



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Memo

Date: February 25, 2021
To: Transportation Policy Alternatives Committee and Interested Parties
From: Elizabeth Mros-O'Hara, RCPS Project Manager
Subject: Regional Congestion Pricing Study – Workshop #3

Purpose

This workshop is a follow up to the TPAC Workshop on October 7, 2020. Staff will provide TPAC an update on the Regional Congestion Pricing Study (RCPS), focusing on the modeled outcomes and analysis around eight refined pricing scenarios tested and next steps.

Request to TPAC

Provide input and comment on the congestion pricing analysis and modeled findings.

Scope of Work

The RCPS is evaluating the performance of different pricing concepts by testing a series of modeling scenarios, research, memos, and feedback from experts in the field. The study is evaluating congestion pricing as a tool to accomplish the four primary transportation regional priorities identified in the 2018 Regional Transportation Plan (RTP): addressing climate, managing congestion, getting to Vision Zero (safety), and reducing disparities (equity).

This analysis will provide a foundational understanding of how congestion pricing tools could perform with our region's land use and transportation system. This information will be combined with research and analysis around implementation and equity considerations. The intent is to inform policy makers and existing and future projects in our region.

Project Goal: *To understand how our region could use congestion pricing to manage traffic demand to meet climate goals without adversely impacting safety or equity.*

The study is evaluating four different pricing concepts to understand how they would perform in our region with our land use and transportation system. Pricing concepts being assessed are:

- **Cordon/Area:** charges drivers to enter and/or drive within a defined boundary
- **Vehicle Miles Traveled/Road User Charge:** a charge based on how many miles are traveled by auto
- **Roadway:** a direct charge to use a specific roadway or specific roadways
- **Parking:** charges to park in specific areas

Refined Scenarios

Since we last met in October, the RCPS team has refined modeling scenarios to better test the performance of the different pricing concepts and further analyze how well they perform relative to the RTP priorities. Table 1: Base and Refined Pricing Model Scenarios describes the Base Scenario and the eight refined scenarios analyzed.

Table 1. Base and Refined Model Scenarios Descriptions

Scenario Name	Description	Detailed Description/Assumptions
Base	Background network for all scenarios. Baseline for comparison.	<ul style="list-style-type: none"> • 2027 Constrained Scenario from the 2018 RTP <ul style="list-style-type: none"> ○ Assumes growth in population and employment, capital investments, and increased spending on transit operations ○ Vehicle operating cost per mile \$0.211 ○ 4-County Region including Clark County
Vehicle Miles Traveled B - (VMT B)	Charge per mile driven – higher than Base	<ul style="list-style-type: none"> • Price applied for driving anywhere within the Metropolitan Planning Area (MPA) (see Figure 1) • VMT charge included in \$0.2795 vehicle operating cost per mile (32% increase over Base)
Vehicle Miles Traveled C - (VMT C)	Charge per mile driven – higher than VMTB	<ul style="list-style-type: none"> • Price applied for driving anywhere within the MPA • VMT charge included in \$0.343 vehicle operating cost per mile (63% increase over Base)
Cordon A – (COR A)	Charge to enter a defined boundary – central west side	<ul style="list-style-type: none"> • Cordon A boundary includes downtown Portland, South Waterfront and parts of NW Portland (see Figure 2) • \$7 (2020\$) to enter cordon • No charge for through trips on highways (i.e. US 26 from Sunset Hwy to Powell Blvd) through cordon
Cordon B – (COR B)	Charge to enter defined boundary – central west and east sides	<ul style="list-style-type: none"> • Cordon B boundary is Cordon A plus areas east of the Willamette River (Central Eastside Industrial District and the Lloyd District) (see Figure 3) • \$7 (2020\$) to enter cordon • No charge for through trips on highways (i.e. US 26 from Sunset Hwy to Powell Blvd) through cordon
Parking A – (Park A)	Charge to park in key areas – higher cost, new locales	<ul style="list-style-type: none"> • Charges for all areas identified in the 2018 RTP 2040 FC Scenario- except in Clark Co. (same as Base Clark Co.) • More locations charged and higher costs than Base <ul style="list-style-type: none"> ○ Up to \$16.30 per trip in downtown Portland • Locations and prices are shown on Figure 4
Parking B - (Park B)	Charge to park in key areas – very high cost, new locales	<ul style="list-style-type: none"> • Doubles charges for all areas identified in the 2018 RTP 2040 FC Scenario- except in Clark Co. (same as Base in Clark Co.) • More locations charged and much higher costs than Base <ul style="list-style-type: none"> ○ Up to \$32.60 per trip in downtown Portland • Locations and prices before doubling are shown on Figure 4
Roadway A - (RD A)	Charge per mile driven on throughways	<ul style="list-style-type: none"> • Throughways (limited access roadways) in MPA are charged • \$0.132 vehicle operating cost per mile on throughways
Roadway B - (RD B)	Charge per mile driven on throughways – double cost of RD A	<ul style="list-style-type: none"> • Throughways (limited access roadways) in MPA are charged • \$0.264 vehicle operating cost per mile on throughways (doubled Roadway A)

Note: All costs are 2010 dollars unless otherwise specified.

