



## MEMORANDUM

TO: Downtown Meter Rate Adjustment Subcommittee

FROM: Judith Gray, Colleen Caldwell & Kathryn Doherty-Chapman, PBOT

CC: Rick Williams, Rick Williams Consulting

DATE: June 17, 2015

RE: Considerations for Downtown Parking Meter Rate and Other Operations Adjustments

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This memorandum outlines considerations undertaken regarding an increase in on-street parking meter rates within the Downtown Meter District of the Central City of Portland, Oregon.

The Portland Bureau of Transportation is working with the Central City Parking Policy Stakeholder Advisory Committee (Policy SAC) to update parking policies for the Central City. That work is on-going and expected to continue through 2015. However, the findings on-street parking counts conducted for the Central City policy work showed that the current on-street system is currently more than 85% full during several hours of the day. For this reason, this meter rate adjustment is being conducted concurrent with the on-going policy update.

Because the Policy SAC is dealing with long-term policy changes whereas the meter adjustment action is a near-term change in operations, the Policy SAC chose to form a subcommittee to address the meter rate changes in a more expedited way and without causing distraction or scope impacts to the work of the Policy SAC. However, consideration of this meter rate increase is being informed by many of the parking management principles being addressed by the Policy SAC. Additional stakeholder outreach was conducted by PBOT staff, including representatives of the Portland Business Alliance as well as direct outreach to neighborhood, business, and labor representatives on the subcommittee.

In addition to parking counts conducted in late 2014 for the Central City Policy update, comparable counts from 2008 have also been examined. The 2008 counts were used as partial support for the most recent meter rate increase in 2009, when the rate was increased from \$1.25 to \$1.60.

### Executive Summary

This memorandum outlines considerations undertaken regarding an increase in on-street parking meter rates within the Downtown Meter District of the Central City of Portland, Oregon. The memorandum draws on the technical analysis required under TRN 3.102 and is further informed by input from the Central City Parking Policy Stakeholders Advisory Group (Policy SAC), as a group as well as input from individual members of the Policy SAC, including members of this subcommittee. This memorandum pertains only to the on-street parking meters within the existing Downtown Meter District (see Figure 1).

The key findings, conclusions and recommendations contained in this report are summarized below:

## Key Findings

### On-Street Parking Occupancy

- In aggregate, the occupancy of the on-street parking system exceeds the target level of 85% during six hours during the study period, with peak occupancy of 90%.
- Overall occupancy levels in 2014 are considerably higher than in the same areas in 2008, with the 2014 midday peak of 90%, compared to 77% in 2008.

### On-Street Turnover and Duration

- Average duration of stay in the 1-hour, 90 minute, and 2-hour spaces is around 90 minutes, with a high proportion (up to 18%) of parkers staying longer than signed time limits.
- Turnover has increased since the last parking study in 2008. Given that average durations have been largely stable, the higher turnover reflects the increased demand for parking. i.e., more cars are being served by the on-street system.

### SmartPark Garage Occupancy

- SmartPark garages in the retail core are operating at or above the 85% occupancy target. Though the 10th & Yamhill garage was only 67% full during the October 2014 counts, price adjustments have been followed by increased demand; more recent data show occupancy levels near 85% in April and May.
- The Old Town and 1<sup>st</sup> & Jefferson garages serve a relatively higher proportion of commuter parking, as evidenced by the occupancy profiles which shows earlier arrivals and later departures than the retail-serving garages.

### On-Street vs. Off-Street Pricing

- Although on-street parking is considered the highest value parking and Downtown parking policy directs that management of the on-street system should encourage use of off-street parking, the current price structure creates the opposite incentives for stays longer than 2 hours and for certain time periods, including:
  - During regular enforcement hours, parking durations exceeding two hours have a higher price in the SmartPark garages than at on-street meters.
  - On weekends during the hours of enforcement for on-street, the flat \$5 price is a higher price in the SmartPark garages than on-street for stays of up to 3 hours (\$4.80).
  - During evening hours and Sunday mornings, when on-street parking time limits are not enforced, the \$5 flat fee presents a higher cost for off-street parking than the on-street parking, which is unpriced during those hours.

### Availability of other access options

- Pricing for on-street parking has been unchanged since 2009, even while comparable transit prices have increased three times, with a cumulative increase of up to 25% for a single fare.
- The price for a short-term parking stay is comparable to the price of transit for a single trip fare. The cost of a round trip fare for one person is \$5; this is comparable to the \$4.80 cost of a 3-hour stay at an on-street parking meter under current prices.

- There are currently many other travel options to downtown for both commuters and visitors. Portland plans for and invests in a complete transportation system and expects to see growing shares of travel by modes other than private automobile.

#### Economic impacts

- Past survey results from downtown Portland indicate that convenience is by far a larger factor than cost in deciding to drive downtown.
- Retail and office lease rates over the last 9 years do not show any discernible changes that can be attributed to the 2009 parking meter rate increase.

#### Spillover impacts

- Spillover impacts are expected to be minimal due to physical barriers and surrounding permit zones in adjacent areas. No changes in enforcement operations would be needed to accommodate an increase in pricing of on-street meter parking.

#### Equity considerations

- From a parking management perspective, it is preferred that long-term employee parking occur off-street. The SmartPark Garages charge a flat rate starting at 5 pm, which provides a lower cost option for parkers who are more price sensitive.
- Appropriate pricing of on-street parking leads to more consistent parking availability, which improves parking opportunities for parkers, including lower wage earners.

### Potential Subcommittee Recommendations

The analysis and findings summarized in this memorandum indicate that an increase in parking meter rates in the Downtown Meter District is warranted. Three optional prices have been identified for consideration by the Subcommittee. In addition to the optional rate increases, the subcommittee may wish to consider near-term operational changes in conjunction with a meter rate increase, in order to improve overall system functions.

### Potential Meter Rate Increases

The Policy SAC elected to form a subcommittee for the purpose of addressing near-term meter rates. The subcommittee is asked to form a recommendation to Council. To facilitate your discussion, staff has identified 3 optional rate increases for consideration and provided some qualitative evaluation of each option. These are summarized in the table below. The subcommittee could choose one of these options or could recommend another option. The only limiting parameter is that the on-street pay stations make meter time available in increments of 15 minutes. For this reason, the total price of parking must be evenly divisible by 4.

Hourly increase	Resulting hourly rate	Qualitative Evaluation
\$0.20	\$1.80	<ul style="list-style-type: none"> <li>• 13% increase</li> <li>• May be too small to affect change in parking behavior</li> <li>• On-street pricing would still be lower than SmartPark garage after 3 hour stay</li> </ul>
\$0.40	\$2.00	<ul style="list-style-type: none"> <li>• 25% increase</li> <li>• Comparable to Trimet single fare increase in same time period</li> <li>• Equal to the highest rate for SmartPark price (4<sup>th</sup> hour)</li> </ul>
\$0.60	\$2.20	<ul style="list-style-type: none"> <li>• 35% increase</li> <li>• Exceeds hourly rate for SmartPark for all hours</li> </ul>

## Potential Operational Changes to Complement Meter Rate Adjustment

The data analysis revealed two additional issues that could be addressed with near-term operating changes. The issues and proposed changes are summarized below.

### Issue: Over-stays at Short-Term Metered Parking

The high proportion of over-time stays in the 1-hour, 90-minute, and 2-hour meters indicates that the current mix of short-term spaces is not adequately meeting customer needs. Parking counts showed that most parkers using these spaces park for approximately 90 minutes, with a 17% to 18% exceeding the time limit.

### Potential Operating Change

PBOT should work with businesses in the District to identify a more appropriate mix of time limits to serve customers and visitors. Such changes will need to consider the policy direction that prioritizes short-term parking. It is expected that the overall shift would be a reduction in the number of 1-hour spaces, possibly increasing the number of 90-minute and 2-hour spaces.

### Issue: Limited Capacity for Visitor/Customer Parking at Old Town SmartPark Garage

Data from the SmartPark garage and from a recent intercept survey show that the Old Town SmartPark garage is used primarily by employees: 40% using monthly permits and 21% paying the all-day rate. Because the garage is used primarily by commuters, the spaces fill up early in the morning and there are few spaces remaining when customers start to arrive later in the morning. The survey found that only 2% of parkers on the survey were customers of downtown businesses.

