NW Parking SAC
Wednesday 21, 2018
4:00 p.m. – 5:30 p.m.

Friendly House
1737 NW 26th Ave.
Portland, OR 97210

Meeting Notes

Members in Attendance
Daniel Anderson, Nick Fenster, Jeanne Harrison, Karen Karlsson, Rick Michaelson (Chair), Thomas Ranieri, Peter Rose, Don Singer, Mark Stromme, Ron Walters

PBOT Staff
Chris Armes, Antonina Pattiz

Public in Attendance
Allan Classen, Michael Lilly, Piseth Pich

Consultants in Attendance
Rick Williams and Owen Ronchelli - Rick Williams Consulting

Welcome & Public Comment
Rick Michaelson calls the meeting to order at 4:00 pm and invites public comment.
No comments made.

2017 Data Collection and Analysis and Preliminary Recommendations
Rick Williams and Owen Ronchelli present the 2017 NW Portland Parking Assessment and Permit Analysis Summary.[1] Owen outlines the guiding principles for managing parking in NW (slide 2). [2]

- Create an environment that supports greater use of underutilized off-street resources (shared parking).
- Encourage and create options for users to reduce reliance on vehicle access.
- Manage the permit program while recognizing continuing growth in the number of residents and employees.
- Continue to ensure access for visitors accessing district businesses through metered parking supply.
- Use incentives and pricing as a way to balance permit demand.
- Continues to use actual data of utilization in the district to support decision-making.
- Look for opportunities to expand the off-street supply.

Ron asks if looking for opportunities to expand the off-street supply is a guiding principal or official recommendation from Rick Williams Consulting (RWC). If it's a guiding principal, he asks if it was a group decision.

[1] Attachment A: NW Portland Parking Assessment and Permit Analysis Summary

[2] Attachment B: 2017 NW Portland Data Summary PowerPoint

Rick Michaelson explains that looking for opportunities to expand off-street supply was a group decision and is in the adopted plan.

Owen continues to slide 5 and explains that the violation rate posted in the last column of the chart is possibly higher because the ability to plug meters makes it difficult for surveyor to know if a visitor paid to stay longer than the time posted.

Karen ask for clarification on violation rates; non-permitted vehicles were observed in the 2-hour signed stalls for longer than 2 hours?

Owen explains that violation rates for signed stalls are accurate because vehicles cannot exceed the posted time stay.

Karen points out that signed stalls have the highest violation rate in the sense that vehicles are staying longer than allowed. Vehicles at meters can pay/plug to extend the time stays.

Owen agrees and says he will discuss formatting recommendations at the end of the presentation.

Owen explains that the map on slide 6 outlines the secondary survey area. At the January meeting, SAC pointed out that some residential streets were not captured in the survey, so RWC re-visited 4 residential streets in January 2018. Northrup, Kearney, Hoyt and Flanders were surveyed during the peak hour (11am – 12pm) and overnight (2am – 4am). The overnight data collection was an attempt to determine how many residents purchase parking permits.

Rick Michaelson asks if the 5,447-total stall count is specifically in Zone M or the entire NW Parking District.

Chris answers that there are 5,447 parking stalls in Zone M.

Rick asks for that information to be stated clearly on the report.

Owen says he will make the correction.

Owen continues to slide 8 and points out that 40.7% of 30-minute stalls and 78% of metered stalls are occupied during the peak hour. These metered stalls are the ones that wrap around the ends of the block along 21st and 23rd.

Karen comments that the data on slide 8 reflects data from the second survey only- the East/West streets.

Owen confirms.

Rick Michaelson points out that the data shows 0% occupancy in the 10-minute stalls. He says that visitors must have not been observed in those meters during the survey, but they are in fact used. For instance, they allow patients of Eye Health Northwest the opportunity to drop off /pick up patients within 5 minutes.

Owen agrees.

Owen explains that 57% of 4-hour signed or by permit (OBP) stalls are occupied by permit holders, which is a higher percentage rate than observed in the rest of the sample area. Additionally, 87% of 4-hour metered OBP stalls are being occupied by permit holders.

Karen asks what the occupancy rate of non-permitted vehicles is in 4-hour signed OBP stalls.

Owen answers that occupancy of non-permitted vehicles in 4-hour signed OBP stalls is 51%.

Mark asks about parking availability from 2am – 4am.

Owen answers that 192 stalls (77.3%) were available from 2am – 4am. He references the data on page 7. Of the 856 stalls surveyed, 79.1% of vehicles displayed a parking permit, 20.9% did not. Non- permitted vehicles were mostly parked in 4 hour-metered/loading zones.

Owen continues to the map on page 8- outlining the combined study area. He reminds the SAC that the secondary data collection (four residential streets) was only conducted during the peak hour. The combined survey areas encompass 66% of supply in Zone M.

Rick Williams says that the map on page 8 will be the official study area going forward.

Owen apologizes for the incorrect data table on page 9-10. He informs the members that he will send an updated report to be attached to the meeting notes. He asks the members to continue to page 11. [3]

Owen points out that there are currently 33 1-hour stalls. He believes that 1-hour stalls set people up for violations/citations. There's not enough turn-over for businesses that need it, and it's not long enough for someone to shop/eat out.

Rick Michaelson asks for clarification- should the SAC look at converting 1-hour stalls to something shorter if appropriate and/or the standard 2/4-hour meters?

Owen confirms and explains that the recommendations at the end of the presentation suggest that change.

Owen continues to slide 11. The occupancy rate during the peak hour has reduced from 85.7% (2016) to 81.8% (2017).

Ron finds it interesting that the DHM survey (which focused on the perception of parking for residents and visitors) implied that parking was becoming more challenging in the neighborhood. However, this data suggests that parking availability has improved. Ron questions if decisions should be made based on perceptions and/or data.

Rick Williams comments that when perception surveys are conducted in cities/neighborhoods with 50% occupancy rates, people still say that parking is a challenge. People's perception of parking is not necessarily tied to occupancy rate/availability.

Karen points out that more resident permits have been issued this year than last year. She asks if there's an explanation about how parking has improved even though more permits have been issued.

Owen explains that guest permits have been eliminated. Additionally, less permits were observed than in 2016. The distribution of permits might be more than last year, but there's less utilization. It would suggest there's a higher number of visitors who can access the area.

[3] Attachment A is the updated/correct report.

Rick Michaelson suggests that the decrease in occupancy could be contributed to visitors no longer coming into the neighborhood because parking is challenging.
Rick Williams points out that RWC has "unique vehicle" data. Tracking unique vehicles helps better determine turn-over. A stall might be occupied at 100% for the full day, but it might have 6 unique vehicles in it throughout the day.

Dan asks if the ability to capture unique vehicles can it be cross tabbed with permit information that PBOT has, so that unique plates can be identified by permit holder?

Rick Williams says that unique vehicle data has been captured.

Owen agrees and continues to slide 12. He mentions that there are still some permit holders that park in meter-only stalls.

Peter asks if the permits observed in the metered areas are business or residential.

Owen answers that it's a mix of both.

Karen adds that at peak occupancy there is an 82% occupancy rate and 50% of meters are occupied by permits. The data would suggest a lot of visitors parking.

Rick Williams points out that constraint occurs in 4 hour-signed OBP stalls and that's the highest percentage of stall types in the district. The majority of supply is in constraint.

Owen moves on to the heat map on page 14. Of the four recently surveyed residential streets, only Flanders (on the East side) had decent occupancy during the peak hour.

Karen comments that, on the North side of the street on Northrup, between 19th/20th the data suggests a decent occupancy rate (55-69%) and that's where the three 10-minute spaces are, that doesn't seem correct.

Rick Williams reminds the SAC that the data on the residential streets is from one hour.

Owen continues to Table 7 on page 15, outlining the breakdown of permit usage during the peak hour.

Tom asks if extrapolating the number of residential permits displayed at peak hour (823) would equate to roughly double that for the entire district.

Owen explains that RWC extrapolates by stall type. Rather than doubling the permit numbers, they look at the amount of 4-hour OBP stalls and extrapolate that number. It's the same for process for 4 hours signed OBP stalls.

Owen continues to Table 8 (page 14) it breaks down permit usage by stall type.

Rick Michaelson asks if the secondary number in Table 8 is inclusive of the first number.

Owen confirms, the upper number includes the lower number. For example, 1,404 permits were observed during the peak hour, that includes the 513 permits that were observed in the secondary survey.

Karen finds it interesting that in 4-hour signed OBP stalls there are almost twice as many non-permit users as permit users, but in the 4-hour metered OBP stalls, there are twice as many people with permits as non-permit. The stalls appear to be used completely differently.

Rick Williams encourages the committee to think about the placement of the stalls -what is the business/land use in front of the meter? That will help explain the permit/non-permit habits.

Chris suggests that it might be an enforcement issue as well.

Owen continues to Table 9 on page 15. There are 668 less business permits this year than last year.

Rick Michaelson asks if data is available that specifically pertains to business permit use.

Owen says that data is available.

Karen comments that there was a chart last year that displayed permit use by hour. She would like to see a similar chart for the data collected this year.

Owen says he will re-create that chart for the 2017 data.

Mark asks why there would be fewer business permits this year than last.

Chris explains that reducing the FTE to .8 and increasing the price are both possible factors.

Rick Michaelson asks if it would be possible for PBOT to pull statistics on businesses that purchased the full .8 FTE allowance.

Chris explains that that data would take a significant amount of time but it might be possible. She will look into it.

Owen continues to Table 10 on page 15. There were 1,404 permits displayed during the peak hour. Extrapolated, that's approximately 2,091 permits displayed of the 6,986 permits issued.

Nick asks for an explanation of the float.

Rick Williams explains that cost is a factor that impacts float, some people buy permits not realizing that they only need a permit at night- their permits would not be used/observed during the peak hour.

Owen explains that the data shows there is a high number of permits that are not in use- high degree of float in terms of how many passes are sold vs how many spots are available. There are two exclusive categories (residents and businesses) that only overlap during certain points of the day, like peak hour. So, it helps explain why the float is so high during the peak hour.

Nick asks how many stalls are outside of Zone M.

Chris explains that stalls in the unregulated area are not inventoried. There's no way to inventory non-signed stalls, the area is not in the GIS system.

Owen continues to Table 11 on page 16. The business float is heavily leveraged at 464% float, residential float is 287% at peak hour. He informs the committee that the goal is to reduce occupancy from the current 88% to below 84% (a reduction of 318 permits). The reduction is an unbiased number, it can occur to residents or employee permits- it's up to the SAC to determine the appropriate method.

Chris reminds the committee that the reduction goal last year was 919 permits.

Karen shares that current construction is expected to add 424 new units to Zone M. The goal is to remove 318 permits from the system, but more permits will be added once the units come online (some buildings might offer off-street parking, so it is not certain how many permits will be added).

Jeanne comments that, as new units come online, so do new streets and meters. There will be more parking spaces coming in as well.

Karen agrees and mentions she was unaware that meters will be added.

Ron acknowledges the importance of focusing on peak hour, as it might be the maximum demand time, but it may not be maximum turnover time. It seems that improvements in the non-peak hour improve the user experience whether they feel it or not. In other words, we're looking at the worst-case scenario and it's appropriate to improve that. The business users and visitors would have a different snap shot.

Rick Michelson agrees and mentions that there are other times that need to be analyzed. For employees, looking at what is available between 7am – 9am. For residents, it's looking at availability between 5pm – 7pm. The second point, we might have to do some sub-area analysis. New units coming online in the Northern fringe of the district where the parking problem is not as bad yet but may worsen in the future. Third, we discussed the number of permits we need to reduce. How many stalls can we make available to get the same result?

Rick Williams answers that 318 stalls need to be made available in the peak hour, to achieve the same result.

Rick Michaelson asks if, theoretically, by converting all 30-minute zones and wrap-around meters on 21st/23rd it could add 200 spaces.

Owen mentions that converting those stalls could potentially increase occupancy rates.

Rick Williams adds the wrap around meters are at the edges of businesses. If they become permit stalls, they could be occupied by employees all day- deterring visitors/customers. Currently those stalls have an ideal occupancy rate of 78% in the peak hour.

Karen points out that the combined occupancy rate of those stalls is 68% according to the secondary survey.

