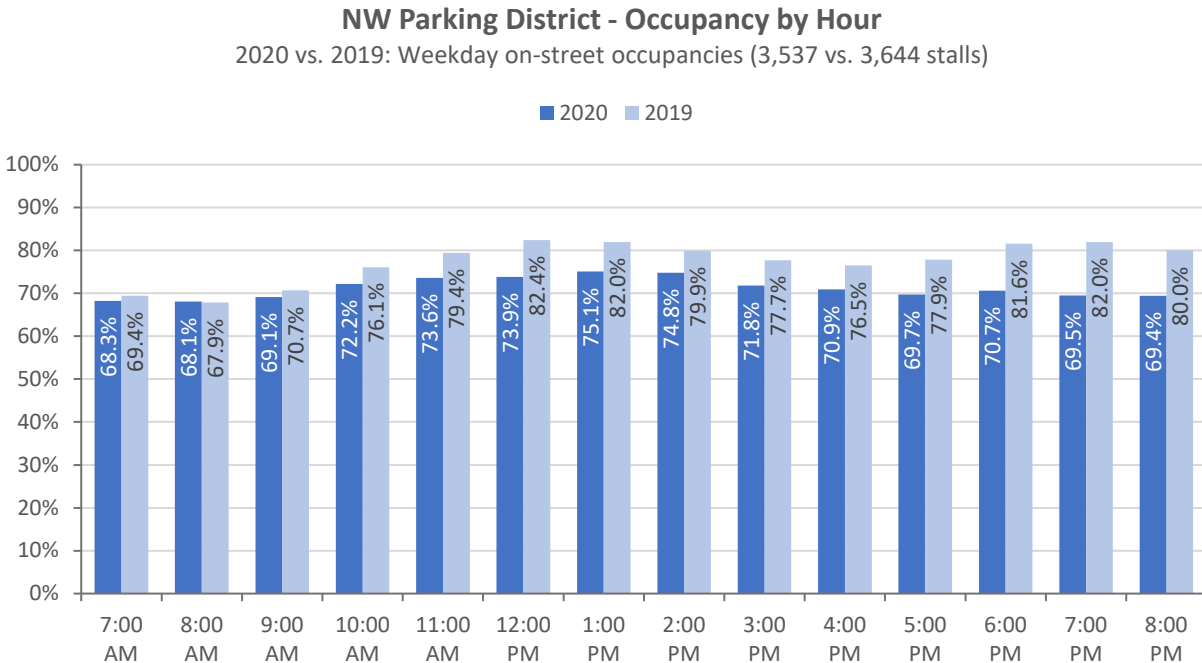
#### Sample of inventory findings

	<u>2020</u>	<u>2019</u>
Metered only	768 stalls	687 stalls
Metered / OBP	2,738 stalls	1,993 stalls
Signed only	15 stalls	129 stalls
Signed / OBP	0 stalls	818 stalls
Other	16 stalls	17 stalls
<b>TOTAL</b>	<b>3,537 stalls</b>	<b>3,644 stalls</b>

<sup>1</sup> RWC completed a parking inventory of the entire NW Parking District in October 2020. During that inventory, a total of 5,409 stalls were cataloged throughout the district. A full breakout of those inventory findings can be found in **Appendix A**.

### 1.3. Occupancy

- With a peak hour occupancy rate of 75.1%, **almost 2 in every 5 block faces in the study area are constrained** in 2020 (although occupancies in 13 of the 14 hours measured were lower in 2020 compared to 2019).
- At the peak hour (1:00 PM), the overall peak hour occupancy rate for the entire 3,537-stall study was much lower in 2020 (75.1%) compared to the peak occupancy observed in 2019 (82.4%).



### 1.4. Utilization

- The average length of stay over the 14-hour survey (excluding permit users) increased greatly from 2 hours and 20 minutes (2019) to **3 hours and 31 minutes** (2020).
- Peak hour occupancies in 4 Hour metered/OBP stalls (2,735 stalls) decreased from 87.6% in 2019 to **79.7%** in 2020. Peak hour occupancies in 4 Hour metered stalls (530 stalls) decreased from 78.0% in 2019 to **65.6%** in 2020.
- **Overall violation<sup>2</sup> rates increased**, rising from 8.4% (2019) to a combined 16.4% for all surveyed stalls (2020). This is significantly higher than industry best practice standards for effective enforcement.

<sup>2</sup> Vehicles observed parking longer than the posted time restriction. In NW users are lawfully allowed to extend their parking session by adding time to the meter; consequently, these figures likely overstate the true violation rate. However, the 2020 and 2019 figures remain comparable and show a notable observed increase from one year to the next.



**Sample of utilization findings:**

	<b>2020</b>	<b>2019</b>
<b>Peak Occupancy</b>	<b>75.1%</b>	<b>82.4%</b>
• 4 Hour metered/OBP	79.7%	87.6%
• 4 Hour signed	-	84.6%
• 4 Hour metered	65.6%	78.0%
<b>Average Length of Stay (Non-Permits)</b>	<b>3:31 hours</b>	<b>2:20 hours</b>
• 4 Hour metered/OBP	3:44 hours	2:17 hours
• 4 Hour signed	-	2:57 hours
• 4 Hour metered	2:05 hours	1:40 hours
<b>Violation Rate</b>	<b>16.4%</b>	<b>8.4%</b>
• 4 Hour metered/OBP	16.7%	4.5%
• 4 Hour signed	-	14.0%
• 4 Hour metered	10.4%	4.3%

**1.5. Other Use Characteristics**

- The total number of unique vehicle trips declined significantly from 10,701 in 2019 to **7,097 in 2020**, a **decrease of 33.7%**, or 3,604 unique vehicles.
- **2 Hour metered stalls** have an **average** length of stay that exceeds 2 hours for non-permit users, contrasting with 2019 (1 hour and 28 minutes).
- **2 Hour metered stalls** maintain a much lower occupancy rate of 64.3% compared to 82.1% in 2019 during the peak hour.
- **4 Hour metered stalls** are operating at a moderate rate. Occupancy during 2020's peak hour is 65.6% compared to 71.7% in 2019.
- At the peak hour in **4 Hour metered/OBP stalls** (79.7% occupied), 33.8% were non-permit users. High permit use may conflict with visitor needs; however, occupancies are no longer constrained as compared to 2019 (87.6%).

**1.6. Permit Use**

- The 2020 peak hour for permit use occurs between **11:00 AM and 12:00 PM when 1,467 permits were displayed** in the study area. At this hour, a total of 2,476 vehicles were parked (423 fewer vehicles than 2019).
- The total number of **on-street permits displayed during the peak hour for permit use decreased notably in 2020**. Aggregated, the decrease is about 14.1%: 1,467 permits in 2020 compared to 1,707 in 2019.
- Permits account for **more than half of occupied parking stalls for 12 of the 14 survey hours**, reaching a high of 62.1% at 8:00 AM.

### 1.7. Permit Assessment

- There was a modest 9% overall decrease in parking permit allocations compared to the previous year (24% decrease in 2019).
  - Not surprisingly (because of COVID-19), business permit allocations were down nearly 13% (305 permits) compared to 2019.
  - Distribution of residential permits decreased by nearly 6% (a difference of 140 permits), compared to 2019.
- Of the 2,418 residential permits allocated in 2020, **1,006 were income-based permits** (42% of the total).
- The **effective “peak occupancy” rate for OBP stalls is 81%**, by adding the 62 permits improperly using non-permitted stalls (79% - without the addition of improperly used permits). **This is the first-time peak occupancy in OBP stalls has fallen below 85% since monitoring began** (2016).
- Based on current peak hour occupancies, **no additional permits would need to be reduced from current allocations to achieve desired occupancies, 84%**, in OBP stalls. According to this assessment, an additional 140 could still be allocated while still achieving optimal occupancies.
- To support this finding, **PBOT should decrease the total number of permits allocated to 4,654** (over the present distribution). This is approximately 37 fewer than was recommended in 2019.

### 1.8. Summary and Key Recommendations

- 2021 permit allocation target = 4,600
- Shift enforcement hours to target high occupancy periods more effectively – from 9:00 AM – 7:00 PM to 10:00 AM – 8:00 PM
- Change definition of long-term meters in NW to stays of more than 2 hours. This will make it unlawful to add time to high-turnover, 2 Hour meters.
- Minor adjustments to stall reformatting
  - ✓ Eliminate 1 Hour Signed stalls (5 of them)
  - ✓ Eliminate outlier No Limit stalls (16 of them)

## 2.0 Data Findings

Though the 2020 parking utilization study revealed a system that is, by in-large, operating efficiently, the results are, and should be, heavily caveated through a COVID-19 lens. While findings from the 2020 study are affected by the current pandemic, this is a valuable exercise to better understand how users have adjusted to these unique circumstances and how that changed parking behavior when contrasted to system performance in 2019.

The effect of COVID-19 on our world, our community, and our local transportation systems is profound with reoccurring lockdowns, restructured business practices, and remote schooling to name a few. PBOT has responded by being more accommodating with its on-street parking system by allowing flexibility to adapt to a changing set of priorities. Some of these accommodations include:

- Health Business permits that allow business owners to use the on-street parking space in front of their establishment for expanded business operations (restaurant seating, etc.); 83 on-street spaces within the study area were affected by the program.
- Issuance of COVID-19 parking permits that provided additional accommodations for residents and employees affected by COVID-19. The program had a temporary, but helpful stop gap effect on bridging the period between parking permit expiration dates and renewals. At its highest point, over 140 temporary COVID permits were observed during a single hour of the parking survey.
- Offering on-street parking validation vouchers to interested business owners to hand out to customers for use on their return trip to the area.