### Potential Operating Change

PBOT and SmartPark managers should examine potential increases to the daily rate in order to discourage use by employee parking. The current all-day rate for this garage is \$10, with a planned increase to \$11 expected in July, which will still be among the lowest all-day rates for off-street parking

in the vicinity. The subcommittee could recommend that the all-day rate be increased further to reduce commuter parking and open up more capacity for customers.

## Introduction

This memorandum outlines considerations regarding an increase in on-street parking meter rates within the Downtown Meter District of the Central City of Portland, Oregon. The last change in parking meter rates for the district was in 2009, when meter rates were increased from \$1.25 to \$1.60. The memorandum summarizes the technical analysis required under TRN 3.102 and is further informed by input from the Central City Parking Policy Stakeholders Advisory Group (Policy SAC), as well as input from individual members of the Policy SAC, including members of this subcommittee. This memorandum pertains only to the on-street parking meters within the existing Downtown Meter District (see Figure 1).



## Stakeholder Engagement

As required by TRN 3.102, a Downtown Meter Rate Adjustment Subcommittee was convened to provide input into the meter rate adjustment process. This committee was formed as a subcommittee of the Central City Parking Policy Stakeholder Advisory Committee. Because the larger Policy SAC is dealing with long-term policy changes whereas the meter adjustment action is a near-term change in operations, the Policy SAC chose to form a subcommittee to address the meter rate changes in a more expedited way and without causing distraction or scope impacts to the work of the Policy SAC. However, consideration of this meter rate increase is being informed by many of the parking management principles being addressed by the Policy SAC.

Additional stakeholder outreach was conducted by PBOT staff, including representatives of the Portland Business Alliance as well as direct outreach to neighborhood, business, and labor representatives on the subcommittee.

## Context of Long-Range Policy Update

TRN 3.102 was adopted in January of 1996 in partial implementation of the then-newly adopted Central City Transportation Management Plan. As of this writing, the Portland Bureau of Transportation is working with the Central City Parking Policy SAC to create updated parking policies for the Central City. That work is on-going; however, the findings on-street parking counts conducted for the Central City policy work showed that the current on-street system is currently more than 85% full during several hours of the day. For this reason, this meter rate adjustment is being conducted concurrent with the on-going policy update.

The remainder of this report documents the technical analysis and findings. The report is organized as follows:

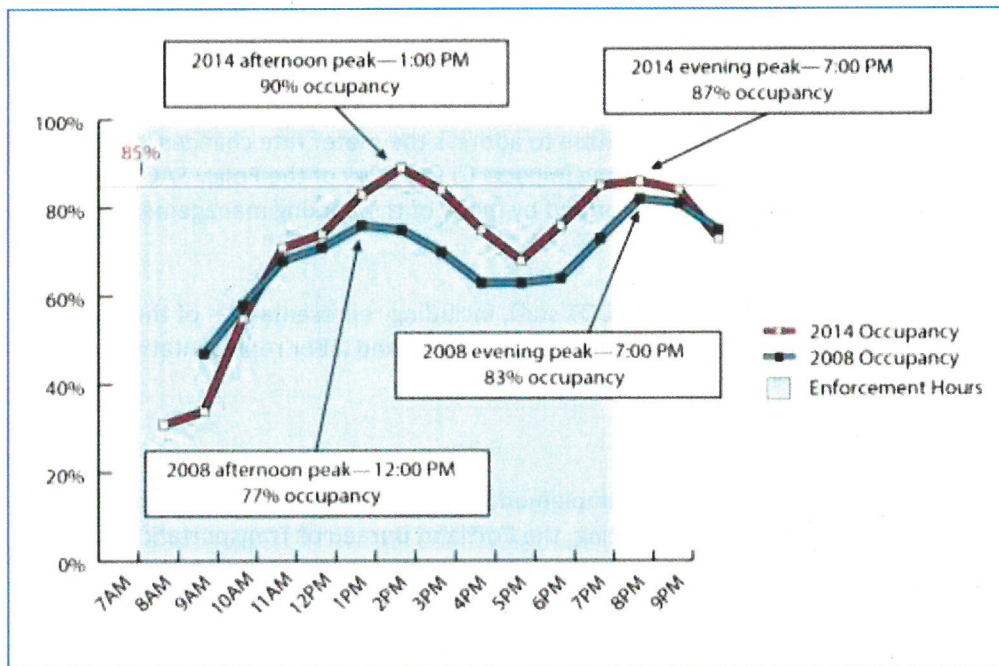
1. Current on-street parking occupancy.
2. Negative impacts of underpriced parking.
3. Other considerations, including parking turnover and duration, relative pricing of other access options, and potential economic and spillover impacts.

### 1. Current On-Street Parking Occupancy

A fundamental measure when considering appropriate pricing of parking is the occupancy level of the on-street parking system. There is consensus among parking experts that 85% of spaces filled is an optimal occupancy level for a Downtown parking system. In Downtown Portland, a typical block face has 8 to 10 spaces. As such, the 85% occupancy target reflects an active on-street parking system where each block face has one or two spaces available for the next customer. When parking occupancy exceeds 85%, would-be parkers are not readily able to find a space and as a result are driving around looking for a space, experiencing frustration and adding vehicle trips to the streets and turning moves to the intersections. Parking occupancy levels of 85% or higher should trigger a parking management response.

In the fall of 2014, Lancaster Engineering conducted on-street parking analysis for use in the Central City Policy Update. The study area comprised nearly 300 block faces and the entire sample included more than 2,000 on-street parking stalls. Weekday counts were conducted from 7 a.m. until 10 p.m. in all areas. The results of the parking counts are shown in Figure 2. The figure also shows the occupancy levels from a similar study conducted in 2008 by Kittelson & Associates.

Figure 2. Weekday On-Street Parking Occupancy, Downtown Portland Meter District



As Figure 2 shows, on-street parking was 90% full during the peak hour (noon to 1 p.m.) and was at or exceeding 85% full for 6 hours. It is noteworthy that the counts show that current parking occupancy is higher than in 2008 for most hours of the day.

Additional parking counts were conducted on Friday from 4 p.m. until 11 p.m. in the Entertainment District (in the vicinity of Stark and Oak between SW 2<sup>nd</sup> and SW 14<sup>th</sup>) and Old Town/Chinatown. The purpose was to capture the evening dining and nightclub/bar activity. Those counts also revealed occupancy levels above the 85% target; in fact, after enforcement hours (after 7 p.m.), on-street parking occupancy approaches 99% in this area.

The parking occupancy levels shown in Figure 2 are aggregate for the entire Downtown. Parking conditions vary by location depending, in large part, on the types and intensities of land uses, as well as on the availability of other parking opportunities and transportation options. The midday and evening peak hour occupancy levels are summarized in Table 1. The table includes Friday evening peaks for Old Town and Entertainment Districts.

**Table 1. Midday and Evening Peak Conditions by Neighborhood**

Location	Midday Peak Hour	% Full	Weekday Eve. / Friday Eve. Peak Hour	% Full
Entertainment District	Noon	97%	6:00 PM/ 8:00 PM	84%/95+%
Goose Hollow	1:00 PM	75%	6:00 PM	58%
North Pearl	Noon	81%	6:00 PM	94%
Office District	1:00 PM	86%	6:00 PM	89%
Old Town / China Town	Noon	88%	8:00 PM/7:00 PM	71%/90+%
PSU	11:00 AM	96%	6:00 PM	95%
South Pearl	1:00 PM	90%	7:00 PM	87%
West End North	Noon	91%	7:00 PM	97%
West End South	Noon	95%	7:00 PM	88%

Table 1 shows that when disaggregated, on-street parking in each of the neighborhoods reaches or exceeds the 85% occupancy target during the midday or evening peak hours or both. The only exception is Goose Hollow. However, parking conditions in this area are significantly impacted by events at neighboring venues (MAC; Providence Park, Lincoln High School); the parking counts from the Lancaster Engineering study appear to have missed any significant event days and therefore do not capture highly constrained parking conditions that occur during events.