Rick Williams cautions about the possibility of increasing occupancy rate. If those stalls were converted, there's no way to know how many employees will park there. Employees might take advantage of those spaces and park all day.

Rick Michaelson says that's fine. Those meters are not in front of businesses, they're around the corner.

Jeanne points out that some businesses wrap around the corner.

Rick Williams encourages the SAC to think about those meters. Want to ensure that those stalls still get turnover.

Rick Michaelson suggests looking for ways to average the occupancy rates more consistently throughout the district.

Nick mentions that not all parking spaces serve the same function. A business' perception of what a parking space does is very different from an employee's/resident's perception. Where is the greatest need for permit vs. non-permit stalls?

Karen explains that it's difficult when a resident/employee buys a permit and needs a place to park only to find available spaces that can't be parked in unless you pay. There's a perception for employees and residents that "there's all this stuff available but it's not for me." She suggests possibly looking for ways to balance occupancy rates throughout the neighborhood.

Dan asks if NW's residential and business float is typical or unusual. He asks if there are strategies to manage float either up or down that address supply/demand strategy.

Rick Williams explains that there are some cities, like Seattle, that have 1000% float because there are no restrictions on the number of permits that can be purchased and the cost is low. Very few programs that RWC has been involved with don't have a triple digit float- because the cost is usually low. NW is the first group to take steady, logical measures to manage demand and float. Some cities, such as Toronto, are also trying to manage demand by not allowing any resident/business with a curb cut the option of purchasing a permit. If they have parking available, they don't get permits. Or, within an FTE they reduce the number of permits allowed by subtracting the amount of parking spaces available. There have not yet been perfect strategies to get the float to zero.

Tom asks why getting the float to zero would be important.

Jeanne agrees and comments that you wouldn't want the float to be zero.

Rick Williams explains that the goal is to get to an occupancy rate of 85% and it's a matter of finding a balance between permit users, residents/employees and visitors. In a district like NW, you wouldn't want the whole district to be filled us with permits.

Karen comments that she's not surprised by the float. The neighborhood has a lot of part-time employees that come and go at all times of the day (retail, restaurants, cafes). There are also residents who will take public transit or use a bike/BIKETOWN every once in a while. It's so convenient to use other modes of transportation to get to work from NW. There are people parking their cars on the street all day.

Ron mentions the challenge in NW is the huge diversity of needs- there are public corporations, churches, synagogues, the Timbers, a hospital, schools, etc. The other thing that makes it difficult is that this effort is a moving target- NW is rapidly growing. The solution that's ideal in 2016 may be completely different in 2018. He suggests that the SAC can be congratulated for convening this group and starting to make progress for businesses, residents, visitors and employees. But also, he encourages the SAC to continue with the effort. Parking won't get better on its own- it takes active management.

Mark asks if 30-minute stalls, 1-hour stalls, loading zones, etc. are signed for 24 hours.

Chris explains that all stall types in NW are only enforced standard hours (8am – 6 pm M- Sat). Therefore, parking in stalls for longer than the posted time is allowed outside of enforcement hours.

Rick Michaelson asks if, now that a middle of the night study has been conducted, it's possible to get a sense of how many residents drive to work. For instance, if the 11am count shows fewer residential permits than the 2am count, it could be presumed that those people at that particular time have driven somewhere else.

Rick Williams answers that it can be speculated but it might not be accurate.

Nick recalls seeing data that showed trips coming in and out of the neighborhood.

Jeanne recalls that as well. The data showed commuter habits for the entire parking district.

Rick Michaelson asks Owen to go over the preliminary recommendations.

Owen outlines the formatting recommendations (slide 19):

- Expand meter coverage in NW parking district. Convert any signed stall type to metered stalls (including OBP).
- Reduce and redistribute the number of 30-minute stalls – equivalent to a 70% occupancy level in the peak hour (currently 45% from 11 AM – 12 PM)
- Convert 1 Hour stalls (currently 33 of them) to 2 Hour
- Consider changing enforcement hours to 10 AM – 8 PM (currently 9 AM – 7 PM)
- Change wrap-around 2 Hour and 4 Hour Metered to 4 Hours Metered OBP (change should be based on occupancy analysis)

Owen explains that he will pull data on the wrap-around stalls that break downs specific occupancy rates. He asks if the committee wants to reduce the number of permits or increase OBP stalls. Being mindful that visitors without permits need to have places to park as well.

Jeanne suggests that determining appropriate stall types can be done on a case by case basis by block. On Kearny, the businesses wrap around quite some ways.

Rick Michaelson asks if there are any questions about the formatting recommendations. There are no questions. He asks Owen to discuss permit recommendations.

Owen starts by outlining the current permit allocations, effective 09/01/2017:

- Business Permits - .8 FTE
- Residential Permits – 30 or more units with occupancy certificate prior to September 2017 allocated to the building at .6 per unit. Buildings with 30 or more units with occupancy certificate after September 2017 allocated to the building at .4 per unit.
- Eliminate guest permits
- Cost for all permits $180

Permit Recommendations:

- Reduce total permits allocated by 325 based on 2017 data collection.
  Reduction proportional to observed use in peak hour – 60% residential (195), 40% business (130)

<u>Business Permits</u>

- Allocate .7 FTE

<u>Residential Permits</u>

- Anyone who currently has a permit would keep their permit. The limit/reduction to residential permits would occur by attrition in any of the options listed below.

Options for reducing permits:

Option 1

- No limit on residential buildings that have less than (TBD) units
- Existing buildings with (TBD) units or more:
    - Eligible to receive permits at .6 of units/addresses.
    - Permits will continue to be issued to individuals.
- New buildings with more than (TBD) units that do not have certificate of occupancy by September 1, 2017
    - Eligible for permits at .4 per units/addresses for the upcoming permit year and beyond.

Option 2

- Allocation stays same
- Increase cost of permit (flat rate or tiered pricing)

Option 3

- Limit all residential buildings to same allocation (currently .6 per unit) or sliding allocation per Rick's table. [4]

Option 4

- No changes to permit allocation 2018-2019 permit year.

Future Option

- Determine off-street parking spaces available per building and reduce allocation accordingly.

Ron asks if any of the recommendations might pose legal challenges.

Chris explains that all recommendations go through the City Attorney prior to being presented to the SAC.

Don: "Are they honestly vetted through the City Attorney? I don't believe that because, given a lot of the research we've done, and I know Mike Lilly of Multifamily NW has done, shows that these ramifications or differentiation in creating different classes within a class is discriminatory."

Rick explains that it's a legal fight for the City Attorney. All recommendations have gone through an initial screening through him.

Chris confirms and explains that the process is the same as last year. Last year, there were some ideas from the SAC that were determined to be unviable after being reviewed by the attorney so therefore did not move forward. The City Attorney has met at least once with Michael Lilly about the permit program.

Ron says he wanted to ensure the recommendations were legal and it appears that they have been vetted through the City Attorney.

Chris confirms.

[4] All allocations are rounded up to the nearest whole number. An allocation of .6 equates to one permit.

Nick asks why the recommendation on the cap is based on a hard percentage vs. a gradient scale akin to income taxes. A building with 30 units receives functionally fewer permits than a building with 29 units.

Rick mentions that he has drafted a suggested solution to address that problem.

Chris says PBOT will email Rick's scale to the SAC.

Peter suggests another possible option. He states that he is against restricting buildings with 30+ units, as it creates different tiers of residents between home owners and renters. He suggests a solution that may not require a cap.

He ran a report of all residents with a permit in Zone M.

- 520 addresses have 2 or more permits
- 84 addresses have 3 or more permits
- 2 addresses have 5 permits
- 696 permits could be saved if every address is only allowed 1 permit which is a 124% increase than the current cap is returning to the system (162 permits)

If each residence is limited to one permit, for equity purposes, 696 permits would be removed from the system.

Karen asks if a house with four bedrooms would get the same number of permits as a studio apartment.

Peter explains that there could be a list of exceptions. If a resident can prove employment, or is willing to sign verification that they need a car for work- they would get a permit (similar to the low income self-certification). It still may create an issue with units/homes with more than 2 bedrooms. The linear footage of curb cuts on the streets is significant. If a single-family home owner has a permit and we strip the curb cut to indicate a restricted space, and give them that space (which is already technically theirs, because no one else can park there) then the home owner can park in those spaces.

Don: "you also have some homes that literally the garage door hits the sidewalk, then you have the curb cut so you don't have any travel lanes, so that would accommodate that."

Peter confirms. Not only does this suggestion potentially reduce the number of permits, it adds on-street parking significantly to the neighborhood. The idea would be that, for a single-family dwelling, you would not charge for restricted curb cut spaces- to incentivize residents to use those spaces and not park on the street (which takes spaces from residents without off-street options and employees).

Peter continues, the idea is that if a curb cut is available, a resident can park in that space free of charge. They would only be allowed to get an additional permit if they have an exemption. The presumption is that the curb cut is a viable parking space.

Rick Michaelson asks Peter to write an outline of his idea and email it to him.

Peter agrees and believes this new suggestion is more equitable for the neighborhood and would remove more permits from the system than the current restriction. It might be possible to limit permits without capping high residential building.

Don: "Two comments. One, I really like the simplification of one per unit, the exceptions, how we deal with the curb cuts is a whole other thing in the residential. But, you really intrigue me, Rick, with your comments about Toronto because you could make a significant dent in the amount of residential permits issued if you actually spend the time and money to do a good and valid inventory of curb cuts- whether or not somebody has 50-100 foot wing, they could park 3 cars. It's nearly a policy consideration on our part. Can somebody who can put six cars off street and taking up a curb cut, do they really deserve a permit? And that's one question- that's a policy thing. How, in Toronto, do they do this inventory?"

Chris explains that Toronto has a very complex individualized computer reservation system for every stall in the city.

Don: "This is really GIS type of survey to line up addresses with the number of off street spaces."

Chris explains that that gets to the future piece in determining if the SAC wants to inventory curb cuts and off-street parking. If so, we can start that process now to be proactive.

Rick Michaelson believes that curb-cut/off-street inventory will be necessary.

Rick Michaelson concludes by asking the members to email him ideas for recommendations so that staff can prepare a list for discussion at the next meeting.

Dan asks if it's possible to discuss Parking Kitty's ability to plug the meter.

Karen says she'd like that added to the topics of discussion.

Chris explains that meter plugging is not a Parking Kitty issue, it's a policy decision

Rick mentions that the SAC could change policy and prohibit meter plugging in NW and that would be consistent with the rest of the city. However, it's more than a policy decision, as it's part of the NW Parking Management Plan, adopted by council. It would have to get changed by council.

Staff Updates

Chris informs the committee that 46 people have applied for the NW staff position. The resumes have been reviewed. Hopefully the new staff person will be on board in the next 6 weeks.

Chris updates the committee on the agreement for purchasing pay stations for off-street lots. The supply subcommittee has discussed the agreement, which would be open to anybody with a surface lot. She hopes to have an update for the SAC by next week.

There was a postcard mailed last week informing residents of a public records requests, requested by Michael Lilly (representing Multifamily NW) and Tony Jordan. Mr. Jordan was concerned that he was being associated with Multifamily NW and that it was not clear that he was asking for different information than Multifamily NW. Chris makes it clear that Tony Jordan is not affiliated with Multifamily NW and did not ask for permit holders addresses.

New Business

The next SAC meeting will be held on Tuesday, April 3, 2018 from 4pm – 5:30pm.

Meeting adjourned.