### 2.1. Background

The following document summarizes a comprehensive occupancy and utilization data collection effort completed for the on-street parking system within the NW Parking Plan District. Data from this study is compared to observations from data collected over the same timeframe in 2019. The data collection methodology was identical for each of the two survey years; including cataloging hourly license plate data for 3,537 parking stalls over a 14-hour study day and cataloging all permit use (by displayed permit) over the same period.

### 2.2. Process and Study Area

The data collection study boundary was defined by PBOT and the NW Stakeholder Advisory Committee (see **Figure A**). Due to the large study area, data collection was conducted over two days. Dates selected for data collection and analysis were:

#### 2020 Data Collection

- Thursday, November 5, 2020
- Tuesday, November 10, 2020



### 3.0 Inventory

As a result of the formatting changes instituted by PBOT this fall, including extensive new meter installations and the addition of unique Parking Kitty block face codes, **there were significant changes in the on-street parking inventory.** Table 1 provides a detailed breakout of the complete inventory of parking sampled<sup>3</sup>.

- As stated in the introduction, Health Business permits affected 83 on-street stalls and were temporarily removed for the inventory, effectively reducing the number of available stalls for vehicle use.
- There are **3,537 stalls** within the data collection area (107 fewer stalls than 2019), including 3,506 metered stalls, 15 signed/time-limited stalls, and 16 unrestricted stalls.
- Over 800 previously Signed OBP stalls were converted to metered stalls. In 2020, there were **no Signed OBP stalls remaining in the sampled parking supply.**
- Of the metered stalls, **2,738 stalls** are designated as metered/OBP stalls (2,735 4 Hour stalls and 3 ADA stalls). The remaining 768 metered-only stalls consist of 15 Minutes (4 stalls), 30-Minutes (86 stalls), 2-Hours (147 stalls), 4-Hours (530 stalls), and ADA (1 stall).
- Of the **15** signed/time-limited stalls, 7 stalls are designated as 5 Minutes, 3 stalls are designated as 15 Minutes, and 5 stalls are designated as 1 Hour.
- Approximately **92% of all parking** is designated as 4 Hour parking (3,265 stalls), all of which are metered; 2,735 metered stalls allow use of permits and 530 stalls are metered exclusively for a 4-hour stay (no permits).

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<sup>3</sup> RWC completed a parking inventory of the entire NW Parking District in October 2020. During that inventory, a total of 5,409 stalls were cataloged throughout the district. A full breakout of those inventory findings can be found in **Appendix A**.

Table 1: Inventory Summary 2020 vs. 2019

Stall Type	All		Metered		Signed		Metered Only	Metered OBP	Signed Only	Signed OBP
	Stalls	% Total	Stalls	% Total	Stalls	% Total	Stalls	Stalls	Stalls	Stalls
<b>On-Street Supply Studied</b>	<b><u>3,537</u></b> 3,644	<b><u>100.0%</u></b> 100.0%	<b><u>3,506</u></b> 2,680	<b><u>99.1%</u></b> 73.5%	<b><u>15</u></b> 947	<b><u>&lt; 1%</u></b> 26.0%	<b><u>768</u></b> 687	<b><u>2,738</u></b> 1,993	<b><u>15</u></b> 129	<b>-</b> 818
5 Minutes	<u>7</u> 5	<u>&lt; 1%</u> < 1%	- -	- -	<u>7</u> 5	<u>&lt; 1%</u> < 1%	- -	- -	<u>7</u> 5	- -
10 Minutes	- 3	- < 1%	- -	- -	- 3	- < 1%	- -	- -	- 3	- -
15 Minutes	<u>7</u> 15	<u>&lt; 1%</u> < 1%	<u>4</u> -	<u>&lt; 1%</u> -	<u>3</u> 15	<u>&lt; 1%</u> < 1%	<u>4</u> -	- -	<u>3</u> 15	- -
30 Minutes	<u>86</u> 94	<u>2.4%</u> 2.6%	<u>86</u> 85	<u>2.4%</u> 2.3%	- 9	- < 1%	<u>86</u> 85	- -	- 9	- -
1 Hour	<u>5</u> 30	<u>&lt; 1%</u> < 1%	- -	- -	<u>5</u> 30	<u>&lt; 1%</u> < 1%	- -	- -	<u>5</u> 30	- -
2 Hours	<u>147</u> 180	<u>4.2%</u> 4.9%	<u>147</u> 113	<u>4.2%</u> 2.1%	- 67	- 1.8%	<u>147</u> 113	- -	- 67	- -
4 Hours	<u>3,265</u> 3,296	<u>92.3%</u> 90.5%	<u>3,265</u> 2,479	<u>92.3%</u> 68.0%	- 817	- 22.4%	<u>530</u> 488	<u>2,735</u> 1,991	- -	- 817
ADA <sup>4</sup>	<u>4</u> 4	<u>&lt; 1%</u> < 1%	<u>4</u> 3	<u>&lt; 1%</u> < 1%	- 1	- < 1%	<u>1</u> 1	<u>3</u> 2	- -	- 1
No Limit <sup>5</sup>	<u>16</u> 17	<u>&lt; 1%</u> < 1%	- -	- -	- -	- -	- -	- -	- -	- -

<sup>4</sup> ADA accessible stalls were designated at 2-hour (1 metered stall) and 4-hour (3 metered/OBP stalls) time-stay spaces.<sup>5</sup> No Limit stalls are considered unrestricted and not signed nor metered.

## 4.0 Occupancy & Utilization - Weekday Comparative Analysis

### 4.1. Overview

The following analysis presents a comparative analysis of 2020 vs. 2019 operations on weekdays within the full study area. License plate data was collected hourly over a 14-hour span between 7:00 AM and 9:00 PM. This was intended to account for the two hours before and after hours of parking enforcement (9:00 AM to 7:00 PM).

### 4.2. Occupancy

Figure B (below) identifies differences in hourly parking occupancies between the two study years.

- Occupancies in 13 of the 14 hours measured were **lower in 2020** versus 2019.
- At the peak hour (1:00 PM), the overall occupancy for the entire 3,537-stall study area reached **75.1%**; this was much lower than the peak occupancy observed in 2019 (82.4%).
- Overall hourly occupancies in 2020 averaged **6.2 percentage points less than 2019** over the 14-hour study.
- **Overall occupancies did not exceed 85% during any hour in 2020**, the same as in 2019. However, occupancies in 2019 exceeded 2020's peak occupancy in 11 of the 14 hours measured.
- With a peak hour occupancy rate of 75.1%, **nearly 2 in every 5 block faces in the study area are constrained** (exceed 85%) in 2020.
- Of the remaining block faces, approximately 1 in 5 show efficient use and 2 in 5 show moderate to low use during the peak hour (see graphic inset).

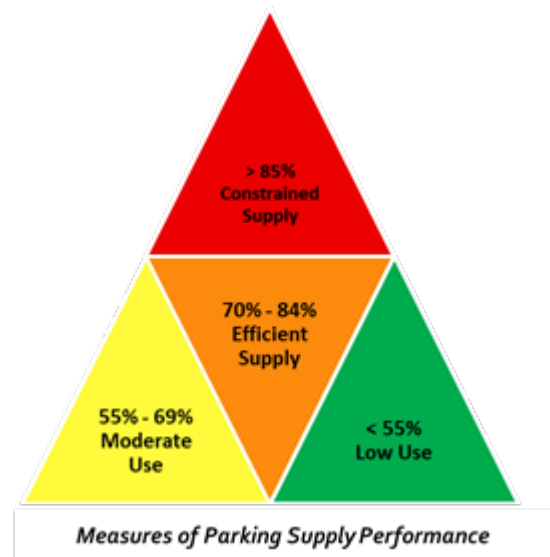


Figure C provides a block-face level "heat map" of the 2020 weekday peak hour (1:00 – 2:00 PM) showing color-coded parking occupancies for the entire sampled study area. As the Figure shows, block faces that are constrained during the peak hour are more prevalent in the district south of NW Lovejoy Street.

Figure D provides an illustration that identifies the percentage point difference in peak hour parking occupancies between the two study years by block face.