#### Key Findings: On-Street Parking Occupancy

- In aggregate, the occupancy of the on-street parking system exceeds the target level of 85% during six hours during the study period, with peak occupancy of 90%.
- Overall occupancy levels in 2014 are considerably higher than in the same areas in 2008, with the 2014 midday peak of 90%, compared to 77% in 2008.

## 2. Negative Impacts of Under-Priced Parking

As in any market, underpricing parking will lead to demand that exceeds its equilibrium supply. When parking occupancy exceeds 85%, the price should be adjusted to reduce demand and achieve the 85% target. Increasing the price of parking to achieve the target will actually improve the customer experience, as it will ensure that parking is available. People who are more price sensitive should be provided the option to either park elsewhere (such as SmartPark garages) or to travel using other modes such as transit.

Underpriced on-street parking can lead to multiple traffic and congestion issues, especially in Downtown areas that have high levels of pedestrian traffic and numerous local businesses with many patrons. Drivers seeking parking spaces will cruise for long periods of time trying to find the perfect spot. These vehicles often make many turning movements as they continue to circle, adding turning movements at intersections, focusing on their search for parking as they introduce new conflicts with pedestrians,

cyclists, and other drivers. In addition to congestion issues, drivers are distracted from the road in front of them as they search for open parking spaces.

A literature review from Donald Shoup (2009) reported that a considerable percentage of vehicles driving in Downtown areas were looking for parking spaces. The estimates ranged from 8% in New York to 64% in Los Angeles; overall, an average of 34% of cars in congested Downtown traffic were estimated to be vehicles cruising for a parking space. While it is difficult to estimate the precise extent of added traffic resulting from underpricing of parking, it should be clear that these added conflicts, seconds of delay, vehicle miles traveled, carbon emissions, and other impacts of driving are without value to the economic vitality to Downtown but instead are coupled with added frustration to customers and visitors.

Setting the price of parking to achieve an 85% occupancy level helps to create a more efficient system where visitors are able to more easily find adequate parking spaces. This reduces frustration for customers and also reduces the impacts to traffic congestion and traffic safety issues caused by circling the blocks in a search for parking.

### 3 Other Considerations

While parking occupancy is a fundamental measure of parking operations, there are several other factors that are of interest and relevant to pricing of the system. These include:

- 3.1 On-street parking turnover and duration of stay
- 3.2 Availability of off-street parking and SmartPark garage occupancy
- 3.3 On-street parking prices vs. Off-street parking prices
- 3.4 Availability of other access modes such as transit
- 3.5 Economic impacts
- 3.6 Spillover impacts into adjacent areas
- 3.7 Equity considerations

#### 3.1 On-Street Parking Turnover & Duration of Stay

After occupancy, the most fundamental measures of parking performance are turnover and duration of stay. City Policy TRN-3.102, which governs the management of the Downtown meter district, gives mention to the connection between on-street and off-street parking by stating “the on-street parking system in commercial districts is managed to support the economic vitality of the district by encouraging parking turnover, improving circulation, encouraging use of off-street parking, maintaining air quality, and promoting the use of alternative modes by managing the supply and price of on-street commuter parking.”

Parking turnover refers to the number of vehicles that used a particular space (or type of space) during a defined time interval. In areas where short-term customer parking is the priority, the more vehicles that are able to use a parking space, the more people have access to local businesses. Time-stay limits are used to increase turnover, by setting a maximum time that a vehicle can be parked. Duration of stay is the length of time that a vehicle has been parked. The Lancaster Engineering report summarized duration of stay relative to the signed/metered time limit. These are summarized in Figure 3.

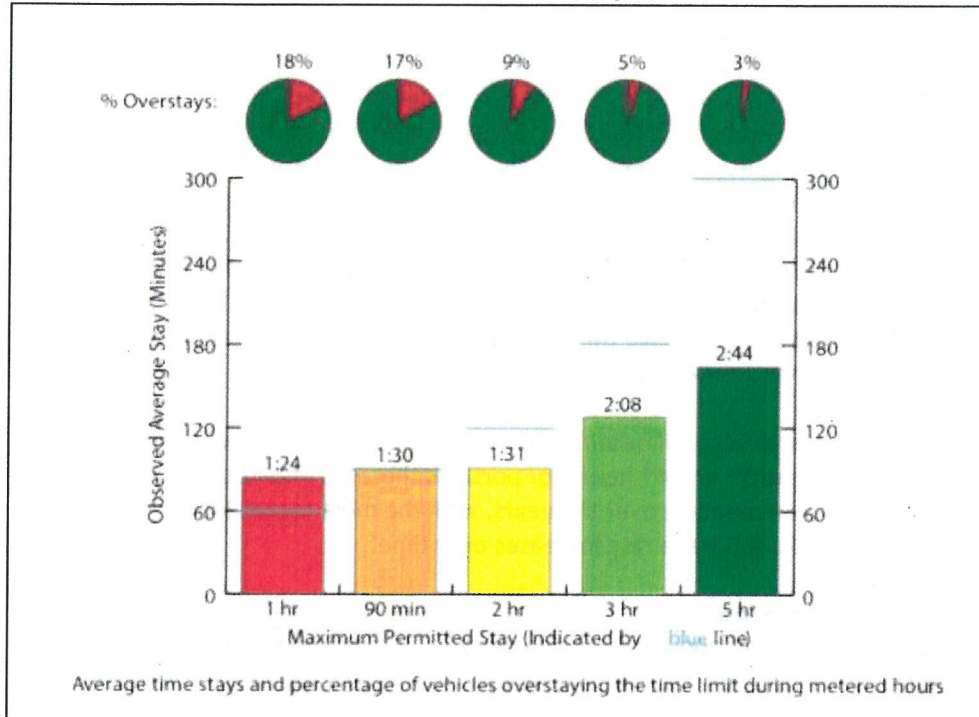
**Figure 3. On-Street Parking Average Duration of Stay**

Figure 3 shows that for 1-hour, 90-minute, and 2-hour meters the average time stay was just around one-and-a-half hours. Relatively large percentages of parkers in the 1-hour and 90-minute spaces overstay the signed limit (18% and 17%, respectively). Conversely, duration of stay in the 3-hour and 5-hour spaces tends to be considerably shorter than their allowed time.

The 2008 study by Kittelson and Associates also calculated turnover and duration of stay in the study area. The results from 2008 and 2014 are summarized in Table 2. In general, parking turnover has increased since the 2008 study. Given that the durations of stay have remained mostly unchanged since the 2008 study, the higher turnover rates reflect the increase in overall parking occupancy levels seen throughout most of the day.

**Table 2. 2008 and 2014 Turnover and Duration of Stay**

Timestay	Turnover		% Change	Duration of Stay		% Change
	2008	2014		2008	2014	
1 hour	4.3	5.6	30%	1:26	1:24	-2%
90 minutes	5	5.7	14%	1:42	1:30	-12%
2 hours	4.9	5.0	2%	1:34	1:31	-3%
3 hours	3.9	5.1	32%	2:15	2:08	-5%
5 hours	2.9	3.3	13%	2:50	2:44	-4%
TOTAL	4.2	5.1	21%			

#### Key Findings: On-Street Turnover and Duration

- Average duration of stay in the 1-hour, 90 minute, and 2-hour spaces is around 90 minutes, with a high proportion (up to 18%) of parkers staying longer than signed time limits.

- Turnover has increased since the last parking study in 2008. Given that average durations have been largely stable, the higher turnover reflects the increased demand for parking. i.e., more cars are being served by the on-street system.

### 3.2 Availability of Off-street Parking & SmartPark Garage Occupancy

The City-owned SmartPark garages are primarily intended to support short-term (under 4 hours) parking needs; however, when transient parking demand does not fully utilize the garage, monthly permits can be sold to make better use of the public asset. When short-term parking demand increases, monthly permits are reduced or discontinued in order to open up capacity for customer parking. This is especially important for the garages serving the retail core: 4<sup>th</sup> & Yamhill; 3<sup>rd</sup> & Alder; and 10<sup>th</sup> & Yamhill. At this time, only the 4<sup>th</sup> & Yamhill garage has monthly permits, but due to increased demand for short-term parking, PBOT is discontinuing permit sales effective this summer. At that time, the three SmartPark garages in the retail core will only serve transient parking demand.