2017

NW Portland Parking Assessment and Permit Analysis Summary

Last updated: March 13, 2018 (v5)

Prepared for:

City of Portland

Bureau of Transportation

1221 SW 4th Ave

Portland, OR 97204

Prepared by:

RICK WILLIAMS CONSULTING

Parking & Transportation

PO Box 12546

Portland, Oregon 97212

Rick Williams, Principal

Owen Ronchelli, Project Manager

Figure A: Project Study Area (Data Collected November 2017)

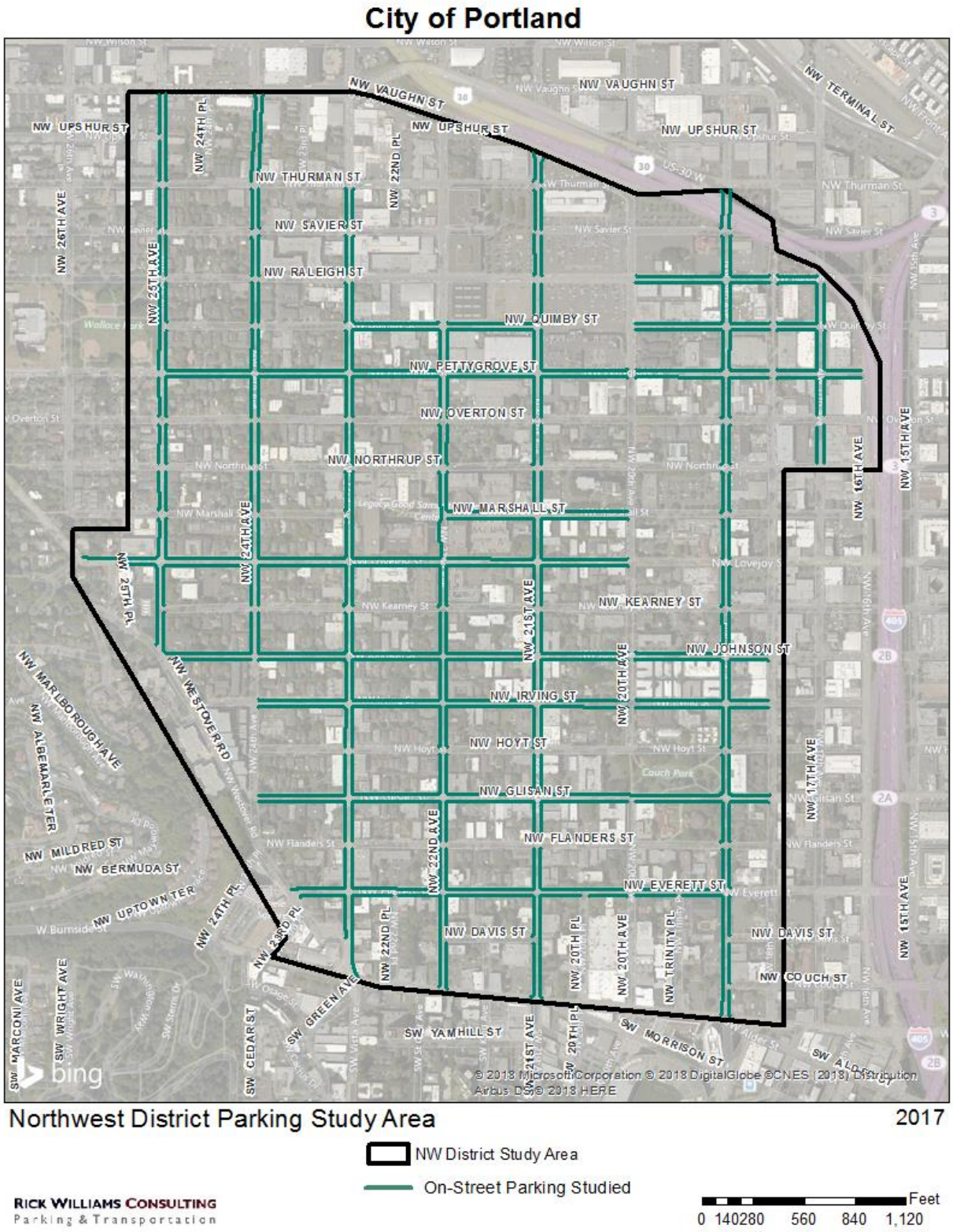


Table 1: Parking Inventory (Data Collected November 2017)

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
5 Minutes	5	< 1%	0	0%	5	< 1%	0	0	5	0
15 Minutes	18	< 1%	0	0%	18	< 1%	0	0	18	0
30 Minutes	83	3.0%	73	2.7%	10	< 1%	73	0	10	0
1 Hour	26	1.0%	0	0%	26	1.0%	0	0	26	0
2 Hours	144	5.3%	91	3.3%	53	1.9%	91	0	53	0
4 Hours	2,329	85.2%	1,720	62.9%	609	22.3%	363	1,357	0	609
ADA accessible (2 Hours)	1	< 1%	1	< 1%	0	0%	1	0	0	0
ADA accessible (4 Hours)	3	< 1%	2	< 1%	1	< 1%	0	2	0	0
No Limit[1]	12	< 1%	0	0%	0	0%	0	0	0	0
Construction	112	4.1%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	2,733	100%	1,887	69.0%	722	26.4%	528 (19.3%)	1,359 (49.8%)	112 (4.1%)	610 (22.3%)

1 No Limit and Construction stalls are neither metered nor signed. Metered and signed stalls complete 95.5% of the on-street supply, leaving the rest to No Limit and Construction spaces (4.5%). Since the time of the study the No Limit stalls have been converted to stalls with parking controls.

Table 2: 2017 On-Street Parking Utilization

Use Type	Stalls	Peak Occupancy Peak Hour	Stalls Available	Average Length of Stay[2]	Violation Rate[3]
On-Street Supply	2,733	80.5% 11:00 AM – 12:00 PM	497	3h 12m	20.3%
5 Minutes (Signed)	5	N/A Under Construction	N/A	N/A	N/A
15 Minutes (Signed)	14	42.9% 6:00 – 7:00 PM	8	N/A	32.0%
30 Minutes (Signed)	10	100% 11:00 AM – 12:00 PM	0	N/A	50.0%
30 Minutes (Metered)	73	64.8% 6:00 – 7:00 PM	25	N/A	36.5%
1 Hour (Signed)	26	73.1% 1:00 – 2:00 PM 6:00 – 7:00 PM	7	2h 32m	48.4%
2 Hours (Signed)	53	92.5% 10:00 – 11:00 AM	4	3h 35m	56.5%
2 Hours (Metered)	91	83.5% 6:00 – 7:00 PM	15	1h 35m	9.6%
4 Hours (Signed – OBP)	609	87.8% 11:00 AM – 12:00 PM	74	4h 55m	35.5%
4 Hours (Metered)	375	73.0% 6:00 – 7:00 PM	96	2h 10m	6.7%
4 Hours (Metered – OBP)	1,389	84.2% 6:00 – 7:00 PM	215	3h 35m	17.1%
ADA accessible (2 Hour – Signed)	1	100% Multiple	0	1h 15m	0%
ADA accessible (4 Hour – Metered – OBP)	2	50.0% 4:00 – 7:00 PM	1	1h 30m	0%
ADA accessible (4 Hour – Signed – OBPS)	1	100% 9:00 AM – 7:00 PM	0	8h 0m	100%
No Limit (Enforcement Hours)	12	100% 2:00 – 5:00 PM	0	8h 32m	N/A

[2] Average length of stay filtered to show non-permit users only (excluding ADA accessible and No Limit stalls).
[3] Violation rates are likely 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.

Figure B: <u>Secondary</u> Peak Hour Study Area (Data Collected February 2018)

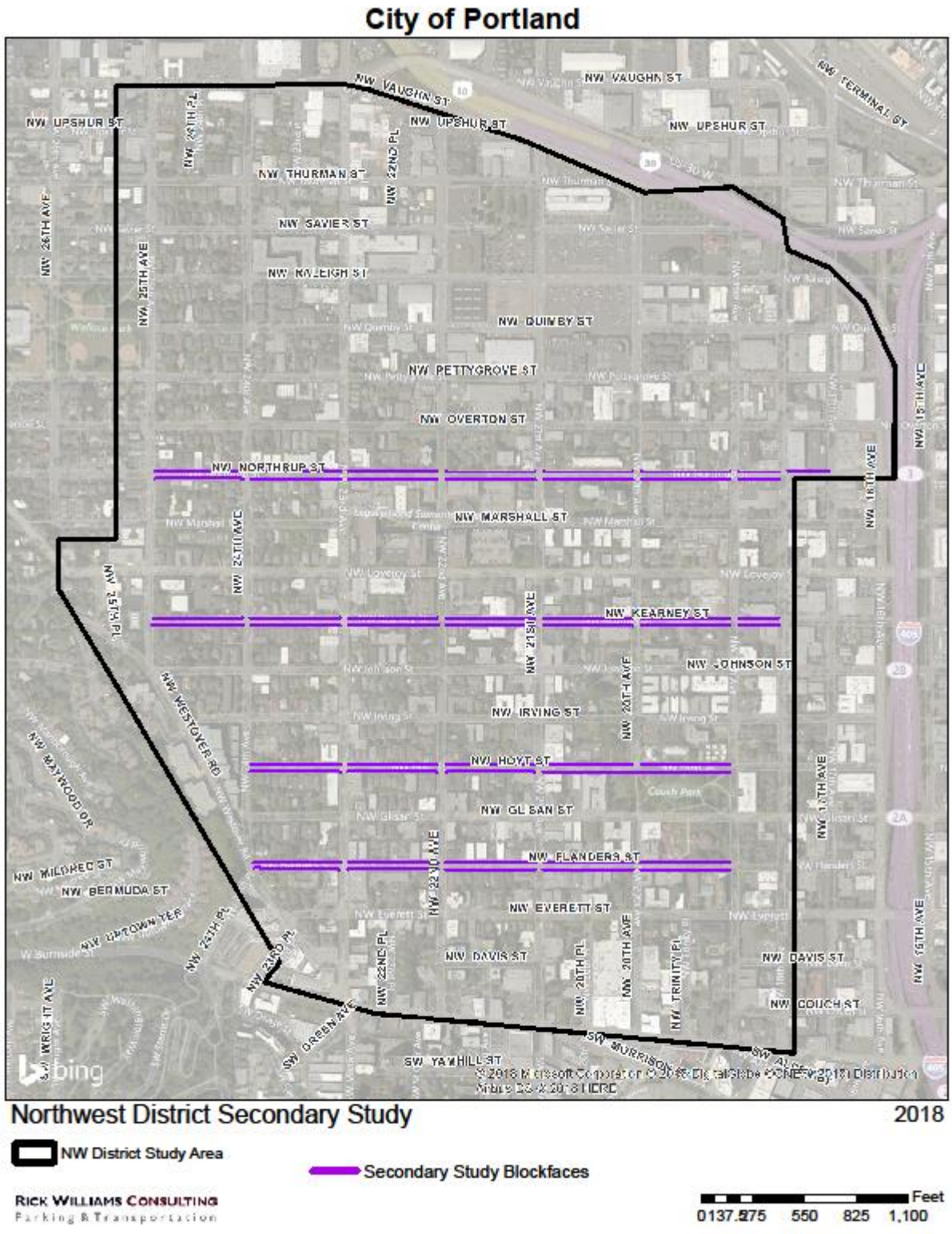


Table 3: Secondary Parking Inventory (Data Collected February 2018)

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
10 Minutes	3	< 1%	0	0%	3	< 1%	0	0	3	0
30 Minutes	29	3.4%	29	3.4%	0	0%	29	0	0	0
1 Hour	7	< 1%	0	0%	7	< 1%	0	0	7	0
2 Hours	16	1.9%	0	0%	16	1.9%	0	0	16	0
4 Hours	785	93.2%	623	74.0%	162	19.2%	58	565	0	162
ADA accessible (4 Hours)	1	< 1%	1	< 1%	0	0%	0	1	0	0
No Limit[4]	1	< 1%	0	0%	0	0%	0	0	0	0
Construction	0	0%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	842	100%	653	77.6%	188	22.3%	87 (10.3%)	566 (67.2%)	26 (3.1%)	162 (19.2%)
Midnight On-Street Supply[5]	856	100%								

[4] No Limit and Construction stalls are neither metered nor signed. Metered and signed stalls complete 95.5% of the on-street supply, leaving the rest to No Limit and Construction spaces (4.5%). Since the time of the study the No Limit stalls have been converted to stalls with parking controls.

[5] All stalls are No Limit after enforcement hours.