Figure 1. Metropolitan Planning Area (MPA) Boundary

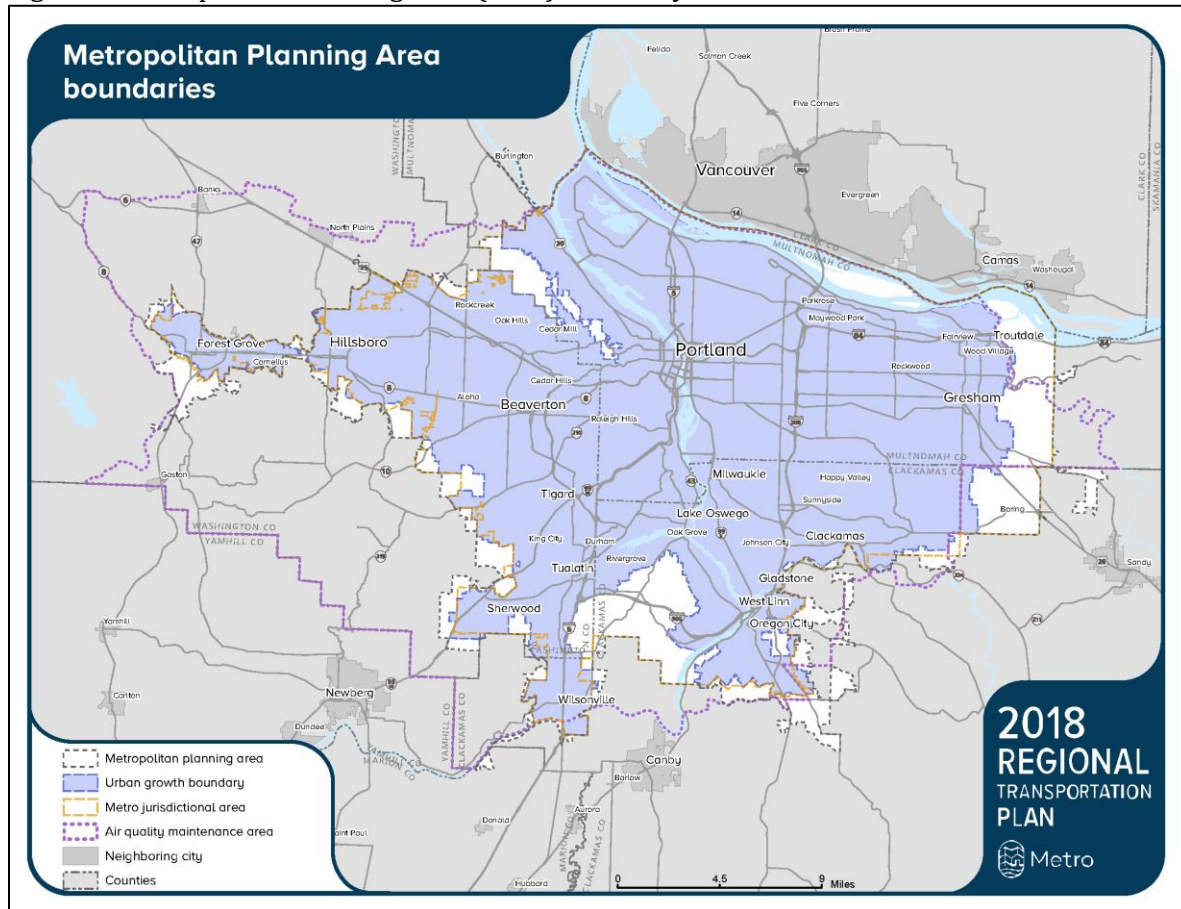


Figure 2. Cordon A- charge to enter yellow area

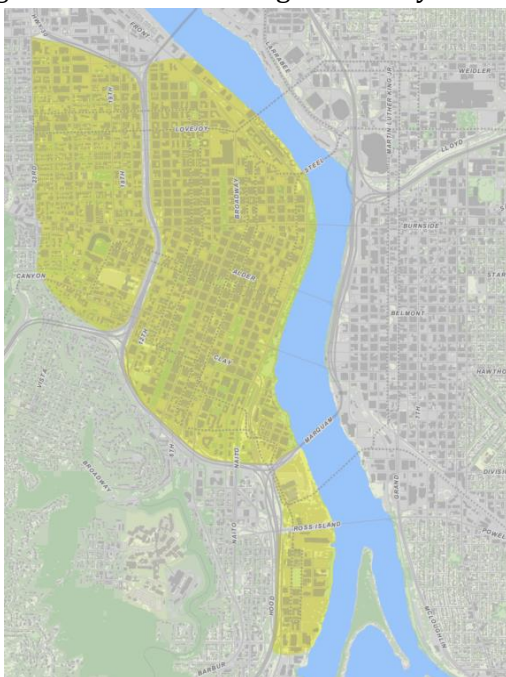