Pricing of the SmartPark garages is set to accommodate short-term parking. The first two hours are \$1.60, with hourly rate increases for the 3<sup>rd</sup> and 4<sup>th</sup> hours (or portions thereof). The hourly rates for short-term parking have increased incrementally over the years, with the most recent increases in 2009 and 2012. Table 3 outlines the SmartPark Garage rate increases over time.

**Table 3. SmartPark Garage Hourly Rate Increases**

Hourly Rates	1998-2006	2006-2009	2009-2012	2012-2015
1 <sup>st</sup> Hour	\$0.95	\$1.25	\$1.50	\$1.60
2 <sup>nd</sup> Hour	\$0.95	\$1.25	\$1.50	\$1.60
3 <sup>rd</sup> Hour	\$0.95	\$1.25	\$1.50	\$1.80
4 <sup>th</sup> Hour	\$0.95	\$1.25	\$1.50	\$2.00

The definition of occupancy for off-street parking is comparable to the definition for on-street, and SmartPark also uses an 85% target occupancy. However, a single off-street parking facility has greater tolerance for higher occupancy because drivers are more likely to park in the first available space, unlike in a Downtown on-street environment. The occupancy profiles for the five SmartPark garages are shown below in Figure 4.

Figure 4. Weekday SmartPark Garage Occupancy Profiles, October 2014

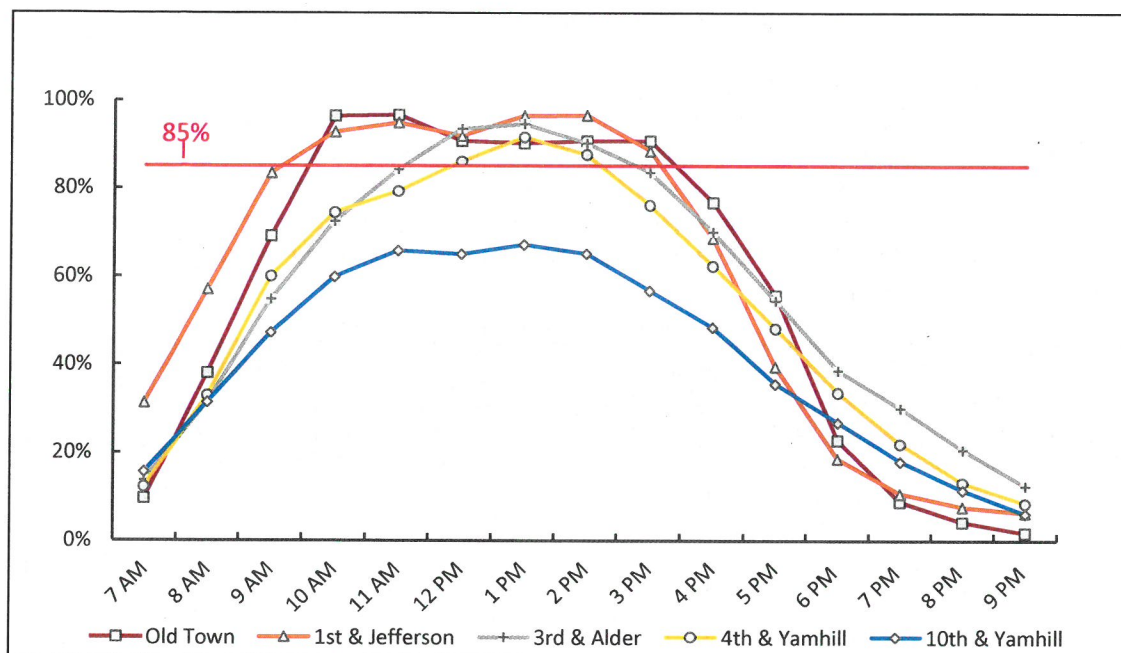


Figure 4 shows that all of the garages reach and sustain parking occupancy over 85% for several hours each day, with the exception of the 10<sup>th</sup> & Yamhill garage, which is 67% full during the peak hour. This data reflects conditions in October 2014; at that time, the garage had made some operational changes, including an increase in the all day rate for transient parkers. In response to the low occupancy level, garage operators reduced the all-day rate and parking demand has since adjusted upwards, with peak occupancy levels of 83% in May and 86% in April.

The relatively early arrivals at the 1<sup>st</sup> & Jefferson and Old Town garages reflect a relatively higher proportion of employee/commuter parking compared to the other garages. One implication is that the garage is filled with commuters by the time shoppers begin to arrive. A recent survey conducted for the Portland Development Commission found that only 2% of parkers were shoppers, compared to 61% full-time employees. Both garages reach and surpass the target 85% occupancy by 9 and 10 a.m. respectively, and remain effectively full until late afternoon. The occupancy profiles at 4<sup>th</sup> & Yamhill and 3<sup>rd</sup> & Alder are consistent with more typical customer/visitor parking demand, with most arrivals in late morning and sharper peaks near the noon.

#### Key Findings: SmartPark Garage Occupancy

- SmartPark garages in the retail core are operating at or above the 85% occupancy target. Though the 10<sup>th</sup> & Yamhill garage was only 67% full during the October 2014 counts, price adjustments have been followed by increased demand, resulting in occupancy levels near 85% in April and May.
- The Old Town and 1<sup>st</sup> & Jefferson garages serve a relatively higher proportion of commuter parking, as evidenced by the occupancy profiles which shows earlier arrivals and later departures than the retail-serving garages.

- According to a recent survey conducted for the Portland Development Commission, only 2% of parkers using the Old Town SmartPark were shoppers, compared to 61% full-time employees.

### 3.3 On-street parking prices vs. Off-street parking prices

For a Downtown commercial district, on-street parking is considered the most convenient for most users. In Portland, the priority for on-street parking is short-term customer/visitor parking. As noted earlier, City Policy TRN-3.102 states that the on-street parking system should be managed to encourage use of off-street parking as part of achieving the objective of supporting the economic vitality of the district. The current pricing structures for Downtown on-street meters and SmartPark garages are summarized in Table 4 for comparison.

**Table 4. Hourly Parking Rates, On-Street (Downtown) vs. SmartPark Garages**

Duration	SmartPark (weekday)		On-Street	
	Incremental Rate	Cumulative	Hourly Rate	Cumulative
1 hour	\$1.60	\$1.60	\$1.60	\$1.60
2 hours	\$1.60	\$3.20	\$1.60	\$3.20
3 hours	<b>\$1.80/hr</b>	\$5.00	<b>\$1.60</b>	\$4.80
4 <sup>th</sup> and 5 <sup>th</sup> hours	<b>\$2.00/hr</b>	\$7.00-\$9.00	<b>\$1.60</b>	\$6.40
Over 5 hours	\$1.00 to \$6.00	\$10 to \$15	\$1.60	\$8.00

Contrary to the intent of this policy, the pricing structure of the two parking systems show that the on-street parking rates are lower than the SmartPark garages for stays longer than two hours. Where both systems offer parking at an initial rate of \$1.60, the SmartPark garages have a graduated rate structure after the first two hours. For those on-street meters that allow stays longer than two hours, parking on-street is a lower price option than parking in the SmartPark garages.

Additionally, on-street meter enforcement ends at 7 p.m., after which on-street parking is free of charge. SmartPark garages continue charges at all hours, though at a reduced, flat rate in the evenings and on weekends. This means that visitors coming in for the evening are much more incentivized to spend time looking for on-street parking rather than parking in a SmartPark garage.

At their April 27, 2015 meeting, the Policy SAC directed staff to develop for their consideration a policy structure that explicitly ties pricing of the on-street and off-street parking systems in a way that incentivizes use of the SmartPark garages. This work is being conducted as part of the policy update.

### Key Findings – On-Street vs. Off-Street Pricing

- Although the on-street parking is considered the highest value parking and Downtown parking policy directs that management of the on-street system should encourage use of off-street parking, the current price structure creates the opposite incentives for stays longer than 2 hours and for certain time periods, including:

- During regular enforcement hours, parking durations exceeding two hours have a higher price in the SmartPark garages than at on-street meters.
- On weekends during the hours of enforcement for on-street, the flat \$5 price is a higher price in the SmartPark garages than on-street for stays of up to 3 hours (\$4.80).
- On Sunday mornings and evenings, when on-street parking time limits are not enforced, the \$5 flat fee presents a higher cost for off-street parking than the on-street parking, which is unpriced during those hours.