Table 4: Secondary On-Street Parking Utilization

Use Type	Stalls	Occupancy 11 AM – 12 PM	Stalls Available	Permits Displayed[6]	% Occupied w/ Permits
Midday On-Street Supply	842	86.1%	113	513	73.4%
10 Minutes (Signed)	3	0%	3	N/A	N/A
30 Minutes (Metered)	29	40.7%	16	2	18.2%
1 Hour (Signed)	7	85.7%	1	0	0%
2 Hours (Signed)	16	87.5%	2	2	14.3%
4 Hours (Signed – OBP)	162	89.5%	17	83	57.2%
4 Hours (Metered)	58	78.0%	11	0	0%
4 Hours (Metered – OBP)	565	88.8%	61	421	87.0%
ADA accessible (4 Hour – Metered – OBP)	1	0%	1	N/A	N/A
No Limit	1	0%	1	N/A	N/A
Midnight On-Street Supply	*856*	*77.3%*	*192*	*517*	*79.1%*

[6] While Carshare and ADA accessible permits are the only valid permits displayed in non-or by permit stalls, all permits displayed were collected.

Figure C: Combined Study Area (Figure A & Figure B)

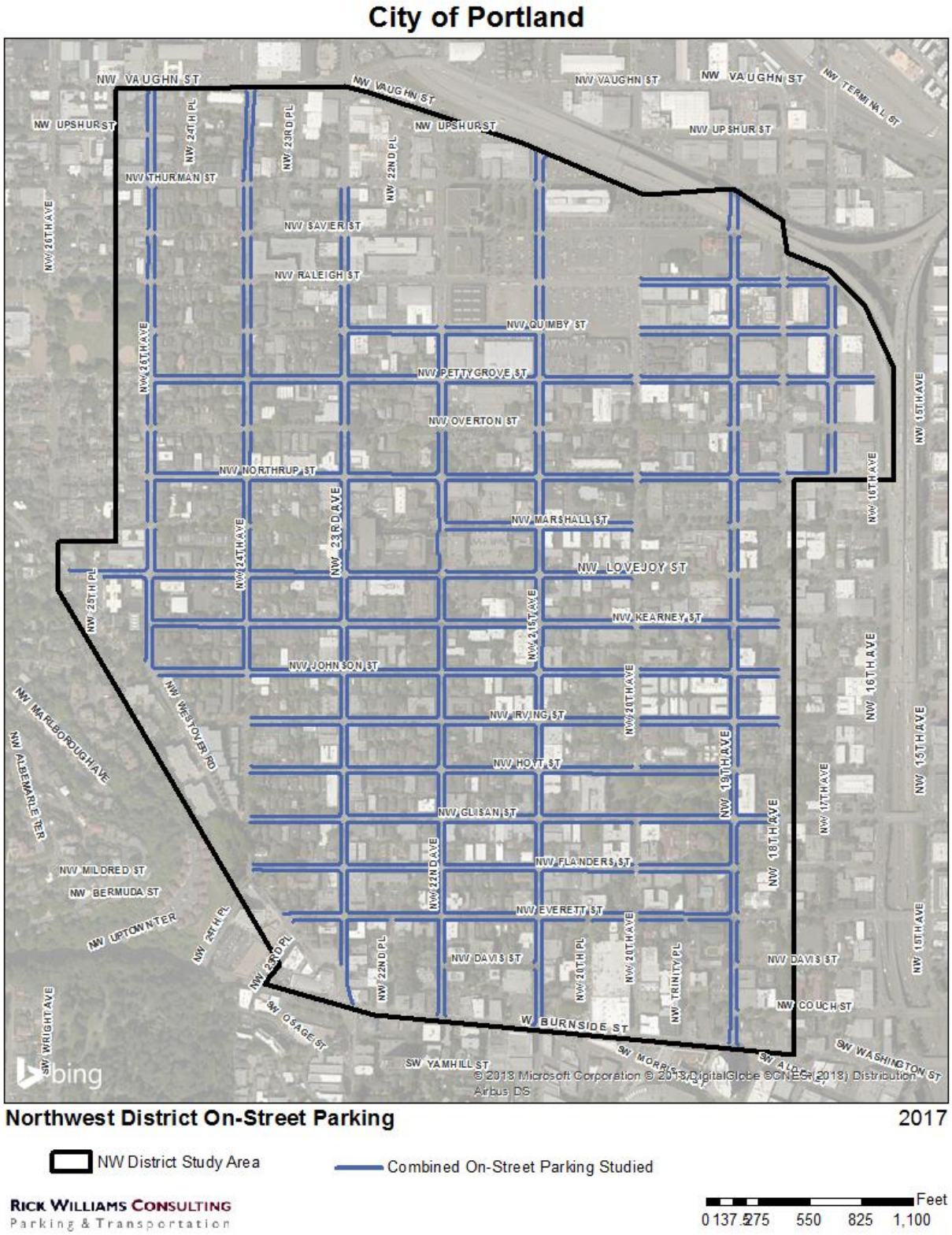
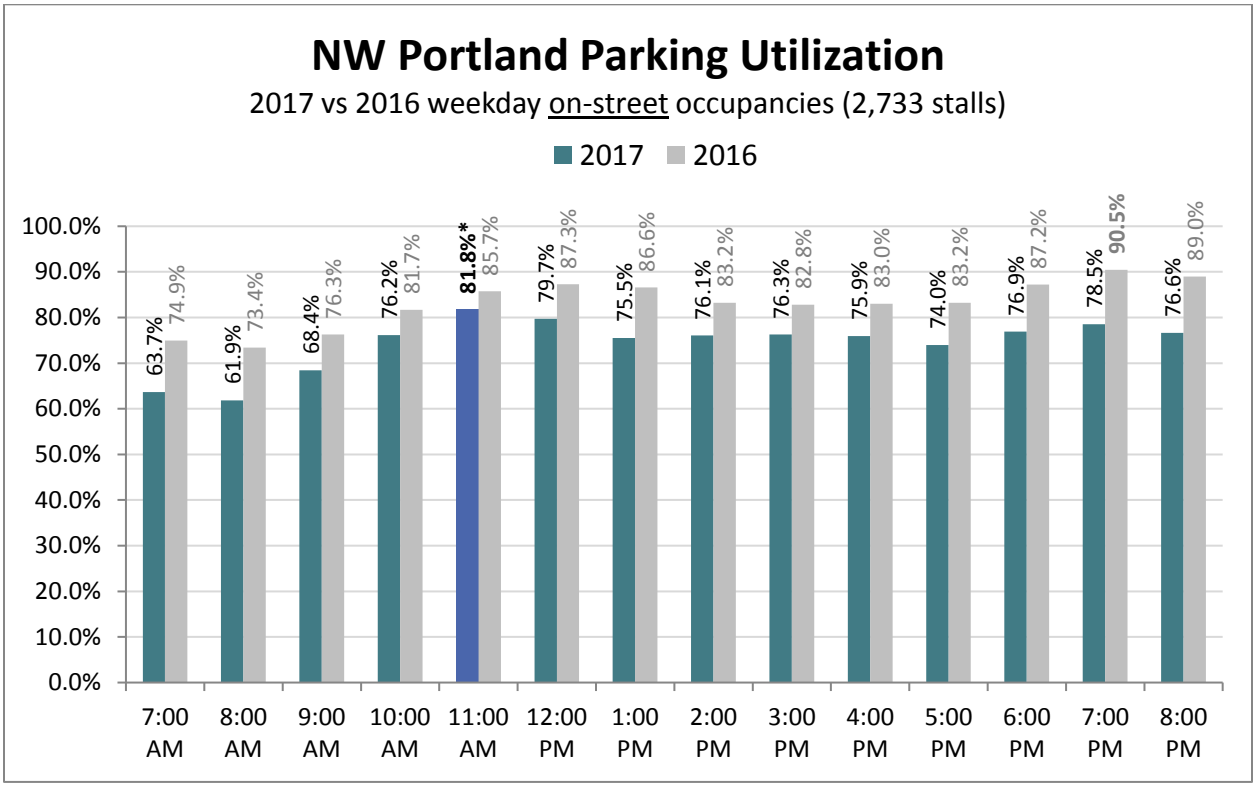


Table 5: Combined On-Street Parking Inventory (Figures A & B)

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
5 Minutes	5	< 1%	0	0%	5	< 1%	0	0	5	0
10 Minutes	3	< 1%	0	0%	3	< 1%	0	0	3	0
15 Minutes	18	< 1%	0	0%	18	< 1%	0	0	18	0
30 Minutes	112	3.1%	102	2.9%	10	< 1%	102	0	10	0
1 Hour	33	< 1%	0	0%	33	< 1%	0	0	33	0
2 Hours	160	4.5%	91	2.5%	69	1.9%	91	0	69	0
4 Hours	3,114	87.1%	2,343	65.5%	771	21.6%	421	1,922	0[7]	771
ADA accessible (2 Hours)	1	< 1%	1	< 1%	0	0%	1	0	0	0
ADA accessible (4 Hours)	4	< 1%	3	< 1%	1	< 1%	0	3	0	1
No Limit[8]	13	< 1%	0	0%	0	0%	0	0	0	0
Construction	112	4.1%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	3,575	100%	2,540	71.1%	910	25.4%	615 (17.2%)	1,925 (53.8%)	138 (3.9%)	772 (21.6%)

[7] 117 stalls added to Signed – Or by permit.
[8] No Limit and Construction stalls are neither metered nor signed. Metered and signed stalls complete 95.5% of the on-street supply, leaving the rest to No Limit and Construction spaces (4.5%). Since the time of the study the No Limit stalls have been converted to stalls with parking controls.

Figure D: Combined Hourly On-Street Parking Utilization



* 3,575 stalls (includes 842 Secondary peak hour counts)

Table 6: Combined On-Street Parking Utilization

Use Type	Stalls	Peak Hour Occupancy 11 AM – 12 PM	Stalls Available	Permits Displayed	% Occupied with Permits
On-Street Supply	**3,575**	**81.8%**	**610**	**1,404**	**51.1%**
5 Minutes (Signed)	5	N/A Under Construction	N/A	N/A	N/A
10 Minutes (Signed)	3	0%	3	0	0%
15 Minutes (Signed)	18	27.8%	13	2	40.0%

Use Type	Stalls	Peak Hour Occupancy 11 AM – 12 PM	Stalls Available	Permits Displayed	% Occupied with Permits
30 Minutes (Signed)	10	100%	0	1	10.0%
30 Minutes (Metered)	102	45.4%	53	8	18.2%
1 Hour (Signed)	33	66.7%	11	4	18.2%
2 Hours (Signed)	69	84.1%	11	10	17.2%
2 Hours (Metered)	91	74.7%	23	6	8.8%
4 Hours (Signed – OBP)	771	88.2%	91	267	39.3%
4 Hours (Metered)	421	67.9%	123	0	0%
4 Hours (Metered – OBP)	1,922	85.0%	279	1,082	68.2%
ADA accessible (2 Hours – Metered)	1	100%	0	0	0%
ADA accessible (4 Hour – Metered – OBP)	3	0%	3	0	0%
ADA accessible (4 Hour – Signed – OBP)	1	100%	0	1	100%
No Limit	13	84.6%	2	1	9.1%
Construction	112	N/A	N/A	N/A	N/A