Figure B: Weekday Hourly Occupancies (2020 vs. 2019)

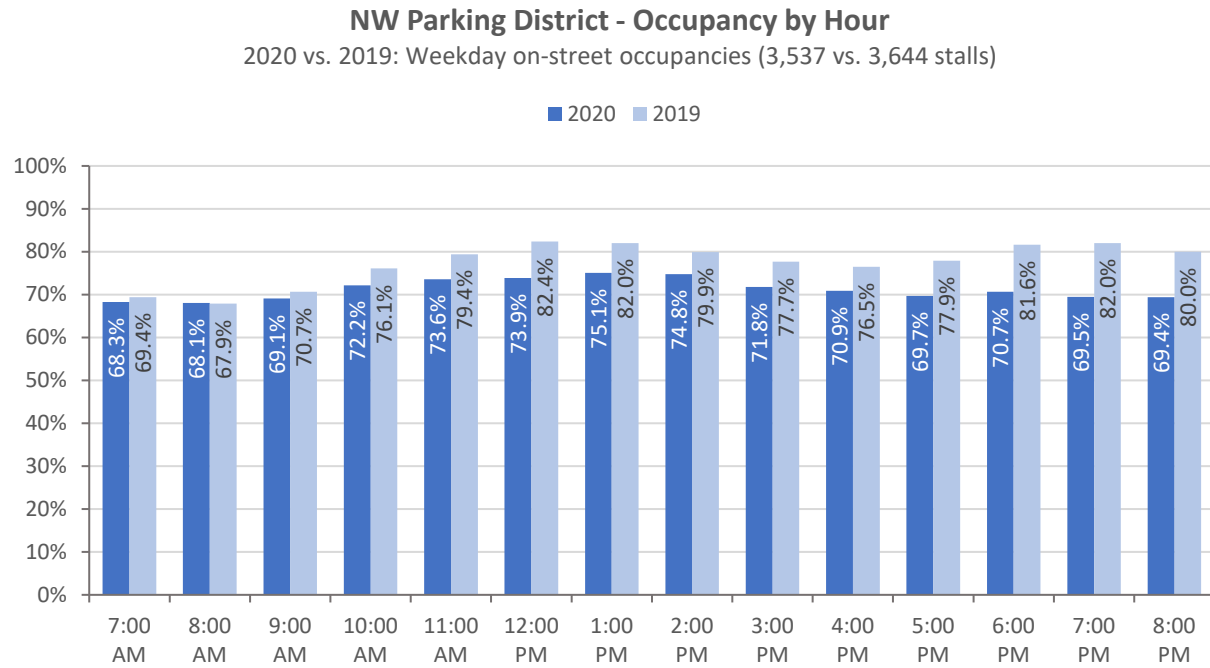
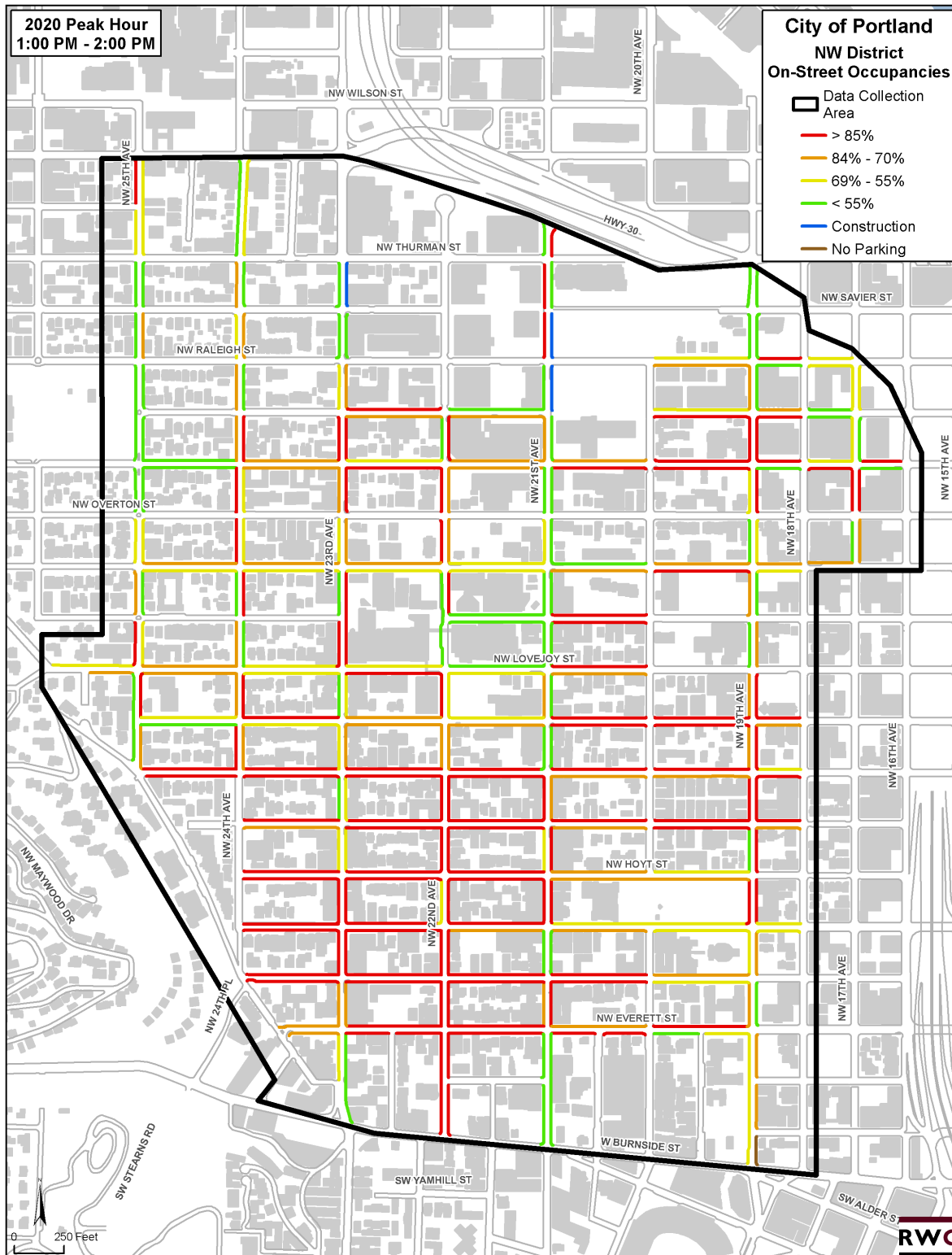


Figure C: Weekday Peak Hour Occupancy Map (2020)





As **Figure D** demonstrates, overall hourly occupancies are lower across the board when comparing 2020 data to 2019 figures. However, there are pocket areas (and individual block faces) that show notable increases over the previous year.

- At the peak hour (1:00 PM), of the 324 analyzed block faces, 107 of them (33%) show an increase over 2019.
- Comparatively, 168 block faces (52%), show a decrease over 2019.
- Approximately 15% of the surveyed block faces show no change.
- Two block faces are noted as Not Applicable:
  - East side of NW 23<sup>rd</sup> between Savier & Thurman (new construction)
  - East side of NW 19<sup>th</sup> between Burnside & Couch (became no parking)
- Pockets of occupancy increases include:
  - NW 19<sup>th</sup> from Everett to Lovejoy
  - NW Flanders from 19<sup>th</sup> to 24<sup>th</sup>
  - NW Johnson from 19<sup>th</sup> to 25<sup>th</sup>
  - NW 22<sup>nd</sup> from Flanders to Johnson
- Pockets of occupancy decreases include:
  - NW Lovejoy from 20<sup>th</sup> to 25<sup>th</sup>
  - NW Northrup from 17<sup>th</sup> to 25<sup>th</sup>
  - NW Pettygrove from 18<sup>th</sup> to 25<sup>th</sup>
  - NW 19<sup>th</sup> from Lovejoy to Thurman

#### 4.3. Utilization

**Table 2** provides a breakout of key utilization metrics by stall type. These include peak hour, peak occupancy, empty stalls, average length of stay, and violation rate. Comparative results between 2020 and 2019 are provided.

- The average length of stay over the 14-hour survey (excluding permit users) notably increased from 2 hours and 20 minutes (2019) to **3 hours and 31 minutes** (2020).
- **Overall violation<sup>6</sup> rates increased**, rising from 8.4% (2019) to a combined 16.4% for all surveyed stalls (2020). This is significantly higher than industry best practice standards for effective enforcement.
- The two largest categories of stall types are 4 Hour metered/OBP stalls and 4 Hour metered stalls. Occupancies in 4 Hour metered/OBP stalls (2,735 stalls) do not exceed 85% at the peak

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<sup>6</sup> Vehicles observed parking longer than the posted time restriction. In NW users are lawfully allowed to extend their parking session by adding time to the meter; consequently, these figures likely overstate the true violation rate. However, the 2020 and 2019 figures remain comparable and show a notable observed increase from one year to the next.

hour, decreasing from 87.6% in 2019 to **79.7%** in 2020. Occupancies in 4 Hour metered stalls (530 stalls) decreased from 78.0% in 2019 to **65.6%** in 2020.

- **Violation rates are highest for 1 Hour signed stalls and ADA stalls**, increasing from 44.3% in 2019 to **75.0%** in 2020 for 1 Hour stalls (5 stalls) and from 0.0% in 2019 to 57.1% in 2020 for ADA stalls (4 stalls).<sup>7</sup>
- 1 Hour signed stalls have an average length of stay of **5 hours and 15 minutes** (3 hours and 33 minutes longer than 2019). The data suggests that these stalls do not provide adequate time for the typical user. Previous studies have recommended complete elimination of these stalls from the district.