### 3.4 Availability of other access options

The parking system is managed in the context of a complete transportation system. Downtown Portland offers a range of options for employees, visitors, customers and residents.

Within the Downtown Meter District, there is a network nearly 20 miles of existing bike facilities, comprised of conventional bike lanes, buffer/protected bike lanes, neighborhood greenways, and off-street paths. For public transportation, the Downtown area is served by four light rail lines (and soon a fifth) and two streetcar lines, along with 70 different bus lines. Combined, these three forms of transit serve almost 500 individual stops within the Downtown Meter District. The Downtown area is also easily accessible for pedestrians, with a complete sidewalk system throughout the entire Downtown, and access across the Willamette River via five of the City's bridges.

Along with public transportation, bike, and pedestrian infrastructure, another trend impacting parking in the Downtown area is the use of carshare vehicles (Car2Go, Zipcar, etc.). Currently, there are over 500 carshare vehicles operating throughout the City. New "rideshare" options, such as Lyft and Uber, provide another option for people wanting to access Downtown. All of these options have come about through public investment and policies, intentionally creating an environment that is less dependent on personal automobiles for travel.

### Travel Mode Shares

Table 5 shows the current and forecast mode shares for trips with one or both trip ends within the Central City. This table shows that currently approximately 67% are made by private automobile (combined single occupancy vehicles and high occupancy vehicles). Portland plans for and invests in a complete transportation system and expects to see growing shares of travel by modes other than private automobile. The share of trips made by private auto is forecast to decline to approximately 46% over the next 20 years. The largest shift will be toward more bicycling trips; transit and walking trips will also increase. There are currently many other travel options to downtown for both commuters and visitors.

**Table 5. Central City Mode Shares, Weekday PM Peak Period**

MODE	Existing	2035
Auto SOV	37.3%	23.1%
Auto HOV	29.9%	22.6%
Transit	14.3%	16.5%
Bike	4.5%	21.2%
Walk	14.0%	16.6%

### Transit Pricing

Out-of-pocket costs of transit can be compared to parking fees in considering traveler options with respect to price. Table 6 below outlines Trimet's fare system since 2009.

**Table 6. Trimet Fare Increases**

	Single Trip	
	Adult 2 Zone	Adult All Zone
Sep-09	\$2.00	\$2.30
Sep-10	\$2.05	\$2.35
Sep-11	\$2.10	\$2.40
Sep-12	\$2.50	
8% - 25% increase		

The table shows that the price of a single fare was increased three times between 2009 and 2012, with a net increase between 8% and 25%, depending on whether a passenger used a 2-zone or an all-zone ticket. During this same time period, the price of on-street parking has been unchanged.

### Key Findings: Availability of other access options

- Pricing for on-street parking has been unchanged since 2009, even while comparable transit prices have increased three times, with a cumulative increase of up to 25% for a single fare.
- The price for a short-term parking stay is comparable to the price of transit for a single trip fare. The cost of a round trip fare for one person is \$5; this is comparable to the \$4.80 cost of a 3-hour stay at an on-street parking meter under current prices.
- There are currently many other travel options to downtown for both commuters and visitors. Portland plans for and invests in a complete transportation system and expects to see growing shares of travel by modes other than private automobile.

### 3.5 Economic impacts

The purpose of the on-street parking system is to support the economic vitality of the city, as well as provide a safe and convenient environment for residents and visitors alike. Adjusting meter rates is an important example of parking management to operate an effective and efficient system.

### Retail Environment

As Portland continues to grow, managing the on-street parking system to ensure availability for downtown customers and visitors is critical. An intercept study conducted in downtown as part of the 2008 parking study found that 60% of survey responders preferred on-street parking over off-street. Additionally, of those who drove into downtown through private auto, an overwhelming 87% said convenience was a primary factor in their decision on whether or not to drive. Only 15% cited cost as a primary factor.

Experience in other cities shows that charging the right price for parking more often helps businesses districts thrive by making it more convenient for visitors. After implementing a performance-based pricing plan in certain districts, San Francisco saw a 22% increase in sales tax revenue in those areas, compared to only 15% growth in areas that did not receive the same type of parking management. This indicates that more efficiently managing parking can help business districts grow by making them more accessible.

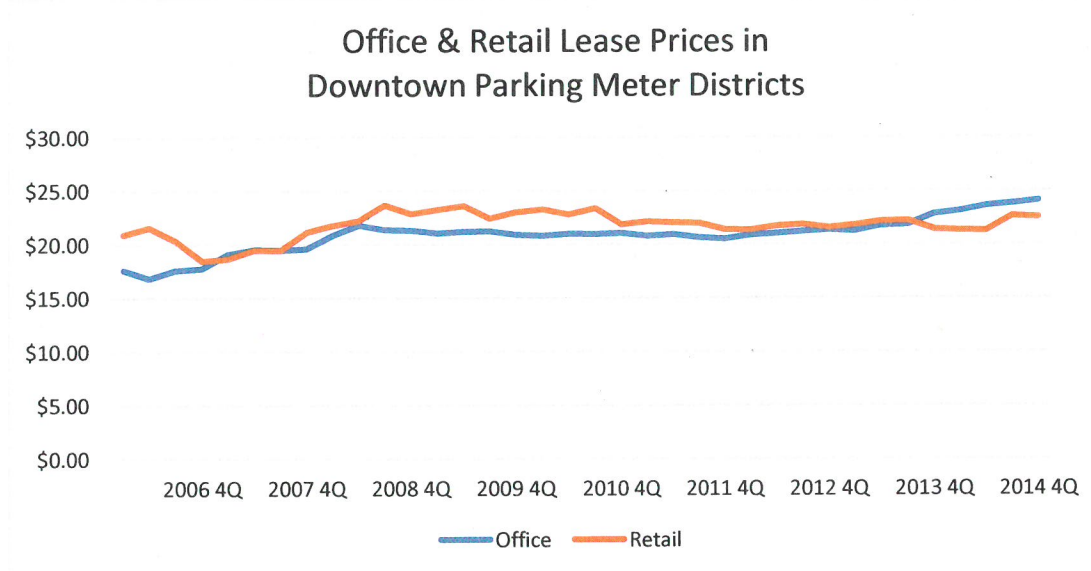
### Real Estate Market

Lease costs for retail and office space were used as an indicator of the general market conditions for real estate in the Downtown Meter District. The Bureau of Planning and Sustainability provided data showing retail and office lease rates from 2006 through 2014. The data are summarized in Figure 5. The figure shows that retail lease rates have been relatively flat over the last several years, while office rates have been trending slightly upward. It is not appropriate to attribute these trends solely to the price of on-street parking. However, the charts also do not suggest that the change in pricing from 2009 had a significant impact.

### Economic Development

General economic conditions are a result of many factors and upward or downward movement in the economy cannot be attributed to small changes in on-street parking meter rates. That said, it can be of interest to examine economic indicators to determine whether there are correlations with changes in parking rates or other parking conditions.

The last parking meter rate increase in the City of Portland occurred in 2009, during the last recession. In response to very low vacancy rates, the majority of development since that time has been for housing, especially apartments. Between 2010 and 2014, nearly 4,000 new multifamily units were built in the Central City.

**Figure 5. Downtown Office & Retail Lease Prices**

#### Key Findings- Economic Impacts

- Past survey results from downtown Portland indicate that convenience is by far a larger factor than cost in deciding to drive downtown.
- Retail and office lease rates over the last 9 years do not show any discernible changes that can be attributed to the 2009 parking meter rate increase.

#### 3.6 Spillover impacts into adjacent areas

When looking to adjust meter rates within a specific area, it is important to evaluate potential effects on surrounding areas. Should a meter rate increase be implemented, there may be some drivers who attempt to park outside of the Downtown Meter District, in an attempt to lower their parking costs, and walk/bike/transit into their final destination.