Figure E: Combined Peak Hour Occupancy Heat Map

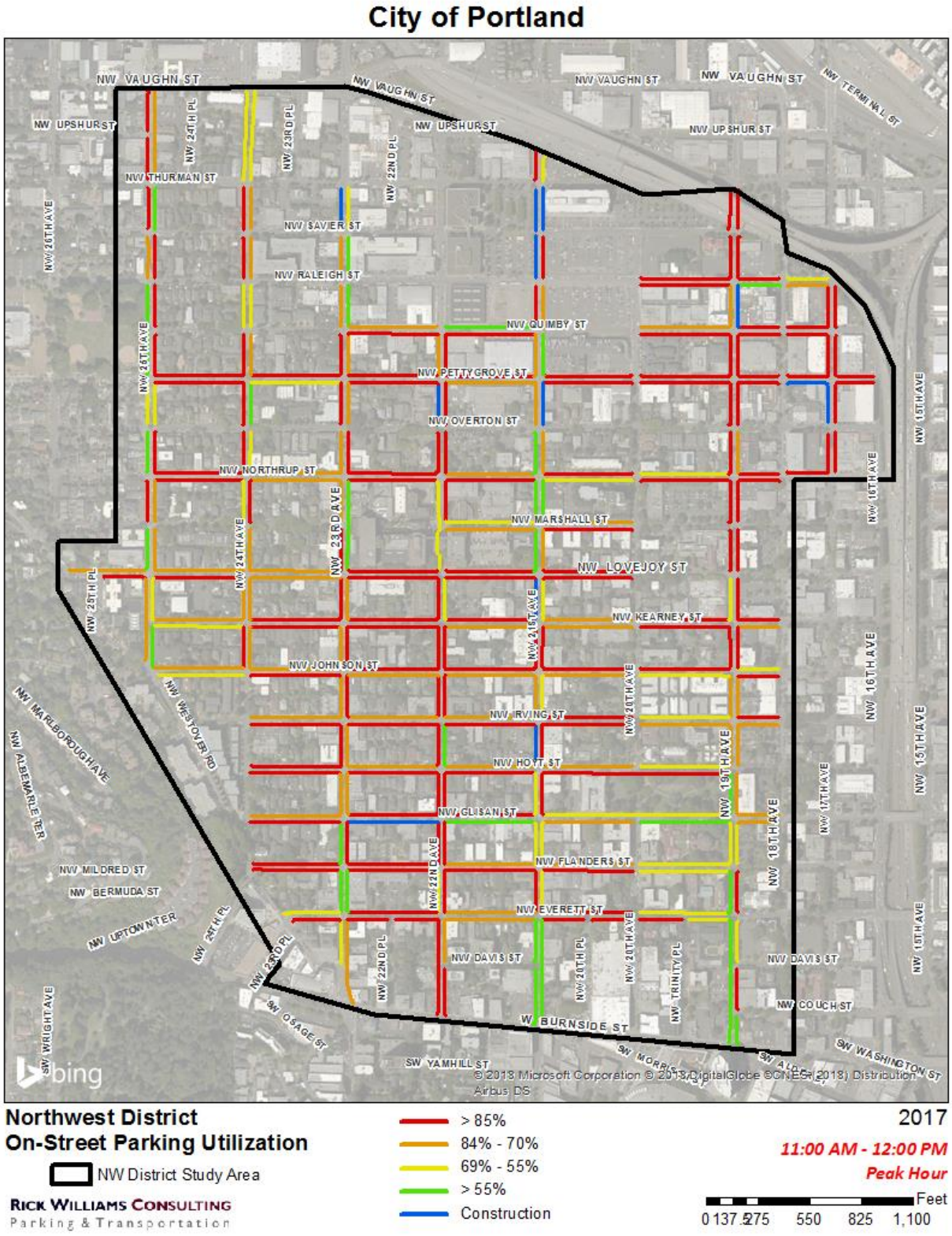


Table 7: Combined Parking Permit Usage (3,575 stalls)

Permit Type	Peak Hour 11 AM – 12 PM (Secondary[9])	Peak Hour Permit Count Distribution			*Overnight 2 – 4 AM*
		4 Hour Metered OBP	4 Hour Signed – OBP	Permits not in OBP stalls	
ADA	10 (2)	4 (1)	3 (1)	3 (0)	*0*
Temporary	83 (24)	64 (21)	13 (2)	6 (1)	*21*
Carshare	10 (1)	4 (0)	2 (0)	4 (1)	*2*
Residential	823 (260)	660 (218)	149 (40)	14 (2)	*470*
Employee	478 (226)	350 (181)	100 (40)	28 (5)	*24*
Total Observed	1,404 (513)	1,082 (421)	267 (83)	55 (9)	*517*
Occupied Stalls	2,748 (699)	1,587 (484)	680 (145)	481 (70)	*654*
% Occupied by Permits	51.1% (73.4%)	68.2% (87.0%)	39.3% (57.2%)	11.4% (12.9%)	*79.1%*

[9] Permits observed during peak hour for Secondary survey – 842 surveyed stalls

Table 8: 2017 On-Street Permit Parking Utilization by User Group

Use Type	Stalls Peak Occupancy (2016 Peak)	User Group	2017 Users (2016)
2 Hours Signed	69 84.1% (90.3%)	All	58 (28)
		Non-permit Users	48 (24)
		Permits Displayed[10]	10 (4)
2 Hours Metered	91 83.5% (88.6%)	All	76 (70)
		Non-permit Users	73 (70)
		Permits Displayed	3 (0)
4 Hours Metered	421 67.9% (77.2%)	All	298 (328)
		Non-permit Users	298 (321)
		Permits Displayed	0 (7)
4 Hours Signed OBP	771 88.2% (94.3%)	All	680 (509)
		Non-permit Users	414 (253)
		Permit Users	266 (256)
4 Hours Metered OBP	1,922 85.0% (91.7%)	All	1,643 (1,649)
		Non-permit Users	561 (297)
		Permits Users	1,082 (1,352)

[10] Permits displayed in 2-Hour signed and metered stalls are not considered valid permit users. While detailed individually in this table, true average length of stay is observed only with all users.

Permit Analysis

Table 9: NW Permit Allocations – Yearly Comparison

Year	2017	2016	Change
Business	3,386	4,054	-668
Guest	0	1,094	-1,094
Resident	3,600	3,412	188
Total Allocated	**6,986**	**8,560**	**-1,574**

Table 10: Summary of Permit Use

		A	*B*	*C*
	Observation	**Sample Size**	**Percent of Sample**	**Stalls in NW Parking District**
1	On-street stalls in all NW parking district	N/A	N/A	5,447[11]
2	On-street stalls surveyed – sample size	3,575[12]	100%	
3	Stalls Signed 4 Hour OBP	771	22%	1,175
4	Stalls Metered 4 Hour OBP	1,922	54%	2,926
5	Stalls where permits are not valid (Stalls without an OBP designation)	878	25%	1,346
	Extrapolation Analysis			
6	Permits in Signed 4 Hour OBP* - peak hour	267	19%	405
7	Permits in Metered 4 Hour OBP* - peak hour	1,082	77%	1,649

[11] Stall total for the entire Northwest parking district (metered and permit stalls). Number provided by PBOT.
[12] Includes 2,733 from the November study and an additional 842 (mostly) residential stalls to have more comparable cross section of stalls types studied in 2016.

8	Permits observed in all other stall types[13]	55	4%	37
9	Permits displayed during peak hour and extrapolated to all on-street stalls	**1,404**	**N/A**	**2,091**

** vehicles displaying permits should be parked in these stall types*

Table 11: Observations of Permit Allocation

	Observation	2017
1	Peak hour occupancy in 4 Hour or By Permit stalls (Signed/Metered)	88% / 85%
2	Peak hour demand in 4 Hour or By Permit stalls if 37 permits now using non-permit stalls are allocated to OBP stalls	88%
3	Permits allocated and FTE allowance per business	3,386 80% FTE
4	Permits allocated to residents	3,600
5	Business permit "float[14]" based on permits allocated (3,386) / and peak hour permits observed (478 observed, extrapolated to 729)	464% (3,386/729)
6	Residential permit "float" based on permits allocated (3,600) / and peak hour permits observed (822 observed, extrapolated to 1,253)	287% (3,600/1,253)
7	Permits displayed in peak hour @88% occupancy (extrapolated[15])	2,091 permits
8	Estimated permits needed to be reduced (from 6,986) as a strategy to lower peak occupancy in 4 Hour or By Permit stalls from 88% to 84% (4 percentage points).[16]	<318[17]>
9	**RECOMMENDATION:** Maximum permits allocated in 2018	**6,600**
10	Estimated distribution of users in 4 Hour or By Permit stalls in peak hour @ 84% occupancy	**1,996 permits**
11	**RECOMMENDATION:** Discuss options to reduce business permits based on FTE (cap – open enrollment). Residential permit reduction can be approached in several ways – (e.g., per household, per unit, units without off-street parking, open enrollment).	**TBD**

[13] Ideally no vehicles displaying permits would be parked in these stall types; they are not intended for permit holders.
[14] Float is the relationship between permits allocated and vehicles parked using a permit.
[15] Figure extrapolated to the entire NW parking district (5,447 stalls).
[16] 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.
[17] 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).

Preliminary Recommendations

Formatting Recommendations

- Expand meter coverage in NW parking district. Convert any signed stall type to metered stalls (including OBP).
- Reduce and redistribute the number of 30 Minute stalls – equivalent to a 70% occupancy level in the peak hour (currently 45% from 11 AM – 12 PM)
- Convert 1 Hour stalls (currently 33 of them) to 2 Hour
- Consider changing enforcement hours to 10 AM – 8 PM (currently 9 AM – 7 PM)
- Change wrap-around 2 Hour and 4 Hour Metered to 4 Hours Metered OBP (change should be based on occupancy analysis)

Current Permit Allocation

Starting September 2017

- Employee Permits - .8 FTE
- Residential Permits – 30 or more units with occupancy certificate prior to September 2017 allocated to the building at .6 per unit. Buildings with 30 or more units with occupancy certificate after September 2017 allocated to the building at .4 per unit.
- Eliminate guest permits
- Cost for all permits $180

Permit Recommendations

- Reduce total permits allocated by 325 based on 2017 data collection.

  Reduction proportional to observed use in peak hour – 60% residential (195), 40% business (130)

<u>Employee Permits</u>

- Allocate .7 FTE

<u>Residential Permits</u>

- Anyone who currently has a permit would keep their permit. The limit/reduction to residential permits would occur by attrition.

Option 1

- No limit on residential buildings that have less than XX units
- Existing buildings with XX units or more:
    - Eligible to receive permits at 60% of units/addresses.
    - Permits will be issued to individuals.
- New buildings with more than XX units that do not have certificate of occupancy by September 1, 2017
    - Eligible for permits at .4 per units/addresses for the upcoming permit year and beyond.

Option 2

- Allocation stays same
- Increase cost of permit
    - Flat rate or tiered pricing

Option 3

- Limit **all** residential buildings to same allocation (currently .6 per unit) or sliding allocation per Rick's table.

Option 4

- No changes to permit allocation 2018-2019 permit year.

Future Option

- Determine off-street parking spaces available per building and reduce allocation accordingly.

NW District Parking District

2017 Survey Data Findings

Rick Williams
Owen Ronchelli

RICK WILLIAMS CONSULTING
Parking & Transportation

March 21, 2018

Managing Parking In NW Portland

Parking in the NW Parking District is highly constrained, requiring implementation of strategies to mitigate constraints.

Strategies are focused to:

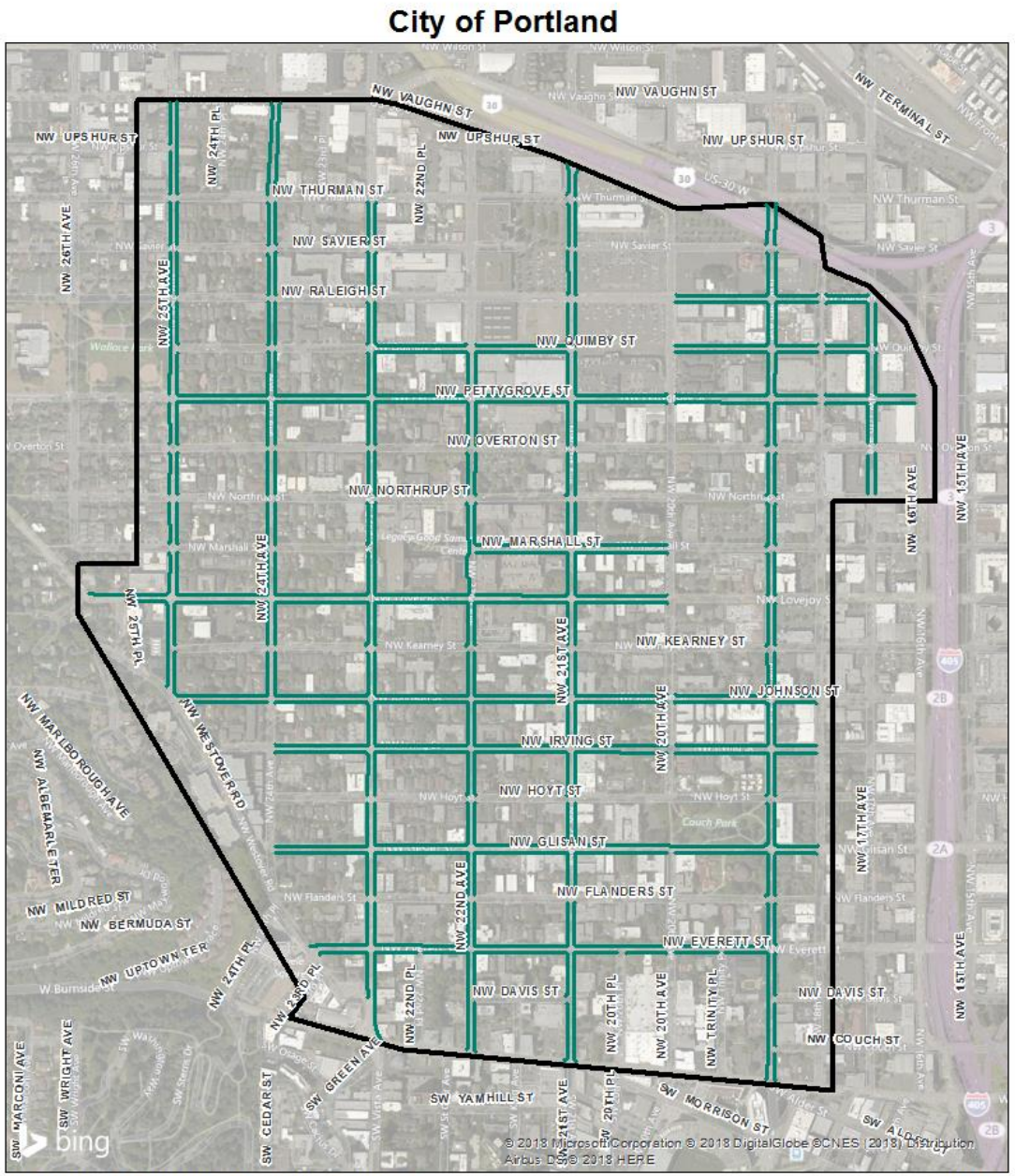
- Create an environment that supports greater use of underutilized off-street resources (shared parking).
- Encourage and create options for users to reduce reliance on vehicle access.
- Manage the permit program while recognizing continuing growth in the number of residents and employees.
- Continue to ensure access for visitors accessing district businesses through metered parking supply.
- Use incentives and pricing as a way to balance permit demand.
- Continues to use actual data of utilization in the district to support decision-making.
- Look for opportunities to expand the off-street supply

NW Parking District 2017 Study Area

Data collected:
November 2017

5,447 total stalls

2,733 stalls studied
(50% of supply)



NW Parking District On-Street Inventory

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
5 Minutes	5	< 1%	0	0%	5	< 1%	0	0	5	0
15 Minutes	18	< 1%	0	0%	18	< 1%	0	0	18	0
30 Minutes	83	3.0%	73	2.7%	10	< 1%	73	0	10	0
1 Hour	26	1.0%	0	0%	26	1.0%	0	0	26	0
2 Hours	144	5.3%	91	3.3%	53	1.9%	91	0	53	0
4 Hours	2,329	85.2%	1,720	62.9%	609	22.3%	363	1,357	0	609
ADA accessible (2 Hours)	1	< 1%	1	< 1%	0	0%	1	0	0	0
ADA accessible (4 Hours)	3	< 1%	2	< 1%	1	< 1%	0	2	0	0
No Limit	12	< 1%	0	0%	0	0%	0	0	0	0
Construction	112	4.1%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	2,733	100%	1,887	69.0%	722	26.4%	528 (19.3%)	1,359 (49.8%)	112 (4.1%)	610 (22.3%)

[a] No Limit and Construction stalls are neither metered nor signed. Metered and signed stalls complete 95.5% of the on-street supply, leaving the rest to No Limit and Construction spaces (4.5%). Since the time of the study the No Limit stalls have been converted to stalls with parking controls.

2017 On-Street Parking Utilization

Use Type	Stalls	Peak Occupancy Peak Hour	Stalls Available	Average Length of Stay[1]	Violation Rate[2]
On-Street Supply	2,733	80.5% 11:00 AM – 12:00 PM	497	3h 12m	20.3%
5 Minutes (Signed)	5	N/A Under Construction	N/A	N/A	N/A
15 Minutes (Signed)	14	42.9% 6:00 – 7:00 PM	8	N/A	32.0%
30 Minutes (Signed)	10	100% 11:00 AM – 12:00 PM	0	N/A	50.0%
30 Minutes (Metered)	73	47.1% 11:00 AM – 12:00 PM	37	N/A	36.5%
1 Hour (Signed)	26	73.1% 1:00 – 2:00 PM 6:00 – 7:00 PM	7	2h 32m	48.4%
2 Hours (Signed)	53	92.5% 10:00 – 11:00 AM	4	3h 35m	56.5%
2 Hours (Metered)	91	79.1% 12:00 – 1:00 PM	15	1h 35m	9.6%
4 Hours (Signed – OBP)	609	87.8% 11:00 AM – 12:00 PM	74	4h 55m	35.5%
4 Hours (Metered)	375	73.0% 6:00 – 7:00 PM	96	2h 10m	6.7%
4 Hours (Metered – OBP)	1,389	83.5% 11:00 AM – 12:00 PM	215	3h 35m	17.1%
ADA accessible (2 Hour – Signed)	1	100% Multiple	0	1h 15m	0%
ADA accessible (4 Hour – Metered – OBP)	2	50.0% 4:00 – 7:00 PM	1	1h 30m	0%
ADA accessible (4 Hour – Signed – OBPS)	1	100% 9:00 AM – 7:00 PM	0	8h 0m	100%
No Limit (Enforcement Hours)	12	100% 2:00 – 5:00 PM	0	8h 32m	N/A

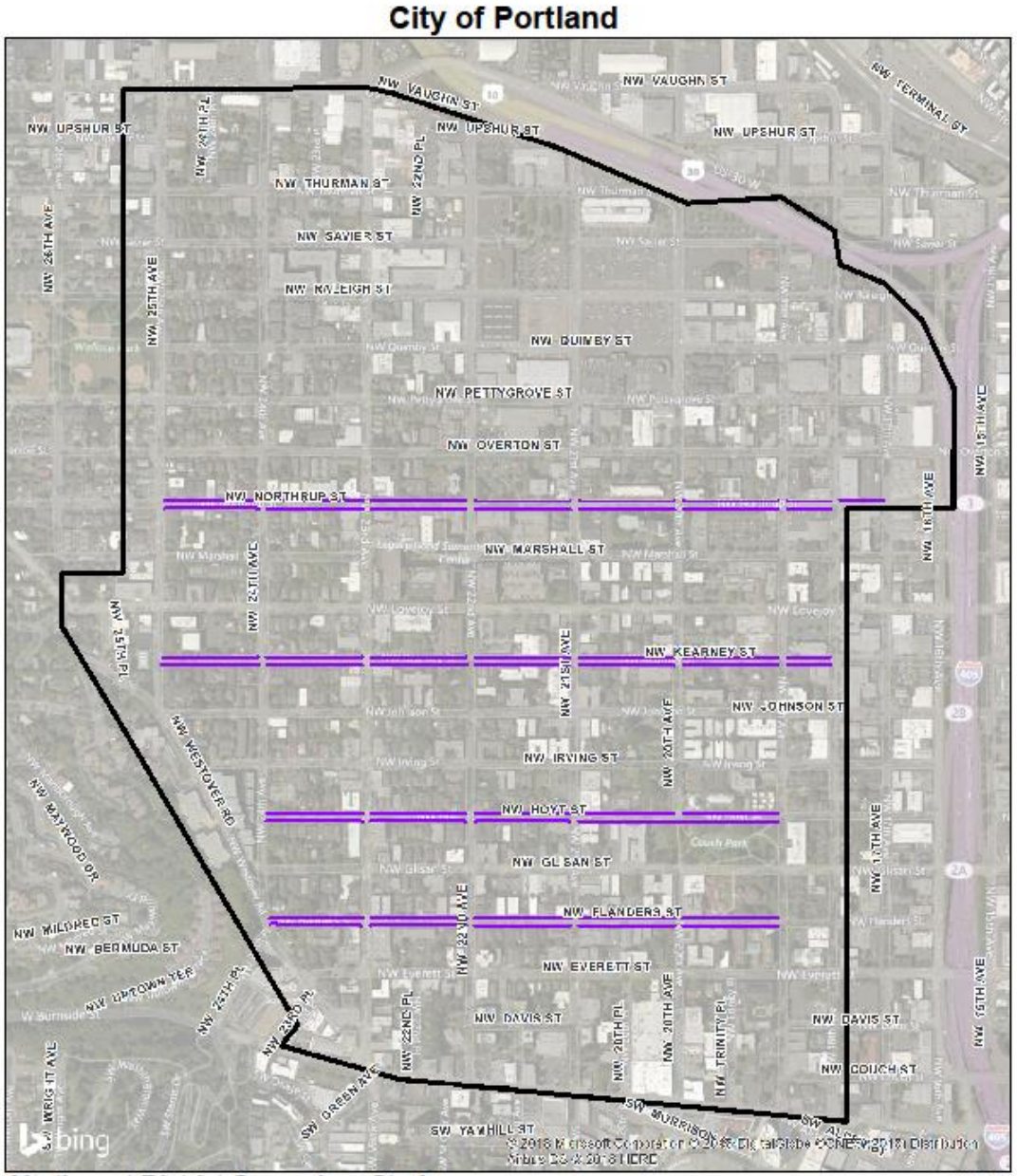
[1] Average length of stay filtered to show non-permit users only (excluding ADA accessible and No Limit stalls).
[2] Violation rates are likely lower than reported due to the ability of users to 'plug the meter' (add additional time beyond the posted time restriction) – users can do this through the pay station or the Parking Kitty app.

NW Parking District Secondary Study

Data collected:
February 2018

5,447 total stalls

842 stalls studied
(15% of supply)



NW Parking Secondary On-Street Inventory

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
10 Minutes	3	< 1%	0	0%	3	< 1%	0	0	3	0
30 Minutes	29	3.4%	29	3.4%	0	0%	29	0	0	0
1 Hour	7	< 1%	0	0%	7	< 1%	0	0	7	0
2 Hours	16	1.9%	0	0%	16	1.9%	0	0	16	0
4 Hours	785	93.2%	623	74.0%	162	19.2%	58	565	0	162
ADA accessible (4 Hours)	1	< 1%	1	< 1%	0	0%	0	1	0	0
No Limit[1]	1	< 1%	0	0%	0	0%	0	0	0	0
Construction	0	0%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	842	100%	653	77.6%	188	22.3%	87 (10.3%)	566 (67.2%)	26 (3.1%)	162 (19.2%)
Midnight On-Street Supply[2]	856	100%								

[1] No Limit and Construction stalls are neither metered nor signed. Metered and signed stalls complete 95.5% of the on-street supply, leaving the rest to No Limit and Construction spaces (4.5%). Since the time of the study the No Limit stalls have been converted to stalls with parking controls.
[2] All stalls are No Limit after enforcement hours.