Figure 3. Cordon B- charge to enter yellow area

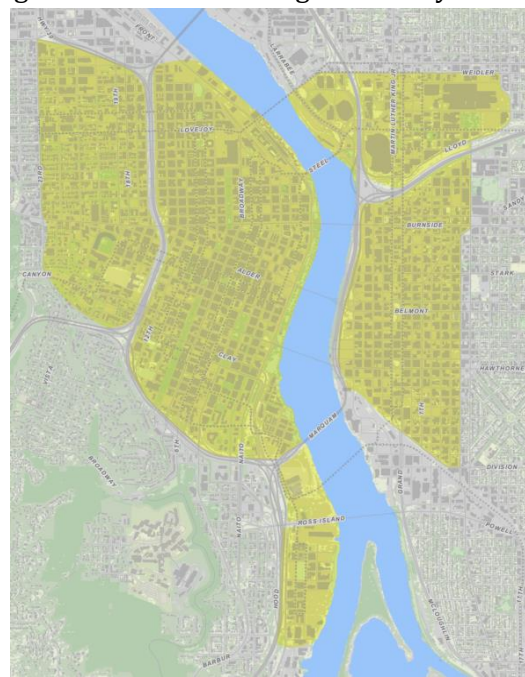
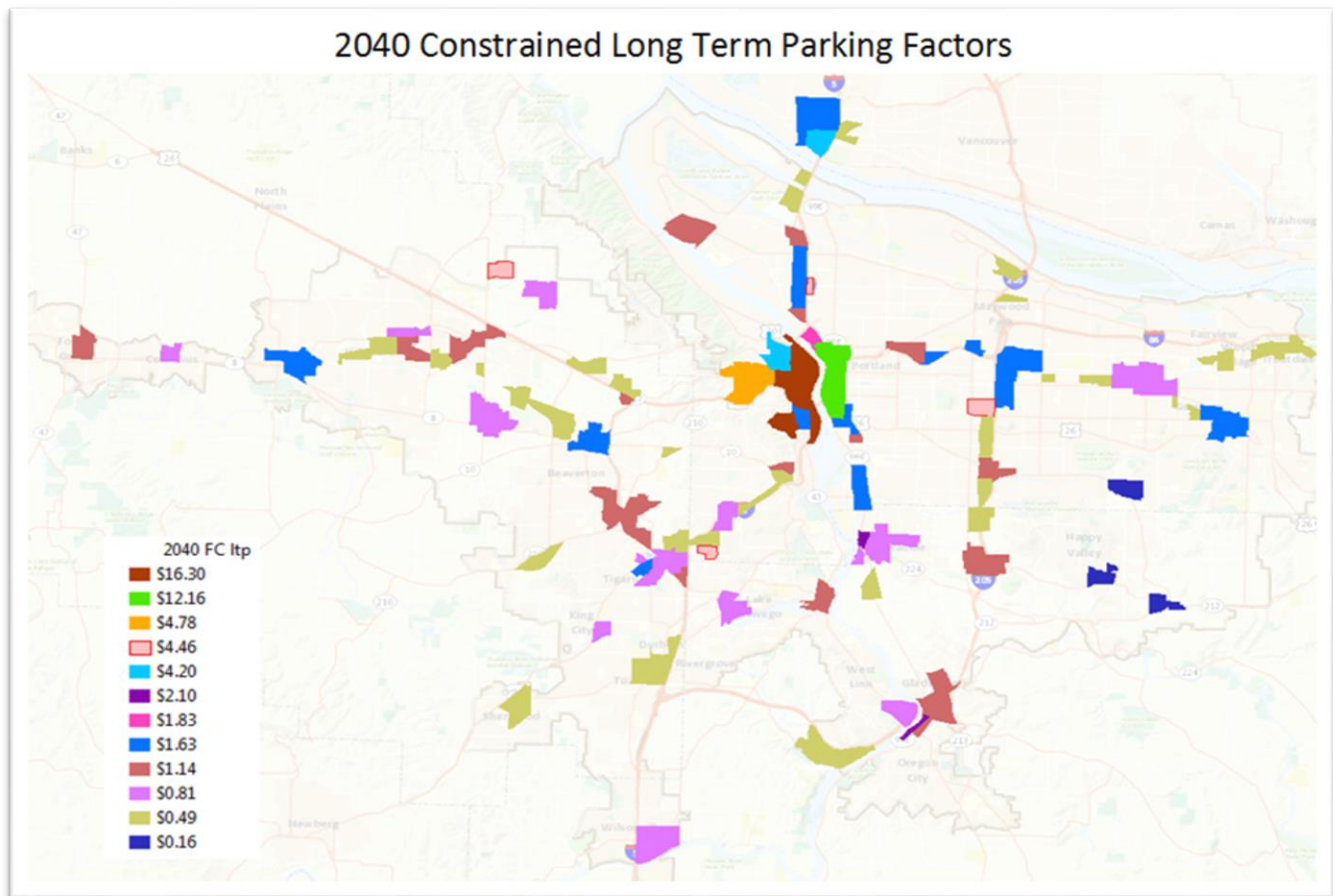
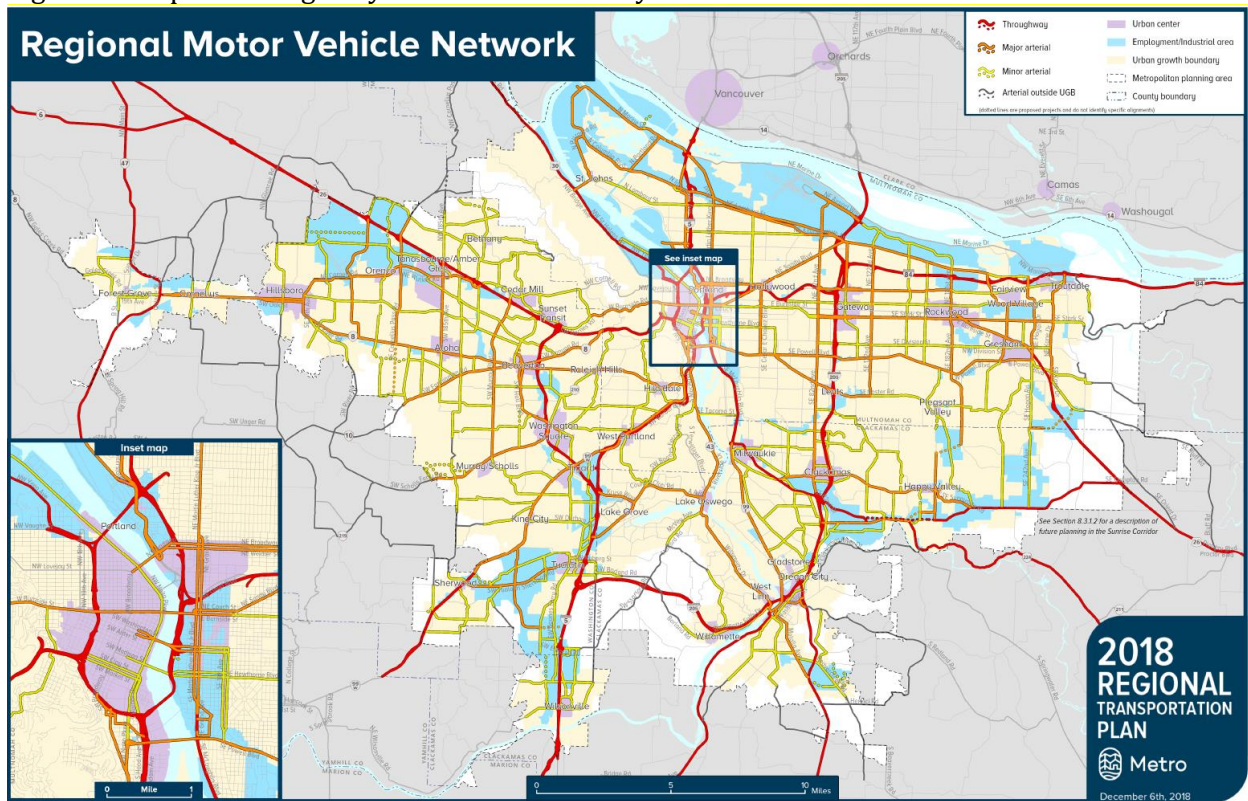


Figure 4: Parking Scenarios Parking Charge Locations and Amounts



Note: In Oregon, Parking A Scenario applied these charges, and Parking B Scenario doubled these charges. The parking areas in Vancouver maintained the charge rates from the Base Scenario.