The Downtown Meter District is bound by the I-405 Freeway to the west, and the Willamette River to the east, along with restricted parking permit zones in the adjacent areas. Given these constraints, visitors to the Downtown area are not expected to parking outside of downtown based on the incremental meter rate change in short-term parking.

#### Key Findings- Spillover impacts

- Spillover impacts are expected to be minimal due to physical barriers and surrounding permit zones in adjacent areas. No changes in enforcement operations would be needed to accommodate an increase in pricing of on-street meter parking.

#### 3.7 Equity Considerations

On-street parking in meter districts is generally prioritized for visitors, shoppers, and diners, not for long-term employee parking. Day-time commuters who drive tend to store their vehicles in off-street garages or lots. However, those who commute during the evening (such as restaurant or other evening shift staff) have different trends. Some of these workers may use the opportunity to park on-street given that enforcement hours end at 7pm. While it is not the intention of the on-street parking system to

provide employee parking, it is important to consider whether changes in meter prices will disproportionately impact people with lower incomes.

From a parking management perspective, it is preferred that long-term parking occur off-street. The SmartPark Garages charge a flat rate starting at 5 pm (\$5, except for Old Town which charged \$6 on weekend evenings), which is an option for all parkers who are more price sensitive.

Further, when underpricing of on-street parking leads to very high occupancy conditions, it is difficult for everyone to find a space, including lower wage earners. In fact, many low wage earners have little flexibility in their required arrival time for work so that the time spent hunting for a space is of greater impact than the incremental increase in price.

### Key Findings- Equity Considerations

- From a parking management perspective, it is preferred that long-term employee parking occur off-street. The SmartPark Garages charge a flat rate starting at 5 pm, which provides a lower cost option for parkers who are more price sensitive.
- Appropriate pricing of on-street parking leads to more consistent parking availability, which improves parking opportunities for parkers, including lower wage earners.

### Considerations for Subcommittee

The analysis and findings summarized in this memorandum indicate that an increase in parking meter rates in the Downtown Meter District is warranted. Three optional prices have been identified for consideration by the Subcommittee. In addition to the optional rate increases, the subcommittee may wish to consider near-term operational changes in conjunction with a meter rate increase, in order to improve overall system functions.

### Potential Meter Rate Increases

The on-street pay stations make meter time available in increments of 15 minutes. For this reason, the total price of parking must be evenly divisible by 4. From the current meter rate of \$1.60 per hour, 3 optional levels of price increase are proposed for consideration:

Hourly increase (in cents)	Resulting hourly rate	Qualitative Evaluation
20	\$1.80	<ul style="list-style-type: none"> <li>• 13% increase</li> <li>• May be too small to affect change in parking behavior</li> <li>• On-street pricing would still be lower than SmartPark garage after 3 hour stay</li> </ul>
40	\$2.00	<ul style="list-style-type: none"> <li>• 25% increase</li> <li>• Comparable to Trimet single fare increase in same time period</li> <li>• Equal to the highest rate for SmartPark price (4<sup>th</sup> hour)</li> </ul>
60	\$2.20	<ul style="list-style-type: none"> <li>• 35% increase</li> <li>• Exceeds hourly rate for SmartPark for all hours</li> </ul>

## Potential Operational Changes to Complement Meter Rate Adjustment

The data analysis conducted for this memorandum revealed two additional issues that could be addressed with near-term operating changes. The issues and proposed changes are summarized below.

### Issue: Over-stays at Short-Term Metered Parking

The high proportion of over-time stays in the 1-hour, 90-minute, and 2-hour meters indicates that the current mix of short-term spaces is not adequately meeting customer needs. Parking counts showed that most parkers using these spaces park for approximately 90 minutes, with a 17% to 18% exceeding the time limit.

### Potential Operating Change

PBOT should work with businesses in the District to identify a more appropriate mix of time limits to serve customers and visitors. Such changes will need to consider the policy direction that prioritizes short-term parking. It is expected that the overall shift would be a reduction in the number of 1-hour spaces, possibly increasing the number of 90-minute and 2-hour spaces.

### Issue: Limited Capacity for Visitor/Customer Parking at Old Town SmartPark Garage

Data from the SmartPark garage and from a recent intercept survey show that the Old Town SmartPark garage is used primarily by employees: 40% using monthly permits and 21% paying the all-day rate. Because the garage is used primarily by commuters, the spaces fill up early in the morning and there are few spaces remaining when customers start to arrive later in the morning. The survey found that only 2% of parkers on the survey were customers of downtown businesses.

### Potential Operating Change

PBOT and SmartPark managers should examine potential increases to the daily rate in order to discourage use by employee parking. The current all-day rate for this garage is \$10, with a planned increase to \$11 expected in July, which will still be among the lowest all-day rates for off-street parking in the vicinity. The subcommittee could recommend that the all-day rate be increased further to reduce commuter parking and open up more capacity for customers.



## MEMORANDUM

TO: Downtown Meter Rate Adjustment Subcommittee

FROM: Judith Gray & Kathryn Doherty-Chapman, PBOT

CC: Rick Williams, Rick Williams Consulting

DATE: July 13, 2015

RE: Considerations for Downtown Parking Meter Rate – Subcommittee meeting #2

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This memorandum is provided to support the second meeting of the Downtown Meter Rate Adjustment (MRA) Subcommittee. The MRA Subcommittee was formed from the Central City Parking Policy Update Stakeholder Advisory Committee (Policy SAC). Where the Policy SAC is considering long-term policy changes for the Central City, they chose to form a subcommittee for the purpose of addressing the near-term change in the downtown parking on-street meter rate. The meter rate adjustment is an operational change as opposed to a policy change.

This memorandum includes the following:

- A brief review of the June 23 meeting and the specific charge of the MRA Subcommittee.
- Optional meter rate increases presented for subcommittee consideration.
- Research guidance on pricing parking, including rates in other cities and elasticity of demand estimates.
- Other potential operations adjustments which were presented by staff and raised by committee members at the June 23 meeting.
- Information about current policy on meter revenue allocation and recent year expenditures

### Review

At their June 23, 2015 meeting the subcommittee determined that conditions have been met to demonstrate the need to increase downtown parking meter rates. The subcommittee considered analysis of transportation, economic, and finance issues, as identified in TRN 3.102, which sets policy for managing the downtown meter district. Some of the key findings from that analysis include:

- Parking analysis from late 2014 show that current utilization is 90% during the peak, and for several hours exceeds the target utilization 85%.
- The parking analysis shows that parking occupancy is higher than it was in 2008, preceding the last meter rate increase in downtown.
- The hourly rate for the SmartPark garage exceeds on-street parking for stays longer than two hours.
- Hourly rates for short-term parking at the SmartPark garages have been increased twice since the last on-street meter rate increase in 2009.

- Transit fares have increased three times since the 2009. At \$2.50 per adult ticket, the cost of a round trip fare for one person (\$5) is slightly higher than the \$4.80 for 3-hour stay at an on-street meter.

## Purpose

The objective of the July 15 meeting is to obtain a subcommittee recommendation on the amount to increase on-street parking meter rates. At the June 23 MRA subcommittee meeting, staff proposed that the subcommittee consider hourly rate increases of 0.20c, 0.40c, or 0.60c. The subcommittee is also invited to propose a different amount.

In addition to adjustment the parking meter rate, the subcommittee may wish to consider additional adjustments to parking system operations that may directly relate to the meter rate increase. These potential adjustments were identified through the analysis of parking occupancy data as well as input from the subcommittee.

Staff intends to present the MRA subcommittee recommendations to Council for consideration in late summer or early fall, 2015.

## Optional Meter Rate Increases

The proposed increase amounts are provided in Table 1, along with the brief qualitative evaluations that were provided in an earlier memorandum.