**Table 2: Weekday Utilization by Time Stay (2020 vs. 2019)**

Stall Type	Stalls	Peak Hour	Peak Occupancy	Stalls Available	Average Duration <sup>8</sup>	Violation Rate <sup>9</sup>
<b>On-Street Supply Studied</b>	<b><u>3,537</u></b> 3,644	<b><u>1:00 PM – 2:00 PM</u></b> 12:00 PM – 1:00 PM	<b><u>75.1%</u></b> 82.4%	<b><u>838</u></b> 618	<b><u>3:31 hours</u></b> 2:20 hours	<b><u>16.4%</u></b> 8.4%
5 Minutes Signed	<b><u>7</u></b> 5	<b><u>multiple</u></b> 2:00 PM – 3:00 PM	<b><u>28.6%</u></b> 80.0%	<b><u>5</u></b> 1	- -	- -
15 Minutes Metered	<b><u>4</u></b> -	<b><u>4:00 PM - 5:00 PM</u></b> -	<b><u>100.0%</u></b> -	- -	- -	<b><u>9.1%</u></b> -
15 Minutes Signed	<b><u>3</u></b> 15	<b><u>multiple</u></b> 1:00 PM – 2:00 PM	<b><u>66.7%</u></b> 53.3%	<b><u>1</u></b> 7	- -	<b><u>40.0%</u></b> 36.7%
30 Minutes Metered	<b><u>86</u></b> 85	<b><u>1:00 PM – 2:00 PM</u></b> 6:00 PM – 7:00 PM	<b><u>55.0%</u></b> 50.6%	<b><u>36</u></b> 41	- -	<b><u>39.7%</u></b> 20.4%
1 Hour Signed	<b><u>5</u></b> 30	<b><u>12:00 PM – 3:00 PM</u></b> multiple	<b><u>100.0%</u></b> 70.0%	- 9	<b><u>5:15 hours</u></b> 1:42 hours	<b><u>75.0%</u></b> 44.3%
2 Hours Metered	<b><u>147</u></b> 113	<b><u>5:00 PM – 6:00 PM</u></b> 6:00 PM – 7:00 PM	<b><u>64.3%</u></b> 82.1%	<b><u>51</u></b> 19	<b><u>2:12 hours</u></b> 1:28 hours	<b><u>23.1%</u></b> 9.0%
4 Hours Metered/OBP	<b><u>2,735</u></b> 1,991	<b><u>11:00 AM – 12:00 PM</u></b> 12:00 PM – 1:00 PM	<b><u>79.7%</u></b> 87.6%	<b><u>542</u></b> 243	<b><u>3:44 hours</u></b> 2:17 hours	<b><u>16.7%</u></b> 4.5%
4 Hours Metered	<b><u>530</u></b> 488	<b><u>2:00 PM – 3:00 PM</u></b> 6:00 PM – 7:00 PM	<b><u>65.6%</u></b> 78.0%	<b><u>153</u></b> 105	<b><u>2:05 hours</u></b> 1:40 hours	<b><u>10.4%</u></b> 4.3%
ADA <sup>10</sup>	<b><u>4</u></b> 4	<b><u>multiple</u></b> multiple	<b><u>75.0%</u></b> 50.0%	<b><u>1</u></b> 2	<b><u>2:26 hours</u></b> 1:43 hours	<b><u>57.1%</u></b> <sup>11</sup> -
No Limit	<b><u>16</u></b> 17	<b><u>multiple</u></b> multiple	<b><u>81.3%</u></b> 93.8%	<b><u>3</u></b> 1	<b><u>5:21 hours</u></b> 6:21 hours	- -

<sup>7</sup> ADA space violations are due to ADA accessible placards not being displayed, rather than duration of stay.

<sup>8</sup> Average duration is filtered to show non-permit users only (ADA accessible and No Limit exempt) when each stall type is enforced (On-Street Supply Studied and No Limit exempt).

<sup>9</sup> Violation rates may be lower than reported due to the ability of users to 'plug the meter' (add additional time beyond the posted time restriction) – users can do this through the pay station or the Parking Kitty app.

<sup>10</sup> ADA accessible stalls are designated at 2-hour (1 metered stall) and 4-hour (3 metered/OBP stalls) time-stay spaces.

<sup>11</sup> ADA space violations are due to ADA accessible placards not being displayed, rather than duration of stay.

#### 4.4. Other Use Characteristics

**Table 3** provides a summary of additional key metrics by type of user (all, non-permit, and permit) across several utilization metrics.

- Length of stay by users during both study years varies greatly; the average stay is **notably longer in 2020** for all users (including non-permit and permit users).
- The total number of unique vehicle trips declined significantly from 10,701 in 2019 to **7,097 in 2020, a decrease** of 3,604 unique vehicles or **33.7%**.

Note: it is important to maintain and/or increase the number of non-permit user trips (down 1,839 over the previous year<sup>12</sup>) coming to NW; these are effectively discretionary “customer” trips and should be considered a bellwether for economic activity in the neighborhood. Part of the drop could be explained by COVID-19 safety restrictions and by mode shift, more patrons switching modes to access the area, which should also be similarly monitored along with vehicle trips. The purpose of parking management is to ensure, to the highest degree possible, the availability of, and access to, on-street parking for the customer and visitor (as well as the resident). If the result of more rigorous management strategies results in fewer customer trips, the strategies should likely be reevaluated.

- The average rate of turnover decreased from 2.78 in 2019 to **2.10 in 2020**.<sup>13</sup>
- The total number of **on-street permits displayed during the peak hour for permit use decreased notably in 2020**. Aggregated, the decrease is about 14.1%: 1,467 peak hour permits in 2020 compared to 1,707 in 2019.
- Approximately **one in 14 vehicles parked more than once within the study area** (6.9%) during the study period. This was slightly higher than 2019, when approximately one in 15 vehicles re-parked within the study area (6.5%).

<sup>12</sup> Although higher as a percentage of all trips

<sup>13</sup> As referenced in the two previous bullet points, the rate of turnover may be a consequence of the reduction of overall unique vehicle trips in 2020, a consequence of the COVID pandemic. A higher number of visitor trips (with generally shorter durations of stay) would result in increased turnover.

**Table 3: Other Weekday Use Characteristics (2020 vs. 2019)**

Use Characteristics <sup>14</sup>	All Users	Non-Permit Users	Permit Users
Average Duration	<b>4:45 hours</b> 3:36 hours	<b>3:31 hours</b> 2:20 hours	<b>7:34 hours</b> 5:44 hours
Vehicle Trips	<b>7,097</b> 10,701	<b>4,918</b> 6,757	<b>2,179</b> 3,944
Turnover Rate	<b>2.10</b> 2.78	<b>2.85</b> 4.27	<b>1.32</b> 1.74
Permits in Metered 4 Hour OBP (peak hour for permit use)	<b>1,405</b> 1,335	- -	<b>1,405</b> 1,335
Permits observed in all other stall types <sup>15</sup>	<b>62</b> 58	- -	<b>62</b> 58
Total permits displayed <sup>16</sup> (peak hour for permit use)	<b>1,467</b> 1,707	- -	<b>1,467</b> 1,707
Vehicles moving between stalls: re-parking (% of vehicle trips)	<b>489 (6.9%)</b> 698 (6.5%)	- -	- -

**Table 4** provides a summary of key metrics only for stalls that allow a 2- or 4-hour time limit (metered and by permit). These include occupancy at peak hour, user group, vehicle trips, vehicle hours parked, average length of stay, and turnover rate.

- 2 Hour metered stalls maintain a **much lower occupancy rate of 50.7%** compared to 2019 (68.6%) during the peak hour (1:00 PM). Also, as demonstrated in **Table 2**, the violation rate within 2020 2 Hour metered stalls (23.1%) is much higher than in 2019 (9.0%).
- The data suggests that, as compared to 2019, **visitors are more commonly overstaying the posted time limit**. Currently, turnover in 2 Hour metered stalls is 4.58 compared to 6.76 in 2019; 5.00 is the industry minimum target.
- 4 Hour metered stalls are **operating at a moderate rate**, maintaining an average duration well below 4 hours (2 hours and 5 minutes). Occupancy during 2020's peak hour is 63.3% compared to 71.7% in 2019.
- 2,107 parked vehicles were observed at the peak hour in 4 Hour metered/OBP stalls (79.2% occupied). Of this total, **34.6% were non-permit users** (729 vehicles), up from 381 vehicles in 2019 (an increase of 348 trips). These findings were likely a result of the significant increase in the number of 4 Hour OBP stalls year-over-year, a 744 stall increase.

<sup>14</sup> Peak hours for permit use observations for 2020 and 2019 are 11:00 AM to 12:00 PM and 11:00 AM to 1:00 PM, respectively.

<sup>15</sup> Ideally no vehicles displaying permits would be parked in these stall types (ADA exempt); they are not intended for permit holders.

<sup>16</sup> In 2019, there were also 314 permits displayed in Signed 4 Hour OBP stalls (not displayed in table as this stall type no longer exists in the 2020 study area).