Secondary On-Street Parking Utilization

Use Type	Stalls	Occupancy 11 AM – 12 PM	Stalls Available	Permits Displayed[1]	% Occupied w/ Permits
Midday On-Street Supply	842	86.1%	113	513	73.4%
10 Minutes (Signed)	3	0%	3	N/A	N/A
30 Minutes (Metered)	29	40.7%	16	2	18.2%
1 Hour (Signed)	7	85.7%	1	0	0%
2 Hours (Signed)	16	87.5%	2	2	14.3%
4 Hours (Signed – OBP)	162	89.5%	17	83	57.2%
4 Hours (Metered)	58	78.0%	11	0	0%
4 Hours (Metered – OBP)	565	88.8%	61	421	87.0%
ADA accessible (4 Hour – Metered – OBP)	1	0%	1	N/A	N/A
No Limit	1	0%	1	N/A	N/A
Midnight On-Street Supply	*856*	*77.3%*	*192*	*517*	*79.1%*

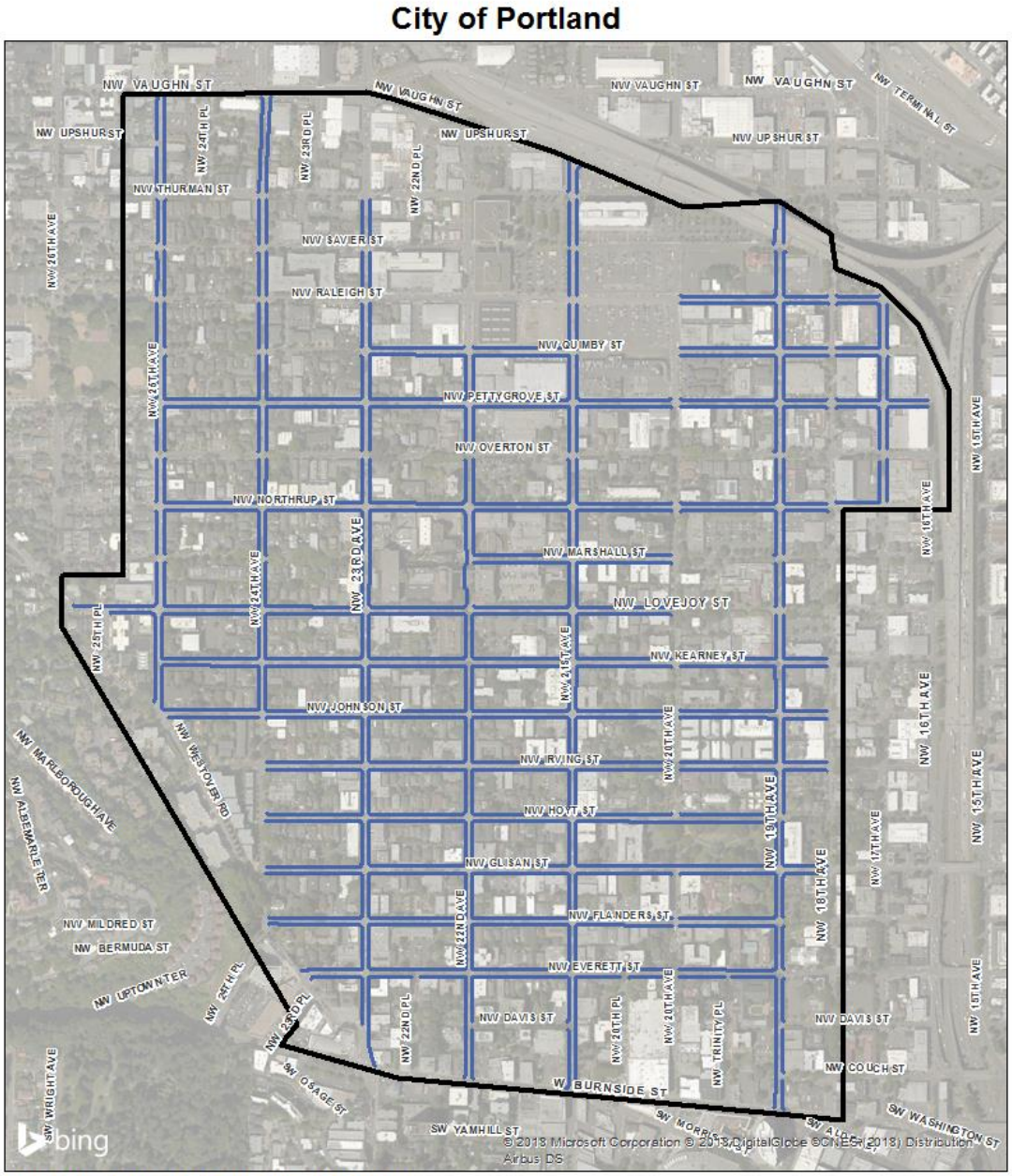
[1] While Carshare and ADA accessible permits are the only valid permits displayed in non-or by permit stalls, all permits displayed were collected.

NW Parking District Combined Study Area

Data collected:
November 2017 &
February 2018

5,447 total stalls

3,575 stalls studied
(65.6% of supply)



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Parking & Transportation

NW Parking Combined On-Street Inventory

Use Type	All		Metered (All)		Signed (All)		Metered	Metered OBP	Signed	Signed OBP
	Stalls	% of Total	Stalls	% of Total	Stalls	% of Total	Stalls	Stalls	Stalls	Stalls
5 Minutes	5	< 1%	0	0%	5	< 1%	0	0	5	0
10 Minutes	3	< 1%	0	0%	3	< 1%	0	0	3	0
15 Minutes	18	< 1%	0	0%	18	< 1%	0	0	18	0
30 Minutes	112	3.1%	102	2.9%	10	< 1%	102	0	10	0
1 Hour	33	< 1%	0	0%	33	< 1%	0	0	33	0
2 Hours	160	4.5%	91	2.5%	69	1.9%	91	0	69	0
4 Hours	3,114	87.1%	2,343	65.5%	771	21.6%	421	1,922	0[1]	771
ADA accessible (2 Hours)	1	< 1%	1	< 1%	0	0%	1	0	0	0
ADA accessible (4 Hours)	4	< 1%	3	< 1%	1	< 1%	0	3	0	1
No Limit[2]	13	< 1%	0	0%	0	0%	0	0	0	0
Construction	112	4.1%	0	0%	0	0%	0	0	0	0
On-Street Supply Studied	3,575	100%	2,540	71.1%	910	25.4%	615 (17.2%)	1,925 (53.8%)	138 (3.9%)	772 (21.6%)

[1] 117 stalls added to Signed – Or by permit.
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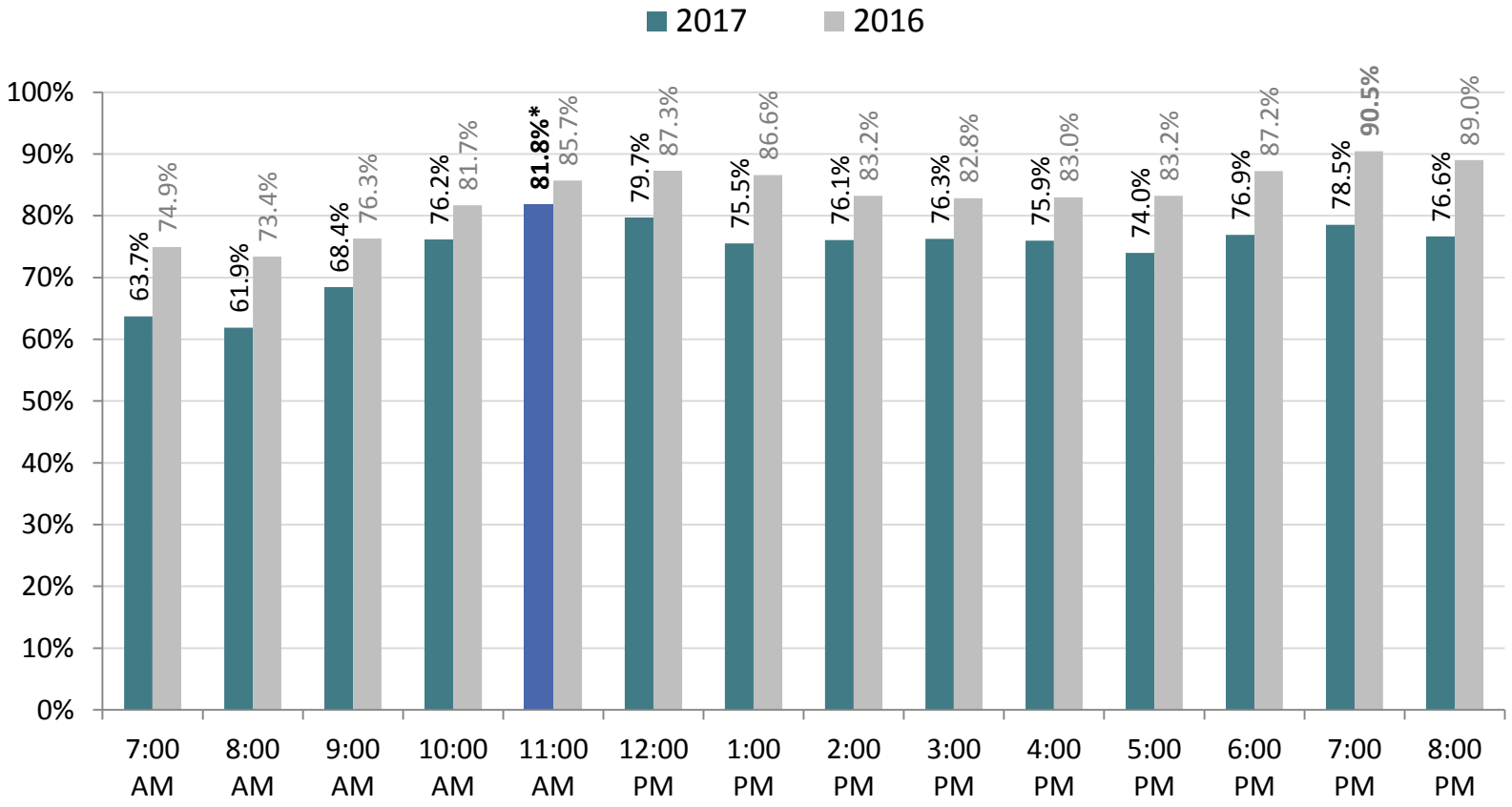
Hourly On-Street Parking Utilization

NW Portland Parking Utilization

2017 vs 2016 weekday on-street occupancies (2,733 stalls)



* 3,575 stalls (includes 842 Secondary peak hour counts)

Combined On-Street Parking Utilization

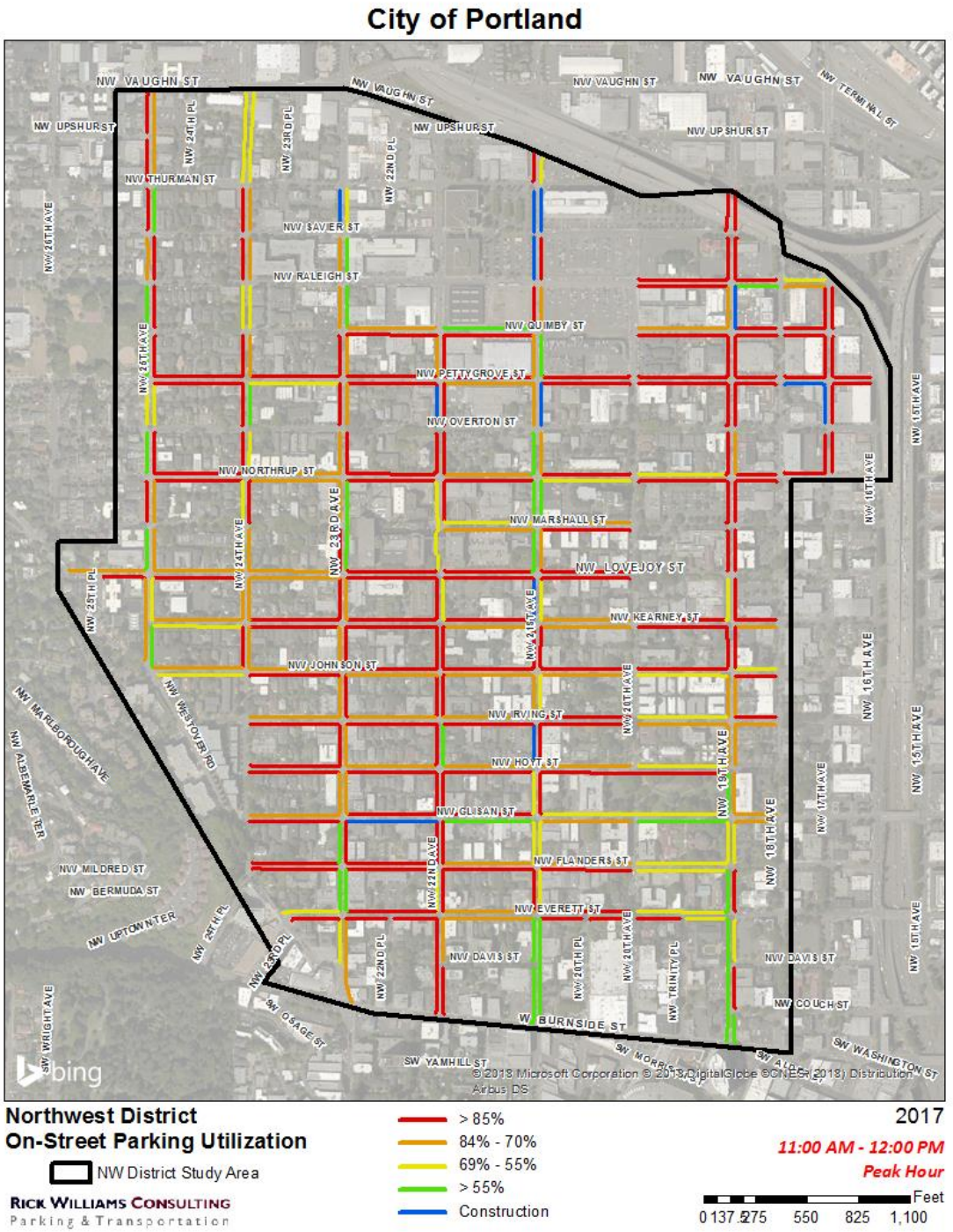
Use Type	Stalls	Peak Hour Occupancy 11 AM – 12 PM	Stalls Available	Permits Displayed	% Occupied with Permits
On-Street Supply	**3,575**	**81.8%**	**610**	**1,404**	**51.1%**
5 Minutes (Signed)	5	N/A Under Construction	N/A	N/A	N/A
10 Minutes (Signed)	3	0%	3	0	0%
15 Minutes (Signed)	18	27.8%	13	2	40.0%
30 Minutes (Signed)	10	100%	0	1	10.0%
30 Minutes (Metered)	102	45.4%	53	8	18.2%
1 Hour (Signed)	33	66.7%	11	4	18.2%
2 Hours (Signed)	69	84.1%	11	10	17.2%
2 Hours (Metered)	91	74.7%	23	6	8.8%
4 Hours (Signed – OBP)	771	88.2%	91	267	39.3%
4 Hours (Metered)	421	67.9%	123	0	0%
4 Hours (Metered – OBP)	1,922	85.0%	279	1,082	68.2%
ADA accessible (2 Hours – Metered)	1	100%	0	0	0%
ADA accessible (4 Hour – Metered – OBP)	3	0%	3	0	0%
ADA accessible (4 Hour – Signed – OBP)	1	100%	0	1	100%
No Limit	13	84.6%	2	1	9.1%
Construction	112	N/A	N/A	N/A	N/A