**Table 1. Optional Meter Rate Increases (reproduced from June 17 memorandum)**

Hourly increase (in cents)	Resulting hourly rate	Qualitative Evaluation
20	\$1.80	<ul style="list-style-type: none"> <li>• 13% increase</li> <li>• May be too small to affect change in parking behavior</li> <li>• On-street pricing would still be lower than SmartPark garage after 3 hour stay</li> </ul>
40	\$2.00	<ul style="list-style-type: none"> <li>• 25% increase</li> <li>• Comparable to TriMet single fare increase in same time period</li> <li>• Equal to the highest rate for SmartPark price (4<sup>th</sup> hour)</li> </ul>
60	\$2.20	<ul style="list-style-type: none"> <li>• 35% increase</li> <li>• Exceeds hourly rate for SmartPark for all hours</li> </ul>

The purpose of the meter increase is to promote increased turnover and reduce occupancy levels to a target 85% occupancy level. Having around 15% of spaces available means a better parking experience for customers but also reduces the added congestion, safety impacts, carbon emissions and other negative impacts from drivers circling the blocks looking for parking. To this end, subcommittee members asked for additional information regarding the amount of increase needed to achieve the target occupancy level.

## Research Guidance on Pricing Parking

Two areas of information are provided as guidance in establishing an appropriate price for parking.

### Meter Rates in Other Cities

First, on-street meter rates in other cities are summarized in Table 2. The table shows meter rates (2015) as well as population (2013).

**Table 2. On-Street Parking Meter Rates in other Cities**

City	Meter Rate 2015**	Population 2013
Boise	\$1.00	214,237
Tampa	\$1.50	352,957
Milwaukie	\$1.50	599,164
Las Vegas	\$1.00	603,488
Vancouver, BC*	\$1.00 to \$6.00 (Canadian)	603,502
Portland	\$1.60	609,456
Nashville	\$1.50	634,464
Washington DC	\$2.00	646,449
Denver	\$1.00	649,495
Seattle*	\$1.00 to \$4.00	652,405
San Francisco*	\$0.25 to \$6.00	837,442
Dallas	\$1.50	1,257,676
San Diego	\$1.25	1,355,896
Phoenix	\$1.50	1,513,367
Houston	\$1.50	2,195,914
Toronto, ON	\$1.00 to \$4.00 (Canadian)	2,620,000
Chicago	\$2.00 to \$6.50	2,718,782
Los Angeles	\$4.00	3,884,307
New York	\$1.00 to \$5.00	8,405,837

\*These cities use performance based pricing, adjusting prices to achieve the target 85% occupancy.

\*\*Some cities may have ranges of parking meter prices that were not captured in our research and therefore are not reflected in this table.

The table shows a wide range in charges for on-street parking, from \$1.00 in several cities, to \$5.79 in Vancouver BC. The table does not show a clear relationship between parking prices and size of city, though there is a tendency for higher prices in the larger cities (New York, Los Angeles, and Chicago). However, those cities that are using performance based pricing (Vancouver, Seattle, and San Francisco) have prices as low as \$0.25 and as high as \$6.00 per hour, reflecting variability in occupancy with respect to location and time of day.

### Findings on Parking Responses to Price Changes

Measuring the relationship between changes in pricing and changes in quantity demanded is referred to as *price elasticity of demand*. We intuitively expect that an increase in price will result in a decrease in quantity demanded. For this reason, elasticity estimates are expected to have a negative value. It is

important to note that parking occupancy is frequently used as a proxy for “demand”; however, in areas where occupancy is very high, it is almost certain that there is some unmet demand for parking that is not captured by occupancy measures; and is cruising for parking.

Several studies and literature surveys were reviewed for information about the effects of pricing on parking demand (see attachment A). The recently published *Parking Management for Smart Growth*, (Willson, 2015) reports that elasticity values typically range from -0.1 to -0.4, with -0.30 being the most common value. Table 3 shows estimated peak occupancy levels for the potential meter rate increases of 20c, 40c, and 60c, assuming that elasticity equals -0.30.

**Table 3. Estimated Shift in Demand (where elasticity of demand = - 0.30)**

Base price	Incremental rate change	New price	% Rate change	Change in Occupancy	Estimated occupancy
\$1.60	\$0.20	\$1.80	12.5%	-3.9%	86%
<b>\$1.60</b>	<b>\$0.40</b>	<b>\$2.00</b>	<b>25.0%</b>	<b>-7.5%</b>	<b>83%</b>
\$1.60	\$0.60	\$2.20	37.5%	-11.4%	80%

As Table 3 shows, increasing Portland’s downtown hourly parking meter prices by 20, 40, or 60 cents would be expected to shift peak occupancy from the current 90% to between 80% and 86%, assuming a “typical” effect on demand. While the calculation should not be considered a precise measure, it suggests that these would be in the appropriate range for a price adjustment.

At an aggregate level, elasticities of demand are important economic principles. Nonetheless, the wide range of elasticity estimates illustrates the numerous factors that influence individuals’ response to price changes. Some parkers will respond to a price increase by shifting to alternative parking or a different travel mode. This is referred to *cross-elasticity of demand*, which measures the demand for one good relative to price changes for a related, substitute good. For example, an increase in the price of parking might lead to an increase in demand for transit. One recent study (Auchincloss, 2014) conducted a survey of US cities and found that higher parking costs are associated with an increase in public transit use and less personal automobile demand.

Another important economic principle at play is the concept of *derived demand*, which reflects demand that arises out of demand for another good. With regard to parking, most people do not have demand for parking in and of itself; its demand is derived from the demand to work, shop, dine, or take part in some other activity. The value of and willingness to pay for parking is derived from the value of the underlying goods. It is not surprising to see that parking occupancy levels tend to increase when general downtown activity increases. To this end, Willson calls out this guidance from a recent study from San Francisco:

“Rather than try to ‘get the prices right’ using principles of elasticity, (Pierce and Shoup, 2013) suggest a quantity approach in which a target occupancy level is defined and prices are adjusted in increments to achieve that occupancy.”

This suggested approach refers to a data-driven, performance based parking management structure which the Policy SAC will be developing in their upcoming meetings.

## Other Potential Operations Adjustments

Though not specifically part of their charge, the MRA Subcommittee may also wish to consider other near-term adjustments to downtown parking operations; some such adjustments may be appropriate to be implemented in conjunction with the meter rate increase in a way that improves system operations as a whole. The June 17 memorandum included potential changes in time-stay limits as well as price changes at the Old Town SmartPark garage. Descriptions of these items are provided below. Additionally, committee members discussed the value of information/marketing activities implemented to support the roll-out of price changes.

### Over-stays at Short-Term Metered Parking

The high proportion of over-time stays in the 1-hour, 90-minute, and 2-hour meters indicates that the current mix of short-term spaces is not adequately meeting customer needs. Parking counts showed that most parkers using these spaces park for approximately 90 minutes, with a 17% to 18% exceeding the time limit.

### Potential Operating Change

The subcommittee may wish to recommend adjustments in the time-stay limits. PBOT staff would work with businesses in the District to identify a more appropriate mix of time limits to serve customers and visitors. Such changes will need to consider the policy direction that prioritizes short-term parking. It is expected that the overall shift would be a reduction in the number of 1-hour spaces, possibly increasing the number of 90-minute and 2-hour spaces.

### Limited Capacity for Visitor/Customer Parking at Old Town SmartPark Garage

Data from the SmartPark garage and from a recent intercept survey show that the Old Town SmartPark garage is used primarily by employees: 40% using monthly permits and 21% paying the all-day rate. Because the garage is used primarily by commuters, the spaces fill up early in the morning and there are few spaces remaining when customers start to arrive later in the morning. The survey found that only 2% of parkers on the survey were customers of downtown businesses.

### Potential Operating Change

The subcommittee may wish to consider recommending changes to the SmartPark price structure to create more capacity for customer parking. PBOT and SmartPark managers would examine potential increases to the daily rate in order to discourage use by employee parking. The current all-day rate for this garage is \$10, with a planned increase to \$11 expected in July, which will still be among the lowest all-day rates for off-street parking in the vicinity. The subcommittee could recommend that the all-day rate be increased.

### Issue raised by Subcommittee: Perceptions of Downtown Retail & Business Environment

The subcommittee discussion raised concerns that increasing the cost of parking may contribute to negative perceptions of the business and retail environment in downtown. This is a common concern about parking pricing in retail areas, even while the negative impacts of overly full parking are acknowledged (e.g., customer frustration, added traffic congestion from cruising for parking, added safety and air quality impacts from the additional traffic).

Many cities conduct public information/education programs in conjunction with downtown parking management. Common examples include parking maps, advertising of transit, or other messages to

promote downtown. Portland has engaged in such efforts in the past through partnerships with outside organizations. The subcommittee may wish to recommend that a public information/education program be conducted as part of the roll-out of increased meter rates.