Table 4: On-Street Permit Parking Utilization by User Group (2020 vs. 2019)

Use Type	Stalls	Peak Occupancy <sup>17</sup>	User Group <sup>18</sup>	Users <sup>19</sup>	Average Duration <sup>20</sup>	Turnover Rate
2 Hours Metered	<b><u>147</u></b> 113	<b><u>50.7%</u></b> 68.6%	All	<b><u>69</u></b> 72	<b><u>2:11 hours</u></b> 1:29 hours	<b><u>4.58</u></b> 6.76
			Non-Permit	<b><u>57</u></b> 68	<b><u>2:12 hours</u></b> 1:28 hours	<b><u>4.56</u></b> 6.84
			Permits	<b><u>12</u></b> 4	<b><u>1:20 hours</u></b> 1:49 hours	<b><u>7.50</u></b> 5.50
4 Hours Metered/OBP	<b><u>2,735</u></b> 1,991	<b><u>79.2%</u></b> 87.6%	All	<b><u>2,107</u></b> 1,716	<b><u>4:53 hours</u></b> 4:07 hours	<b><u>2.05</u></b> 2.43
			Non-Permit	<b><u>729</u></b> 381	<b><u>3:44 hours</u></b> 2:17 hours	<b><u>2.68</u></b> 4.38
			Permits	<b><u>1,378</u></b> 1,335	<b><u>6:15 hours</u></b> 5:16 hours	<b><u>1.60</u></b> 1.90
4 Hours Metered	<b><u>530</u></b> 488	<b><u>63.3%</u></b> 71.7%	All	<b><u>281</u></b> 332	<b><u>2:05 hours</u></b> 1:42 hours	<b><u>4.82</u></b> 5.86
			Non-Permit	<b><u>238</u></b> 308	<b><u>2:05 hours</u></b> 1:40 hours	<b><u>4.80</u></b> 6.03
			Permits	<b><u>43</u></b> 24	<b><u>1:00 hours</u></b> 2:31 hours	<b><u>10.00</u></b> 3.98

<sup>17</sup> Occupancies during the respective survey years' peak hour.<sup>18</sup> Number of permit users includes permits used incorrectly.<sup>19</sup> Number of users during the respective survey years' peak hour.<sup>20</sup> Average duration of stay is filtered to show each stall type only when it is enforced (9:00 AM to 7:00 PM).

## 4.5. Permit Usage

Table 5 illustrates permit activity by hour of the day.

- The 2020 peak hour for permit use occurs between **11:00 AM and 12:00 PM when 1,467 permits were displayed** in the study area. At this hour, a total of 2,476 vehicles were parked (423 fewer stalls occupied than 2019). As such, permits represent approximately 59.2% of all vehicles parked.
- **The overall peak hour for total vehicles parked occurs at 2:00 PM**, when 2,524 parked vehicles were observed. At this hour, enforcement and restrictions end for various stalls (i.e., loading zones). This creates a larger on-street supply with more available stalls, resulting in a slightly lower occupancy rate compared to the 1:00 PM to 2:00 PM peak hour.
- At the peak hour for permit use (between 11:00 AM and 12:00 PM), of the 1,467 permits displayed, **786 were residential and 345 were business permits**. In 2019, 922 residential permits and 650 business permits were displayed at the peak hour for permit use.
- Permits account for **more than half of occupied parking stalls for 12 of the 14 survey hours**, reaching a high of 62.1% at 8:00 AM.
- Temporary COVID-19 permits were displayed throughout the district, peaking at 7:00 AM (143 permits). While these permits are not valid, RWC collected them to show the continuing significant number of vehicles displaying COVID-19 permits.

Table 5: Weekday Permit Use (2020 vs. 2019)

Permit Type Displayed	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM
ADA	<u>9</u> 9	<u>9</u> 7	<u>10</u> 10	<u>10</u> 13	<u>13</u> 11	<u>11</u> 13	<u>12</u> 14
General	- 44	- 43	- 43	- 43	- 49	- 46	- 36
Temporary	<u>203</u> 95	<u>199</u> 89	<u>196</u> 86	<u>196</u> 83	<u>193</u> 84	<u>195</u> 82	<u>193</u> 80
COVID	<u>143</u> -	<u>137</u> -	<u>128</u> -	<u>125</u> -	<u>125</u> -	<u>123</u> -	<u>122</u> -
Resident	<u>890</u> 1,282	<u>859</u> 1,141	<u>823</u> 1,017	<u>816</u> 962	<u>786</u> 922	<u>775</u> 907	<u>767</u> 902
Business	<u>157</u> 202	<u>216</u> 311	<u>273</u> 449	<u>315</u> 574	<u>345</u> 635	<u>341</u> 650	<u>345</u> 663
Public <sup>21</sup>	- 4	<u>1</u> 4	<u>2</u> 2	<u>3</u> 2	<u>5</u> 4	<u>2</u> 5	<u>1</u> 5
Total permits	<u>1,402</u> 1,639	<u>1,421</u> 1,597	<u>1,432</u> 1,609	<u>1,465</u> 1,679	<u>1,467</u> 1,707	<u>1,447</u> 1,707	<u>1,440</u> 1,705
Stalls occupied	<u>2,296</u> 2,446	<u>2,290</u> 2,388	<u>2,324</u> 2,484	<u>2,425</u> 2,677	<u>2,476</u> 2,793	<u>2,487</u> 2,899	<u>2,523</u> 2,881
% of occupied stalls	<u>61.1%</u> 67.0%	<u>62.1%</u> 66.9%	<u>61.6%</u> 64.8%	<u>60.4%</u> 62.7%	<u>59.2%</u> 61.1%	<u>58.2%</u> 58.9%	<u>57.1%</u> 59.2%
Permit Type Displayed	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM
ADA	<u>11</u> 15	<u>11</u> 13	<u>13</u> 9	<u>9</u> 10	<u>7</u> 14	<u>7</u> 15	<u>7</u> 14
General	- 35	- 34	- 34	- 48	- 64	- 39	- 32
Temporary	<u>189</u> 81	<u>185</u> 84	<u>175</u> 87	<u>174</u> 92	<u>183</u> 100	<u>179</u> 95	<u>180</u> 98
COVID	<u>120</u> -	<u>117</u> -	<u>115</u> -	<u>115</u> -	<u>116</u> -	<u>115</u> -	<u>114</u> -
Resident	<u>750</u> 895	<u>733</u> 900	<u>764</u> 927	<u>754</u> 1,002	<u>769</u> 1,045	<u>760</u> 1,065	<u>766</u> 1,061
Business	<u>331</u> 662	<u>312</u> 618	<u>278</u> 557	<u>196</u> 432	<u>144</u> 310	<u>108</u> 248	<u>91</u> 210
Public	<u>2</u> 6	<u>1</u> 4	- 1	<u>2</u> 1	<u>1</u> 3	<u>1</u> 2	<u>1</u> 3
Total permits	<u>1,403</u> 1,696	<u>1,359</u> 1,655	<u>1,345</u> 1,616	<u>1,250</u> 1,586	<u>1,220</u> 1,538	<u>1,170</u> 1,466	<u>1,159</u> 1,419
Stalls occupied	<u>2,524</u> 2,818	<u>2,424</u> 2,750	<u>2,407</u> 2,722	<u>2,371</u> 2,778	<u>2,432</u> 2,944	<u>2,393</u> 2,962	<u>2,390</u> 2,893
% of occupied stalls	<u>55.6%</u> 60.2%	<u>56.1%</u> 60.2%	<u>55.9%</u> 59.4%	<u>52.7%</u> 57.1%	<u>50.2%</u> 52.2%	<u>48.9%</u> 49.5%	<u>48.5%</u> 49.0%

<sup>21</sup> Not a true "permit." Includes city/government vehicles. Typically license plates with an "E" at the beginning.

Figure E illustrates the hourly distribution of all users (non-permit/permit) over the course of the 2020 study.

Figure E: Weekday Hourly Demand by User Type (2020)<sup>22</sup>

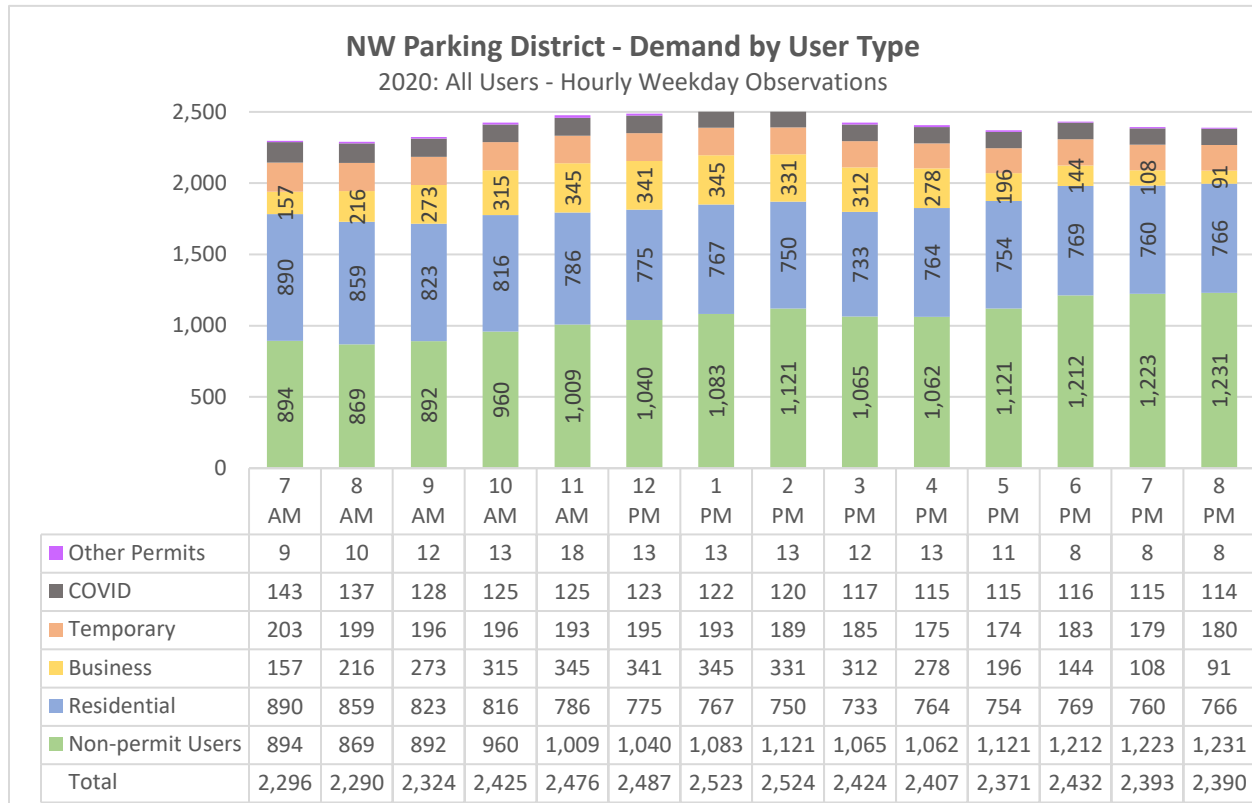


Figure E illustrates permit activity by type of permit.

