



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

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

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%
\$1.60	\$0.40	\$2.00	25.0%	-7.5%	83%
\$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

Auchincloss¹, Amy H.; Weinberger², Rachel; Aytur³, Semra; Namba¹, Alexa; and Ricchezza¹, 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

Ottosson, D.B., et al., [The sensitivity of on-street parking demand in response to price changes: A case study in Seattle, WA](#). *Transport Policy* (2013), <http://dx.doi.org/10.1016/j.tranpol.2012.11.013i>

Pierce, Gregory and Shoup, Donald, [Getting The Prices Right: An Evaluation Of Pricing Parking By Demand In San Francisco](#). April 2, 2013. *Journal of the American Planning Association*, Volume 79, Number 1, Winter 2013.

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

References:

- Clinch, J. Peter and Kelly, J. Andrew, [Temporal Variance of Revealed Preference On-street Parking Price Elasticity](#). *Planning and Environmental Policy Research Series* (2004) University College Dublin, Department of Planning and Environmental Policy, www.ucd.ie/pepweb
- 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.
- Ottosson, D.B., et al., [The sensitivity of on-street parking demand in response to price changes: A case study in Seattle, WA](#). *Transport Policy* (2013), <http://dx.doi.org/10.1016/j.tranpol.2012.11.013i>
- Pierce, Gregory and Shoup, Donald, [Getting The Prices Right: An Evaluation Of Pricing Parking By Demand In San Francisco](#). April 2, 2013. *Journal of the American Planning Association*, Volume 79, Number 1, Winter 2013.
- 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.