## Revenue Allocation

At both the Policy SAC and the MRA Subcommittee meetings, some members have requested additional information about potential uses of meter revenue. The City's policy regarding allocation of revenues is included in TRN 3.102 Revenue Allocation Policy (See Attachment B). The policy states priority uses for the revenue; specifically, the first priority is to cover capital and operating costs of the meter system. The policy further states:

"Revenues remaining after capital and operating costs are covered may be allocated to support transportation services within the meter district and citywide. A policy of fairly allocating revenues between the district and for citywide transportation services shall be maintained. As a general rule, the majority of net revenues should go to supporting transportation and parking services and programs within the meter district."

PBOT's business services group compiled a summary of downtown meter revenue and expenditures from FY 2013-14, which is indicative of typical spending patterns. The summary determined that 83% of net meter revenue was spent within downtown. Therefore, the current spending is well within the guidance from current policy to spend the majority of meter revenue within the district.

Current policy also directs that decisions about meter expenditures occur as part of the City's budget process.

As such, policy direction on allocation of revenue are outside the purview of the meter rate adjustment subcommittee. The meter rate adjustment being considered is for the purpose of parking management.

## Summary

This memorandum identified the following key points, which should inform the MRA subcommittee considerations of the on-street parking meter prices:

- Cities that are using performance based pricing (Vancouver, Seattle, and San Francisco) have on-street hourly meter prices as low as \$0.25 and as high as \$6.00 per hour, reflecting variability in occupancy with respect to location and time of day.
- Based on typical elasticity of demand values for downtown parking, an increase in Portland's downtown hourly parking meter prices by 20, 40, or 60 cents would be expected to shift peak occupancy from the current 90% to between 80% and 86%, assuming a "typical" effect on demand. While the calculation should not be considered a precise measure, it suggests that these would be in the appropriate range for a price adjustment.
- National parking experts suggest parking pricing with a target occupancy level (performance based parking management), rather than trying to "get the right price."
- The high proportion of over-time stays in the 1-hour, 90-minute, and 2-hour meters indicates that the current mix of short-term spaces is not adequately meeting customer needs. PBOT staff could work with businesses in the District to identify a more appropriate mix of time limits to serve customers and visitors. It is expected that the overall shift would be a reduction in the number of 1-hour spaces, possibly increasing the number of 90-minute and 2-hour spaces.

- The Old Town SmartPark garage is used primarily by employees; only a small percentage of parkers responding to a recent survey were customers of downtown businesses. The subcommittee may wish to consider recommending changes to the SmartPark price structure to create more capacity for customer parking.
- Public information/education activities are an appropriate complement to ensure success and acceptance of a meter rate increase.

## References

Auchincloss<sup>1</sup>, Amy H.; Weinberger<sup>2</sup>, Rachel; Aytur<sup>3</sup>, Semra; Namba<sup>1</sup>, Alexa; and Ricchezza<sup>1</sup>, Andrew, [Public Parking Fees and Fines: A Survey of U.S. Cities](#). *Public Works Management & Policy* 2015, Vol. 20(1) 49–59. DOI: 10.1177/1087724X13514380 pwm.sagepub.com

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Willson, Richard. *Parking Management for Smart Growth*. Washington DC: Island Press, 2015. Print.

## Attachments

- A. Results of elasticity of demand studies
- B. Excerpt from TRN 3.102 regarding parking meter revenue allocation

## Attachment A

Elasticity of Demand Studies Table

On/Off-street	Price change +/-	PEOD*	Conclusion	City	Study	Year
Off-street	+\$8 to \$88/month	-.58	Inelastic, not price sensitive	Portland, OR	Dueker, et al <i>TCRP 40</i>	1998
On-street	Varies	-.29	Inelastic, not price sensitive	Dublin, Ireland	Kelly & Lynch	2009
On-street	Varies -\$1.70 and +\$1.50	-.37 to -.80	Inelastic generally, but varies by time of day	Seattle, WA	Ottosson, D.B, et.al <i>Transport Policy</i>	2013
On-street	+ \$1 to \$4.50/hr	-.40	Inelastic, not price sensitive	San Francisco, CA	Shoup & Pierce, <i>JAPA v79.1</i>	2013
On-street	Varies	-.3 for downtowns	Inelastic, not price sensitive	Across U.S.	Willson, R. <i>Parking Management for Smart Growth</i>	2015

\*PEOD= price elasticity of demand

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- Dueker, K. J., Strathman, J. G., and Bianco, M. J. 1998. ["Strategies to Attract Auto Users to PublicTransportation."](#) TCRP Report 40, Transportation Research Board, Washington, DC.
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- Willson, Richard. *Parking Management for Smart Growth*. Washington DC: Island Press, 2015. Print.

## Attachment B.

### Excerpt from TRN 3.102.

#### Revenue Allocation Policy

This revenue allocation policy will apply to all new meter districts and to all rate changes in existing districts that occur following passage of this policy. The intent of this section of the policy is to provide general guidelines on how meter system revenues are to be allocated by the City to support transportation and parking services.

Parking meter revenues are pledged as a back-up source of funds to insure that bond payment obligations are met for the revenue bonds issued to finance the system of City-owned parking facilities. This potential call on parking meter funds takes priority over all other uses except for the costs associated with collecting the meter funds. Although this potential use of meter funds is unlikely, the potential obligation needs to be acknowledged.

Specific allocation of new meter revenues will occur as part of the City's budget process. The allocation of additional revenue generated by a rate change in existing parking meter districts, will be discussed as part of the periodic assessment of meter district operations established earlier in this policy. The advisory committee formed as part of the periodic review process will be involved in these revenue allocation discussions. A recommended resource allocation plan shall be reported to the City Council by PDOT as part of the budget process.

The advisory committee established by this policy for new parking meter districts shall consider this revenue allocation policy as part of the deliberations on forming a new parking meter district. A recommended resource allocation plan shall be reported to the City Council by PDOT as part of the budget process.

The first priority for meter district revenues is to pay the capital and operating costs of the meter system. Capital costs of meter systems include the cost of parking meters, ancillary equipment and all cost associated with the installation of the meters. Capital costs also include the costs to upgrade or replace meters and ancillary equipment as their useful life expires. This capital equipment can be financed in accordance with the City's financial and debt management policies or may be financed within the Transportation Operating Fund through an internal loan.

Operating costs include all direct costs to operate, manage, maintain and enforce the system, plus appropriate overhead costs of PDOT and the City's General Fund. Operating costs also include initial costs to mitigate parking impacts on adjacent neighborhoods that result from having parking meters in the adjoining commercial district.

Revenues remaining after capital and operating costs are covered may be allocated to support transportation services within the meter district and citywide. A policy of fairly allocating revenues between the district and for citywide transportation services shall be maintained. As a general rule, the majority of net revenues should go to supporting transportation and parking services and programs within the meter district.

It is recognized that new meter districts may warrant a larger share of meter revenues to cover startup and transition costs, and that over time, the share to the district may diminish and the share for citywide transportation services may increase.

Revenues remaining after capital and operating costs are covered may be allocated to support district transportation and parking services including:

A. Improvement in adjacent neighborhoods to offset the direct impacts of the meter district on the adjacent areas.

B. Public education programs designed to improve the district by promoting no-auto modes of travel (transit, carpool, bike and walk), easing traffic and parking congestion, and promoting the benefits of nearby access to goods and services for are residents.

C. Improvement to the pedestrian environment such street trees, park benches, and sidewalk treatments to enhance pedestrian circulation and safety within the district.

D. Maintaining and improving the right-of-way within the meter district (signals, signs, pavement markings, street cleaning, pedestrian and bike facilities, trash receptacles).

E. Developing short-term off-street parking facilities to support economic activity in the district; promoting transit service and facilities; supporting alternatives to standard transit service to meet the specific transportation needs of the district.

F. Implement programs which reduce the demand for parking, improve economic vitality of the district and result in a balanced transportation and parking management system.

Meter system revenues which are not spent on district services are to be applied to citywide and multi-district service costs and shall be allocated within PDOT's budget through the City's budget process.