- **The primary permit type in use at any hour is a residential permit.** The peak hour for use of a residential permit on the survey day was at 7:00 AM, when 890 were displayed.
- The peak hour for display of **business permits** is at 11:00 AM and 1:00 PM, when 345 are displayed.
- The peak hour for combined use of permits (**residential and business**) is 10:00 AM and 11:00 AM when 1,131 are displayed (816 residential/315 business and 786 residential/345 business, respectively).
- As stated earlier, the peak hour for **all permits** in use occurs at 11:00 AM when 1,467 permits are displayed (including residential, business, temporary and other).

<sup>22</sup> Note that the total number of vehicles parked at 2:00 PM in Figure D is 2,524, whereas the actual 1:00 PM "peak hour" (see Figure B) indicates 2,523 vehicles parked. This is due to the fluctuating inventory supply total. After enforcement ends for spaces such as loading zones, the inventory grows. With more available stalls, the occupancy rate decreases. While the number of occupied stalls might be higher at 2:00 PM, the percentage of stalls occupied is higher at 1:00 PM.

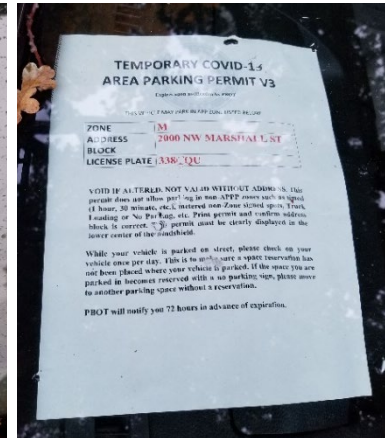
The chart provides a good visual account of which user group, at what time of day, is occupying the on-street parking supply. The data also suggests that shifting the enforcement hours from the current 9:00 AM – 7:00 PM window to 10:00 AM – 8:00 PM could generate some additional “non-permit user” turnover at a time when their presence is nearly its highest. Also, delaying enforcement later in the morning would have minimal effect on existing users, only 68 additional non-permit users are present between 9:00 – 10:00 AM, which is the only user group controlled by enforcement hours. Furthermore, delaying morning enforcement is also consistent with Vision Zero best practices, like encouraging evening visitors to take a TNC (e.g., Lyft, Uber) home and come back in the morning for their vehicles without the worry of receiving a citation.

## 5.0 Permit Assessment

NOTE: 2020 saw the introduction of a temporary parking permit, unique to the needs of residents and employees experiencing the effects of COVID-19. PBOT issued a number of these permits as a stop gap between permit renewal periods. The majority of these permits expired prior to the data collection effort. However, several of them had specific expiration dates that lasted into early December. At their peak (7:00 AM) the consultant team observed 143 invalid COVID permits throughout the study area.



Temporary permit



COVID-19 permit

### 5.1. Permit Allocation

The purpose of this assessment is to establish a measured breakout of the current supply, tracking where permit users are parking, by type of stall, and using that information to extrapolate the findings to the entire inventory. A complete inventory update of the NW Parking District was conducted in 2020. **Table 6** provides an accounting of the number of permits the City allocated by type of permit within the NW Parking District at the time of the survey.

- In 2020, saw a modest decrease in total allocated permits, down 9% from 2019 levels (compared to a 24% decrease in 2019). The largest reduction came from the allocation of business permits, which were down 13% (305 permits) over the previous year. Distribution of residential permits decreased by nearly 6% (140 permits) compared to 2019.
- Of the 2,418 residential permits allocated, 1,006 were income-based permits (42% of the total).

**Table 6: Permit Allocations Comparison (2020 vs. 2019)**

Year	2020 <sup>23</sup>	2019 <sup>24</sup>	Change
Business	2,096	2,401	-12.7%
Resident	2,418	2,558	-5.5%
Total Allocated	4,514	4,959	-9.0%

<sup>23</sup> Number of permits reported at the end of November 2020 – an adjustment to one month later than 2019 to account for a November data collection rather than an October data collection (2019).

<sup>24</sup> Number of permits reported at the end of October 2019

## 5.2. Permit Use and Extrapolation Analysis

**Table 7** provides the format for estimating current use of permits in the district. The format is based on 2020 findings extrapolated to a larger NW Parking District supply area totaling 5,409<sup>25</sup> stalls.

**Table 7: 2020 Summary of Permit Use**

		A	B	C	D
	Observation	Sample Size	Percent of Sample	All Stalls	2019 Comparison
1	On-street stalls in all NW Parking District	-	-	5,409	5,263
2	On-street stalls surveyed – sample size	3,537	100%	-	3,644
3	Stalls <u>Signed</u> 4 Hour OBP	-	-	74	817
4	Stalls <u>Metered</u> 4 Hour OBP	2,735	77%	4,307	1,991
5	Stalls where permits are not valid (Stalls without an OBP designation)	802	23%	1,028	836
Extrapolation Analysis <sup>26</sup>					
6	Permits in <u>Signed</u> 4 Hour OBP - peak hour	-	N/A	N/A	314
7	Permits in <u>Metered</u> 4 Hour OBP - peak hour	1,405	51%	2,213	1,335
8	Permits observed in all other stall types <sup>27</sup>	62	8%	79	58
9	Permits displayed during peak hour and extrapolated to all on-street stalls	1,467	N/A	2,292	1,707

- There are 4,381 stalls within the entire inventory of stalls where parking with a permit is allowed (the sum of rows 3 and 4, column C). This represents about 81% of all parking in the district. The remaining 1,028 stalls (19%) do not allow parking with a permit (row 5, column C).<sup>28</sup>
- 2020 findings indicate there are 1,467 permits displayed (down 14% compared to 2019) in the sampled supply during the peak hour for permit use (row 9, column A). Of this total, 1,405 are parked in 4 Hour OBP Metered stalls (row 7, column A).

<sup>25</sup> RWC completed a parking inventory of the entire NW Parking District in October 2020. During that inventory, a total of 5,409 stalls were cataloged throughout the district. A full breakout of those inventory findings can be found in **Appendix A**.

<sup>26</sup> Peak hour observations focus solely on the 11:00 AM peak hour for permit use instead of the 1:00 PM peak hour for occupancy.

<sup>27</sup> Ideally no vehicles displaying permits would be parked in these stall types; they are not intended for permit holders (ADA exempt).

<sup>28</sup> ADA spaces are exempt.



- An additional 62 permits (up 7% compared to 2019) were observed in other stall types, where permits are not allowed (row 8, column A).
- When these 1,467 permits are extrapolated to the entire parking supply where permits are allowed (OBP stalls only), there are 2,292 permits displayed during the peak hour on a “typical day” (row 9, column C).

### 5.3. Recommendations

Traditionally, **Table 8** summarizes the number of Business and Residential permits that would be allocated to lower occupancies in 4 Hour OBP stalls in order to achieve the desired occupancy of 84%. In this case, because of a COVID-19-affected parking environment, 4 Hour OBP stalls have an occupancy rate of 79% with no need to adjust the current permit allocation. The following outlines the findings of in-field permit observations and their prevalence throughout the whole parking district when extrapolated to the full extent of the district.

- The actual “peak occupancy” rate is 81% if the 62 current permits improperly using non-permitted stalls were to be directed to 4 Hour OBP stalls (row 2). This is the first time OBP have been below 85% since monitoring began.
- At the time of the survey, 2,096 permits were allocated to businesses. The current allocation of permits to businesses is based on 80% FTE. This represented a moderate drop in the business permit allocation compared to 2019 figures (2,401), a 13% decrease.
- Similarly, 2,418 permits were allocated to residents at the time of the survey; 140 fewer than in 2019.
- Float for each category of permit continues to recalibrate based on a couple of important factors, the most significant being the continual refinement of allocation rules (eligibility, price, allocation limitations, etc.), the other is the reduction in businesses and residents opting to purchase “discretionary” permits. The float factor will continue to fluctuate somewhat as conditions within the district change (growth in dwelling units, number of businesses), but it will likely approach more of an equilibrium level in subsequent years. Float for business permits is 389% of total permits issued, whereas residential permits have a float of 197% of permits issued. Float for business permits was higher this year simply because fewer of those types of permits were observed survey this year’s survey – a likely result of COVID-19 where more employees work from home.
- Based on current peak hour occupancies, no additional permits would need to be reduced from current allocations to achieve desired occupancies, 84%, in OBP stalls (row 9). According to this assessment, an additional 140 could, theoretically, still be allocated while still achieving optimal occupancies.
- To support this finding, PBOT should decrease the total number of permits allocated to 4,654 (row 10). This is 37 fewer than was recommended in 2019.