11am – 12pm Peak Hour Occupancy Heat Map

Data collected:
November 2017 &
February 2018

11:00 AM – 12:00 PM

3,575 stalls studied



Combined Parking Permit Usage (3,575 stalls)

Permit Type	Peak Hour 11 AM – 12 PM (Secondary[1])	Peak Hour Permit Count Distribution			*Overnight 2 – 4 AM*
		4 Hour Metered OBP	4 Hour Signed – OBP	Permits not in OBP stalls	
ADA	10 (2)	4 (1)	3 (1)	3 (0)	*0*
Temporary	83 (24)	64 (21)	13 (2)	6 (1)	*21*
Carshare	10 (1)	4 (0)	2 (0)	4 (1)	*2*
Residential	823 (260)	660 (218)	149 (40)	14 (2)	*470*
Employee	478 (226)	350 (181)	100 (40)	28 (5)	*24*
Total Observed	1,404 (513)	1,082 (421)	267 (83)	55 (9)	*517*
Occupied Stalls	2,748 (699)	1,587 (484)	680 (145)	481 (70)	*654*
% Occupied by Permits	51.1% (73.4%)	68.2% (87.0%)	39.3% (57.2%)	11.4% (12.9%)	*79.1%*

[1] Permits observed during peak hour for Secondary survey – 842 surveyed stalls

2017 On-Street Permit Parking Utilization by User Group

Use Type	Stalls Peak Occupancy (2016 Peak)	User Group	2017 Users (2016)
2 Hours Signed	69 84.1% (90.3%)	All	58 (28)
		Non-permit Users	48 (24)
		Permits Displayed	10 (4)
2 Hours Metered	91 83.5% (88.6%)	All	76 (70)
		Non-permit Users	73 (70)
		Permits Displayed	3 (0)
4 Hours Metered	421 67.9% (77.2%)	All	298 (328)
		Non-permit Users	298 (321)
		Permits Displayed	0 (7)
4 Hours Signed OBP	771 88.2% (94.3%)	All	680 (509)
		Non-permit Users	414 (253)
		Permit Users	266 (256)
4 Hours Metered OBP	1,922 85.0% (91.7%)	All	1,643 (1,649)
		Non-permit Users	561 (297)
		Permits Users	1,082 (1,352)

NW Permit Allocations – Yearly Comparison

Year	2017*	2016	Change
Business	3,386	4,054	-668
Guest	0	1,094	-1,094
Resident	3,600	3,412	188
Total Allocated	**6,986**	**8,560**	**-1,574**

*as of 2/21/18

Summary of Permit Use

		A	B	C
	Observation	**Sample Size**	**Percent of Sample**	**Stalls in NW Parking District**
1	On-street stalls in all NW parking district	N/A	N/A	5,447[1]
2	On-street stalls surveyed – sample size	3,575[2]	100%	
3	Stalls Signed 4 Hour OBP	771	22%	1,175
4	Stalls Metered 4 Hour OBP	1,922	54%	2,926
5	Stalls where permits are not valid (Stalls without an OBP designation)	878	25%	1,346
	Extrapolation Analysis			
6	Permits in Signed 4 Hour OBP* - peak hour	267	19%	405
7	Permits in Metered 4 Hour OBP* - peak hour	1,082	77%	1,649
8	Permits observed in all other stall types[3]	55	4%	37
9	Permits displayed during peak hour and extrapolated to all on-street stalls	**1,404**	**N/A**	**2,091**

** vehicles displaying permits should be parked in these stall types*

[1] Stall total for the entire Northwest parking district (metered and permit stalls). Number provided by PBOT.
[2] Includes 2,733 from the November study and an additional 842 (mostly) residential stalls to have more comparable cross section of stalls types studied in 2016.
[3] Ideally no vehicles displaying permits would be parked in these stall types; they are not intended for permit holders.

Observations of Permit Allocation

	Observation	2017
1	Peak hour occupancy in 4 Hour or By Permit stalls (Signed/Metered)	88% / 85%
2	Peak hour demand in 4 Hour or By Permit stalls if 37 permits now using non-permit stalls are allocated to OBP stalls	88%
3	Permits allocated and FTE allowance per business	3,386 80% FTE
4	Permits allocated to residents	3,600
5	Business permit "float" based on permits allocated (3,386) / and peak hour permits observed (478 observed, extrapolated to 729)	464% (3,386/729)
6	Residential permit "float" based on permits allocated (3,600) / and peak hour permits observed (822 observed, extrapolated to 1,253)	287% (3,600/1,253)
7	Permits displayed in peak hour @88% occupancy (extrapolated)	2,091 permits
8	Estimated permits needed to be reduced (from 6,986) as a strategy to lower peak occupancy in 4 Hour or By Permit stalls from 88% to 84% (4 percentage points).	<318>
9	**RECOMMENDATION:** Maximum permits allocated in 2018	**6,600**
10	Estimated distribution of users in 4 Hour or By Permit stalls in peak hour @ 84% occupancy	**1,996 permits**
11	**RECOMMENDATION:** Discuss options to reduce business permits based on FTE (cap – open enrollment). Residential permit reduction can be approached in several ways – (e.g., per household, per unit, units without off-street parking, open enrollment).	**TBD**

Preliminary Recommendations:

Formatting Recommendations

- Expand meter coverage in NW parking district. Convert any signed stall type to metered stalls (including OBP).
- Reduce and redistribute the number of 30 Minute stalls – equivalent to a 70% occupancy level in the peak hour (currently 45% from 11 AM – 12 PM)
- Convert 1 Hour stalls (currently 33 of them) to 2 Hour
- Consider changing enforcement hours to 10 AM – 8 PM (currently 9 AM – 7 PM)
- Change wrap-around 2 Hour and 4 Hour Metered to 4 Hours Metered OBP (change should be based on occupancy analysis)

Preliminary Recommendations:

Current Permit Allocation

Starting September 2017

- Employee Permits - 0.8 FTE
- Residential Permits – 30 or more units with occupancy certificate prior to September 2017 allocated to the building at 0.6 per unit. Buildings with 30 or more units with occupancy certificate after September 2017 allocated to the building at 0.4 per unit.
- Eliminate guest permits
- Cost for all permits $180

Preliminary Recommendations:

Permit Recommendations

- Reduce total permits allocated by 325 based on 2017 data collection.

  Reduction proportional to observed use in peak hour – 60% residential (195), 40% business (130)

Employee Permits

- Allocate 0.7 FTE

Residential Permits

- Anyone who currently has a permit would keep their permit. The limit/reduction to residential permits would occur by attrition in any of the options listed below.

Option 1

- No limit on residential buildings that have less than XX units
- Existing buildings with XX units or more:
  - Eligible to receive permits at 60% of units/addresses.
  - Permits will continue to be issued to individuals.
- New buildings with more than XX units that do not have certificate of occupancy by September 1, 2017
  - Eligible for permits at 0.4 per units/addresses for the upcoming permit year and beyond.

Preliminary Recommendations (con't.):

Permit Recommendations

Option 2

- Allocation stays same
- Increase cost of permit
  - Flat rate or tiered pricing

Option 3

- Limit **all** residential buildings to same allocation (currently .6 per unit) or sliding allocation per Rick's table.

Option 4

- No changes to permit allocation 2018-2019 permit year.

Future Option

- Determine off-street parking spaces available per building and reduce allocation accordingly.

POTENTIAL PERMIT GRADATION

one - five units		1 per unit plus 1
1	2	
2	3	
3	4	
4	5	
5	6	
six-twenty nine units		6 plus .8 per unit above 5 rounded up
6	6.8	7
7	7.6	8
8	8.4	9
9	9.2	10
10	10	10
11	10.8	11
12	11.6	12
13	12.4	13
14	13.2	14
15	14	
16	14.8	15
17	15.6	16
18	16.4	17
19	17.2	18
20	18	18
21	18.8	19
22	19.6	20
23	20.4	21
24	21.2	22
25	22	22
26	22.8	23
27	23.6	24
28	24.4	25
29	25.2	26
thirty - fifty nine units		26 plus .6 per unit above 30 rounded up
30	26	26
31	26.6	27
32	27.2	28
33	27.8	28
34	28.4	29
35	29	29
36	29.6	30
37	30.2	31
38	30.8	31
39	31.4	32
40	32	32
41	32.6	33
42	33.2	34
43	33.8	34
44	34.4	35
45	35	35
46	35.6	36
47	36.2	37
48	36.8	37
49	37.4	38
50	38	38
51	38.6	39
52	39.2	40
53	39.8	41
54	40.4	41
55	41	41
56	41.6	42
57	42.2	43
58	42.8	43
59	43.4	44

sixty units and more		44 plus .4 per unit above 60 rounded up
60	44	44
61	44.4	45
62	44.8	45
63	45.2	46
64	45.6	46
65	46	46
66	46.4	47
67	46.8	47
68	47.2	48
69	47.6	48
70	48	48
71	48.4	49
72	48.8	49
73	49.2	50
74	49.6	50
75	50	50
76	50.4	51
77	50.8	51
78	51.2	52
79	51.6	52
80	52	52
81	52.4	53
82	52.8	53
83	53.2	54
84	53.6	54
85	54	54
86	54.4	55
87	54.8	56
88	55.2	56
89	55.6	56
90	56	56
91	56.4	57
92	56.8	57
93	57.2	56
94	57.6	58
95	58	58
96	58.4	59
97	58.8	59
98	59.2	60
99	59.6	60
100	60	60
101	60.4	61
102	60.8	61
103	61.2	62
104	61.6	62
105	62	62
106	62.4	63
107	62.8	63
108	63.2	64
109	63.6	64
110	64	64
111	64.4	65
112	64.8	65
113	65.2	66
114	65.6	66
115	66	66
116	66.4	67
117	66.8	67
118	67.2	68
119	67.6	68