Figure 5: Map of Throughways and Other Roadways



Throughways include the freeways and limited access roadways shown in red in Figure 5. Throughways are assessed a charge under the Roadway scenarios, but are exempt from charges as they run through the cordon area under the Cordon scenarios.

Key Findings

Context

The RCPS findings are based on outcomes from modeled scenarios that have not been adjusted to address concerns that the modeled outcomes show for the scenarios. The study scenarios provide a general assessment of performance and do not take into account potential for discounted charges for key groups or targeting revenue investment to address areas of concern that arise from the analysis. Equity of a pricing program is largely determined by three things:

1. who is receiving the benefit of more reliable/better travel options,
2. who is being charged and how much, and
3. where and how the revenues are invested.

Any actual project proposed would be expected to address issues around congestion, safety, climate, and equity—considering targeted discounts, project design, and/or funding investments that address concerns. The RCPS findings do not address the concerns revealed but point to areas for project proponents to keep in mind when developing a pricing project.

Big Picture and More-detailed Key Findings from the Modeled Scenarios

All four types of pricing are shown to help address congestion and climate priorities.

- All eight scenarios reduce the drive alone rate, vehicle miles traveled, and greenhouse gas emissions.
- All scenarios increase daily transit trips, except Roadway A which has minimal change.

Overall regional transportation costs and individual traveler costs vary by scenario.

- All eight scenarios increase the overall cost for travel for the region, but some scenarios spread the costs widely while others concentrate them on fewer travelers. Those that spread the costs also have the highest overall cost for the region.

Geographic distribution of benefits and costs varies by scenario.

- Roadway scenarios reduce delay on freeways, but increase delay on arterials relative to the Base Scenario.
- Corridor scenarios create delay around the perimeter of the cordon boundaries with vehicles avoiding paying the charge.
- Distribution of benefits and costs have implications for where fee discounts and investments from revenues should be targeted.

There are tradeoffs for implementing pricing scenarios

- Vehicle miles traveled scenarios have positive results for all eight summary metrics for congestion, climate, and equity, but also had the highest overall travel costs for the region. However, the costs are spread widely as they are shared by all drivers.

Attachment 1: Draft Summary of Key Findings describes in more detail how the eight scenarios performed relative to the Base Scenario on eight modeled performance measures.

Questions for TPAC

- What questions or comments do TPAC members have regarding the findings?
- Are the modeling outputs and findings intuitive?
- Are there specific areas where you want more information?

Next Steps

Staff will incorporate feedback from the TPAC and augment the model and geographic analysis with equity and implementation considerations to better assess the potential for different congestion pricing options to succeed in our region. The equity analysis will incorporate feedback gathered from equity experts at Metro's Committee on Racial Equity (CORE), the City of Portland's Pricing Options for Equitable Mobility (POEM) Task Force, and ODOT's Equity and Mobility Advisory Committee (EMAC). In addition, the findings will be reviewed by an independent Expert Review Panel that will evaluate our methods and findings and provide insights gleaned from their work in North America and Europe. TPAC and other regional bodies will be invited to hear the Expert Review Panel discussion. Draft and final reports will be shared with the TPAC, JPACT, and Metro Council in June.

Table 2: Regional Congestion Pricing Technical Study Schedule

Activity	Timeframe
Create draft findings memorandum- include feedback from TPAC Workshop, Equity Groups, and research from consultant team and staff	April 2021
Share draft findings with regional leadership <ul style="list-style-type: none"> • Metro Council Briefing • JPACT Briefing 	April 15, 2021
Expert Review Panel Discussion <ul style="list-style-type: none"> • Congestion pricing experts with experience on pricing projects in different parts of the world weigh in on our findings and provide insights from work done elsewhere 	April 22, 2021
Revise/incorporate feedback and create final analysis report with feedback from TPAC, JPACT, and Metro Council. Return to TPAC, JPACT, and Metro Council with results for discussion <ul style="list-style-type: none"> • TPAC presentation --June 4, 2021 • JPACT presentation-- June 17 ,2021 • Metro Council presentation--June 24, 2021 	May - June 2021
Release final pricing analysis report	June/July 2021

Attachments:

Attachment 1: Draft Summary of Key Findings