- With this adjustment to the allocation it is estimated that 2,368 permits would be parked in the peak hour in 2021 (row 11) versus the 2,292 permits currently shown in the extrapolated model (row 7).

Since the recommendation is based on a static model reflecting existing conditions and does not account for any growth in residences or employment, it is advisable to choose a target allocation goal that is less than 4,654.

**Table 8: Observations of Permit Allocation**

Observation		2020	2019
1	Peak hour occupancy in 4 Hour OBP stalls (Signed/Metered)	N/A / 79%	84% / 88%
2	Peak hour demand in 4 Hour OBP stalls if 62 permits now using non-permit stalls are allocated to OBP stalls	81%	89%
3	Permits allocated to businesses based on a 0.8 permits / FTE ratio	2,096	2,401
4	Permits allocated to residents	2,418	2,558
5	Business permit “float” <sup>29</sup> based on permits allocated (2,069) / and peak hour permits observed (345 observed, extrapolated to 539)	389% (2,069/539)	229% (2,401/1,047)
6	Residential permit “float” based on permits allocated (2,418) / and peak hour permits observed (786 observed, extrapolated to 1,228)	197% (2,418/1,228)	175% (2,558/1,461)
7	Other permits observed – Temporary, COVID-19, etc. (318 observed, extrapolated to 497)	497	128
8	Permits displayed in peak hour @81% occupancy (extrapolated <sup>30</sup> )	2,292	2,749
9	Estimated permits needed to be reduced (from 4,514) as a strategy to lower peak occupancy in 4 Hour OBP stalls from 81% to 84% <sup>31</sup>	(140)	268
10	<b>RECOMMENDATION:</b> Maximum permits allocated <sup>32</sup>	4,654	4,691
11	Estimated distribution of permit users in 4 Hour OBP stalls in peak hour @ 84% occupancy	2,368	2,601

**Table 9** illustrates the distribution of permits by type based on a recommended permit allocation of 4,600.

<sup>29</sup> Float is the relationship between permits allocated and the highest number of permits observed during the survey day.

<sup>30</sup> Figure extrapolated to the entire NW parking district (5,409 stalls).

<sup>31</sup> This assumes that existing transient parkers would continue to use these stalls. All efforts to decrease occupancies to 84% would be made through reduced permit sales and increased options for TDM alternatives.

<sup>32</sup> This reduction in permit allocation is intended to achieve an 84% occupancy goal – applies only to existing conditions. It does not take into account new development or growth (in residents or employment).

Table 9: Recommended Allocation Goal for Permit Types

Permit Type	Current		2021 Recommendation	
Business	2,096	46%	2,136	46%
Resident	2,418	54%	2,464	54%
Total	4,514	100%	4,600	100%

If the City capped the number of allocated permits at 4,600 and distributed them based on current distribution percentages for business (46%) and residents (54%), businesses would be limited to 2,136 permits, and residents to 2,464 permits.

#### 5.4. Other Considerations

##### *Problem Description*

The NW District has some parking policies that are unique only to it. These district specific policies have created operational challenges in the areas of turnover and enforcement. A potential unintended outcome is that the purpose and intent of 1 and 2 Hour stalls (e.g., short-term visitor access and turnover) is negated given their current designations as "long-term" parking stalls in policy and code. This situation is unique to the NW District and does not apply to any other Portland parking meter district.

##### *Discussion – Meter Districts Outside the NW District*

In four meter districts that operate outside of the NW District, the City defines a long-term parking meter as a parking meter with a designated time limit of more than 4 hours (see 16.90.180). Similarly, the City defines a short-term parking meter as a parking meter with a designated time limit of 4 hours or less (see 16.90.320).

In these areas outside the NW District (per 16.20.430 – Meter Time on City of Portland Right-of-Way):

- (a) it is unlawful for any person to park any vehicle in any parking meter space during the hours of operation of the meter without paying the parking meter fee, or to permit any vehicle in their control or custody to remain in any parking meter space longer than the designated time limit, and
- (b) at short-term meters, it is unlawful to extend the parking time beyond the designated limit for parking in the metered space.

The key distinction in these non-NW meter Districts is that by definition and enforcement, a stay at a "short term meter" is limited to the posted time-stay, a user cannot come back, or use a payment app, to extend any use of the meter beyond what is posted.

##### *Discussion – Meters in the NW District*

Time limit definitions for both long- and short-term meters are different in the NW Parking District. As described in 16.35.110 and .130 below.

**16.35.110 Upper Northwest Parking Definitions.**

A. Upper Northwest **Long-Term Parking Meter** - Any parking meter with a designated time limit of 1 hour or more, as regulated by signage within the Upper Northwest Parking Area.

F. Upper Northwest **Short-Term Parking Meter** - Any parking meter with a designated time limit of less than one hour, as regulated by signage within the Upper Northwest Parking Area.

**16.35.130 Upper Northwest Meter Violation and Enforcement.**

C. A vehicle in an Upper Northwest Long-Term Parking Meter space may remain in said space longer than the time designated time limit upon payment of the applicable parking meter fee.

The key outcome of 16.35.110 is that what is considered a short-term meter in other districts (e.g., 1, 2 and 4 Hours) is considered "long-term parking" in the NW District. As a policy, this negates any intent by the district to prioritize short-term visitor access and vehicle turnover, particularly areas in the district serving street level businesses. This unique definition is then reinforced by 16.35.130 C that allows users to extend their time (i.e., "feed the meter") for as long as they need. Operationally, this then effectively eliminates the intended parking turnover-inducing effect inherent in 1 and 2 Hour stalls.

This also has a compounding effect on parking stalls in the Event Restrict District (ERD) during events at Providence Park where over 1,100 4-Hour stalls temporarily convert to 2 Hour stalls to discourage event goers from parking in that subdistrict during events. Under the definitions in place, this allows users to extend their meter time at any stall posted 1 hour or more (as they are "long-term" by definition). Again, this negates the purpose in creating the ERD is the first place, which was to limit event goers from monopolizing short-term parking necessary to local business and non-event users during events.

Finally, this creates an additional challenge for parking enforcement. Enforcement is intended to promote and compel compliance with posted time restrictions; if users can simply extend their stays beyond the imposed time restriction without penalty (assuming meter payment), there ceases to be a need for any time restriction. This further limits the ability to manage parking effectively, particularly in an area where parking demand has shown to be some of the highest in the city.

*Proposed Solution for Consideration*

The changes proposed below would have a significant impact on higher turnover (i.e., short-term) stalls and allow them to function as intended. Also, the intent of time limits during events would be better facilitated, in code and operationally.

- Change the definition of a long-term meter (16.35.110 A) in NW to a designated time limit of more than 2 hours.
- The definition of short-term meter (16.35.110 F) would change to a designated time limit of less than 2 hours.

These changes would have a significant impact on higher turnover (i.e., short-term) stalls and allow them to function as intended.

## 6.o Goal Statements, Summary and Next Steps

### *Parking Goal Statements*

When reviewing annual parking utilization findings, the progress metrics, hourly occupancies, and heat maps can be somewhat hypnotic – figures blur together and it’s easy to forget that these numbers tell a story. They tell a story about the parking system, about how it’s being used; Is it being used efficiently? And by whom? It’s important to manage parking, but not to a point of diminishing returns. The parking system is there to support the community and its activities, not the other way around. The following goals statements are offered as a simple lens or point of reference to refer to when evaluating results.

#### **NW Parking Metrics – Goal Statements**

**Permit allocation:** *Strive to gradually reduce the total number of parking permits allocated to achieve an equilibrium, where visitor trips are not encumbered by parked residential or business permit holders during enforcement hours.*

**Vehicle trips:** *As a metric of economic health and vitality, maintain or increase the number of visitor trips to NW. Parking management strategies are intended to facilitate access for prioritized user groups based on demand; it is essential to maintain or enhance access for visitor trips, which are an important economic engine to the district. In other words, do not overmanage your supply at the expense of those you are trying to encourage to come.*

**2 Hour stall turnover rate:** *the turnover rate for 2 Hour stalls should meet or exceed 5.7 turns in a 10-hour period (an average length of stay of 1.75 hours). This is an important metric to monitor, as 2 Hour stalls are an important tool for the retail and restaurant-based businesses in NW. These short-term stalls are intended to allow users a reasonable length of stay, while also encouraging turnover. The more stalls turnover, the more trips can be accommodated, which is particularly important in a constrained parking environment like NW.*

### *Summary*

*Though the 2020 parking utilization study revealed a system that is, by in-large, operating efficiently, the results are, and should be, heavily caveated through a 2020 COVID-19 lens. While findings from the 2020 study are affected by the current pandemic, this is a valuable exercise to better understand how users have adjusted to these unique circumstances and how that changed parking behavior when contrasted to system performance in 2019.*

The entire parking district went through a major reformatting by finally eliminating nearly all<sup>33</sup> Signed OBP stalls, which were very difficult to enforce. The early fall also marked the completion of the Parking Kitty unique block face code rollout. This resulted in block faces with a base standard stall type, rather than having multiple time restrictions on a single block.

With a few exceptions most categories of stall types had peak hour occupancies less than 85%, including the OBP stalls. A handful of non-conforming stall types remain scattered throughout the district, such as 16 No Limit stalls and five 1 Hour Signed stalls.

Though occupancies for OBP stalls well below 85% permit allocation will continue to be an important thing to monitor, particularly as on-the-ground conditions change as our world/community return to a more typical operating pattern.

Next steps include pursuing a package of parking management strategies that will allow the Event Restrict District to function more effectively and encourage event patrons to use alternatives other than the on-street system.

### Recommendations

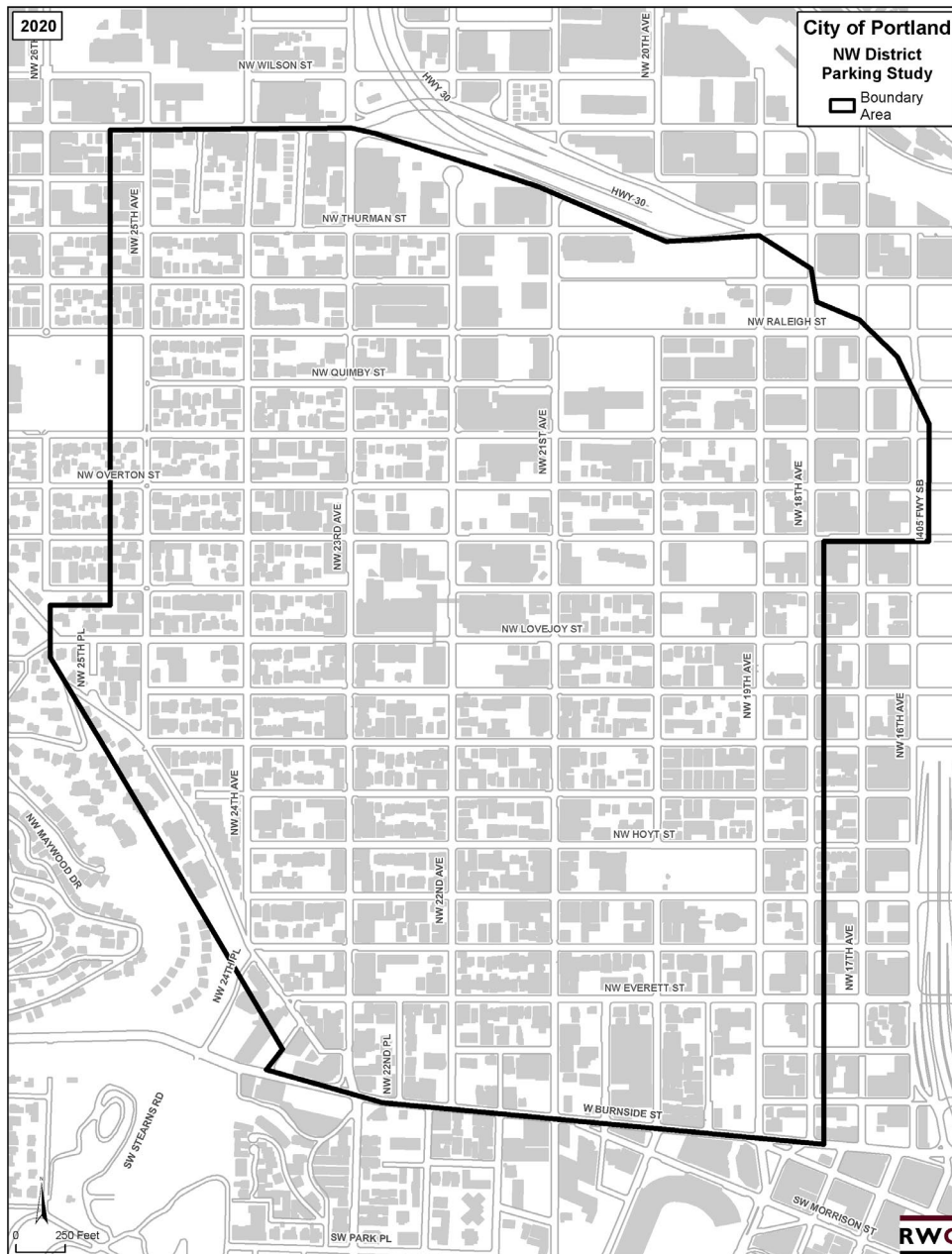
- Shift enforcement hours to more effectively target high occupancy periods – from 9:00 AM – 7:00 PM to 10:00 AM – 8:00 PM
- Change definition of long-term meters in NW to *stays of more than 2 hours*. This will make it unlawful to add time to high-turnover, 2 Hour meters.
- Minor adjustments to stall reformatting
  - ✓ Eliminate 1 Hour Signed stalls (5 of them)
  - ✓ Eliminate outlier No Limit stalls (16 of them)

<sup>33</sup> Only 60 Signed OBP stalls remain – prior to 2020 there were 1,260

## 7.0 Appendix A

In October 2020, RWC completed a full inventory of all on-street parking stalls in the Northwest Parking District (Figure F). This was a follow up to a similar inventory conducted in 2018. It was necessary to update the inventory given the number of changes made to the on-street system during those two years; changes that included the installation of new meters, converting several block faces to a standard stall type, the addition of unique Parking Kitty block face codes, and accounting for significant construction projects that resulted in changes to the parking on adjacent block faces.

**Figure F: Complete On-Street Parking Inventory for Entire NW Parking District**



**Table 10** provides a complete inventory of the on-street parking supply in the NW Parking District. The table also provides a direct comparison to the 2018 inventory. The figures from 2020 are shown bold and underlined (e.g., **2020**), whereas 2018 figures are plain text, no bold, no underline (e.g., 2018).

**Table 10: Complete On-Street Parking Inventory for Entire NW Parking District**

Stall Type	All		Metered		Signed		Metered Only	Metered OBP	Signed Only	Signed OBP
	Stalls	% Total	Stalls	% Total	Stalls	% Total	Stalls	Stalls	Stalls	Stalls
On-Street Supply Studied	<b><u>5,409</u></b> 5,263	<b><u>100.0%</u></b> 100.0%	<b><u>5,264</u></b> 3,727	<b><u>97.3%</u></b> 70.8%	<b><u>103</u></b> 1,524	<b><u>1.9%</u></b> 29.0%	<b><u>957</u></b> 800	<b><u>4,307</u></b> 2,927	<b><u>29</u></b> 235	<b><u>74</u></b> 1,289
5 Minutes	<b><u>7</u></b> 7	<b><u>&lt; 1%</u></b> < 1%	- -	- -	<b><u>7</u></b> 7	<b><u>&lt; 1%</u></b> < 1%	- -	- -	<b><u>7</u></b> 7	- -
10 Minutes	- 3	- < 1%	- 3	- < 1%	- -	- -	- 3	- -	- -	- -
15 Minutes	<b><u>7</u></b> 31	<b><u>&lt; 1%</u></b> < 1%	<b><u>4</u></b> 12	<b><u>&lt; 1%</u></b> < 1%	<b><u>3</u></b> 19	<b><u>&lt; 1%</u></b> < 1%	<b><u>4</u></b> 12	- -	<b><u>3</u></b> 19	- -
30 Minutes	<b><u>142</u></b> 180	<b><u>2.6%</u></b> 3.4%	<b><u>138</u></b> 158	<b><u>2.6%</u></b> 3.0%	<b><u>4</u></b> 22	<b><u>&lt; 1%</u></b> < 1%	<b><u>138</u></b> 158	- -	<b><u>4</u></b> 22	- -
1 Hour	<b><u>22</u></b> 154	<b><u>&lt; 1%</u></b> 2.9%	<b><u>15</u></b> 74	<b><u>&lt; 1%</u></b> 1.4%	<b><u>7</u></b> 80	<b><u>&lt; 1%</u></b> 1.5%	<b><u>15</u></b> 74	- -	<b><u>7</u></b> 80	- -
90 Minutes	- 20	- < 1%	- 20	- < 1%	- -	- -	- 20	- -	- -	- -
2 Hours	<b><u>198</u></b> 308	<b><u>3.7%</u></b> 5.9%	<b><u>190</u></b> 215	<b><u>3.5%</u></b> 4.1%	<b><u>8</u></b> 93	<b><u>&lt; 1%</u></b> 1.8%	<b><u>190</u></b> 215	- -	<b><u>8</u></b> 93	- -
3 Hours	- 43	- < 1%	- 43	- < 1%	- -	- -	- 43	- -	- -	- -
4 Hours	<b><u>4,983</u></b> 4,497	<b><u>92.1%</u></b> 85.4%	<b><u>4,909</u></b> 3,194	<b><u>90.8%</u></b> 60.7%	<b><u>74</u></b> 1,303	<b><u>1.4%</u></b> 24.8%	<b><u>607</u></b> 274	<b><u>4,302</u></b> 2,920	- 14	<b><u>74</u></b> 1,289
ADA	<b><u>6</u></b> 6	<b><u>&lt; 1%</u></b> < 1%	<b><u>6</u></b> 6	<b><u>&lt; 1%</u></b> < 1%	- -	- -	<b><u>1</u></b> 1	<b><u>5</u></b> 5	- -	- -
No Limit	<b><u>42</u></b> 12	<b><u>&lt; 1%</u></b> < 1%	- -	- -	- -	- -	- -	- -	- -	- -
ECC	<b><u>2</u></b> 2	<b><u>&lt; 1%</u></b> < 1%	<b><u>2</u></b> 2	<b><u>&lt; 1%</u></b> < 1%	- -	- -	<b><u>2</u></b> -	- 2	- -	- -